

AGENDA

One Hundred and Forty-eighth Session
 Northwest Territories Council,
 Friday, 19th February, 1943,
 11:30 a.m.

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 - (iv) Nutritional survey - progress report
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Minutes of the One Hundred and
Forty-eighth Session of the
Northwest Territories Council
held in the office of the Deputy
Commissioner on Friday the 19th
February, 1943, at 11:30 a.m.

PRESENT -

Mr. R. A. Gibson (In the Chair)	- Deputy Commissioner
Mr. A. L. Cumming	- Member of Council
Mr. K. R. Daly	- " " "
Dr. H. L. Keenleyside	- " " "
Dr. H. W. McGill	- " " "
Commissioner S. T. Wood	- " " "

IN ATTENDANCE -

Mr. Mackay Meikle	- Chief Mining Inspector, Northwest Territories, Dept. of Mines and Resources.
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1. Confirmation of Minutes -

(i) One Hundred and Forty-seventh Session,
26th January, 1943

483

On a motion of Mr. Daly, seconded by Dr. McGill, the minutes were approved.

2. Legislation -

(i) The Territorial Liquor Amendment Ordinance

563

The Chairman explained that following the last session of Council a survey had been made of the action taken by provincial liquor commissions to further restrict the sale and the quantities of liquor that might be purchased.

He supplied the following information prepared largely from newspaper reports indicating restrictions imposed by provincial liquor boards and commissions. Further changes are being made from day to day:-

Province	Restrictions in Sales to Individuals	Hours of Sale, etc.
Nova Scotia	Spirits - 26 oz. weekly or Wine - 2 qts. weekly or Beer - 12 qts. weekly	Stores - 7½ hrs. daily. New type permits to record all purchases. Nat. Regis. Cert. required.
New Brunswick	Spirits - 1 btl. per day (sizes up to 40 oz.) Wine - 2 btls. per day Beer - 6 qts. per day.	Stores - 7 hrs. daily, Saint John and Moncton, 6 hrs. daily in other centers.
Quebec	Spirits - 40 oz. weekly Wine - No official limit. Prices of some brands increased. Beer - No official limit, but deliveries by breweries to grocery stores reduced. Rationing of customers is result.	Stores - 10 a.m. to 6 p.m. usually. Lic. prem. usually 8 hrs. daily, somewhat longer Friday and Saturday. Wine and beer with meals Sunday 1 p.m. to 9 p.m. Permits introduced for spirits, rationing by coupons. Permits free to residents and members of armed forces, others charged 50¢. Nat. Regis. Cert. required.

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<u>Province</u>	<u>Restrictions in Sales to Individuals</u>	<u>Hours of Sale, etc.</u>
Ontario	Spirits - 1 btl. per day, 40 oz. or 2 smaller btls. Limit 130 oz. per month. Wine - 1 gal. each 2 weeks Beer - Rationing system based on available supply. Limit at stores appears to be 6 qts. daily.	Stores - 8 hrs. daily, weekly half holiday. Lic. prem. - hrs. varied with conditions. No reductions in hrs. of beverage rooms but beer supplies restricted. Annual permits only. Daily permits eliminated. Nat. Regis. Cert. required. Proposed to introduce new permits covering spirits, wine and beer. Will restrict beer taken home but not beer consumed in lic. prem.
Manitoba	Spirits - 40 oz. weekly to limit of 160 oz. per month. Wine - 1 gal. weekly, limit 4 gals. per month. Beer - 2 cases (24 pts. ea.) weekly, limit 8 cases per month.	Stores - 10 hrs. daily. Lic. prem. 8 hrs. daily. Sale of alcohol discontinued. Banquet permits cut 50% on spirits. Limit 2 oz. per person. 30 day permits discontinued. Yearly permits \$2.00. No home delivery service.
Saskatchewan	Spirits - 26 oz. weekly (40 oz. while in stock) Wine - 1 btl. per day Beer - Stores and lic. prem. on quota basis.	Stores - 6 hrs. daily. Lic. prem. 8 hrs. daily. Special quantity permits and banquet permits eliminated. 72 out of 123 wine and beer stores closed. New liquor purchase permits or cards introduced for spirits only, fee \$1.00. Good for 26 weekly purchases. Expire at end of calendar year. If more than 26 purchases made new card required. Daily quota of liquor to each store.
Alberta	Spirits - 40 oz. weekly (Reported Calgary stores on quota basis for spirits) Wine - 1 gal. monthly Beer - 24 pts. or 1/8 keg per week	Stores - 8 hrs. daily. Lic. prem. 8 hrs. daily. Special banquet permits limited to 4 per year to any individual or organization. No hard liquor allowed. Limits 1 gal. wine and 1/2 keg beer or 10 doz. pt. btls. beer. Personal application with permit and identification necessary. Messenger service discontinued. Beer in lic. hotels for consumption off prem. without permit. Calendar week in permit quotas. Yearly permits \$2.00.
British Columbia	Spirits - 40 oz. weekly Wine - 1 gal. weekly Beer - 24 pts. weekly	Stores - 8 hrs. daily, weekly half holiday. Lic. prem. 7 to 8 hrs. daily. Special permits for consumption liquor public place. No C.O.D. delivery of beer. Maximum of 3 purchases a week for permit holder. Special permit purchases abolished.
Northwest Territories	Spirits - 26 oz. daily, or Wine - 2 qts. daily, or Beer - 1 case (24 - 12 oz. bts.) daily.	Stores - Yellowknife 8 hrs. Fort Smith 7 hrs. Lic. Prem. usually 16 hrs. daily. Ordinary shipments, 1 gal. spirits, 2 gals. wine or 120 btls. beer. Special shipments to Norman Wells and Eldorado Mines.

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<u>Province</u>	<u>Restrictions in Sales to Individuals</u>	<u>Hours of Sale, etc.</u>
Yukon Territory	Spirits - Stores on quota basis. Total daily sales each store restricted to 300 26 oz. btls. No limit on individual purchases.	Stores - 4 hrs. daily.
	Wine - No restrictions if supply available.	
	Beer - No restrictions if supply available.	

The Chairman said that following previous discussion by the Northwest Territories Council an amendment to the Territorial Liquor Ordinance had been drafted with the idea of giving the Commissioner power to deal with the situation and this had been submitted to the Department of Justice in the usual way. Mr. Daly remarked that the Department of Justice had made some suggestions and these had now been embodied in the draft amendment which was now in accordance with the views of Council. He then read the ordinance clause by clause (copy attached).

Following some general discussion it was moved by Mr. Daly, seconded by Dr. McGill, that the amendment be adopted. Carried.

(ii) The Mining Safety Ordinance

23964

The Chairman referred to the One Hundred and Forty-third session of the 2nd June, 1942, when a draft of a proposed Mining Safety Ordinance had been discussed. He said copies of the draft had been distributed to members of Council, to mining concerns operating in the Territories, to miners' organizations, and to those in charge of the administration of mining regulations in the Provinces and that constructive criticism had been sought with the result that valuable advice had been received.

The Chairman explained that Mr. Meikle had prepared and revised the draft ordinance and discussed its provisions with mine managers, employees and others interested in mining development. Following exhaustive study the draft ordinance had been re-written and submitted to Dr. J. J. Heagerty, Director of Public Health Service, Department of Pensions and National Health, Ottawa, and finally to the Department of Justice. Suggestions had been made for changes in a few clauses and these had now been included. He expressed appreciation to Mr. Meikle for the study he had made of provincial mining regulations and for the labour in putting the ordinance in shape in cooperation with Mr. K. R. Daly and Mr. T. L. Cory. The draft ordinance was presented for discussion (copy attached).

Dr. Keenleyside expressed the opinion that as the draft ordinance had been studied by those with special knowledge he thought that it should be passed and given a thorough trial and this met with general approval (copy attached).

It was moved by Dr. Keenleyside and seconded by Mr. Cumming that the Mining Safety Ordinance be adopted. Carried.

(iii) The Employment Agencies Ordinance

9387

Mr. Daly explained that at the last session, Council adopted in principle an amendment to the Businesses, Callings, Trades and Occupations Licence Ordinance to prohibit the operation of fee-charging employment agencies. The Department of Justice expressed the opinion that it would be preferable to pass an Employment Agencies Ordinance rather than to amend the Businesses, Callings, Trades and Occupations Licence Ordinance. Mr. Daly then read the ordinance clause by clause (copy attached). It was moved by Mr. Daly, seconded by Mr. Cumming, that the Employment Agencies Ordinance be passed. Carried.

3. Mining Regulations - Milling Allowances

3094-6

The Chairman referred to the consideration of this subject at a December meeting of Council and the decision to recommend to the Minister the adoption of a plan of calculating profits for the purpose of royalty payments similar to the practice in the Province of

- 4 -

Ontario. He said the milling allowance is not granted in the Province of British Columbia and is not the subject of a regulation in Ontario but simply a matter of practice under the ruling of the mining judge. He pointed out that the practice dates back to the time when certain mining concerns with milling machinery were doing custom work for other mine operators who paid for it. Later on when most of the mines had their own mills the allowance for milling their own ores was allowed to stand. He said that the adoption of the practice would result in a substantial reduction in the royalty collected and the subject had been discussed with the Minister who had intimated that in his opinion it would be unwise for the Northwest Territories Administration to follow the Ontario practice because he considered the granting of what was in effect a fictitious allowance was generally unsound.

With unanimous consent the matter was dropped.

4. The Wartime Alcoholic Beverages Order 1942

563

The Chairman informed Council that Mr. G. A. Jeckell, Controller of Yukon Territory had been in Ottawa recently and conferred with officials of the Department of National Revenue regarding the peculiar situation which has developed in the territory with respect to liquor supplies allowable under the recent rulings which take no account of the influx of a large number of United States armed forces and citizens connected with joint defence projects. The Chairman said that for the purpose of the order the basic period is 1st November, 1941, to 31st October, 1942. Mr. Jeckell had pointed out to the Department of National Revenue that neither the U.S. forces nor citizens were in the Territory at that time and, consequently, a reduction in the amount of liquor that can be imported into the Territory will work a hardship on all residents in the Territory. The Chairman remarked that a similar situation prevails in the Northwest Territories, that the allotment for the Territories which could be secured from the Saskatchewan Liquor Board would be considerably reduced and the reduced quantity will have to supply more people. He then read a draft letter to the Minister of National Revenue (copy attached) which had been drafted for the Minister's signature. There was a good deal of discussion and it was pointed out that as the Prime Minister has encouraged the provinces to reduce the consumption of liquor within their boundaries, he might not be disposed to accept a proposal to increase the quantities for the Territories for which the Dominion is responsible although there seemed to be a very sound reason for doing so. Mr. Daly thought that there would be some bootlegging if the quantities were not increased and Mr. Gibson remarked that the quantity of spirituous liquors for the Province of Saskatchewan had been reduced by 30% and that doubtless this same percentage reduction would be passed along to the Northwest Territories. On the suggestion of Mr. Cumming and Dr. Keenleyside it was decided to submit the matter for the consideration of the Minister for both the Northwest Territories and the Yukon at the same time.

5. Marriages -

(a) Executive Order - A. F. Totzke

28

The Secretary read a draft Executive Order authorizing Albert Frederick Totzke of Yellowknife to be a Marriage Commissioner and Issuer of Marriage Licences as provided under Section 2, Chapter 46, G.O. 1905, "The Marriage Ordinance".

It was moved by Dr. Keenleyside, seconded by Dr. McGill, that the Executive Order be approved. Carried.

(b) Licences to Members of U.S. Armed Forces

28

The Secretary read a letter from Dr. J. A. Urquhart dated the 19th January, 1943 (copy attached) in which Colonel T. A. Adcock, the Zone Commander of the U.S. Troops in the Fort Smith area had requested the Issuer of Marriage Licences to refrain from accepting applications from the United States military personnel. He said the question had been referred to the Department of Justice under date of the 3rd February, 1943 (copy attached) and a reply dated the 19th February, 1943 (copy attached) had just been received. Dr. Keenleyside concurred in the opinion expressed by the Deputy Minister of Justice that this was a matter to be taken up through the usual diplomatic channels. It was then moved by Dr. Keenleyside and seconded by Mr. Cumming, that the matter be dealt with in accordance

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with the opinion expressed by the Deputy Minister of Justice. Carried.

6. Belcher Islands - transfer of natives 10944)
12003)

The Secretary reported that two letters dated the 26th September, 1942, and the 29th December, 1942 (copies attached) had been received from the Reverend George Neilson, on the welfare of the Belcher Islanders transferred to the mainland under his supervision.

The Secretary pointed out that it was the policy of the Hudson's Bay Company to always have two persons at every trading post, either a married couple or two single men. During the winter, one of the two single men at the Belcher Islands post suffered a severe attack of appendicitis and had been flown out for operation and the other had moved to the mainland. In the meantime, the Royal Canadian Mounted Police at Moose Factory had ordered that the widow of the late Charlie Ouyerack who was still on the Belcher Islands should receive sufficient rations to provide for the needs of herself and family during the winter and this had been arranged.

The Chairman remarked that this was a temporary expedient and that the arrangement was quite satisfactory. The case will receive further consideration this coming summer.

7. Application Rev. C. T. Buchanan for re-entry to Canadian Arctic 10732

The Chairman referred to the discussion at the One Hundred and seventeenth Session of the 15th October, 1940, on the application of the Reverend C. T. Buchanan for a hunting and trapping licence. He said Council had been unanimously against granting the application and the Reverend Mr. Buchanan had been advised to that effect by the Aklavik Detachment, Royal Canadian Mounted Police.

According to a letter of the 23rd June, 1942, from the Commissioner of Immigration, the Reverend C. T. Buchanan sent his wife and children home to Enid, Oklahoma, in the summer of 1941 while he attempted to arrange for the transportation of himself and supplies to Victoria Island. He was unsuccessful and followed his family to the United States.

The Chairman referred to the correspondence between Mr. J. E. Jeter, Superintendent of the Light Bearers Incorporated, Enid, Oklahoma, and the Commissioner of Immigration, relative to the application of the Reverend C. T. Buchanan to return to Canada with his family and proceed to Victoria Island, N.W.T., via Churchill, Manitoba, to become an evangelist among the Eskimos. He said it was the opinion of those familiar with the Eastern Arctic that it would be a most hazardous voyage and the party would be risking their lives in such an attempt. While there is no lawful reason, in peace time, to refuse permission, he thought it unwise to encourage any such enterprise during war time. After some further discussion it was moved by Commissioner Wood, seconded by Mr. Daly, that the application of the Reverend C. T. Buchanan and family for permission to make a voyage to Victoria Island via Churchill, Manitoba, be refused due to prevailing circumstances. Carried.

8. Mackenzie District Matters -

(i) Renewal contract for government freight, 1943

33-4

The Chairman explained that it had been the practice to pool the government freight for the Mackenzie District and when the Department considered it necessary to call for competitive bids for the passenger and freight business. He said that the Northern Transportation Company, the present contractors, had given good service to all government departments during the past year and he thought that the contract might be renewed for another year for the same reasons which have guided the Council in previous recommendations on this subject especially as there will be plenty of business for all public carriers in the Mackenzie District.

It was moved by Commissioner Wood and seconded by Mr. Cumming that the Northern Transportation Company's application for a renewal of the government passenger and freight business for 1942-43 for

- 6 -

be recommended for approval. Carried.

(ii) a. Composition Yellowknife Trustee Board

9778)
11476)

Mr. Cumming reported that the Yellowknife Local Trustee Board was composed of the following appointed and elected members for the calendar year 1943,-

Albert F. Totzke - Chairman and Secretary.
C. Giegerich - Appointed member.
John G. McNiven - " "
Michael Piche - Elected "
Norman Cinnamon - " "
L. G. Bonnyman - Assistant Secretary.

Noted.

b. Statement of revenue and expenditure

9778)
11476)

Mr. Cumming tabled a concise memorandum dated the 5th February, 1943, quoting an extract from the Minutes of the Local Trustee Board of Yellowknife, dated 25th September, 1942, together with a statement of revenue and expenditure for the calendar years 1940 and 1941. (Copies attached).

(iii) Minutes Local Trustee Board, Yellowknife,
dated 19th January, 1943

10710

Noted.

(iv) Public Administrator - accounts 1942

8915

It was moved by Mr. Daly, seconded by Mr. Cumming, that the accounts of the Public Administrator for the Mackenzie District for the year 1942 be approved. Carried.

(v) Aeroplane transportation priorities

12227

The Chairman stated that due to the greatly increased joint defence projects north and west of Edmonton, the Department of Transport which regulates priorities notified the Northwest Territories Administration that there will be a scarcity of aircraft for general traffic. He said Mr. C. H. Dickens, Canadian Pacific Air Lines, had appealed to the Director of Air Services, Department of Transport, pointing out that approximately fifty people were stranded in Edmonton unable to obtain return passage to the Mackenzie District. The Department of Transport dispatched Mr. Main, Airways Inspector, to Edmonton to investigate conditions. In the meantime, Mr. L. E. Drummond reported that officials of the Consolidated Mining and Smelting Company were very much concerned about transportation for employees to and from the mines at Yellowknife.

The Chairman said Mr. A. D. McLean, Controller of Civil Aviation, had advised that Mr. Main convened a joint meeting of representatives of the Canadian Pacific Air Lines, and the Consolidated Mining and Smelting Company in Edmonton. Tentative arrangements had been made for the movement of key men to and from the mines and for emergency cases but no priority is to be given to ordinary labourers. Moreover, the mining company agreed to discourage women and children and other civilians from using aircraft to and from Yellowknife. Mr. Main believes that the present number of men in the Mackenzie River area will be increased four or five times in 1943 and made a recommendation that this information be drawn to the attention of the Northwest Territories Administration so that steps could be taken to warn all civilians of the difficulties in procuring aircraft transportation. It was agreed to comply with the request of the Controller of Civil Aviation.

(vi) Interdepartmental Committee on Agriculture

667

Pursuant to the discussion at the One Hundred and Forty-seventh Session of the 26th January, 1943, Mr. Gibson tabled the first report of the Interdepartmental Committee on Agriculture dated the 11th February, 1943 (copy attached).

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(vii) Fire-fighting equipment

4578

The Chairman stated that Council had approved the purchase of fire-fighting equipment and renewals as required for the Mackenzie District and the cost had been charged against the liquor fund. He said the Royal Canadian Mounted Police act as fire chiefs in each settlement. He thought it was becoming increasingly difficult to purchase additional equipment and unless adequate fire-fighting appliances were readily available conflagrations were likely to get out of hand and do a tremendous amount of damage. He reminded Council that with the increase in population in the Mackenzie District there was an increase in the fire hazard. Mr. Cumming explained that it was necessary to increase the footage of fire hose, number of chemical extinguishers and to extend the fire patrol from Fort Smith to Fort Resolution. He estimated the requirements as follows:-

1,600 feet of fire hose for Fort Smith - \$ 450.
 Chemical extinguishers for Fort Smith - 1,000.
 Cost of a boat and wages of patrolman
 for the district from Fort Smith to
 Fort Resolution..... - 3,000.

It was moved by Mr. Cumming and seconded by Mr. Daly that an amount of \$4,450 be set aside from the liquor fund to purchase additional fire-fighting equipment and to operate the patrol as indicated. Carried.

(viii) Necessity for further restrictions on
sale of liquor10749)
13229)

The Chairman remarked that the Royal Canadian Mounted Police were finding it increasingly difficult to prevent persons re-selling liquors legally purchased at the Fort Smith liquor store. He said that some persons with practically no other means of support were endeavouring to make a living by these means. Commissioner Wood thought the restrictions to be brought into effect by the amendment to the Liquor Control Ordinance would have a salutary effect but it was the general opinion that further restrictions should be made on the number of bottles a purchaser could acquire daily and the total number of ounces per month. After some discussion on inventories and the quantity of 33 ounce bottles on hand, it was moved by Commissioner Wood and seconded by Dr. McGill that each licence holder be restricted to the purchase of one bottle of spirituous liquor per day and limited to a total of 165 ounces per month. Carried.

The Chairman remarked that this regulation would be given a fair trial but if there were any abuses at Fort Smith the permits of the offenders would be cancelled.

9. Nutrition and Rationing -

(i) Approximate consumption flour, sugar, tea -
Eastern Arctic 1942

12725

The Secretary tabled, for the information of Council, a statement compiled by the Officer in Charge of the Eastern Arctic Patrol and the District Manager of the Hudson's Bay Company, showing the per capita consumption of flour, sugar and tea, by Eskimos in the Eastern Arctic for the year ending 31st May, 1942 (copy attached).

(ii) Rationing in Greenland

3904

The Secretary reported that the Consul General for Greenland had made a report to the Department of External Affairs on the ration system for Greenlanders. He pointed out that conditions in Greenland were different from those prevailing in the Eastern Arctic but it was interesting to compare the consumption in Canada with the rationing in Greenland.

(iii) Yearly food list for Arctic regions
(M.H.O.) - Dr. Pett

8404

The Secretary read a letter from Dr. L. B. Pett dated the 3rd February, 1943, and a Yearly Food List for Arctic Regions (copies attached).

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The Chairman referred to the question of salary and living allowance for some employees and rations for others which was unsatisfactory but could not be remedied until reclassification was possible. He said the departmental purchasing agents were finding it difficult to secure a number of commodities. Dr. Pett had been most cooperative and had compiled a comprehensive list of foodstuffs which were considered by the health authorities sufficient to provide the nutritional values necessary to maintain good health under all conditions. Mr. Cumming remarked that if Dr. Pett's recommendations were accepted by Council they would be of great assistance in estimating the quantities of tea, coffee and sugar, and other commodities for government officials stationed in the Northwest Territories, north of Fort Smith.

After some further discussion it was moved by Mr. Cumming and seconded by Commissioner Wood that the yearly food list for Arctic Regions recommended by Dr. L. B. Pett be used as the basis on which to estimate the food requirements of those entitled to rations from government departments. Carried.

(iv) Nutritional survey - progress report	8404
Dr. Pett	21

The Secretary tabled the Progress Report on the Nutritional Survey for the Northwest Territories dated February 1943 (copy attached).

10. Eastern Arctic Matters -

(i) Eastern Arctic Patrol 1943	7367
(ii) Limiting period of employment native labour	5031-18
	2725

Stand.

11. The Polar Medal -

(i) Procedure to be followed	9077
(ii) Services of Dr. L. D. Livingstone	4725
	2530

Stand.

12. Relics of Sir John Franklin Expedition

6277

Stand.

Council then adjourned.

R. J. Wood
.....
Commissioner.
Deputy

L. B. Pett
.....
Secretary.

February 4, 1943.

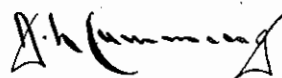
TO THE COMMISSIONER IN COUNCIL:

The undersigned has the honour to report that under Section 2 Chapter 46, G.O. 1905, "Marriage Ordinance", the Commissioner in Council may appoint Commissioners for the purpose of solemnizing or performing the ceremony of marriage between any two persons not under a legal disqualification or disability to contract such marriage.

The undersigned also reports that under Section 6 of the aforementioned Ordinance the Commissioner in Council may name such and so many persons to be "Issuers of Marriage Licences" as may be deemed necessary for that purpose.

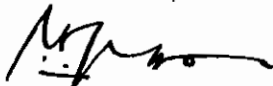
The undersigned, therefore, recommends that - Albert Frederick Totzke of Yellowknife, be appointed a Marriage Commissioner and an Issuer of Marriage Licences in the Northwest Territories.

Respectfully submitted,



for R. A. Gibson,
Deputy Commissioner.

APPROVED



Deputy Commissioner of the
Northwest Territories.

AN ORDINANCE TO AMEND
THE TERRITORIAL LIQUOR ORDINANCE

(Assented to February 19, 1943)

The Commissioner of the Northwest Territories by and with the advice and consent of the Council of the said Territories enacts as follows:-

1. Subsection (2) of Section 19 of the Territorial Liquor Ordinance, as enacted on the 27th April, 1939, is amended by substituting the words "authorized by" for the words "stated in" in the last line.

2. Subsection (1) of Section 20 of the Territorial Liquor Ordinance, as enacted on the 1st November, 1940, is hereby repealed and the following substituted therefor:

"20. (1) The Commissioner may issue classes of permits, entitling the persons to whom they are issued to purchase liquor in accordance with the terms and provisions of the permit, the provisions of this Ordinance and the Regulations made thereunder, as follows:

Class A - A permit to a person of the full age of twenty-one years who is not disqualified under this Ordinance, entitling such person to purchase liquor in quantities which do not exceed the limits prescribed from time to time by the Commissioner;

Class B - A permit to a minister of the gospel entitling him to purchase wine for sacramental purposes.

Class C - A permit as contemplated in Section five hereof;

Class D - A local daily permit entitling the person to whom it is issued to purchase locally, only on the date of issue of the permit, a quantity of liquor which shall not exceed the daily limit prescribed from time to time by the Commissioner."

AN ORDINANCE RESPECTING EMPLOYMENT AGENCIES

(Assented to February 19, 1943)

The Commissioner of the Northwest Territories by
and with the advice and consent of the Council of the said Territories,
enacts as follows:

1. This Ordinance may be cited as the Employment Agencies Ordinance.
2. In this Ordinance, the expression "employment agency" includes the business of procuring any person or persons for employment in any profession, business, trade, labour, work, service or other means of livelihood or of procuring employment therein for any person or persons.
3. No person, firm, corporation or association shall open, conduct or carry on any employment agency for fee or reward or collect or receive directly or indirectly any fee or compensation for sending or persuading, enticing, inducing, procuring or causing to be sent from or to any place within the Northwest Territories, to or from any place outside the Northwest Territories, or from one place within the Northwest Territories to another, any person seeking employment.
4. Every person who violates any of the provisions of this Ordinance shall be guilty of an offence and liable upon summary conviction to a fine not exceeding seventy-five dollars, and in default of payment of such fine, to imprisonment for a term not exceeding six months.

DRAFT

My dear Colleague:

The Wartime Alcoholic Beverages Order 1942 which restricts the amounts of spirituous liquor, wines and beer, which may be available to provincial liquor authorities to a percentage of the amount acquired during the basic period November 1, 1941, to October 31, 1942, does not take cognizance of an altogether special and peculiar situation which exists in the Yukon Territory and in the Northwest Territories for the following reasons:

1. Due to joint defence activities undertaken by the United States Government the adult white population in these Territories has increased many times during the past few months.
2. Many of these people are employed at some considerable distance from any place where they can enjoy the usual amenities of civilization.
3. As a matter of policy it has been recognized always that those who live in the Far North are entitled to liquor for medicinal purposes.

The Controller of the Yukon Territory, who is at present in Vancouver has reported that no further supplies of domestic liquors can be obtained until the liquor quota for the Yukon Territory has been established; moreover, that the available stocks of liquor at the Whitehorse store will be exhausted early in March.

We are awaiting information from Dawson as to the quantity of liquor brought into the Yukon Territory by the Territorial Government during the basic period, November 1, 1941, to October 31, 1942. This will show separately the quantities imported and entered for customs in the Territory and the quantities purchased duty paid from the British Columbia Liquor Control Board and various distilleries in Canada. The Controller believes that

- (a) Account should be taken of the greatly increased population in the Territory due to the influx of United States army and civilian personnel engaged in defence projects.
- (b) The quantity of liquor purchased duty free from the Liquor Control Board of British Columbia by the Yukon Territorial Government should be included in the total for the basic period on which the quota is to be based.

You are probably aware that the liquor stores in the Northwest Territories are operated for the Northwest Territories Administration by the Saskatchewan Liquor Control Board. The Chairman of that Board has reported that Wartime Alcoholic Beverages Order 1942 will drastically curtail the amount of supplies available to that Board and that it will be necessary to reduce correspondingly the amount available for shipment to the stores in the Northwest Territories, this despite the fact that the population has so greatly increased by the influx of United States army and civilian personnel.

From what conferences we have had with your officials we know that consideration was not given to the extraordinary situation in the Northwest Territories and the Yukon at the time the Wartime Alcoholic Beverages Order 1942 was authorized. We believe

3006

- 2 -

there is justification for a review of the situation with a view to authorizing the release of supplies to such an extent that the population eligible to purchase liquor in the Northwest Territories and the Yukon will have exactly the same opportunity as those in the provinces; that is, of course, in respect to quantity available. The matter of liquor regulations and restrictions is, of course, the responsibility of the local governments in each case.

I shall be glad to join with you in a recommendation to Council along this line.

Yours very truly,

T. A. Crerar.

Administration
of the
NORTHWEST TERRITORIES
CANADA

OTTAWA, February 3, 1943.

F. P. Varcoe, K.C.,
Deputy Minister of Justice,
O t t a w a .

Attached is a copy of a letter dated January 11th, which Lt. Col. T.A. Adcock, Zone Commander of the United States troops in the Fort Smith area addressed to Dr. J. A. Urquhart, our Acting Agent, and a copy of Dr. Urquhart's letter, dated January 19th, in reference to the matter of issuing marriage licences to United States military personnel.

I would appreciate your views as to whether Dr. Urquhart can legally refuse to issue marriage licences solely on the grounds that the applicants are members of the United States Army. As you may know, Dr. Urquhart is a Marriage Commissioner and an Issuer of Marriage Licences under the Northwest Territories Marriage Ordinance.

I have asked Mr. T. L. Cory, Solicitor, Northwest Territories Administration, to confer with you in respect to this particular case so that he may explain the local situation. The Northwest Territories Council has not yet considered the question of policy but the following points seem pertinent in this connection:

- (1) The fact that a United States soldier marries a Canadian girl does not mean that the Canadian girl thereby acquires United States citizenship, although I believe that the wives of United States citizens are given preference when applications for admission to the United States are under consideration.
- (2) The fact that a United States soldier married a Canadian girl and afterward left her in Canada, possibly with children, would establish the woman as a war casualty.
- (3) On the other hand, the Maintenance Ordinance of the Northwest Territories would have a bearing if children were born, even if there was no marriage ceremony.

In conclusion I may say that there is a feeling that if the United States Government desires to have marriage licences refused United States soldiers, except when the approval of the marriage has been indicated by United States officers, then it would seem that the request should be made through the usual diplomatic channels.

Yours very truly,

(sgd.) R. A. Gibson.

R. A. Gibson,
Deputy Commissioner.

3004

URGENT

DEPARTMENT OF JUSTICE
CANADA

CS/MD

Ottawa, Feb. 19, 1943.

J.R. 7598/43

Re: Issuance of marriage licences to
United States military personnel
in Northwest Territories.

In reply to your letter of the 3rd instant and enclosures I beg to advise you that in my opinion an issuer of marriage licences cannot legally refuse to issue a marriage licence to a member of the United States Army solely on the ground that he has not obtained the permission of his Zone Commander for the proposed marriage.

With reference to the last paragraph of your letter, I beg to state that resort by the United States Government to the usual diplomatic channels would appear to be the proper approach.

(sgd.) F. P. Varcoe

Deputy Minister.

R. A. Gibson, Esq.,
Deputy Commissioner,
Northwest Territories Administration,
150 Wellington Street,
O T T A W A .

HEADQUARTERS,
PORTAGE ZONE, FORT SMITH,
N.W.T., CANADA

January 11, 1943.

Dr. J. A. Urquhart,
Acting District Agent,
Fort Smith, N.W.T.

Dear Sir;

Confirming our conversation of this afternoon, it is requested that no marriage licenses be issued to United States military personnel at Fort Smith unless the applicant presents a letter of approval signed by the Zone Commander.

A provision of U. S. Army regulations requires that soldiers obtain such permission before they may marry.

Your cooperation in this matter is appreciated.

"THOMAS A. ADCOCK."
Lt. Col., C.E.,
Zone Commander.

3002

FORT SMITH, N.W.T.,
January 19, 1943.

Mr. R. A. Gibson, OTTAWA, Canada:

I enclose herewith copy of a letter received from Colonel T. A. Adcock, Zone Commander of the American troops in this district, requesting that no marriage licenses be issued to U. S. military personnel unless the applicant presents a letter of approval signed by the Zone Commander.

This request was occasioned by the fact that a number of the soldiers contemplated marriage with some of our half-breed girls and in one case the man, a private, actually did get married without permission and against orders.

My own view is that while the men are entitled to apply for and get a marriage license under Canadian law, these marriages would, in all probability, be highly undesirable, inasmuch as these women would undoubtedly be left stranded here with a child, or children, and eventually become a charge against this Department. There are, however, other considerations and definitely in the cases where the man had received permission from his Commanding Officer, this objection would not obtain.

Pending instructions from you, no licenses will be issued to enlisted men of the U. S. armed forces, but I would like to have your confirmation that such action is in order.

(sgd.) J. A. Urquhart.

Dr. J. A. Urquhart,
Acting Agent.

10944
12003Great Whale River, P.Q.,
Via Moosonee, Ont.
Sept. 26th, 1942.Hon. R. A. Gibson,
Deputy Minister,
Northwest Territories,
Ottawa, Canada.

Dear Mr. Gibson,

Your letter of July 15th received recently through Corporal Kerr of the R.C.M.P., of Moosonee. Yes, I had already received the correspondence mentioned from Bishop Fleming. The prisoners arrived back about a fortnight ago and I have been having school with them, dwelling particularly on the ten commandments. In conjunction with Corporal Kerr we have thought fit to let them go to some camps of their relatives, and thus be able to make their own living. In the meantime they were given a month's rations. They are very repentant, as I knew they would be from past experience at Lake Harbour, Baffin Land 1933-39, and very happy to be back. However, I'll get to see them at their camps in the winter and they will also be coming to the post to trade, so I'll be able to keep a close check on them, and will hold myself responsible for their good behaviour. I am sure they become good citizens and be a good influence among the other Eskimos. Last summer when they departed many Eskimos here were very much afraid of them, but I am glad to report that such a fear has all vanished. The death of the ring leader has been a stabilizing influence I am sure. Next summer I'll be able to have more intensive school with them again, and also any opportunity I get during the winter.

I recall in Baffin Land that one Kalugelek threatened to shoot, but someone caught him and secured him and brought him to the R.C.M.P. When he was permitted to visit me he was very repentant and had a complete change of heart, and later I had him preach for me, and the other natives all respected him, and he became a very good influence among them.

I would like to ask what has become of Katsoo or Katchoo who was in the Nova Scotia Hospital in Dartmouth in 1940. You may recall that I made you a statement per Mr. Cumming concerning him. His case is somewhat similar although somewhat worse. I did not expect much to be done about it then but I think the time has come that something should be done about it now. I would like to suggest that if he is still alive he might be sent back here, and I would be willing to hold myself responsible for him. Katsoo's greatest fear was "lest he die in civilization". I also have in mind that it might save a considerable bill of future expense for your department. I could give him teaching here somewhat similar to those here already. I am sure he could become a good citizen, and I'd like to help him in any way I could. In 1940 I knew I would meet strong opposition, but I was determined to try and help him, especially as I felt I knew a little of the workings of the Eskimo mind, and in the light of what has happened since, I am sure you will agree that my idea then concerning Katsoo was not very far wrong. I am not presuming anything, but I feel very conscientiously about the matter.

Judge Plaxton has asked for a receipt or statement saying that he spent \$20.00 to help the Belcher Island natives, and I distributed the goods among the poorest Eskimos. I got a counter slip from the Hudson's Bay Company which I enclose. However, to satisfy my conscience I feel bound to write that I understood he was making a gift of it himself directly to the natives. It was heard said, "Best twenty dollars I ever spent".

I had a little school for both the Eskimo and Indian children during the summer. Seals are scarcer here but much more plentiful at the Belcher Islands.

Yours sincerely,
(sgd.) George L. Neilson.P.S. I would like to get some Marriage
Forms for N.W.T.

3000

10944
12003Great Whale River, P.Q.,
Via Moosonee, Ont.
Dec. 29th, 1942.The Hon. R. A. Gibson,
Depty. Com. N.W.T.,
Ottawa, Ont.

Dear Mr. Gibson,

Thanks for your letter of November 4th which came by plane and will take mail out again. I have not much to report about either Peter Sala or Joe Adleekok except as follows.

I was fortunate in getting up to Richmond Gulf by boat in October and came back by canoe from camp to camp. It is about 100 miles north of here. Peter Sala and Mina are there among relatives and they are making a living all right and doing quite well. I loaned him my two dogs and they were in very good shape. He had also acquired two young pups for himself. He had shot some seals. The whole camp had accepted him as an equal and were helping him in every way possible. Peter was always known as a pretty good hunter. We have had no touch with Richmond Gulf since.

Peter and three boys took me by canoe to the next camp. His conduct was quite exemplary in close contact with him. Peter's relations are at Richmond Gulf. He was taken there by motor boat. I had good weather on my canoe trip.

A day later another canoe took me on to the camp where Joe Adleekok is living. He was managing but he was having a little harder time to make a living. His gun was not satisfactory, so in the meantime he got a 22 rifle. He was never much of a hunter according to all reports. The whole camp was having a hard time to get food, but somehow they were managing. It is about 25 miles north of here. The only time I have seen him since was Xmas Day and he walked in the day before. He wanted a box of 22 shells so they were given to him. He still has traps at the Belcher Islands but it is hoped he will get them in the summer. He has given no trouble whatever.

As usual in the fur cycle fur is very scarce this year and of course that makes it harder for the Eskimos. By fur I mean foxes, although Indians are getting other kinds of skins and doing quite well. Next month I expect to visit both Joe and Peter, also Mina and Akkinik.

Yours very sincerely,

(sgd.) George L. Neilson

P.S. Sorry to hear of Katcho's death.

9778
11476

Ottawa, 5th February, 1943.

Mr. Cumming.Yellowknife Trustee Board

The following is an extract from the Minutes of a meeting of the Local Trustee Board of Yellowknife held September 25, 1942,0

"Moved by H. C. Giegerich, seconded by J. G. McNiwen, that the Chairman and Secretary-Treasurer be authorized to borrow from the Canadian Bank of Commerce, Yellowknife, a sum not exceeding \$1,500.00 to be repaid out of current taxes, Carried."

In a memorandum dated January 15, Mr. T. L. Cory pointed out that Section 34 of the Local Administrative District Ordinance authorized the borrowing of funds to meet the expenditures of the district, but the amount borrowed must not exceed the estimated revenue of the district for that current year.

The Deputy Commissioner has asked for a concise statement showing the revenues and expenditures of the district. In this connection I beg to submit the following,-

- (1) The governing legislation (Local Administrative District Ordinance) was not assented to until July 3, 1939; therefore, the local organization did not commence to function until January 1, 1940. For this reason the revenue and expenditure statements cover the three-year period of 1940, 1941 and 1942. These returns have been condensed so as to indicate the main items, while the remainder have been grouped under the heading of miscellaneous.

Calendar year 1940

<u>Revenue</u>		<u>Expenditure</u>	
School tax	\$3,674.21	Water	\$303.38
District tax	1,337.34	Hospital	158.00
Poll tax	784.00	Roads	440.50
Licences	1,465.00	Salaries	660.00
Scavenger service	1,129.50	School payments	3,140.79
Beer tax	872.00	Scavenger payments	1,131.45
Miscellaneous	252.00	Miscellaneous	456.85
	<u>9,514.05</u>		<u>6,290.97</u>

Revenue exceeds expenditure by \$3,223.08

Calendar year 1941

School tax	6,882.29	Fire department	189.15
District tax	1,283.97	Water works	167.45
Poll tax	784.00	Street lighting	45.21
Licences	1,515.00	Roads	871.25
Scavenger service	2,376.55	Salaries	1,190.00
Beer tax	1,888.25	School payments	6,644.54
Miscellaneous	100.18	Scavenger "	2,383.05
	<u>14,830.24</u>	Miscellaneous	932.31
			<u>12,422.96</u>

Revenue exceeds expenditure by \$2,407.28

Surplus for two-year period - \$5,630.36

2998

Calendar year 1942

<u>Revenue</u>		<u>Expenditure</u>	
Bank loans	\$1,500.00	Bank loans	\$1,500.00
School tax	9,632.92	Street lighting	611.65
District tax	3,290.99	Fire protection	524.85
Poll tax	650.00	Water system	1,379.22
Licences	995.00	Roads	1,904.77
Beer tax	2,100.00	Salaries	1,300.00
Scavenger service	2,424.40	School tax payments	9,359.50
Miscellaneous	230.26	Scavenger payments	2,424.20
		Miscellaneous	1,396.82
	<u>20,823.57</u>		<u>20,401.01</u>

Revenue exceeds expenditure by \$422.56

Surplus for three-year period- \$6,052.92

From the foregoing it will be noted that at the close of each year the Local Board has had substantial balances and that the \$1,500 borrowed from the bank in 1942 was paid back before the close of the year.

J. F. Doyle.

MEETING OF JOINT AGRICULTURAL COMMITTEE FOR THE NORTHWEST
TERRITORIES AND YUKON AFFAIRS.

A meeting of the Committee was held in the office of Mr. R.A. Gibson, Norlite Building, Ottawa, at 2:00 P.M., Thursday, February 11, 1943.

Present at the meeting were:

Mr. R.A. Gibson - Director, Lands, Parks and Forests Branch,
Department of Mines and Resources.

Mr. A. L. Cumming - Superintendent, Mackenzie District and
Yukon Affairs.

Mr. R. A. Hoey - Superintendent of Welfare and Training,
Indian Affairs Branch.

Dr. Harvey - Medical Officer, Fort Norman, N.W.T.

Mr. M. Meikle - Inspector, N.W.T. Administration.

Mr. Odell - Assistant to Dr. Camsell on North Pacific
Planning Project.

Dr. E. S. Archibald - Director, Experimental Farms.

Dr. E. S. Hopkins - Associate Director, Experimental Farms.

Dr. A. Leahey - Senior Soils Officer, Experimental Farms.

Mr. W. Dickson - Experimental Farms.

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Mr. Gibson explained that the purpose of the meeting was to determine what steps might be taken to bring agricultural production in the Northwest Territories and the Yukon in desirable relation to food requirements. Mr. Gibson moved that Dr. Archibald be appointed Chairman of the meeting and that Wm. Dickson act as Secretary.

Dr. Archibald outlined the past work of the Dominion Experimental Farms in the Northwest and Yukon Territories. For over 20 years the Farms has maintained Substations in both territories, for the most part in connection with missions. These projects had not proved satisfactory from an experimental viewpoint, for although the missions had taken full advantage of their connection with the Experimental Farms to produce such vegetables as would meet their food requirements, they were unable or unwilling to conduct experiments in growing cereals or forage crops, despite some financial assistance. In 1939 the Experimental Farms commissioned Mr. A. Lawrence, Superintendent of the Fort Vermillion Experimental Sub-Station to inspect the substations along the Mackenzie River. Mr. Lawrence recommended that existing substations work on the Mackenzie be discontinued, and that a definite program of agricultural experiments be initiated on one or two selected farms, under a definite agreement. Under this program two new sub-stations were started, one on the farm of Mr. W. Goodall at Fort Simpson, N.W.T., and one on the farm of Mr. S. Yanik at Fitzgerald, Alberta. Work at the latter point, however, was discontinued on the death of Mr. Yanik.

Agricultural trials had also been conducted at points in the Yukon Territory, latterly at the Anglican Mission School at Carcross, but the loss by fire of the school had stopped the trials.

In 1942, Mr. Lawrence made another inspection trip along the Mackenzie, found lots of gardens, but was able to collect only hearsay evidence with regard to possible arable areas back from the river. Operations on the Fort Simpson sub-station had not been encouraging.

Agricultural possibilities in northern British Columbia, as in the Liard watershed and the Rocky Mountain trench were unexplored. Information regarding these areas should be secured.

In earlier days some small crop trials on a private farm at Beaverlodge, Alberta, had developed into an Experimental Station, on government-owned land. Similar progress had been made at Fort Vermilion, Alberta. Experience gained at these points had indicated that satisfactory agricultural research, relative to selected areas, could be conducted only on government-owned and government-controlled stations, with outlying Illustration Stations for demonstration purposes. It was possible that a similar program should be initiated for the Northwest Territories, Northern British Columbia and the Yukon Territory.

Preliminary to the above program, a survey of the literature should be made, pooling whatever information was available in the Departments of Agriculture and of Mines and Resources. The information needed includes data on the location, extent and nature of various areas of soil food requirements and food imports in the districts under consideration, and other related data. Dr. Leahey might make a personal investigation of the areas, and Dr. Archibald would like to visit these areas himself.

Mr. Gibson stated that he and Mr. Cumming as representatives on the N.W.T. Council, and Mr. Hoey representing the Indian Affairs Branch, greatly appreciated the work of the Experimental Farms in the north, where a supply of fresh vegetables was of great importance for reasons of health. Dr. Pett, of the Department of Pensions and National Health, was conducting a nutrition survey in northern areas, covering food habits and requirements of the Eskimo, Indian and European populations.

--3--

The agricultural problem as seen by Mr. Gibson was that of serving a local market. In the Northwest Territories, where distances between settlements were very great, vegetables could be produced to better advantage on many small areas contiguous to scattered points of settlement, than on a few larger areas of possibly more fertile soil. Many white men up north engage in gardening as a hobby.

Mr. Gibson thought that program of agricultural experimentation for the north should include sustained experimental work at key points, and an extension service which would provide the personal advisory services of an agriculturist making annual visits to the various settlements on a flexible itinerary.

In the Yukon a special agricultural problem was encountered, arising from the declining population.

Mr. Odell, who represents Dr. Camsell on the North Pacific Planning Project, outlined the purposes of this project. The need for development of the North Pacific areas of the American continent, to counter very considerable developments on the Asiatic side, had led to the initiation of the North Pacific Planning Project by the United States Government. The immediate purpose of this project was to conduct a survey of American Pacific areas, to learn all the facts necessary for development by the United States and Canada. The headquarters of United States work in this connection is at Portland, Oregon. Canadian surveys were to be directed by the Department of Mines and Resources.

Mr. Meikle, referring to the nature of information now held by the Department of Mines and Resources, stated that the location of all gardeners in the N.W.T. is known.

Dr. Archibald referred to the incomplete information secured on agriculture through occasional hurried trips such as have been made by Mr. Lawrence. What is needed is a fulltime resident operator on the Mackenzie. A man of the type of Mr. Lawrence.

Mr. Odell, referring to the North Pacific Planning Project survey, stated that it was not hoped that large agricultural areas might be found, but small areas suitable for intensive special projects.

Mr. Gibson mentioned the nomadic habits of the Indians and the problems arising from their contact with mission schools.

Mr. Hoey, in response to a question by Dr. Archibald, stated that between \$25,000 and \$30,000 was expended annually for relief of natives in the north.

Dr. Archibald, referring to Indian training, stated that fur-farming had been tried, but had failed (at Fort Providence). However, it might be possible to establish a fox and mink experimental station in the N.W.T., using data secured in successful Experimental Farms projects which are conducted in the Maritimes.

Mr. Gibson saw merit in the suggestion since furbearing resources were being depleted. Further, since the present mode of travel by water was likely to be supplemented largely by air-travel, exploitation of fur-farming possibilities might be promoted.

Mr. Hoey stated that the Indian Affairs Branch would be interested in the production of vegetables for reasons of health. He referred to the vegetable-carrying biscuits developed for northern use by Dr. Newman. Dr. Crewes, Dr. Tisdale, et al had found that vegetables were badly needed in Indian diets.

Dr. Harvey stated that vegetables could be grown along the Mackenzie to the delta.

Mr. Hoey pointed out the difficulty of storing vegetables in the north. The possibility of insulating the storage cellars, perhaps with moss, was discussed.

Mr. Gibson stated that the experimental reindeer herd now amounted to about 10,000 head. He described the practice of appointing young Eskimos as apprentice herdsman, supplying each with about 800 reindeer, this number to be returned to the government when the herd had grown sufficiently. The growth of the reindeer herd had by now begun to present problems of marketing. Should the local markets for reindeer meat prove too small, canning or drying for export might be considered.

Replying to a question from Dr. Archibald, Mr. Gibson stated that no accurate count could be made of buffalo in Wood Buffalo Park. A good guess set the numbers at about 8,000. The park was unfenced. Dr. Love (Elk Island Park) was being sent north to inquire into health of buffaloes.

Dr. Archibald brought up the subject of beef and milk for the north.

Mr. Hoey stated that some goats had been introduced in Northern Saskatchewan and other northern areas, but not yet in the N.W.T. Dogs were a menace to goats.

Mr. Cumming was of the opinion that condensed milk would be relied on in the north for a long time yet. Cattle on some of the mission farms were winter fed on native hay moved in large scows on the river.

Mr. Gibson remarked that fresh milk, if procurable, would reduce the rate of infant mortality among Indians.

With reference to fowl and eggs, Dr. Archibald stated that chicks could be flown into the territory.

Mr. Gibson was of the opinion that agricultural possibilities along the Mackenzie should be investigated first. It is possible to sell agricultural produce to river traffic. In conducting experimental work it would be necessary to appeal to the personal interests of local residents. In this, practical questions should be given ostensible priority. Efforts were being made to develop some local enterprises, and the government has insisted that oil products from Norman Wells be sold locally at prices which would encourage these enterprises.

To illustrate the need for technical advisory services, Mr. Gibson mentioned some difficulties encountered in growing vegetables under adverse soil conditions at Yellowknife.

Dr. Hopkins stated that a permanent program of agricultural investigations was necessary. Negative results are as important as positive results. There were difficulties in the way of securing suitable technical men.

Mr. Gibson asked if the Experimental Farms could assign one man to the problems of northern agriculture. There was need that one responsible officer should be in charge of Experimental Farm project in the Territories.

Mr. Gibson suggested that the records of the Hudson's Bay Company at Winnipeg should be investigated for all references to agricultural possibilities in the northern Territories.

With regard to beef storage, Mr. Gibson referred to storage facilities at Fitzgerald and Yellowknife. One difficulty in disposing of late agricultural produce along the Mackenzie was the absence of northbound water traffic in the late fall.

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Mr. Odell, in a further description of the North Pacific Planning Project work referred to the outline of this project, and pointed out that each interested Department of the Canadian Government had been requested to supply data. A land map, showing soils, grassland, etc., was envisaged. The area involved covered the northern half of British Columbia, the Mackenzie basin and the Yukon. As regards the search of Hudson's Bay Company records, Dr. Camsell and Mr. Odell preferred that this be undertaken by the Experimental Farms.

Dr. Archibald undertook to assign the investigation of Hudson's Bay Company records to Mr. Dickson who would proceed to Winnipeg in the near future for that purpose. Records at Victoria, in the files of the Government of British Columbia, and possibly also at Edmonton, would also be investigated by Mr. Dickson.

Dr. Leahey would be assigned to investigations of soil resources in the Mackenzie and other northern areas. Qualified soils men in the western provinces would assist Dr. Leahey.

At the request of Mr. Odell, Dr. Archibald agreed that Dr. Leahey would also undertake to make a reconnaissance survey of the area of northern British Columbia on the basis of aerial topographic surveys made by the U.S. Government.

The meeting adjourned about 3:45 p.m.

(Signed) Wm. Dickson
Acting Secretary.

2992

WINNIPEG, 30th December, 1942
JWA/AMCJ. W. Anderson
D. L. McKeand,

UNGAVA DISTRICT
APPROXIMATE PER CAPITA CONSUMPTION
YEAR ENDING 31st MAY, 1942

POST	Popula- tion Year	Native Popula- tion	Flour con- sumption cwts.	Flour per person annum lbs.	Sugar per person annum lbs.	Sugar per person annum lbs.	Tea con- sumption lbs.	Tea per person annum oz.
Georges River, Que.	-	-	-	-	-	-	-	-
Fort Chimo, Que.	1942	258	560	217.05	3,662	.27	1,782	2.12
Fort Macken- zie, Que.	1942	176	321	182.38	2,372	.25	1,323	2.31
Payne Bay, Que.	1942	346	555	160.40	5,450	.31	2,090	1.86
Sugluk, Que.	1942	233	377	161.80	2,958	.24	1,322	1.74
Wolstenholme, Que.	-	-	-	-	-	-	-	-
Cape Smith, Que.	1942	110	273	248.18	1,632	.29	1,692	4.73
Povungnetuk, Que.	1942	185	350	189.19	1,100	.11	1,973	3.28
Port Harrison, Que.	1942	401	642	160.10	4,900	.24	4,226	3.24
Southampton Is., N.W.T.	1942	137	184	134.30	4,000	.56	921	2.06
Cape Dorset, N.W.T.	1942	333	532	159.75	4,260	.24	1,578	1.45
Lake Harbour, N.W.T.	1942	444	421	94.82	4,215	.18	2,806	1.94
Pangnirtung, N.W.T.	1942	506	284	56.12	5,920	.22	1,649	1.00
Clyde, N.W.T.	1942	169	122	72.18	3,200	.36	681	1.23
Pond Inlet, N.W.T.	1942	214	138	64.49	2,850	.26	610	.88
Arctic Bay, N.W.T.	1942	138	171	123.91	3,150	.43	1,425	3.17
Fort Ross, N.W.T.	-	-	-	-	-	-	-	-
TOTAL		3,650	4,930	135.07	49,669	.27	24,078	2.03

Department of
Pensions and National Health

Ottawa, February 3rd, 1943.

Mr. R.A. Gibson,
Deputy Commissioner,
Administration of the
Northwest Territories,
Norlite Building,
150 Wellington Street,
Ottawa, Ont.

Dear Mr. Gibson:

In reply to your letter of January 29th concerning a balanced ration for Medical Officers in the N.W.T., I am enclosing a suggested list. In reviewing this situation I find that it has not been possible to get the comments of the medical men concerned as mentioned last September.

I may point out that the lists here submitted have been calculated so as to make sure of the provision of more than one hundred per cent of the known dietary constituents, namely, calories, protein, fat and certain minerals and vitamins. It is considered necessary to provide a generous margin of safety in order that any losses that may occur in storage or cooking will be somewhat offset. Considerable variety has also been suggested but in keeping with variable supplies I think that it should be possible to get an extra ration of tea and coffee and possibly of sugar if you make special application to do so. Supplies of certain other commodities are variable and if it becomes necessary to make substitutions I should be glad to assist in this matter.

Yours sincerely,

(Signed) L. B. Pett.

L.B. Pett, Ph.D., M.D.,
Director, Nutrition Services

LBP/HK
Encl.

2990

YEARLY FOOD LIST FOR ARCTIC REGIONS

Prepared by Nutrition Services, Department of Pensions and National
Health, Ottawa

	1 adult	Child 2 - 11	Child 12 - 18
<u>Dairy Products</u>			
Milk - canned, irradiated (16 oz. tin, 48 to a case)	6 cases	14 cases	14 cases
dried - 5# tins	2 tins	4 tins	4 tins
Cheese	16 lbs.	10 lbs.	16 lbs.
Eggs - processed	17 doz.	26 doz.	21 doz.
dried	6 tins	6 tins	6 tins
Butter	65 lbs.	40 lbs.	65 lbs.
<u>Fruits</u>			
Fresh - oranges	1 case	1 case	1 case
Canned - Fruits and Juices	10 doz. tins	10 doz. tins	10 doz. tins
(20 oz. tins)	Variety is suggested. Most important nutritionally are: apricots, fruit salad, grapefruit, grapefruit juice, concentrated orange juice, peaches, raspberries. Any other kind may be added, such as concentrated lime juice, blackberries, blueberries, cherries, loganberries, pears, plums, rhubarb.		
Dried - apricots (can substitute ^{extra} prunes)	4 lbs.	4 lbs.	4 lbs.
apples	10 lbs.	10 lbs.	10 lbs.
raisins	13 lbs.	13 lbs.	13 lbs.
prunes	3 lbs.	3 lbs.	3 lbs.
<u>Vegetables</u>			
Fresh - potatoes (100 lb. sack)	208 lbs.	156 lbs.	208 lbs.
onions	1 crate		
turnips	1 crate		
Canned - (20 oz tins)	Variety is suggested. Most important nutritionally are: asparagus, beans (green lima) corn, peas, spinach, mixed.		
	8 doz. tins	6 doz. tins	8 doz. tins
tomatoes (20 oz tins)	52 tins	52 tins	52 tins
Dried - beans	10 lbs.	5 lbs.	10 lbs.
peas	3 lbs.	2 lbs.	3 lbs.
lentils (can substitute extra peas or beans)	3 lbs.	2 lbs.	3 lbs.
Dehydrated - cabbage	1 doz. tins	$\frac{1}{2}$ doz. tins	$\frac{1}{2}$ doz. tins
onions	1 "	$\frac{1}{2}$ "	$\frac{1}{2}$ "
carrots	1 "	1 "	1 "
potatoes	1 "	1 "	1 "
Soups - Canned, Condensed	6 doz. tins	6 doz. tins	6 doz. tins

Preferably tomato, vegetable, chicken gumbo and beef

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	1 adult	Child 2 - 11	Child 12-18
<u>Cereals</u>			
Flour - Vitamin B. White, Canada Approved	175 lbs.	150 lbs.	200 lbs.
brown	75 lbs.	50 lbs.	100 lbs.
Rolled Oats	10 lbs.	10 lbs.	10 lbs.
Cornmeal	4 lbs.	3 lbs.	4 lbs.
Whole Wheat Prepared Breakfast	10 lbs.	10 lbs.	10 lbs.
Rice	5 lbs.	5 lbs.	5 lbs.
Macaroni	4 lbs.	3 lbs.	4 lbs.
Spaghetti	3 lbs.	2 lbs.	3 lbs.
Cornstarch	3 lbs.	2 lbs.	3 lbs.
<u>Meat and Fish (assumes none being caught)</u>			
Bacon	19 lbs.	6 lbs.	19 lbs.
Spare ribs	25 lbs.	10 lbs.	15 lbs.
Ham	25 lbs.	10 lbs.	15 lbs.
Canned Meat - to total -	135 lbs.	65 lbs.	90 lbs.
With as much variety as possible, such as suggested here:			
Beef - 1 lb tin	1½ dz tins	1 doz tins	1 doz tins
ham loaf - ½ lb tin	1 "	"	"
pork loaf ½ "	1 "	"	"
meat balls 1 "	1 "	"	"
sausages ½ "	1½ "	"	"
chicken 1 "	1 "	"	"
beef steak with mushrooms -			
½ lb tin	1 "	"	"
tongue ½ "	1½ "	"	"
lamb stew 1 "	1½ "	"	"
boiled dinner 1 "	1 "	"	"
steak and kidney 1 "	1½ "	"	"
spiced ham 1 "	1½ "	"	"
chicken haddies 1½ "	1½ "	"	"
salmon 1 "	1½ "	"	"
pilchards 1½ "	1½ "	"	"
<u>Fats - Shortening (or Lard)</u>	32 lbs.	24 lbs.	32 lbs.
<u>Sugars</u>			
Sugar - as rationed			
white	18 lbs.	16 lbs.	18 lbs.
brown	8 lbs.	4 lbs.	8 lbs.
as recommended			
white	36 lbs.	32 lbs.	36 lbs.
brown	16 lbs.	8 lbs.	16 lbs.
Molasses - 1 lb tins	3 tins	3 tins	3 tins
Honey - 4 lb tins	1 tin	1 tin	1 tin
Corn syrup - 5 lb tins	1 tin	1 tin	1 tin
Jam - 4 lb tins	3 tins	3 tins	3 tins
Maple syrup	2 btls.	1 btl	1 btl
<u>Spices, etc</u>			
Salt - 2's	5 pkgs.	4 pkgs	4 pkgs.
Pepper	1 lb.		1 lb.
Mustard	1 tin		1 tin
Allspice	1 tin		1 tin

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	1 adult	Child 2 - 11	Child 12-18
Cloves	1 pkg		
Cinnamon	1 tin		1 tin
Ginger	1 tin		
Celery salt	1 tin		1 tin
Sage	1 tin		1 tin
Savory	1 tin		1 tin
Poultry seasoning	1 tin		1 tin
Curry Powder	1 tin		
H. P. sauce	$\frac{1}{2}$ dz btls		
Tomato catsup	1 doz btls		$\frac{1}{2}$ dz btls
Vinegar	2 btls		2 btls
Pickles - assorted	3 dz btls		2 dz btls
Baking powder	4 lbs	3lbs	4 lbs
Baking soda	$\frac{1}{2}$ dz pkgs	$\frac{1}{2}$ dz pkgs	$\frac{1}{2}$ doz pkgs
Vanilla flavouring	1 btl	1 btl	1 btl
Peppermint "	1 btl		
<u>Miscellaneous</u>			
Gelatine	3 pkgs	3 pkgs	3 pkgs
Peanut butter	$\frac{1}{2}$ dz tins	$\frac{1}{2}$ doz tins	$\frac{1}{2}$ dz tins
Cocoa	3 lbs	3 lbs	3 lbs
Tea - as rationed ($\frac{1}{2}$ ration)	1 lb 10 oz		1 lb 10 oz
as recommended	3 lbs		3 lbs
Coffee - $\frac{1}{2}$ ration	6 $\frac{1}{2}$ lbs		6 $\frac{1}{2}$ lbs
Chocolate - unsweetened and semi-sweet	$\frac{1}{2}$ dz bars	$\frac{1}{2}$ dz bars	$\frac{1}{2}$ dz bars
Biscuits- soda	$\frac{1}{2}$ dz tins	$\frac{1}{2}$ dz tins	$\frac{1}{2}$ dz tins
fancy	10 lbs	10 lbs	10 lbs
graham wafers	$\frac{1}{2}$ dz pkgs	$\frac{1}{2}$ dz pkgs	$\frac{1}{2}$ dz pkgs
Yeast cakes	1 carton		
Soap - toilet	1 $\frac{1}{2}$ dz cakes	1 $\frac{1}{2}$ dz cakes	1 $\frac{1}{2}$ dz cakes
washing	1 case		
Matches	2 cartons		

Trade goods should be added,

incl. Jam

Sweetened condensed milk

Candy

Pilot biscuit

Man Pemmican, etc.

PROGRESS REPORT ON NUTRITIONAL SURVEY FOR
THE NORTHWEST TERRITORIES COUNCIL

February 1943 by - Dr. L.B. Pett
Nutrition Services, Department of Pensions
and National Health.

1. In accordance with the arrangements, a dietitian, Miss Winnifred Hinton, B.A. (Tor.) was added to the Staff of Nutrition Services for this Survey. The salary is at the rate of \$1560 yearly, plus cost of living bonus. No travelling has been necessary and stenographic needs have been so small that Miss Hinton and our regular staff attended to them. Miss Hinton started work on October 10, 1942.

2. Consultations have been held with various officials and some research reading was carried out.

3. A specific request regarding a suitable food list for doctors and their families was received from the Council and required considerable time. A list was prepared and has already been sent to Mr. R.A. Gibson. This list is based on information received from several sources and has been carefully calculated with respect to the important known dietary constituents. It will also permit satisfactory menus, and the material should store well. The calculations took considerable investigations, and show well over 100% of our average requirements in respect of Calories, Proteins, Fat, Carbohydrates, Calcium, Phosphorus, Iron, Vitamin A, Vitamin B (thiamin), Riboflavin (vitamin B₂ or G), Niacin (nicotinic acid), Vitamin C.

4. The Survey was started by sending out questionnaires to many places in the Arctic (Sample attached). This winter's work was to consist of a summary of answers to these questionnaires, with a view to judging what further studies are necessary. Distribution of the questionnaires was handled by various groups including N.W.T. Indian Affairs and R.C.M.P.

5. To date eight questionnaires have been received, 5 from the Yukon and 3 from Great Slave Lake area. Interesting information has been obtained. A large table appended to this report indicates the individual answers, and the answers are summarized in paragraph 7.

6. Summary and Suggestions

(a) Only 8 questionnaires have been received, 5 from the Yukon and 3 from the Great Slave Lake Area. Presumably, more answers will be drifting in for another year.

(b) For the Yukon and Great Slave Areas, the idea is gained that natives eat somewhat better, and are healthier than whites. There is a low incidence indicated of the various signs for nutritional deficiencies listed in the questionnaire - much lower than found among Manitoba Indians.

(c) Four of the answers indicated that gardening should be encouraged, and that methods should be explored of giving simple information on buying and cooking. It might be possible to develop a picture booklet something like the Hudson's Bay Company sent to its posts. Further influence on trade supplies is possibly needed to coincide with instruction, since the staples purchased are ~~flour~~ tea, sugar, jam, pickles, lard and baking powder. These staples may need improvement in themselves, so that customary dietaries will contain some protective elements.

(d) To allow any ultimate improvement, this study must be completed so as to take account of dietary habits. In view of the great food value derived from the wild meats, etc. it cannot be assumed that extra vegetables are essential. Furthermore, there is no indication as yet that the natives are any less healthy than the whites nor than the Canadian population as a whole. Probably a clinical survey is needed to complete the picture at some future time. In the meantime, further questionnaires should be summarized, and possibly simple instructional plans worked out.

(e) At the present time, we are arranging that Miss W. Hinton, who was attached to Nutrition Services for this Survey, spend any free time available working for the Penitentiaries Branch, and the N.W.T. Council will be billed accordingly. The uncertainty of receiving further questionnaires, the demand for dietitians in other directions, and the fact that Nutrition Services has no budget for continuing the

position has raised serious questions in Miss Hinton's mind. I wish to suggest that Miss Hinton be retained during the next fiscal year, presumably on a half-time or 2/3 time basis, to summarize remaining questionnaires and to prepare suitable educational material, which has already been requested.

7. Summary of 8 Questionnaires

From - Carcross, Mayo, Moose River, Selkirk, Whitehorse, Yukon Terr., Fort Smith, Resolution, Yellowknife, North West Terr.

1,2,3. All questionnaires give wild meat, fish and wild fowl as being eaten in season by the natives. Also staples bought from the post - flour, tea, sugar, jam, pickles, baking powder, lard. Wild berries and roots are eaten in the fall. Two questionnaires (Fort Smith, Yellowknife) mention fresh fruit and vegetables in the summer; the latter has a refrigeration plant where the whites and natives buy fruit and vegetables all winter.

4. Three questionnaires (Fort Smith, Resolution, Yellowknife) state that they have a few gardens, although growing season is very short, so types of vegetables, etc. limited.

Three (Selkirk, Moose River, Mayo) could have gardens, but natives don't.

Two (Whitehorse, Carcross) give climate as not suitable.

5. Six questionnaires state that the natives eat more wild meat, fish and bannock, less vegetables and fruits than the whites.

6. (a) Blindness

4 (Yukon) - none

4 (3 N.W.T., 1 Yukon) - rare, caused by disease.

(b) Pterygia

2 (Fort Smith, Carcross) - none

2 (Whitehorse, Yellowknife) - few.

1 (Moose River) 4-5

1 (Selkirk) 6-7

1 (Mayo) 2-5%

1 (Resolution) 10%

(c) Snow Blindness

1 (Carcross) - no cases

7 - some cases, if don't wear sun glasses.

(d) Conjunctivitis

1 (Carcross) - none

1 (Yellowknife) - fairly common

2 (Fort Smith, Mayo) - 5%

2 Whitehorse,

Resolution) - 15-20%

2 Selkirk,

Moose River) - 50-55%

(e) All questionnaires state that there is no known night blindness.

(f) Sore Gums, etc.

4 (Selkirk, Moose River, Fort Smith, Carcross) - none

4 (Whitehorse, Mayo, Yellowknife, Resolution) - few

(g) Native's Teeth

4 (Selkirk, Whitehorse, Carcross, Mayo) - good

2 (Moose River, Yellowknife) - usually good

2 (Fort Smith, Resolution) - few

(h) Glossitis

5 - none

1 (Selkirk) - not noticed

1 (Resolution) - few among older natives

1 (Moose River) - no statement

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- (i) 7 questionnaires state that skin diseases are quite prevalent,
2 say that the commonest is scabies, 1 gives none.

(j) Neurological Examinations

Only 4 gave neurological examinations

- 1 (Whitehorse) - number with vitamin B₁ deficiency symptoms
1 (Mayo) - fairly normal
2 (Yellowknife, Resolution) - no marked changes

(k) Anaemia

- 1 (Whitehorse) - usually normal
1 (Resolution) - average adult low haemoglobin
1 (Mayo) - none

(l) Increase of above conditions in old age

- 2 (Selkirk, Mayo) - yes
1 (Whitehorse) - little increase
2 (Fort Smith, Resolution) - no difference noticed
1 (Yellowknife) - no

7. Suggestions

- 3 had no suggestions to make
1 says that natives appear well-nourished (Yellowknife)
4 agree that natives should be instructed in proper buying and cooking methods, encouraged to have gardens and that a planned dietary should be available to the indigent and ill, with their families, especially the children

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PLACE	FOODS EATEN	NATIVE FOODSTUFFS	FOOD BOUGHT
1. Selkirk Yukon	Staples from post, moose meat, fish	Moose meat, fish	Food available at posts
2. Moose River, Yukon	Staples from post, moose meat, fish	Fish, caribou, sheep, moose	Food available at posts
3. Whitehorse, Yukon (Doctor)	Moose, caribou, bear, grouse- hog, gopher, flour tea, potatoes, butter eggs	Wild meat, fish, berries, roots	Flour, tea potatoes, butter egg
4. Mayo Yukon	Wild meat, fish	Wild berries, wild meat, fish	Tea, flour sugar
5. Carcross, Yukon	Diet same as whites, moose caribou, beef, fish		Meat, veg. etc. same as white
6. Fort Smith, N.W.T.	Fish, moose, cari- bou, rabbit, ptarmigan, bacon, bannock, beans, tea, butter, jam, dried fruit, ma- caroni, sugar, dry milk, pickles, In summer have eggs, fresh fruits, wild rhubarb, berries	Moose, caribou sheep, bears, ducks, geese ptarmigan, grouse, beaver, muskrats, fish, berries.	Flour, oats, bacon, beans, tea, lard, butter, jam, dried, and canned fruit, oranges, apples, eggs, sugar, pickles, dry milk, sauces, baking powder, canned meat.
7. Resolution, (1) R.C.M.P. (2) Doctor N.W.T.	Fish, wild meat, game, birds.	Diet mostly as in 1.	Flour, bacon, jam, dried fruit, tea, oats, baking powder, sugar, salt, lard
8. Yellowknife (Doctor) N.W.T.	Refrigeration plant so have meat veg., fruit all winter. Indians buy them as well as whites	Caribou, moose, fish duck, ptarmigan grouse etc. used extensively.	See 1. Also buy flour, bread, salt, sugar etc.

GARDENS	DIFFERENCE BETWEEN WHITE & NATIVE DIETS	(A) BLINDNESS	(B) PTERYGIA	(C) SNOWBLINDNESS
Veg. can be grown, but don't have gardens		No	6-7 cases	some cases every spring
Veg. can be grown. Indians don't have gardens	Indians have more meat	No	4-5 cases	Only if don't use sun glasses
None Climate not very suitable	Natives have more meat	Rare	Few	Infrequent
Good opportunity but don't have	Natives eat more meat and fish. Don't eat much vegetable	No	2-5%	Occasionally
Very little Growing season short	None	No	No	No
Some have gardens	Whites have more canned meat and veg., bread. Natives have more fresh meat, fish, bannock	Rare	No	Only if don't use sun glasses
Few veg. can be grown	Whites have bread, canned goods, jam, sugar, fresh veg., canned fruit juices, beans, sago, rice, etc. Natives use more fresh lean meat, bannock	1. some caused by disease. 2 few	1. No 2. 10%	1. Occasionally 2. May have it in spring
Not much suitable soil for veg. growing	Whites eat more beef, lamb, fowl, pork, veg. fruits. Indians more fish, caribou, etc.	Very little	Few cases	Only occurs when don't wear glasses

(D) SORE EYES	(E) NIGHT BLINDNESS	(F) SORE GUMS	(G) TEETH
50%	No	No	Good
55%	No	No	Usually good
15-20%	No	Rare	Good
Approx. 5%	No	Less among natives than whites	Good. Occasional tooth decay
No	None	No	Good
About 5%	No	No	Fairly good
(1) 5% (2) 15%	(1) No (2) NO	(1) Yes (2) Few	(1) Not excessive decay (2) Halfbreeds suffer from pyorrhoea & decayed teeth
Fairly common	No	Very little	Usually good. Children and young adults have more cavities than parents & grandparents.

(H) GLOSSITIS, ETC.	(I) SKIN DISEASE	(J) NEURO. EXAM.	(K) ANAEMIA	(L) CONDITIONS MORE SEVERE IN OLDER GROUP
1. Not noticed	Yes			Yes
2.	Yes			
3. No	Very prevalent	some with proven Vit. B ₁ deficiency	Usually normal	Little increase.
4. No	Not more prevalent than among whites	Fairly normal	No	Yes
5. No	No			
6. No	Few in each camp			No difference noted
7. (1) No (2) Few among older natives	(1) quite prevalent (2) Scabies	(2) no marked changes	(2) average adult has low blood haemo	(2) not more evident in older group
8. No	Yes. commen- est Scabies	No changes		No

7.

SUGGESTIONS

None

No

Make available specified dietary
for indigent and ill. More generally
available supplies of Vit. B₁ particularly.

Need gardens, cabins and grounds should be
kept cleaner. T.B. very prevalent

No

See form

See form

Most natives appear well nourished.
Earn good money working in mines, etc.

CANADA

DEPARTMENT
OF
MINES and RESOURCES

Indian Affairs Branch

QUESTIONNAIRE FOR EASTERN AND
WESTERN ARCTIC NUTRITIONAL
INVESTIGATION

1. What is actually being eaten season by season by natives in different parts of the north?
2. What native foodstuffs are there, and to what extent do they figure in the Indian and Eskimo diet?
3. What foodstuffs are commonly purchased or supplied, and how can the administration influence the nature of these purchases to provide more of the food essentials?
4. What opportunities are there for growing suitable foods?
5. Cite essential differences in diets between permanent white residents as compared with the natives.
6. Where medical men are available what specific conditions are encountered? Distinguish where possible among the natives (a) living at the post, (b) frequent visitors, (c) rare post visitors. Indicate seasonal differences, if any.
 - A- Is there much blindness? Is there any that could be explained on a nutritional basis?
 - B- Have many of the natives Pterygia? What percentage?
 - C- Does snow blindness occur? How prevalent?
 - D- Do many of the natives have sore looking inflamed eyes? especially conjunctivitis near the inner canthus. What percentage?
 - E- Are many persons affected with night blindness?
 - F- Do any of the natives have sore gums? Pyorrhoea? Trench mouth?
 - G- On the average what is the condition of the native's teeth? Is there excessive tooth decay?
 - H- Do you encounter glossitis, fissured or excessively smooth tongues?
 - I- Are skin diseases prevalent, particularly non-specific eruptions, eczema or dermatitis?
 - J- Are marked changes noticed on neurological examination particularly loss of knee and ankle jerks, anaesthesia of lower limbs or loss of deep vibratory sensation with a coarse tuning fork on dorsum of foot?

- 2 -

- K- Has the average adult a normal blood haemoglobin? Is there much evidence of anaemias?
- L- If any of the above conditions are encountered, do they become more evident or severe in the older age groups?
7. Have you any suggestions whereby any practical measures could be introduced that would improve the nutrition and the food habits of the natives?

(signed) Harold W. McGill

Harold W. McGill, M.D.

Ottawa, Ontario
July 1, 1942.

Committee to Study Conditions of
Nutrition in the Northwest Territories.

Address replies to this questionnaire to the Deputy Commissioner,
Northwest Territories Council, Ottawa.

1.

AN ORDINANCE GOVERNING THE SAFE OPERATION
OF MINES IN THE NORTHWEST TERRITORIES

(Assented to February 19, 1943)

The Commissioner of the Northwest Territories by and with the advice and consent of the Council of the said Territories enacts as follows:-

SHORT TITLE

1. This Ordinance may be cited as "The Mining Safety Ordinance".

INTERPRETATION

2. In this Ordinance, unless the context otherwise requires -

"Authorized"

"Qualified"

"Agent"

"Commissioner"

"Court"

"Inspector"

"Machinery"

"Mine",
meaning of.

- (a) "Authorized" means properly authorized to perform any specified duty or to do any specified act, and "qualified" shall mean properly qualified to perform any specified duty or do any specified act;
- (b) "Agent" means any person having, on behalf of the owner, the care or direction of a mine or of any part thereof, and includes the words manager and superintendent;
- (c) "Commissioner" means the Commissioner of the Northwest Territories;
- (d) "Court" means Stipendiary Magistrate's Court, Northwest Territories;
- (e) "Inspector" means any inspector, including the chief inspector, appointed under this Ordinance, and any officer having the powers of an inspector and any other person who is directed by the Commissioner to make a special report with respect to an accident in a mine to which this Ordinance applies;
- (f) "Machinery" means and includes steam and other engines, boilers, furnaces, stamps and other crushing apparatus, winding and pumping gear, chains, trucks, tramways, tackle, blocks, ropes and tools, and all appliances used in or about or in connection with a mine;
- (g) The noun "mine" shall include any opening, quarry or excavation in, or working of, the ground for the purpose of searching for, winning, opening up, removal of, or proving any mineral-bearing substance, and any ore body, mineral deposit, stratum, soil, rock, quartz, limestone, bed of earth, clay, sand or gravel, or place where mining is or may be carried on, and all ways, works, machinery, plant, buildings and premises below or above ground belonging to or used in connection with the mine and also any roasting, smelting furnace, mill, work or place used for or in connection with crushing, reducing, smelting, refining, or treating any of said substances.

"Mine"
"Mining"

- (h) The verb "mine" and the word "mining" shall include any mode or method of working whereby the soil or earth or any rock, stone, quartz, clay, sand or gravel may be disturbed, removed, carted, carried, washed, sifted, crushed, roasted, smelted, refined or dealt with for the purpose of obtaining any mineral or minerals, metal or metals therefrom whether the same may have been previously disturbed or not and all operations and workings mentioned in clause (g) of this section.

"Owner"

- (i) "Owner" when used in relation to any mine, means and includes every person, mining partnership, and company being the immediate proprietor or lessee or occupier of a mine, or of any part thereof, or of any land located, patented or leased as mining lands but shall not include a person, or a mining partnership or company receiving merely a royalty, rent or fine from a mine or mining lands, or being merely the proprietor of a mine or mining lands subject to a lease, grant or other authority for the working thereof, or the owner of the surface rights and not of the ore or minerals;

"Recorder"

- (j) "Recorder" means the mining recorder of the mining district in which the land in respect of which an act, matter or thing is to be done are situate;

"Regulation"

- (k) "Regulation" means a regulation made by the Commissioner in Council under the authority of this Ordinance;

"Shaft"

- (l) "Shaft" includes a pit.

3. Deleted.

Appointment and
duties of in-
spectors and
other officers

4. The Commissioner may appoint an inspector or inspectors, and such other officers as he may deem necessary for the purpose of carrying out the provisions of this Ordinance, and, subject to the approval of the Commissioner in Council, fix their remuneration.

Regulations
and Forms

5. The Commissioner may from time to time make regulations and prescribe such forms as may be deemed necessary for the proper carrying into effect of the provisions of this ordinance.

EMPLOYMENT IN AND ABOUT MINES

Responsibility
as to
qualifications

6. (1) Subject to the requirements of this Ordinance, and except as otherwise herein provided, responsibility for the authorization and decisions as to the qualifications of the employees shall rest with the employer or his agent.

Restrictions on
employment of
children.

- (2) No male person under the age of sixteen years shall be employed in or about any mine, and no male person under the age of eighteen years shall be employed below ground in any mine.

Girls and
women.

- (3) No girl or woman shall be employed in or about any mine except in a professional, technical, clerical or domestic capacity.

Rescue
Apparatus.

7. (1) The owner or agent of every producing mine shall provide adequate mine rescue apparatus which shall be kept in good condition and readily available for use at all times.
- (2) It shall be the duty of the owner, or agent, of every producing mine to cause a sufficient number of workmen to be trained in the use and maintenance of rescue apparatus.

Hours of labour
underground.

8. (1) No workman shall remain or be allowed to remain underground in any mine for more than eight hours in any consecutive twenty-four hours, which eight hours shall be reckoned from the time he arrives at his place of work in the mine until the time he leaves such place, provided however, that, -

Proviso

- (a) a Saturday shift may work longer hours for the purpose of avoiding work on Sunday or changing shift at the end of the week or giving any of the men a part holiday;
- (b) the said limit of time shall not apply to a foreman, pump man, cagetender, or any person engaged solely in surveying or measuring, nor shall it apply in cases of emergency, where life or property is in imminent danger, or in any case of repair work.

Hours of operator
of hoisting engine.

- (2) No person shall operate or be permitted to operate, either on the surface or underground, any hoisting engine by means of which persons or material are hoisted, lowered or handled in any shaft or winze, for more than eight hours in any consecutive twenty-four hours, except, -

Absence of
hoistman.

- (a) that in the event of one of the regular hoistmen being absent from duty through sickness or otherwise and where no competent substitute is available the remaining hoistman or hoistmen may work extra time not exceeding four hours each in any consecutive twenty-four hours for a period not exceeding ten days;

Less than three
shifts per day.

- (b) that in any case where the work at any mine or in any shaft or winze at any mine is not carried out continuously on three shifts per day, in which case the hoistman may work such extra time as may be necessary for hoisting or lowering the workmen employed on the shift at the beginning and end of each shift;

Saturday shift,
emergencies.

- (c) in the cases provided for in clauses (a) and (b) of subsection 1.

Interpretation.

- (3) In this section, -

"Workman".

- (a) "Workman" shall mean any person employed underground in a mine who is not the owner or agent or an official of the mine;

"Shift".

- (b) "Shift" shall mean any body of workmen whose hours for beginning and terminating work in the mine are the same or approximately the same,

Certificate
of Inspector.

and where any question or dispute arises as to the meaning or application of clause (b) of subsection 1, or as to the meaning of "workman", "shift" or "underground", the certificate of the Inspector shall be conclusive.

Application of
sections as to
penalties.

- (4) For greater certainty it is hereby declared that sections 42, 43 and 44 shall apply to contraventions of this section; provided, however, that a workman shall not be guilty of an offence for failure to return to the surface within the time limited by this section if he proves that without fault on his part he was prevented from returning owing to means not being available for the purpose.

Suspension of
operation of
section.

- (5) In the event of great emergency or grave economic disturbance, the Commissioner may suspend the operation of this section to such an extent and for such period as he deems fit.

Age limit of
hoistmen.

- (9) (1) No person under the age of twenty-one years and no person who has not had adequate experience on a reversing hoisting engine shall be allowed to have charge of any hoisting engine at a shaft or winze in which men are handled at any mine.
- (2) No person under the age of eighteen years shall be allowed to have charge of any hoisting engine of any kind at a mine.

Hoistman to be
holder of
medical
certificate.

- (3) No person shall operate or be permitted to operate any hoist engine at a shaft or winze in which men are handled at any mine, or for any other purpose designated by the Inspector, unless such person is the holder of a subsisting certificate from a duly qualified medical practitioner to the effect that such person has been examined and that he is not subject to any infirmity, mental or bodily, and that his sight and hearing are not defective to such a degree as to interfere with the efficient discharge of his duties.
- (a) Such certificate shall lapse and be deemed to have expired at the end of one year from the date thereof.

Record of
subsisting
certificates.

- (4) A record of all such subsisting certificates shall be kept on file by the person in charge of the mining operation and shall be open at all times to examination by the Inspector.

Interpretation. (10) For the purpose of sections - 11 to 20.

"Applicant".

- (a) "Applicant" shall mean a person who is not the holder of a certificate in good standing, issued under the authority of sections 11 to 20, who is seeking employment in a dust exposure occupation;

"Certificate".

- (b) "Certificate" shall mean initial certificate, extended certificate, endorsed certificate, miner's certificate and renewed certificate;

"Dust exposure
occupation."

- (c) "Dust exposure occupation" shall mean employment underground in a mine or open quarry or employment at the surface of a mine in ore or rock crushing operations where the ore or rock is not crushed in water or in a chemical solution which constantly keeps it in a moistened or wet condition;

5.

- "Endorsed certificate". (d) "Endorsed certificate" shall mean an initial certificate or extended certificate which has been endorsed under clause (b) of subsection 2 of section 13;
- "Extended certificate". (e) "Extended certificate" shall mean an initial certificate which has been extended under clause (a) of subsection 2 of section 13;
- "Initial certificate". (f) "Initial certificate" shall mean a certificate issued to an applicant under subsection 1 of section 13;
- "Medical Officer". (g) "Medical officer" shall mean a medical officer appointed by the Commissioner, or a medical practitioner employed by the mining company and authorized by the Commissioner to carry out the provisions of this Ordinance with regard to the examination of employees or applicants for employment;
- "Miner's certificate". (h) "Miner's certificate" shall mean a certificate issued under subsection 1 of section 14;
- "Renewed certificate". (i) "Renewed certificate" shall mean a miner's certificate which has been renewed under subsection 2 of section 14.
- Dust exposure occupation, - employment in 11. No person shall be employed in a dust exposure occupation unless he is the holder of a certificate in good standing.
- Terms of certificate 12. (1) Subject to the provisions of subsection 2 every certificate shall remain in force for not more than twelve months, provided that a medical officer may, at any time, recall the holder of any certificate for examination within the scope of the existing certificate and may extend, endorse, renew or cancel such certificate in accordance with his finding upon such examination.
- Examination by travelling medical officer. (2) In those portions of the Northwest Territories where the examinations under sections 13 and 14 are conducted by a travelling medical officer no certificate shall be deemed to have expired because of the failure of the medical officer to conduct any examination prior to the date of expiration of any certificate, and the holder of any certificate which would otherwise have expired shall present himself before a medical officer for re-examination at the first opportunity available after the date upon which his certificate would have so expired.
- Expiration of certificate. (3) Where any certificate of a person employed in the mining industry has expired because of the failure of the holder thereof to present himself to a medical officer for examination, a medical officer may extend, endorse or renew such certificate or issue a miner's certificate, as the circumstances of the case may require, if he is satisfied that such failure was caused by the inability of such holder to so present himself because of illness or other circumstances beyond his control.

Examination
before
employment .

13. (1) Every applicant shall be examined by a medical officer before commencing employment and if the medical officer finds upon examination that the applicant is free from disease of the respiratory organs and otherwise fit for employment in a dust exposure occupation he shall issue to the applicant an initial certificate. Every such examination shall include the taking of X-Ray plates of the chest.

(a) Every X-ray plate of the chest taken in compliance with these regulations shall be sent as soon as convenient by the Medical Officer to an X-ray specialist or clinic specializing in diseases of the respiratory organs for examination and report, such specialist or clinic to be approved by the Commissioner of the Northwest Territories.

Initial
certificate
holder, -
re-examination

- (2) The holder of an initial certificate shall, prior to the expiration thereof, present himself to a medical officer for re-examination and if the medical officer finds upon examination that such holder is free from diseases of the respiratory organs and otherwise fit for employment in a dust exposure occupation he shall;-

(a) in the case of a holder who since the issuance of his initial certificate has completed less than eleven months' employment in a dust exposure occupation, extend such certificate for such period as he may deem necessary to permit the certificate holder to complete twelve months' employment in a dust exposure occupation, and he may from time to time extend such certificate for the same purpose; and

(b) in the case of a holder of an initial certificate or an extended certificate who since the issuance of his initial certificate has completed eleven months' or more employment in a dust exposure occupation, the medical officer shall endorse such certificate.

Issue of
miner's
certificate.

14. (1) The holder of an endorsed certificate shall, prior to the expiration thereof, present himself to a medical officer for examination and if the medical officer finds upon examination that such holder is free from tuberculosis of the respiratory organs he shall issue to such holder a miner's certificate.

Miner's
certificate
holder, -
re-examination.

- (2) The holder of a miner's certificate shall, prior to the expiration thereof, present himself to a medical officer for re-examination and if the medical officer finds upon examination, including X-Ray examination, that such holder is free from tuberculosis of the respiratory organs, he shall renew such certificate which may be further renewed from year to year upon the passing of a similar examination.

Unemployed
holder of
certificate.

15. The holder of any certificate, who, for any reason, is out of employment in a dust exposure occupation may apply to a medical officer for the extension, endorsement or renewal of his certificate or for the issuance of a miner's certificate, as the case may be, and upon presentation of the holder's certificate the medical officer shall conduct the required examination and effect such extension, endorsement, issuance or renewal as may be warranted by his findings upon such examination.

- Initial or extended. 16.(1) Where the holder of an initial or extended certificate has been out of employment in the mining industry for a period exceeding one year and during such period has failed through neglect on his part to have his certificate extended or endorsed, such certificate shall be void and the holder thereof shall be eligible for re-employment in a dust exposure occupation in the capacity of an applicant only.
- Endorsed or miner's. (2) Where the holder of an endorsed certificate or a miner's certificate has been out of employment in the mining industry for a period exceeding two years and during such period has failed through neglect on his part, to obtain a miner's certificate or to have a miner's certificate renewed, his certificate shall be void and the holder thereof shall be eligible for re-employment in a dust exposure occupation in the capacity of an applicant only.
- Where unemployment exceeds three years. (3) Where the holder of any certificate has been out of employment in the mining industry for a period exceeding three years, he shall be eligible for re-employment in a dust exposure occupation in the capacity of an applicant only.
- Custody of certificate. 17. The manager or superintendent of the mine at which the holder of a certificate is employed shall require such certificate to be delivered to and left in the custody of such manager or superintendent during the period of the holder's employment at the mine but such certificate shall be returned to the holder upon the termination of his employment at such mine.
- Exemptions. 18. (1) The Chief Inspector may exempt from the provisions of sections 11 to 17 any mine or any person employed thereat where, in his opinion, the mine does not contain silica in the quantity likely to produce silicosis or where for any other reason he is of the opinion that such provisions should not apply.
- (2) The provisions of sections 11 to 17 shall not apply to any person usually employed in a dust exposure occupation for less than fifty hours in each calendar month.
- Regulations. 19. The Commissioner may make regulations, -
- (a) prescribing the nature of the examination to be made by a medical officer under sections 13 to 16;
- (b) prescribing the forms of certificates and extension, endorsement and renewals thereof; and
- (c) generally for the better carrying out of the requirements of sections 11 to 18.
- Certificate holder under Provincial legislation. 20. Every person who is the holder of a valid miner's certificate issued under any provincial mining act, as required by sections 10 to 19 inclusive, shall be entitled to receive a miner's certificate which shall expire upon the expiration date of the said provincial certificate.

8.

Protection
from radium
hazards.

21. The owners of mines or metallurgical works where radioactive minerals are mined, concentrated or treated shall supply and install the equipment necessary for and have their medical practitioner carry out such tests, as the Commissioner may from time to time decide are required for the protection of the health of all employees. Adequate precautions shall also be taken in mining, milling and treating of radioactive ores to protect the health of the employees, as approved of in writing by the Chief Inspector.

Penalty for
employment of
persons con-
trary to
Ordinance.

22. Where a contravention of section 6, 8 or 9 takes place, the owner or agent of the mine, or both of them, may be proceeded against, jointly or separately, and may be convicted of such offence, but neither the owner nor the agent shall be so convicted if he proves that the offence was committed without his knowledge or consent, and that he had caused notices of the said sections to be posted up, and to be kept posted up, at some conspicuous place at or near the entrance to the mining work.

Fencing of
abandoned
or unworked
mines.

23. (1) Where a mine has been abandoned or the work therein has been discontinued, the owner or lessee thereof or any other person interested in the mineral of the mine shall cause the top of the shaft and all entrances from the surface as well as all other pits and openings dangerous by reason of their depth, to be and to be kept securely fenced to the satisfaction of the Inspector.

Failure to
erect fence
after
notice.

- (2) Every such person who, after notice in writing from the Inspector fails to comply with his directions as to such fencing within the time named in the notice shall be guilty of an offence against this Ordinance.

When Inspector
may erect
fence.

- (3) Where the Inspector finds that any such fencing is required in order to avoid danger to health or property he may cause the work to be done and the costs incurred, with interest thereon, shall be a lien and charge upon the mine or mining work of which notice in such form as the Commissioner may prescribe may be registered in the proper mining recorder's registry or land titles office, and no further transfer or other dealings with the mineral claims, mine or mining work shall take place until such costs are paid.

Recovery of
costs of work.

- (4) The amount of such costs with interest thereon shall be due from the owner or lessee to the Crown and recoverable at the suit of the Commissioner in any court of competent jurisdiction.

INQUEST TO BE HELD IN CASE OF FATALITY

Coroner to hold
inquest in case
of fatality in
a mine.

24. (1) It shall be the duty of a coroner, having jurisdiction in the place where a fatal accident occurs in or in connection with a mine or metallurgical works to hold an inquest, and he shall forward to the Inspector a certified copy of the proceedings taken at the inquest. The coroner shall not conduct an inquest unless an inspector is present during the entire inquest.

9.

Duty of
Manager.

- (a) The manager or other person in charge of a mine wherein or in connection wherewith a fatal accident occurs shall forthwith notify a coroner, appointed under the Northwest Territories Act, having jurisdiction in the place where the accident occurs.

Commissioner
may direct
who to hold
inquest.

- (b) Where a fatal accident occurs in or in connection with a mine at a place which is more readily accessible to a coroner not having jurisdiction in such place than to any eligible coroner having jurisdiction thereat, the Commissioner for the Northwest Territories may direct such coroner to issue his warrant and conduct an inquest and such direction shall be such coroner's authority therefor.

Right of the
Inspector or
his represen-
tatives to be
present at
inquest.

- (2) The Inspector and any person authorized to act on his behalf shall be entitled to be present and to examine or cross-examine any witness at every inquest held concerning a death caused by an accident at a mine.

RULES FOR PROTECTION OF MINERS AND
OTHER WORKERS IN OR ABOUT MINES.

Suspension
of rule.

25. (1) Where the owner, agent or manager of a mine by his application in writing stating his reasons therefor, requests the Inspector to suspend the requirements of any rule under section 26 as to such mine, the Chief Inspector upon the recommendation of an Inspector, may in writing direct that the requirements of such rule shall not apply to such mine or may in writing direct that such rule shall not apply so long as such limitations and conditions as he may see fit to impose, are observed or complied with.

Cancellation
of suspension.

- (2) The Chief Inspector may at any time cancel any order made under subsection 1, or make such alterations therein as he may deem proper in view of any change in the conditions under which such order was made or upon it appearing to him that such change for any other cause, is advisable.

Manager of
mine may
make rules.

- (3) The manager of a mine may make rules not inconsistent with any rule herein set out, or any special direction made by an Inspector as hereinbefore provided, for the maintenance of order and discipline and the prevention of accidents in the mine. The rule or rules when so made shall be submitted to the Chief Inspector, who shall lay the same before the Commissioner for his approval, and upon such approval being given the rules shall take effect after they have been posted up in a conspicuous place at the mine for at least fourteen days, provided that the Commissioner may disallow any of such rules or direct such changes to be made in them as he may deem proper.

- (a) Every such rule after approval and when and so long as it is posted up and is legible shall have the same force and effect as the rules and regulations set out in this Ordinance and any person who contravenes any such rule shall incur the penalty provided for a breach of the rules and regulations contained in this Ordinance.

Responsibility
as to carrying
out rules.

- (4) Except as to any rules which the Inspector has directed shall not be applicable thereto, the manager of the mine shall take all necessary and reasonable measures to enforce the requirements of the rules set forth in section 26 and to ensure that they are observed by every employee of the mine and every foreman, mine captain, shift boss and department head shall take all necessary and reasonable measures to enforce the requirements of all such rules as are applicable to the work over which he has supervision and to ensure that the same are observed by the workmen under his charge or direction. An authorized officer of the mine, responsible for the operations, shall be present on the property at all times. In the absence of the regular officer a substitute competent and responsible person may act and shall be held responsible for the proper carrying out of the rules. Every person through whose neglect or wrongful act a contravention occurs shall be deemed to have incurred the penalties provided for a breach of the rules.

Liability of
contractors
and sub-con-
tractors

- (5) Where work in or about a mine is let to a contractor or sub-contractor, he shall comply and enforce compliance with all the rules and provisions of this Ordinance pertaining to the work over which he has control and shall in any case of non-compliance therewith be guilty of an offence and punishable in like manner as if he were owner or agent.
- (6) The provisions of the Sanitary Control Ordinance of the Northwest Territories shall apply to all mining camps, mines, buildings and employees, where not inconsistent with this Ordinance.

26. Subject to the provisions of section 25, the following rules shall be observed and carried out at every mine and the decision of the Inspector as to whether or not any situation complies with any requirement of the rules in which "suitable", "adequate", "approved" or any expression of like import is used and as to the meaning and application of any such expression shall be final and conclusive and a certificate of any such decision signed by the Inspector may be used as evidence in any court;

Duty as to
knowledge
of rules.

- (1) It shall be the duty of every manager, superintendent, mine foreman, shift boss, hoistman, deckman, cagetender or skip-tender and every person in charge of workmen or who handles explosives, or who operates, installs or has to do with the maintenance of any machinery or electrical apparatus in or about a mine, to know such of these rules as apply to the work in which he is engaged.

Underground
foreman, know-
ledge of
English language.

- (2) Every person employed as an underground foreman, meaning thereby one who is exclusively engaged in supervising the work of other men, shall be able to give and to receive and understand orders in the English language.

11.

Other workmen,
knowledge of
English language.

- (3) Every person employed underground in a mine shall have an adequate knowledge of the English language to enable him to carry out his duties in a thoroughly safe manner.

Suspension for
unfamiliarity
with rules.

- (4) The Inspector shall have the right to suspend any foreman or mine captain, shift boss or department head who is unfamiliar with or does not understand the rules governing the operation of mines as contained in this Ordinance.

FIRE PROTECTION

Removal of in-
flammable mat-
erial from
underground
workings.

- (5) (a) No inflammable refuse shall be allowed to accumulate underground, but shall be removed from the workings at least once a week and be brought to the surface and there disposed of in a suitable manner.

Removal of in-
flammable mat-
erial from
surface build-
ings.

- (b) Inflammable refuse shall not be allowed to accumulate in or about any headframe, shafthouse, portalhouse or any other building the loss of which by fire may endanger the mine entrance.

Certificate as to
inflammable refuse.

- (6) Every shift boss and mine captain shall certify in writing to the mine manager at least once a week that there is no accumulation of inflammable refuse underground in the area under his supervision or on the surface sufficiently close to the mine entrance to endanger the mine except as reported by him.

Storage of oil
and grease.

- (7) Oil, grease or other inflammable material shall not be stored in any shafthouse or portalhouse, but it may be permissible, if adequate precautions be taken, to have in the shafthouse or portalhouse, for distribution only, an amount not exceeding the requirements for one day's operation.

Volatile, in-
flammable
liquids.

- (8) Volatile, inflammable liquids shall not be stored in any shafthouse, or portalhouse, and such material shall not be transported underground except where carried in approved types of metal containers.

Oil and grease
underground.

- (9) Oil and grease kept underground shall be contained in suitable metal receptacles and the amount so kept shall not exceed the requirements for seven days.

Unused timber.

- (10) All timber not in use in a mine shall as soon as practicable be taken from the mine and shall not be piled up and permitted to decay therein.

Open flame
lights, pre-
cautions.

- (11) Where open flame lights are used at any mine not equipped with a fireproof headframe and shafthouse or portalhouse, the interior of such shafthouse or portalhouse shall be tightly sheeted with metal or a suitable fireproofing material to a height of eight feet.

Fireproofing
underground
structures.

- (12) All underground buildings or enclosures necessary for the housing and maintenance of machinery and equipment shall be so constructed as to reduce the fire hazard to a minimum.

12.

Storage of
carbide.

- (13) (a) Calcium carbide shall be stored on the surface only, in a suitable dry place other than the shafthouse or portalhouse or changehouse and in its original unopened container.
- (b) For the purpose of distributing calcium carbide adequate provisions for the handling of quantities not in excess of one day's supply or 100 pounds, whichever is the greater, shall be made at every mine. Such distribution shall not take place in any shafthouse, portalhouse or changehouse unless such structure is thoroughly fireproof but shall be provided for by the installation of a suitable distribution centre not closer than fifty feet to the nearest point of any part of the headframe, shafthouse or portalhouse.
- (c) Adequate precautions shall always be taken to ensure that calcium carbide is handled in a safe manner and no carbide shall be taken underground except in suitable containers.

Fire-fighting
equipment.

- (14) (a) Suitable fire-fighting equipment shall be provided and maintained in or about every headframe, shafthouse, portalhouse or any other building the loss of which by fire may endanger the mine entrance.
- (b) Suitable fire-fighting equipment shall be provided and maintained at all underground crushers, shaft and winze stations, pump stations, tipplers and underground electrical installations except where in the opinion of the Inspector no fire hazard exists.

Fire protection
where torches
used.

- (15) Where operations involving the use of acetylene, kerosene, gasoline or other torches are conducted in any headframe, shafthouse, portalhouse, or any other building the loss of which by fire may endanger the mine entrance, or in the underground workings of any mine, suitable measures for protection against fire shall be adopted and rigidly adhered to.

Underground Trans-
portation of com-
pressed gases.

- (16) Where cylinders of compressed gas, such as acetylene and oxygen, are transported underground for any cutting or welding operation, all fittings, such as regulators or manifolds, shall be disconnected from the cylinders and the valves of the cylinders shall be protected in a suitable manner. Any such protective device shall be removed only at the point of use and shall be replaced at any time a cylinder is left unattended or before a cylinder is moved to a new location.

Operation of weld-
ing and cutting
torches.

- (17) (a) In all cases where cylinders of compressed gas are operated from within any cage, skip or other shaft conveyance, or where the cylinders are set up in a location not readily accessible to the workman operating the nozzle equipment a second competent operator shall be employed at all times to attend to the operation of the cylinder control devices.

13.

- (b) In all cases where cylinders of compressed gas are used underground for the purpose of supplying cutting or welding equipment special precautions shall be observed to avert the possibility of damage to or failure of the regulators, manifolds and hoses used in conjunction with the equipment.

Generation of gas underground forbidden.

- (18) No device for the generation of gas, such as acetylene for supplying, cutting or welding equipment, shall be used in the underground workings of any mine.

Escapement shaft.

- (19) In every mine where a vertical or inclined shaft has been sunk or an adit driven and stoping has commenced there shall be provided and maintained, in addition to the hoisting shaft or the opening through which men are let into or out of the mine and the ore extracted, a separate escapement shaft or opening. Such auxiliary exit shall not be less than fifty feet from the main entrance to the mine and any structure covering such auxiliary exit shall be of such material and so constructed as to reduce the fire hazard to a minimum. If such an escapement shaft or opening is not in existence at the time that stoping is commenced, work upon it shall be begun as soon as stoping is commenced and shall be diligently prosecuted until the same is completed and means of escapement other than the main outlet of the mine provided to and connected with the lowest level on which stoping operations are being carried on. The escapement shaft or opening shall be of sufficient size to afford an easy passageway, and, where necessary, shall be provided with good and substantial ladders from the deepest workings to the surface.

Buildings in proximity to mine entrance.

- (20) Unless there is first provided a second means of exit from the mine workings, no building shall be erected within fifty feet of any closed-in portion of a headframe or portalhouse except that the building housing the hoist and power plant equipment may be erected within this distance provided that such distance be not less than thirty-five feet.

Installation of boilers and Diesel engines.

- (21) No steam boiler or diesel engine shall be installed in such a manner that any portion thereof is within seventy-five feet of the centre line of the collar of any shaft or other entrance to a mine.

Installation of internal combustion engine.

- (22) No gasoline or other internal combustion engine using highly volatile liquids or inflammable gases shall be installed within fifty feet of the building housing the hoist nor within one hundred feet of the centre line of the collar of any shaft or other entrance to a mine.

Exhaust of internal combustion engine.

- (23) Where an internal combustion engine is installed at any mine provisions shall be made for safely conducting the exhaust of such engine to a point well outside the building. The exhaust shall be so arranged as to avert the possibility of fumes re-entering the building or entering the intake of any air compressor or contaminating the atmosphere of any adjacent buildings or the mine workings.

- Storage of liquid fuels. (24) (a) Except for the actual fuel tanks of operating equipment no storage of gasoline or liquid fuel, unless in underground tanks, shall be permitted within one hundred feet of the collar of any shaft or other entrance to a mine. The natural drainage from such location shall be such that the flow is in a direction opposite to the location of any such shaft or mine entrance.
- Transfer of liquid fuel. (b) The fuel tanks of any internal combustion engine installed within a building shall be so arranged that the actual transfer of fuel to the fuel tank takes place at a point outside the building and the fuel is conducted to the tank in a tightly jointed pipe or conduit. Similar provisions for the escape of displaced air from the fuel tank shall be made whereby the displaced air shall be conducted to a safe point outside the building before being discharged to the atmosphere.
- Transfer of liquid fuel by compressed air. (25) The transfer of liquid fuels from one container to another by the direct application of air under pressure shall not be permitted except where properly designed and tested equipment is used for this purpose.
- Legible signs showing exits. (26) Legible signs showing the way to emergency exits shall be posted in prominent places underground and all workmen shall be instructed as to the location of auxiliary exits.
- Stench warning. (27) (a) Every mine producing over one hundred tons of ore per day and such other mines as may be designated by the Inspector shall be equipped with an approved apparatus for the introduction into the mine workings of ethyl mercaptan or other warning gas or material approved by the Chief Inspector. Such apparatus shall at all times be made available and kept ready for instant use for the purpose of warning workmen underground of any emergency necessitating a speedy evacuation of the workings.
- (b) A test of the effectiveness of the warning and a report as to the functioning of the system shall be made at least once in each year and a report of such test and functioning made available to the Inspector.
- Fire doors. (28) (a) Where practicable, there shall be a sufficient number of fire doors installed underground in every mine to cut off the shaft from the other workings of the mine.
- (b) Where fire doors are installed they shall be maintained in proper order and kept clear of all obstructions so as to be readily usable at all times.
- Refuge stations within mines. (29) Where the Chief Inspector deems it necessary or advisable for the protection of workmen employed underground, he may order refuge stations to be provided and maintained at such places within the mine as he may direct and every such refuge station shall have water, air and telephone connections to the surface and be separated from the adjoining workings by closeable openings so arranged and equipped that gases can be prevented from entering the refuge station.

Connection
between
mines.

- (30) (a) Where the Chief Inspector deems it necessary or advisable for the protection of workmen employed underground he may recommend in writing, to the Commissioner, that a connection between mines be established at such place as he deems advisable and he may further recommend that such connection be so made and equipped as to constitute a refuge station or refuge stations. Upon the approval by the Commissioner of any such recommendation a copy thereof, accompanied by a copy of this rule shall be served personally upon or mailed by registered post to the owner or the agent and the manager of each of the mines affected.
- (b) Upon the approval of any such recommendation of the Chief Inspector the Commissioner may in writing signed by him appoint a Committee of three persons who shall determine,-
- (i) the design, specifications and locations of the connecting passages, bulkheads or other structures to be constructed in order to safeguard the present and future operations of the mines affected;
 - (ii) the work to be done by each of the mines affected and the proportion in which the cost of such work and of establishing and maintaining the connection shall be borne by the owners of the mines affected;
 - (iii) the time at which such work in compliance herewith shall be commenced and completed;
 - (iv) the proportion in which the costs and expenses of the committee shall be borne by the owners of the mines affected;
 - (v) such other provisions or requirements as in the premises they may deem necessary or advisable.
- (c) The committee shall submit a report in writing to the Commissioner and a report of the majority of the committee shall be deemed to be the finding of the committee.
- (d) Upon the approval by the Commissioner of the report of the committee the Chief Inspector may issue his order for the establishment and maintenance of such connection and refuge station or stations (if any recommended) in accordance with the terms of such report. A copy of the report shall be attached to the order and form a part thereof. No such order shall be subject to appeal upon any ground whatsoever but shall be enforceable in the same manner as any order of the Chief Inspector.

AID TO INJURED

Stretchers for
conveyance of
injured persons.

- (31) At every mine there shall be maintained a sufficient number of properly constructed stretchers for the proper handling and transporting of persons who may be injured in the discharge of their duties about the mine.

Supplies for
first aid.

- (32) There shall be provided and maintained at every mine for the treatment of anyone injured such first aid supplies as are required by the regulations of The Workmen's Compensation Act, of Ontario, and The

Sanitary Control Ordinance of the Northwest Territories.

HANDLING WATER

Removal of
water from
mine
workings.

- (33) Every working mine shall be provided with suitable and efficient machinery and appliances for keeping the mine free from water, the accumulation or flowing of which might endanger the lives of workmen in such mine or in any adjoining mine.

Precautions
against
flow of water.

- (34) Where there is or may be an accumulation of water, any working approaching the same shall have bore holes kept in advance, and such additional precautionary measures shall be taken as may be deemed necessary to obviate the danger of a sudden breaking through of the water.

Dams and
bulkheads.

- (35) For the purposes of this subsection -

"Dam" shall mean any structure built for the purpose of impounding water in any drift, crosscut or other mine opening and constructed in such a manner as to permit an unobstructed overflow of the water.

"Bulkhead" shall mean any structure built for the purpose of impounding water or confining air under pressure in any drift, crosscut or any other mine opening and constructed in such a manner as to completely close off such drift, crosscut or other mine opening.

- (a) The location of every underground dam and bulkhead, within the meaning of this subsection, shall be clearly shown on the mine plans.
- (b) No dam behind which more than twenty-five tons of water may be impounded shall be constructed underground without the written permission of the Chief Inspector and then only when constructed in accordance with plans and specifications which have been approved by him.
- (c) No bulkhead shall be constructed underground without the written permission of the Chief Inspector and then only when constructed in accordance with plans and specifications which have been approved by him.

VENTILATION

Ventilation.

- (36) (a) The ventilation in every mine shall be such that the air in all of its workings that are in use or are to be used by workmen or others shall be free from dangerous amounts of noxious impurities and shall contain sufficient oxygen to obviate danger to the health of anyone employed in any such mine. In any mine workings where such conditions cannot be obtained by natural ventilation approved means for mechanical ventilation shall be provided and kept in operation until such workings have been abandoned or until satisfactory natural ventilation shall have been brought about therein.
- (b) All fans and all structures containing the same shall be of fireproof construction.

Internal
combustion
engine,
underground.

- (37) No internal combustion engine shall be installed or operated underground in any mine unless the permission in writing of the Chief Inspector be first obtained.

SANITATION

Sanitary
conveniences.

- (38) The manager of a mine shall provide or cause to be provided on the surface and in the underground workings sufficient and suitable sanitary conveniences in accordance with the following rules; and The Sanitary Control Ordinance of the Northwest Territories:
- (a) Where the number of persons employed on any shift does not exceed one hundred there shall be one sanitary convenience for every twenty-five persons or portion thereof;
- (b) Where the number of persons so employed exceeds one hundred there shall be one additional sanitary convenience for every fifty persons or portion thereof over the first hundred.
- (39) These sanitary conveniences shall be kept in a cleanly manner; shall be adequately supplied with chloride of lime, sawdust, fine ash or other suitable absorbent; shall be removed and cleaned regularly; shall be conveniently placed with reference to the number of men employed on the different levels; and shall be placed in a well-ventilated part of the mine.
- (40) Any person depositing faeces in any place underground other than in the sanitary convenience provided shall be guilty of an offence against this Ordinance.

Dressing room.

- (41) If six or more persons are ordinarily employed in the mine below ground during each day, sufficient accommodation, including supplies of clean cold and warm water for washing, shall be provided above ground near the principal entrance of the mine, and not in the engine room, boiler room, or nearer than fifty feet to the shafthouse or portalhouse, for enabling the persons employed in the mine to conveniently dry and change their clothes.

Drinking water.

- (42) A sufficient quantity of safe fresh drinking water with sanitary appliances for drinking shall be provided within reasonable access of all workers.

CARE AND USE OF EXPLOSIVES

Marking explosive
packages.

- (43) No explosive shall be used at any mine, unless there is plainly printed or marked on every original package containing such explosive the name and place of business of the manufacturer, and the strength of the explosive and the date of its manufacture.

Defective explosives to be
reported.

- (44) Every case of supposedly defective fuse, detonator or blasting cap, or explosive shall be reported to the Inspector with the name and address of the manufacturer and accompanied, if available, by the packing slip from the original container of such fuse, blasting cap or detonator, or explosive, along with all other pertinent information available.

Storage of
explosives.

- (45) (1) The Explosives Act and Regulations of the Dominion shall apply to the storage and handling of all explosives in the Northwest Territories and the owner of any building where more than 150 pounds of explosives are kept must obtain a magazine licence from the Explosives Division of the Department of

Mines and Resources, Ottawa, authorizing the storage of explosives,

- (2) Except as otherwise provided herein all explosives and all detonators or blasting caps shall be stored in special suitable buildings, such as magazines, thaw houses, detonator or blasting cap storage buildings, or cap and fuse houses.
- (a) Any such building shall be erected and maintained in conformity with the provisions of the Explosives Act and the site shall be approved of by the Inspector.
 - (b) Every such building shall be constructed of such materials as to ensure as far as possible against accident from any cause.
 - (c) The ground surrounding the magazine building shall be cleared of all brush, timber or other combustible material for a distance of not less than fifty feet from such building.
 - (d) The rules in reference to the care and use of explosives shall be kept posted up inside every such building.
 - (e) Every such building shall be kept securely locked at all such times as the attendant is not present and it shall be clearly indicated by some easily visible sign posted outside the building that explosives are stored therein.

Magazines,
thaw houses,
etc.

- (46) Magazines, thaw houses, detonator or blasting cap storage buildings, cap and fuse houses and explosives storage boxes shall at all times be kept clean and dry and free from grit.

Floors and
shelves.

- (47) Floors and shelves of magazines and thaw houses shall be treated with a suitable neutralizing agent whenever necessary to remove any traces of explosive substances.

What explosives
to be used first.

- (48) When supplies of explosives are removed from a magazine those that have been longest in the magazine shall be used first provided they are not defective. In all cases where explosives have become defective they shall be suitably and safely disposed of.

Opening cases.

- (49) Only implements of wood, brass or copper shall be used in opening cases containing explosives.

Storage of
explosives,
underground.

- (50) (a) Explosives shall not be stored underground in excess of the necessary supply for forty-eight hours. In no case shall an amount exceeding three hundred pounds be stored in any one place underground without the written permission of the Inspector.
- (b) With the written permission of the Chief Inspector and subject to such conditions as he may prescribe, underground explosives magazines may be established, but in no case shall more than twenty-five hundred pounds be stored in any one such magazine.

- (c) Wherever explosives are stored underground in any mine heading into which a haulage track extends suitable barricades shall be maintained or other adequate measures adopted to avert the possibility of any train or car colliding with the explosives container or containers.

Location of
underground
storage place.

- (51) No explosive shall be stored within two hundred feet of any shaft station or transformer station underground in any mine.

Storage of
detonators.

- (52) (a) Detonators or blasting caps shall not be stored in the same receptacle or storage building as other explosives.

- (b) Detonators or blasting caps or capped fuse, while stored in underground workings, shall be kept in separate, suitable, closed containers or magazines. Such containers or magazines shall not be located within twenty-five feet of any other explosives.

Open flame lamps,
smoking, explo-
sives, storages.

- (53) (a) No flame-type light shall be taken within twenty-five feet of any building or place on surface in which explosives are stored.

- (b) No flame-type light shall be taken within ten feet of any place underground where explosives are stored unless a suitable, safe arrangement for the placing of such light is provided.

- (c) No person shall smoke in any place or building where explosives are stored or while handling explosives.

Inspection
of storage
places.

- (54) (a) A properly authorized person or persons shall make a thorough weekly inspection of all explosives, explosives magazines, thaw houses, detonator or blasting cap storage buildings, cap and fuse houses, and all storage boxes or places in or about the mine used for the purpose of storing explosives or detonators or blasting caps and shall make a report, in writing, to the manager stating that such examination has been made and certifying as to the conditions found.
- (b) The manager shall take immediate steps to correct any unsuitable conditions found and to properly dispose of any deteriorated explosives existing and shall make a prompt investigation when an act of careless placing or handling of explosives is discovered by or reported to him.
- (c) Any employee who commits a careless act with an explosive or where explosives are stored, or who, having discovered such an act to have been committed, omits or neglects to report immediately such act to an officer in charge of the mine, shall be guilty of an offence against this Ordinance and the officer in charge of the mine shall immediately report such offence to the Inspector.

Disposal of
explosives
at shut-
down mine.

- (55) When any mine is closed down all explosives, fuse and detonators or blasting caps shall be disposed of and no explosive may be stored at any such closed-down mine without the written permission of the Chief Inspector.

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| Written permission. | (56) No person shall take away from any mine any explosive, fuse or detonator or blasting cap without the written permission of the manager or of such person as may be authorized by the manager to give such permission. |
| Thaw houses. | (57) No building for thawing explosives shall be maintained in connection with any mine except with the written permission of an Inspector. The building shall be above ground unless exemption obtained under the provisions of subsections 1 and 2 of section 25 direct otherwise, and the site of the building and the style of structure and equipment shall be subject to the approval of the Inspector. The building shall be under the direction of the manager or some person authorized by him. The quantity of explosives brought into any thaw house at any one time shall not exceed the requirements of the mine for a period of twenty-four hours, plus the amount that it may be necessary to have thawing to maintain that supply. |
| Thermometer necessary. | (58) A reliable recording thermometer shall be kept in the room in which explosives are thawed and the record thereof kept, but where the amount of explosives in such thawing room does not exceed two hundred pounds at any one time, the Inspector may give permission, in writing, to use a maximum and minimum registering thermometer on condition that a daily record of high and low temperature be made and kept on file. |
| Thawing near open fire or steam boilers forbidden. | (59) In no case shall explosives be thawed near an open fire or steam boiler or by direct contact with steam or hot water. |
| Wiring in storage places. | (60) All electric wiring in explosives magazines, thaw houses, detonator or blasting cap storage buildings, or cap and fuse houses shall be installed in metal armour or rigid conduit with screwed, waterproof joints and all metal armour or rigid conduit shall be permanently grounded. |
| Switches, fuses. | (61) (a) The switches and fuses for lighting, heating or telephone circuits for explosives magazines, thaw houses, detonator or blasting cap storage buildings and cap and fuse houses shall be installed in a locked, fireproof cabinet located outside the compartment in which explosives, fuse or detonators or blasting caps are stored.

(b) The fuses or circuit breakers for heating circuits shall be such that they will interrupt the current at twenty-five per centum over the normal load.

(c) The fuses for lighting circuits shall not exceed ten-ampere capacity. |
| Electric heating. | (62) (a) Where water is the medium used for the distribution of electrically generated heat for thaw houses the radiation pipes shall be permanently grounded.

(b) No electrical device for generating heat shall be allowed in the same compartment with explosives or detonators or blasting caps. |

- (c) Wire or grid-type heaters shall not be installed in conjunction with any building in which explosives or detonators or blasting caps are stored or handled.
- Transportation of explosives in shaft. (63) (a) When the day's supply of explosives is being transported in any shaft conveyance the person in charge of such operation shall give or cause to be given notice of the same to the deckman and hoistman.
- (b) Every possible precaution shall be taken in the handling and transportation of explosives.
- Supervision over transportation of explosives in shaft. (64) (a) No person shall place in or take out of the shaft conveyance any explosives except under the immediate supervision of a person authorized by the manager, superintendent, foreman or shift boss for the purpose.
- (b) No other material shall be transported with explosives in any shaft conveyance.
- Transfer of explosives from storage places. (65) (a) The transfer of explosives from the magazine or other surface storage place shall be so arranged that no undue delay shall occur between the time the explosives leave such surface storage place and the time they are properly stored in designated storage places in the mine or distributed to points of use in the mine.
- (b) Explosives shall not be left at any level station or near the shaft collar or other entrance to the mine but shall be transferred from any designated storage place to other designated storage places or points of use without undue delay.
- Transportation of detonators. (66) (a) Primers shall be made up as near to their point of use as is practical in the interests of safety and only in sufficient numbers for the immediate work in hand.
- (b) Detonators or blasting caps, capped fuse, made-up primers or other explosives shall not be transported in any conveyance either on the surface or underground unless placed in separate, suitable, closed containers.
- (c) It shall be permissible for a workman to carry capped fuses with other explosives from the nearest storage places to a point of use without placing them in a container provided they are kept separate from the other explosives but in no case shall made-up primers be transported or carried unless placed in separate, suitable, closed containers.
- Transportation of explosives, underground. (67) Where explosives are transported in mine workings by means of a car or cars:-
- In any car. (a) The speed of any car or cars shall not at any time exceed four miles per hour and definite arrangements for the right-of-way of such car or cars carrying explosives shall be made before the car or cars are moved;

- By motor haulage. (b) Where mechanical haulage is used the haulage motor shall be maintained on the forward end of any train carrying explosives unless some person walk in advance of the train to effectively guard the same.
- Trolley locomotives. (68) Where a trolley locomotive is used for the transportation of explosives in any mine the car or cars carrying explosives shall be protected from trolley-wire contact and other existing hazards.
- Blasting on contiguous claims. (69) Where parties working contiguous or adjacent claims or mines disagree as to the time of setting off blasts, either party may appeal to the Inspector, who shall decide upon the time at which blasting operations thereon may be performed, and the decision of the Inspector shall be final and conclusive and shall be observed by them in future blasting operations.
- Explosives not to be removed from original container. (70) No explosive shall be removed from its original paper container or cartridge.
- Blasting of roast heaps. (71) No explosive shall be used to blast or break up ore, salamander or other material where by reason of its heated condition there is any danger or risk of premature explosion of the charge.
- Size of drill holes. (72) All drill holes, whether sunk by hand or machine drills, shall be of sufficient size to admit of the free insertion to the bottom of the hole of a stick or cartridge of powder, dynamite or other explosive, without ramming, pounding or pressure.
- No iron or steel tool. (73) In charging holes for blasting, no iron or steel tool or rod shall be used, and no iron or steel tool shall be used in any hole containing explosives.
- Bootleg holes. (74) (a) No drilling shall be done within six inches of any part of any bootleg hole that has been charged and blasted or any remnant of such hole, socket or so-called bootleg.
- (b) No drilling shall be done within five feet of any hole containing explosives.
- Due warning required. (75) Every workman shall, before blasting, give or cause to be given due warning in every direction by shouting "Fire," and shall satisfy himself that all persons have left the working place except those required to assist him in blasting.
- Guarding entrances to places where blasting is to be done. (76) (a) Every workman shall, before blasting, cause all entrances to the place or places where such blasting is to be done or where the safety of persons may be endangered by such blasting, to be effectively guarded, so as to prevent inadvertent access to such place or places while such charges are being blasted.
- (b) Posting of signs shall not be deemed adequate protection to warn of blasting operations.
- Length of fuse. (77) Except where fired electrically no fuse shorter than

than three feet shall be used in any blasting operation; neither shall any fuse be lighted at a point closer than three feet from the capped end, nor unless it protrudes at least twelve inches from the collar of the hole.

Interval
before re-
turn to
scene of
blast.

- (78) (a) Except where the firing has been done by means of electric current no person shall return to the scene of any blast within the number of minutes which are equal to twice the number of feet in the longest fuse used in the blasting operation after the last fuse has been lighted.
- (b) Where the firing has been done by means of electric delay action detonators and two or more shots are fired no person shall return to the scene of any blast within ten minutes of the time at which the blasting circuit was closed.
- (c) In the case of a supposedly missed hole in any blasting operation no person shall return to the scene of any blast within thirty minutes of the time of lighting the fuse or fuses or closing the blasting circuit.

Detonator
required.

- (79)(a) No hole shall be charged with explosives unless a properly prepared detonating agent be placed in such charge and shall be fired in its proper sequence in the firing of the round; all such charges shall be detonated without undue delay.

Firing
required.

- (b) All holes which are charged with explosives in one loading operation shall be fired in one blasting operation.

Safety fuse

- (80) Where safety fuse is used in any blasting operation,-
- (a) Suitably capped fuses shall be supplied to the workmen in uniform, standard, safe lengths for the operation at hand.
- (b) The uncapped ends of all fuses for use in a mine shall be suitably stained.

Lighting fuses.

- (81) In every case the fuse connected to a charge of explosives shall be lighted by other means than the device used as a source of illumination.

Number of
men, lights.

- (82) Where more than one shot is fired no workman shall be permitted to conduct any blasting operation unless he is accompanied by one or more workmen each of whom shall carry a light.

Ventilation of
working place
after blasting.

- (83) Before returning to the scene of any blasting operation every workman shall assure himself that sufficient air has been introduced into the working place to drive out or dilute to a safe degree the gases produced in the blasting operation.

Protection of
entrance to
working place.

- (84) Where blasting is about to be done in any raise or stope proper precautions shall be taken to prevent closing of the means of entrance to the working place or interference with the effective circulation of air following the blast, by the broken material produced by the blast. In the case of a single compartment raise or boxhole where material from the blast may block the means of entrance proper precautions shall be taken to assure the adequate ventilation of the working place before workmen enter the same.

Reporting
Reporting
of missed
holes.

(85) When a workman fires a round of holes he shall, where possible, count the number of shots exploding. If there is any report missing, he shall report the same to the mine captain or shift boss. If a missed hole has not been fired at the end of a shift, that fact, together with the location of the hole, shall be reported by the mine captain or shift boss to the mine captain or shift boss in charge of the next relay of workmen going into that working place before work is commenced by them.

Missed hole
to be blasted.

(86) Any charge which has missed fire shall not be withdrawn but shall be blasted at a proper time and without undue delay.

Examination
for missed
or cut-off
hole.

(87) No development heading shall be abandoned or work therein discontinued until the material broken at the firing of the last round shall have been cleared from the face and the whole face of the heading examined for explosives in missed or cut-off holes.

Where electric
blasting
required.

(88) (a) After the first ten feet advance has been made in any shaft or winze and until such time as the permanent timbers and ladders have reached the level upon which blasting is being done all blasting in the shaft, winze, station or other workings being driven from the same shall be done by means of an electric current.

(b) After twenty-five feet advance has been made in any raise inclined at over fifty degrees from the horizontal or a "chute" or other permanent obstruction has been placed in the raise, all blasting shall be done by means of an electric current.

Electric cur-
rent to be
disconnected
after blasting.

(89) A workman shall not, where blasting takes place by electricity, enter or allow other persons to enter the place or places where the charges have been fired until he has disconnected the cables from the blasting battery or other source of current.

Approved fir-
ing device.

(90) (a) Electricity from lighting or power cables shall not be used for firing shots except when a firing device of a design which has been approved by the Chief Inspector and which automatically opens the circuit by gravity or some other approved device is provided. The live side of such device shall be installed in a fixed, locked box and shall be accessible only to the authorized shot firer.

(b) One such device shall be maintained for each individual working place in which firing is done by means of electricity from lighting or power cables.

Blasting by
direct current
or blasting
battery.

(91) Where the source of current is a direct current battery or a blasting machine of the so-called "battery" type, the firing cables or wires shall not be connected to the source of current until immediately before they are required for the firing of shots, and shall be disconnected immediately after the shots are fired.

Lead wires
short-
circuited.

(92) The firing cables leading to the face shall be short-circuited while the leads from the blasting caps are being connected to each other and to the firing cables. This short circuit shall not be removed until the men have retreated from the face and it shall be so

located that a premature explosion would be harmless to the men opening the short circuit.

- Firing cables. (93) The firing cables or wires used for firing shots at one working place shall not be used for firing shots in another working place until all proper precautions have been taken to insure that such firing cables or wires have not any electrical connection with the leads from the first working place.
- Precautions in using shot-firing cables. (94) When shot-firing cables or wires are used in the vicinity of power or lighting cables, proper precautions shall be taken to prevent the shot-firing cables or wires coming in contact with the lighting or power cables.
- PROTECTION IN WORKING PLACES,
SHAFTS, WINZES, RAISES, etc.
- Protection from over-head operations. (95) Neither on surface nor underground shall workmen be employed in a location where men are working overhead unless such measures for protection be taken as the nature of the work permits.
- Protective hat. (96) Every person employed underground in any mine shall be required to wear a protective hat manufactured for such service.
- Fencing of shafts and other openings. (97) The top of every shaft shall be securely fenced or protected by a gate or guard rail, and every pit or opening dangerous by reason of its depth shall be securely fenced or otherwise protected.
- Gate at shaft entrances. (98) (a) At all shaft and winze openings on the surface and on every level, unless securely closed off, the hoisting compartments shall be protected by a substantial gate which shall be kept closed except when the hoisting conveyance is being loaded or unloaded at such level. The clearance beneath any such gate shall be kept to a minimum.
- (b) Where haulage tracks lead up to any hoisting compartment on surface or underground the gate on such compartment shall be reinforced in such a manner that it shall be sufficiently strong to withstand any impact imparted thereto by collision therewith of any motor, train or car operated on such tracks.
- Shaft and winze timbering. (99) Every shaft and winze shall be properly timbered and during sinking operations the timbering shall be maintained within a safe distance of the bottom. In no case shall this distance exceed fifty feet.
- Protection of workmen in drifts. (100) Where a crosscut or drift extends from a shaft in any direction on a level, a safe passageway and standing room for workmen shall be made on one or both sides of the shaft to afford protection against falling material.
- Protection of men in sinking operations. (101) (a) During shaft sinking operations no work shall be done in any place in a shaft or winze while men are working in another part of the shaft or winze below such place unless the men working in the lower position be protected from the danger of falling material by a securely constructed covering extending over a sufficient portion of the shaft to afford complete protection.

- (b) During shaft sinking operations a set of doors shall be maintained at the collar or other point of service of every shaft or winze. Such doors shall be closed at all times that material is being loaded into or unloaded from a shaft conveyance.
- Lining compartments at levels. (102) Except during sinking operations, if material be handled in any shaft or winze compartment there shall be maintained around that compartment except on the side on which the material is to be loaded or unloaded a substantial partition at the collar and at all levels. Such partition shall extend above the collar and all levels a distance not less than the height of the hoisting conveyance plus six feet and it shall extend below the collar and all levels at least six feet.
- Protection on shaft inspection. (103) (a) No person shall do any work or conduct any examination in any compartment of a shaft or winze or in that part of a headframe used in conjunction therewith while hoisting operations are being conducted in such compartment except where the hoisting conveyance is necessary for the purpose of doing such work or conducting such examination.
- (b) No person shall do any work or conduct any examination in a shaft or winze or in that part of a headframe used in conjunction therewith unless he be adequately protected from accidental contact with any moving hoisting conveyance or the danger of falling particles dislodged by or falling from such conveyance.
- Timbering mine workings. (104) Where the enclosing rocks are not safe every adit, tunnel, stope or other working in which work is being carried on or through which persons pass shall be securely cased, lined or timbered, or otherwise made secure.
- Use of shaft buckets. (105) Where a bucket is used in any shaft or winze for other than sinking purposes, -
- (a) A set of doors as required by Rule 139 (c) shall be maintained at the collar of the shaft or winze, which doors shall be kept closed at all times that tools or supplies are being loaded into or taken out of the bucket;
- (b) A suitable landing device shall be used at every working level when the bucket is being loaded or unloaded at that level;
- (c) Simultaneous operations shall not be carried on at more than one level until the style of structure and method of operation of any such device installed at intermediate levels has been submitted to and has received the approval of the Inspector.
- Steeply inclined raises. (106) All raises inclined at over fifty degrees from the horizontal which are to be driven more than sixty feet slope distance shall be divided into at least two compartments one of which shall be maintained as a ladderway and shall be equipped with suitable ladders. The timbering shall be maintained within a safe distance of the face and in no event shall the distance between the face and the top of the timbering exceed twenty-five feet.

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| Precautions as to broken material. | (107) Whenever, at any time, chutes are pulled where persons may, either at the time of pulling or some future time, be required to go out on the broken material above, proper precaution shall be taken to ascertain that the broken material is settling freely and where there is any indication of a hang-up the location shall be adequately protected by suitable signs or barricades and any persons working in the vicinity notified of the danger. |
| Access to stopes. | (108) Unless the entrance to a stope is capable of being used as such at all times a second means of entrance shall be provided and maintained. |
| Guarding mill holes, manways, etc. | (109) The top of every millhole, manway or other opening shall be kept covered or otherwise adequately protected. |
| Guarding open workings. | (110) Wherever men are working, below a level, in any place the top of which is open to the level in close proximity to any haulageway or travelway some person shall effectively guard the opening unless the same is securely covered over or otherwise closed off from the haulageway or travelway. |
| Guarding tops of raises. | (111) The tops of all raises or other openings to a level shall be kept securely covered, fenced off, or protected by suitable barricades to prevent inadvertent access thereto. |
| Procedure before drilling. | (112) Before drilling is commenced in any working place the exposed face shall be washed with water and carefully examined for misfires and cut-off holes, giving special attention to old bottoms. |
| Breaking through to mine workings. | (113) Where possible, no connection between mine workings shall be made until a thorough examination of the working towards which the active heading is advancing has been made and has shown that the work can be proceeded with in a safe manner and such point of connection shall be guarded as an entry when blasting within fifteen feet of breaking through. |
| Unused workings to be tested for gas. | (114) Underground workings, especially shafts, sumps and winzes, which have been in disuse for some time shall be examined before being again used, in order to ascertain whether foul air or other dangerous gases have accumulated there, and only such workmen as may be necessary to make such examination shall be allowed to proceed to such places until such places are in fit state to work or travel in. |
| Examination of mine workings. | (115) The owner, manager, or some authorized person or persons shall examine daily all parts of the mine where drilling and blasting is being carried on; shall examine at least once a week the other portions of a mine in which operations are being carried on, such as shafts, winzes, levels, stopes, drifts, crosscuts and raises, in order to ascertain that they are in a safe working condition; shall inspect and scale or cause to be inspected and scaled the roofs and walls of all stopes or other working places as often as the nature of the ground and of |

the work performed necessitates. If the working place becomes or is found to be unsafe at any time during a shift, the person in charge shall take measures for making it safe, and for safeguarding the persons in the working place while it is being made safe.

- (116) The owner or manager shall provide and maintain an adequate supply of properly dressed scaling bars and gads and other equipment necessary for scaling.
- Life lines to be used. (117) The owner or manager shall, when necessary, provide life lines for the workmen and it shall be the duty of the workmen to continually wear such life lines at all times, when by so doing the interests of safety will be advanced.
- Keeping water supply to lay dust. (118) Every dusty place where work is being carried on in a mine shall be adequately supplied at all times with clean water under pressure or other approved appliances for laying the dust caused by drilling or blasting operations.
- Time for blasting. (119) The times for blasting shall be so fixed that the workmen shall be exposed as little as practicable to dust and smoke. A clock keeping accurate time shall be kept in the change house to enable the workmen to check their watches before going underground.
- Written record. (120) Where there is non-continuous shift operation in the areas the on-coming shift shall be warned of any abnormal condition affecting the safety of operations. Such warning shall consist of a written record over the signature of a responsible person on the off-going shift and shall be read and countersigned by the corresponding responsible person on the on-coming shift before workmen are permitted to resume operations in the areas indicated in such record.
- Repair work, manways. (121) Where repair work is in progress in any manway or conditions arise that may endanger travel through such manway the manway shall be closed off or adequate signs designating the unfitness of such manway for travel purposes shall be posted at all entrances to such manway.
- Precautions when intersecting drill holes. (122) (a) Diamond-drill holes shall be plotted on all working plans of levels.
- (b) When any active mine heading is advancing toward any diamond-drill hole the collar or the nearest points of intersection of such hole or both shall be securely closed off or guarded at all times that blasting is being done within fifteen feet of any possible intersection of such hole.
- (c) The collar and any points of intersection of every diamond-drill hole, underground, shall be plainly marked at the time that drilling is discontinued or an intersection made. Such marking shall consist of a single capital letter "H" in yellow paint measuring twelve inches by twelve inches which shall be placed within four feet of such collar or intersection.

LADDERWAYS

- Ladderways in shafts and winzes (123) (a) A suitable footway or ladderway shall be provided in every shaft and winze.
- (b) In shafts and winzes no ladder, except an auxiliary ladder used in sinking operations, shall be installed in a vertical position.
- (c) During sinking operations, if the ladder be not maintained to the bottom, an auxiliary ladder which will reach from the permanent ladders to the bottom shall be provided in such convenient position that it may be promptly lowered to any point at which men are working.
- (d) Wherever, about shafts and winzes and headframes used in conjunction therewith, it is necessary for persons to examine or inspect appliances installed therein suitable ladderways or stairways and platforms shall be maintained to permit such work being carried out in a safe manner.
- Partition between manway and hoisting compartments. (124) The footway or ladderway in a shaft or winze shall be separated from the compartment or division of the shaft or winze in which material is hoisted by a suitable and tightly closed partition.
- Ladderway in shaft over 70 degrees. (125) In a shaft or winze inclined at over seventy degrees from the horizontal substantial platforms shall be built at intervals not exceeding twenty-one feet in the ladderway, and the same shall be covered except for an opening large enough to permit the passage of a man's body, and the ladders shall be so placed as to cover this opening in the platform.
- Ladderway in shaft under 70 degrees. (126) In a shaft or winze inclined at less than seventy degrees from the horizontal the ladders may be continuous, but substantial platforms shall be built at intervals not exceeding twenty-one feet, in the ladderway, and the same shall be covered except for an opening large enough to permit the passage of a man's body.
- When stairways permissible. (127) (a) Stairways may be used in a shaft or winze inclined at less than fifty degrees from the horizontal.
- (b) All stairways in shafts or winzes shall be equipped with a suitably placed handrail.
- Ladderways, other mine workings. (128) (a) All ladderways in raises, stopes and other manways of a mine shall be installed and maintained in a workmanlike manner to reduce to a minimum the hazard of a man falling therefrom.
- (b) A landing platform shall be installed at all points where ladders are offset.
- Wire rope ladders. (129) Wire rope or strands of wire rope shall not be used or be allowed to be used for climbing purposes in any mine if they are frayed or have projecting broken wires.
- Hand rails for ladders. (130) Every ladder shall project at least three feet above its platform, except where strong hand rails are provided.

LADDERS

- Ladders (131) (a) Every ladder used shall be of strong construction, shall be securely placed in any shaft, winze, raise, or stope, and shall be maintained in good repair.
- (b) The distance between centres of rungs of ladders shall not be greater than twelve inches or less than ten inches, and the spacing of rungs shall not vary more than one-half inch in any particular ladderway.
- (c) In order to give a proper foothold the rungs shall in no case be closer than four inches from the wall of a shaft, winze, or raise, or any timber underneath the ladder.

SHAFT EQUIPMENT

- Raising and lowering material (132) Where steel, timber or other material is being raised or lowered in any shaft or winze it shall be securely fastened to the shaft conveyance or hoisting rope.
- When cross-head required (133) (a) After a depth of three hundred feet has been attained in the sinking of any vertical shaft or winze, a suitable crosshead shall be used.
- (b) When a crosshead is not used the bucket shall be barrel-shaped and shall be suspended from the upper rim.
- (c) When a crosshead is not used in any vertical shaft or winze the compartment in which the bucket works shall be closely lined with sized lumber.
- Safety appliance on crosshead. (134) (a) All sinking crossheads shall be provided with a safety appliance of approved design, so constructed that the crosshead cannot stick in the hoisting compartment without also stopping the bucket.
- (b) All crossheads shall be of a design approved by the Inspector.
- Level of load in sinking bucket or skip. (135) In a shaft or winze, in the course of sinking, the bucket or skip shall be filled only in such a manner that no piece of loose rock shall project above the level of the brim.
- Lowering men after blast. (136) (a) During sinking operations in any shaft or winze the bucket or skip used for returning men to the working place following any blasting operation shall not be lowered on the initial trip beyond the point where, owing to the blast, it may be unsafe to go without a careful examination and in no case shall the point be less than fifty feet above the blasting set or bulkhead.
- (b) The bucket or skip shall be lowered from such point only on signal from the men accompanying the same and at such speed as to be fully under control, by signal, of such men.
- (c) Only sufficient men shall be carried on such trip as are required to properly conduct a careful examination of the shaft or winze.

- Bucket or skip not to be lowered directly to face (137) In a shaft or winze in the course of sinking, the bucket or skip shall not be lowered directly to the bottom but shall be held at least fifteen feet above and shall remain there until a separate signal to lower the same has been given by a properly authorized person.
- Bucket to be steadied. (138) No bucket shall be allowed to leave the top or bottom of any shaft or winze until the workman in charge thereof has steadied it or caused it to be steadied.
- Protection from dumping. (139) (a) In a shaft or winze, in the course of sinking, adequate provision shall be made to assure the impossibility of the bucket or skip being dumped while the dumping doors are open or other means applied to prevent spillage falling into the shaft or winze.
- (b) The design of any device for this purpose shall be submitted for the approval of the Inspector.
- (c) A door or doors shall be maintained at the collar of every shaft or winze while sinking is in progress. Such door or doors shall be kept closed at all times that tools or material are being loaded into or unloaded from the bucket except when the bucket is emptied by dumping, when an arrangement as provided for in clauses (a) and (b) of this Rule shall be used.
- Cage or skip for handling men. (140) Except during sinking operations, whenever a mine shaft or winze exceeds three hundred feet in vertical depth a suitable cage or skip, equipped as required by Rule 142 of this section, shall be provided for lowering or raising men in the shaft or winze.
- Protection from contact with timbering, etc. (141) No cage or skip shall be used for the raising or lowering of persons or material unless it is so constructed as to prevent any portions of the body of any person riding therein or any part of such material from accidentally coming into contact with the timbering or sides of the shaft or winze. Doors shall be so fitted that they cannot be accidentally opened and shall be closed when lowering or hoisting men.
- Construction of cages and skips. (142) All cages or skips for lowering or raising men shall be constructed as follows:
- Hood (a) The hood shall be made of steel plate not less than three-sixteenths of an inch in thickness or of a material of equivalent strength;
- Casing (b) The cage shall be provided with sheet iron or steel side casing not less than one-eighth of an inch in thickness or of a material of equivalent strength and such casing shall extend to a height not less than five feet above the floor of the cage;
- Doors. (c) The cage shall be equipped with doors made of suitable material which shall extend to a height not less than five feet above the floor and so arranged that it will be impossible for the doors to open outward from the cage;

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| Safety appliances | (d) The safety appliance shall be of sufficient strength to hold the cage or skip with its maximum load at any point in the shaft, as provided in clause (b) of Rule 167 of this section; but the Chief Inspector may give permission, in writing, for hoisting without safety appliances if he is satisfied that the equipment is such that a maximum safety is provided. |
| Operating chairs by lever. | (e) The cage shall not have chairs attached thereto which are operated by a lever or a chain through or from the floor of the cage. |
| Cage doors to be kept closed. | (143) (a) No person shall travel or be permitted to travel in a cage at any time except during shaft inspection unless the doors of the same are securely closed.

(b) The cage doors shall not be opened until a full stop has been made at the point or station signalled for, except during trips of inspection, provided that in the case of an inadvertent stop at any point in the shaft or winze, other than a station, the cage doors may be opened and the men may leave the same on instructions to do so by a properly authorized person. |
| Automatic operation of chairs. | (144) When chairs are used for the purpose of landing a shaft conveyance at any point in a shaft or winze they shall be so arranged that they automatically fall clear of the hoisting compartment when the cage or other conveyance is lifted off. |
| Bales, safety latches, etc. | (145) The bucket and any device such as the bale, safety latch or other attachment to the bucket shall be of a design approved by the Chief Inspector. |
| Hoisting men and material simultaneously. | (146) No person shall travel or be permitted to travel in a bucket, cage or skip operated by an engine which is being simultaneously used for the hoisting of mineral or material, except as provided for in clause (c) of Rule 147. |
| When persons not to be hoisted. | (147) No person shall be lowered or hoisted, or allow himself to be lowered or hoisted in a shaft, winze or other underground opening of a mine; |
| In buckets or skips | (a) In a bucket or skip, except that men employed in shaft sinking will be allowed to ascend and descend to and from the sinking deck or other place of safety by means of the bucket or skip used for hoisting material; |
| When safety appliances not used. | (b) In a cage or skip, except as provided in clause (a) of this Rule and clause (d) of Rule 142, which is not provided with a hood, dogs or other safety appliance approved by the Inspector; |
| When loaded. | (c) In a cage, skip or bucket that is loaded with explosive, steel or timber except for the purpose of handling the same; |
| Unless material secured. | (d) In a cage, skip or bucket in which any material is carried, unless the same be adequately secured; |

- Conveyance in charge of authorized person. () (e) Except during sinking operations no person shall be hoisted or lowered in any shaft conveyance unless such conveyance is in charge of a person properly authorized to act as cage-tender or skiptender.
- Hoisting after stoppage for repairs. (148) After every stoppage of hoisting for repairs and after any stoppage for any other purpose which shall exceed two hours' duration no person shall be raised or lowered until the cage or skip has made one complete trip up and down the working portion of the shaft.
- Brakes required (149) Any device used for hoisting from mine workings shall be equipped with a brake or brakes which may be applied directly to each drum so as to readily stop and hold the drum when it is carrying its maximum load.
- Type of brake (150) Such brakes shall be so arranged that, whether the engine is at work or at rest, they can be easily and safely manipulated by the hoistman when standing at the levers controlling the engine. No hoist used for the raising or lowering of persons, or used in shaft sinking, shall be equipped with a brake or brakes operated by means of the hoistman's foot unless such brake is an auxiliary electrical device. The adjustments of the brake or brakes shall be maintained in such condition that when the normal power of the brake or brakes is applied the brake lever will still have a clearance between itself and the end of the quadrant in which it works.
- Locking gear (151) The operating gear of the clutch of the drum shall be provided with locking gear to prevent the inadvertent withdrawal or insertion of the clutch.
- Interlocking brake and clutch. (152) The brake and clutch operating gear shall be so installed that it shall not be possible to unclutch any drum unless the brake or brakes on such drum are applied nor shall it be possible to release the brake or brakes until the clutch of the drum is engaged.
- (153) Such bolts and other fittings of the drums, brakes and clutches as might be a source of danger in the event of their becoming loosened shall be rendered secure by means of suitable locking devices.
- Electric hoists (154) All electric hoists shall be so installed that:
- Automatic brake (a) One or more brakes will be applied automatically to bring the hoist to rest in event of power failure;
- Overwind device (b) A suitable overwind device will cause the circuit breaker to cut off the source of power and apply automatically one or more brakes to bring the hoist to rest before the cable attachments reach the sheave.
- Circuit breaker. (c) A circuit breaker will cut off the source of power and result in the automatic application of one or more brakes to bring the hoist to rest in event of a predetermined overload;

- Back-out switch (d) A back-out switch shall be provided which, when closed, will permit backing out of an overwind position only and will prevent the operation of the hoist in an improper direction for this purpose;
- Emergency switch (e) An emergency switch, located near the operator, may be opened and cause the circuit breaker to cut off the source of power and apply automatically one or more brakes to bring the hoist to rest;
- Meter (f) A meter showing the load on the hoist motor at all times shall be in plain view of the operator.
- Auxiliary overwind (155) (a) On all electric skip hoists used for hoisting men an auxiliary overwind device, which will prevent the skip being hoisted to the dumping position, shall be installed and placed in operation at all times that men are handled.
- (b) Except in sinking operations such auxiliary overwind device shall be so installed that a distinctive signal shall be automatically given to the men about to enter the skip when the device is put into operation.
- Testing overwind devices. (156) All overwind devices shall be tested daily and a record of such test shall be posted in the Hoistman's Log Book.
- Brakes to be tested. (157) The operator of a hoisting engine shall not, after going on shift, unclutch a drum of his engine until he has assured himself immediately beforehand, by testing the brake of the drum against the normal starting power of the engine, or in case of an electric hoist against the normal starting current, that the brake is in proper condition to hold the load suspended from said drum.
- Friction clutches. (158) When a hoisting engine is fitted with a friction clutch, the operator, after going on shift, shall, when clutching in, test the holding power of the clutch before releasing the brake of the corresponding drum, the brake of the other drum being kept off. In case of a steam or air hoist, the test shall be made against the normal starting power of the engine, and in case of an electric hoist against the normal starting current.
- Use of brake when drum unclutched. (159) When the drum of a hoist is unclutched, the brake of such drum shall be used only for the purpose of maintaining such drum in a stationary position and no lowering shall be done from an unclutched drum.
- Auxiliary brake required. (160) In case of non-reversible steam or air hoists and single-drum electric hoists not used in balanced hoisting an adequate auxiliary brake shall be installed before the same shall be used for hoisting or lowering men, but non-reversible steam or air hoists with throttle-controlled exhaust shall not require such auxiliary brake.
- Indicator required (161) Every hoisting engine shall, in addition to any marks on the rope, be provided with a reliable depth indicator, which will clearly and accurately show to the operator at all times:

- (a) the position of the bucket, cage or skip;
 - (b) at what positions in the shaft a change of gradient necessitates a reduction in speed.
- Operation of indicator. (162) An indicator shall not be operated by a chain and sprocket arrangement but shall be driven by a suitable train of gears from its corresponding drum of the hoist.
- Warning signal. (163) At every shaft exceeding three hundred feet in depth adequate provision shall be made whereby the hoistman is warned, audibly, of the arrival of the bucket, cage or skip at points in the shaft the distances of which from the top or bottom landing places are not less than the equivalent of three revolutions of the drum of the hoisting engine.
- Slipping of rope on drums. (164) On the drum of every hoist used for lowering or raising persons there shall be such flanges or horns, and also, if the drum is conical, such other appliances as may be sufficient to prevent the rope or cable from slipping off.
- Rope connection. (165) (a) The connection between the hoisting rope and the bucket, cage, skip, counter-balance or other device shall be of such nature that the risk of accidental disconnection is reduced to a minimum. No open hook device shall be used for such purpose.

(b) On all new installations or proposed changes to existing installations the method of making such connection shall be of a design approved by the Chief Inspector.
- Examination of hoisting equipment required. (166) The owner or manager of a mine, where a hoisting engine is in use, shall depute some competent person or persons whose duty it shall be to examine at least once in each week the sheave wheels, the hoisting ropes and the attachments thereof to the drums and to the counterweights, buckets, cages or skips, the brakes and depth indicators and the buckets, counterweights, cages, and skips, and any safety catches attached thereto; the guides and hoisting compartments generally and the signalling arrangements; and the external parts of the hoisting engine.
- Examination of cables. (167) Such owner or manager shall also depute a competent person or persons who shall examine,--

 - (a) at least once in each month the structure of the hoisting ropes with a view to ascertaining the deterioration thereof and for the purpose of this examination the rope shall be thoroughly cleaned at points to be selected by said person or persons, who shall note any reduction in the circumference of, and the proportion of wear in, the rope;
 - (b) at least once a month the safety appliances of the cages or other shaft conveyances, so equipped, by testing same under load conditions; such test to consist of releasing the cage suddenly, in some suitable manner, so that the safety catches shall have opportunity to grip the guides; and in case the safety catches do not act satisfactorily, the cage or other shaft conveyance shall not be used further for hoisting men until the safety catches
- Safety appliances to be tested monthly

have been repaired and been proved to act satisfactorily.

- Defects to be remedied at once. (168) If, on any examination, as is hereinbefore required there is discovered any weakness or defect whereby the safety of persons may be endangered, any such weakness or defect shall be immediately reported to the owner or manager or person in charge, and until such weakness or defect is remedied the hoisting plant shall not be used.
- Machinery Record Book (169) (a) Such owner or manager shall keep or cause to be kept at the mine a book termed the "Machinery Record Book", in which shall be recorded a report of every such examination as is hereinbefore referred to, signed by the person making the examination.
- (b) A notation shall be made in the Machinery Record Book of any failure of or accident to the hoist, the hoisting rope, the shaft conveyance, or any other part of the hoisting equipment, over the signature of the responsible person in charge of such equipment or accessories thereto.
- History of rope necessary (170) No hoisting rope which has previously been in use in any place beyond the control of the owner or manager shall be put on anew except with the permission of the Inspector.
- Hoisting rope not to be spliced. (171) In no case shall a rope which has been spliced be used for hoisting purposes.
- Length of ropes required on drum when skip is at the bottom (172) In case of hoisting engines there shall be not less than three rounds of rope upon the drum when the bucket, cage or skip is at the lowest point in the shaft or winze from which hoisting is effected. The end of the rope shall be fastened around the shaft or to the spider of the drum in a suitable manner.
- Hoisting both men and materials (173) In case a hoisting rope is used both for the raising and lowering of men and materials, the weight attached to the rope in the former case, when the bucket, cage or skip is bearing its authorized load shall not exceed eighty-five per centum of the maximum allowable weight when the rope is in use for other purposes.
- Rope certificate necessary (174) (a) No hoisting rope shall be used which is not accompanied by a certificate from the manufacturer giving the following information: name and address of manufacturer, coil or reel number, date of manufacture, diameter and circumference of the rope in inches, weight per foot in pounds, number of strands, class of core, number of wires in strand, diameter of wires in decimals of an inch, breaking stress of steel of which the wire is made, in tons per square inch, estimated or actual breaking load of rope, length of rope.
- (b) The foregoing data along with the additional following information shall be entered in a book known as the "Rope Record Book", and duplicate copies forwarded to the Chief Inspector when a hoisting rope is newly put on: date of purchase, date on which put on, identification number (where used) of the rope,

name of shaft or winze and compartment in which the rope is used, weight of shaft conveyance, weight of material carried, weight of maximum length of rope in service, static factor of safety.

- (c) There shall be kept in the Rope Record Book a history of the hoisting rope, outlining the date on which the rope was put on, certification of trial trips and examinations required by Rule 175, date of shortening, dates and summaries of breaking tests, date taken off.
- (d) The Rope Record Book shall always be open for inspection by the Inspector.
- (e) When a hoisting rope is taken out of service, notice to that effect shall be forwarded to the Chief Inspector, giving the date and reasons for discarding along with such other information as he may require.

Examination
of attach-
ments.

- (175) A hoisting rope when newly put on, and after any subsequent cutting thereof, shall have the connecting attachments between the bucket, cage, skip, or counterweight and the rope carefully examined by some competent and reliable person or persons authorized by the owner, manager, or department head, and shall not be used for ordinary transport of persons in any shaft or winze until two complete trips up and down the working portions of such shaft or winze have been made, the bucket, cage, skip or counterweight bearing its authorized load. The result of such examination shall be recorded in the Rope Record Book.

Factor of
safety of
hoisting
rope.

- (176) The factor of safety of all hoisting ropes when newly installed in shafts less than two thousand feet in depth shall in no case be less than six, and in shafts over two thousand feet in depth and less than three thousand feet in depth shall not be less than five. The factor of safety shall be calculated by dividing the breaking strength of the rope as given in the manufacturer's certificate by the sum of the maximum load to be hoisted plus the total weight of the rope in the shaft when fully let out:
 - (a) No hoisting rope shall be used for the raising or lowering of men when its factor of safety based on its existing strength and dead load shall have fallen below 4.5.
 - (b) No hoisting rope shall be used for the raising or lowering of men when the number of broken wires in one lay of said rope exceeds six, or when marked corrosion appears.

Rope
dressing

- (177) Every hoisting rope shall be treated with a suitable rope compound as often as necessary and at least once in every month.

Testing of
hoisting
rope.

- (178) At least once in every six months the hoisting rope shall have a portion not less than six feet in length cut off the lower end, from a position above the clamps or other attachment. The length so cut off

shall have the ends adequately fastened with binding wire before the cut is made, to prevent the disturbance of the strands and shall be sent to a reliable testing laboratory for a breaking test. The certificate of such test shall be kept on file and a summary thereof recorded in the Rope Record Book.

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| Cleaning and examination of rope connection. | (179) At the periodical cutting of the rope the connection between the rope and the bucket, cage or skip shall be thoroughly cleaned and carefully examined. |
| Head Sheaves | (180) Head sheaves shall be of such diameter as shall be suited to the rope in use. |
| Counter-weights. | (181) Wherever a counterweight is used in a shaft it shall operate in a separate and safely enclosed compartment. The cable from the counterweight shall be attached to the drum of the hoist and not to the cage or skip. |

SIGNALS

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| Signalling | (182) Every working shaft shall be provided with some suitable means of communicating by distinct and definite signals to the hoist room from the bottom of the shaft, from every working level, from the collar and from every landing deck. |
| Separate signal system for each compartment | (183) A separate signal system shall be installed for each hoisting compartment in all shafts and winzes in which a hoisting conveyance operates and there shall be sufficient difference in the sounds of the signals for each compartment that they are easily distinguishable. |
| Electric signal system | (184) (a) Where an electrical signal system is installed the system shall be so arranged that the hoistman may return the signal to the person giving the signal.

(b) When men are about to be hoisted or lowered the hoistman shall so return the signal. |
| Hoistman's log book | (185) (a) At every shaft or winze hoist there shall be kept a "Hoistman's Log Book" in which shall be recorded:

(i) A report of the working condition of the hoist including the brakes, clutches, interlocking devices between the brake and clutch, depth indicators and all other devices and fittings pertaining to the safe operation of the hoist.

(ii) A report of the working condition of the signalling apparatus and a notation of any signals received by the hoistman, the accuracy of which he has questioned;

(iii) Any special instructions received involving the safety of persons. Such entry shall be signed by the hoistman and by the person issuing the instructions; |

39.

- (iv) A report of the working condition of and a record of any tests performed upon the operation of all overwind devices installed in conjunction with the hoist. Where the required daily tests of such overwind devices are conducted by a hoistman operating on another shift the hoistman assuming duty shall note over his signature that he has examined the entry in the Log Book of the hoistman who performed the tests;
- (v) A report of all abnormal circumstances in connection with the operation of the hoisting engine or attachments thereto and such abnormal conditions as have come to his knowledge in connection with the hoisting operations in the shaft or winze.
- (b) A notification to the hoistman on a succeeding period of duty of any special circumstances or matter affecting the continued operation of the hoist or the safety of persons in the shaft or winze shall be made in the Hoistman's Log Book. All such entries shall be countersigned by the hoistman assuming duty for such succeeding period.
- (c) Such entries as are required by the preceding clauses (a) and (b) of this Rule shall be made and signed by every hoistman for his period of duty on every shaft or winze hoist, the time and duration of which period of duty shall also be noted and such entries as have been made during the preceding twenty-four hours shall be read and initialled each day by the master mechanic or other authorized person.

Open lights,
discipline.

- (186) (a) When persons are being hoisted or lowered in any cage or skip no person other than the cage tender or skip tender shall have a burning open flame lamp of any kind except that for shaft inspection or similar purposes a sufficient number of lighted lamps shall be permitted.
- (b) At all times that men are being hoisted or lowered in any cage or skip there shall be maintained a proper discipline of persons riding on such cage or skip.

Code of
signals.

- (187) (a) The following code of signals shall be used at every mine and a copy of such code shall be printed and posted up in every hoist room and every level or other landing in the shaft or winze;

1 bell.....Stop immediately - if in motion.

1 bell.....Hoist.

2 bells....Lower.

3 bells....Men about to ascend or descend. This signal shall be given before men are permitted to enter the hoisting conveyance. Where a return-bell signal system is installed, the hoistman shall return the 3-bell signal before men are permitted to enter the hoisting conveyance. After a hoistman has received a 3-bell signal he shall remain

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at the hoist controls until he has received the signal designating the movement required and has completed that movement.

The hoistman shall not move the hoisting conveyance within a period of ten seconds after receiving a signal designating a movement at any time that men are being carried.

4 bells....Blasting signal. Hoistman shall answer by raising the bucket, cage or skip a few feet and letting it back slowly. Following a 4-bell signal only a 1-bell signal shall be required to signal for hoisting men away from a blast and the hoistman shall remain at the controls until the act of hoisting has been completed.

5 bells....Release signal. Hoistman may move the hoisting conveyance to another point in the shaft, not a recognized stopping point, and stop it there on his own discretion but the person giving the release signal shall remain to guard the conveyance until it is so moved.

9 bells....Danger signal. To be given only in case of fire or other danger. The signal for the level at which the danger exists should be given following the giving of a danger signal.

- (b) In case the hoistman is unable to act within one minute of the time he has received a complete signal he shall not move the hoisting conveyance until he has again received a complete signal.

Special signals (188)(a) Level special signals, in addition to the above, may be used at every mine for the purpose of designating hoisting movements. Such signals shall be easily distinguishable from the foregoing code and shall not interfere with it in any way and shall be approved by the Chief Inspector.

- (b) The level special code of signals used at every mine and an adequate description of their application to the movements required shall be posted at every hoist, at the top of the shaft or winze and at every working level of such shaft or winze.

Signal required (189) Under no circumstances shall the hoisting conveyance be moved by the hoistman until he has received a proper signal, except that in event of an inadvertent stop at some point in the shaft or winze other than a station from which signals may be given, the hoistman may move the hoisting conveyance on the instruction of a properly authorized person to do so.

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Signal to
be given
only by
authorized
person

- (190) No person, unless duly authorized, shall give any signal for moving or stopping the bucket, cage or skip. No signal shall be given unless the bucket, cage or skip is at the level from which the signal is to be given. No unauthorized person shall give any signal, other than the danger signal, or in any way whatsoever interfere with the signaling arrangements.

Notices to
be posted
showing
number of
men per-
mitted to
ride.

- (191) (a) A Notice showing clearly the number of persons allowed to ride on, and the weight of materials allowed to be loaded on the cage or skip shall be posted at the collar of the shaft or winze.
- (b) The person authorized to give signals shall be held responsible for observance of such notice.
- (c) No person shall offer obstruction to the enforcement of such notice.

HAULAGE

Warning
equipment

- (192) (a) Every locomotive, engine, trolley or motor car used for hauling material, either above or below ground, shall be equipped with a headlight or headlights, and a whistle, bell, gong, or horn, which shall be sounded when starting and at such other times as warning of danger may be required.
- (b) In mechanical haulage underground all made-up trains shall be equipped with a suitable tail-light.

Riding on
cars, etc.

- (193) No person shall ride upon or against any car in any level, drift or tunnel in or about a mine. In mechanical haulage this shall not apply to train crews or to persons being transported on passenger cars especially provided for that purpose.

Clearance.

- (194) On every level on which mechanical haulage is employed, a clearance of at least eighteen inches shall be maintained between the sides of the level and the cars, or there shall be a clearance of twenty-four inches on one side, or safety stations shall be cut every one hundred feet. Such safety stations shall be plainly marked.

Control levers

- (195) Control levers of storage battery and trolley locomotives shall be so arranged that the lever cannot accidentally be removed when power is on.

Unattended
locomotive

- (196) No electric haulage locomotive shall be left standing unattended unless the brakes have been set and the control lever placed in the neutral position. In the case of a storage battery haulage locomotive the main switch shall also be placed in a non-operating position.

PROTECTION FROM MACHINERY IN
MINES AND BUILDINGS.

Fly-wheel,
geared-wheel,
etc.

- (197) Every fly-wheel, geared-wheel, bull-wheel, pulley or belt, and every opening through which any wheel or belt operates, shall be enclosed with a substantial railing or casing, unless situated in such a manner or location as to prevent any person coming into accidental contact therewith.

42.

- Uneven projections to be covered (198) Every key, bolt, set-screw, and every part of any wheel or other revolving machinery which projects unevenly from the surface shall be covered, unless situated in such a manner or location as to prevent any person coming into accidental contact therewith.
- Grinding wheels to be guarded (199) (a) Every power-driven grinding wheel shall be provided with a hooded guard of sufficient strength to withstand the shock of a bursting wheel. This guard shall be adjusted close to the wheel and extend forward, over the top of the wheel, to a point at least thirty degrees beyond a vertical line drawn through the centre of the wheel.
- (b) Where a power-driven grinding wheel is used the owner or manager shall provide suitable goggles and it shall be the duty of the workman to wear such goggles continually during the time the grinding wheel is in use.
- Wearing loose clothing (200) Persons engaged in dangerous proximity to moving machinery shall not wear or be allowed to wear loose outer clothing.
- Runway to have hand-railing. (201) Every runway or staging, stairway or platform more than five feet from the floor and used for oiling or any other purpose shall be provided with a strong, adequate hand-railing. All stairways, steps and runways shall be maintained in a safe condition.
- Protection of entrances. (202) Every entrance to any elevator, hatchway or well-hole shall be provided with a suitable trap-door, guard-rail, or automatically closing gate.
- Counterweights (203) Every counterweight shall be so situated or guarded as to avoid injury to any person should it become detached from its fastenings.
- Frogs on tracks (204) Every frog in a track, either above or below ground, on which cars are moved by manual or mechanical power shall have a guard block of wood or iron.
- Belts, conveyors (205) Under no circumstances shall any person ride on any conveyor or belt.

STEAM; COMPRESSED AIR

- Steam Boilers (206) Every steam boiler not less than three horse-power used for generating steam in or about a mine shall, whether separate or one of a range,-
- Safety valves (a) have attached to it a proper safety-valve, and also a proper steam gauge and water-gauge, to show respectively the pressure of steam and the height of water in each boiler;
- (b) be inspected by a qualified authorized boiler inspector or by an inspector of a boiler insurance company at least once in every twelve months; and a certified copy of the report of the inspection shall be forwarded to the Chief Inspector within seven days;
- (c) the owners of all steam boilers or pressure vessels shall comply with the provisions of any Northwest Territories Steam Boiler and Pressure Vessel Ordinance that may be enacted.

Maintenance. (207) Every such boiler, safety-valve, steam-gauge and water-gauge shall be maintained in proper working condition.

Air receivers. (208) Every air receiver installed in or about a mine shall be inspected by a qualified boiler inspector, approved of by the Commissioner of the Northwest Territories, or by an inspector of a boiler insurance company at least once in every twelve months, and a certified copy of the report of the inspection shall be forwarded to the Chief Inspector within seven days.

SAND AND GRAVEL PITS

Undermining forbidden in sand and gravel pits. (209) In open-pit workings of sand and gravel the method of removing material by undermining shall not be allowed. No vertical working place shall have a height of more than ten feet. Where the thickness of material to be excavated exceeds ten feet in depth, the work shall be done in terraces, or at an angle of safety. This rule shall not apply to pits where the material is excavated solely by mechanical means.

MILLS, METALLURGICAL WORKS

Antidotes and washes (210) At every mine or works where poisonous or dangerous compounds, solutions or gases are used or produced there shall be kept in a conspicuous place as near the same as practicable, a sufficient supply of satisfactory antidotes and washes for treating injuries received from such compounds, solutions or gases. Such antidotes and washes shall be properly labelled, and explicit directions for their use affixed to the boxes containing them.

Removal of dust (211) In or about any mine where, by reason of dry crushing or otherwise, there is in the air of the place of operation dust in quantity to be injurious to health, suitable apparatus shall be installed for removal of the dust.

Poisonous vapours (212) In every mill or plant where poisonous vapours, gases or emanations exist or may be formed or where radioactive ores are treated, suitable means shall be adopted to provide such ventilation as will prevent the formation of dangerous concentrations of such vapours, gases or emanations.

Storage of acids, poisons (213) Due provisions shall be made at all plants where acids or poisonous compounds are used to reduce to a minimum the hazards of storing and handling such materials.

Transfer of liquids by compressed air. (214) The transfer of liquids from one location or container to another location or container by the application of air under pressure shall not be permitted except where properly designed and tested equipment is used for this purpose.

Work in bins (215) No person shall enter any storage bin while material is stored therein unless a second person is in constant attendance and precautions are taken against the danger of caving material.

- Guard rails at track approaches (216) Guard rails shall be placed at the approach to railway tracks, where the view of such tracks is obstructed in one or both directions.
- Ventilation. (217) At all furnaces of the hand-filled type the room where workmen are engaged shall be adequately ventilated.
- Life lines. (218) Life lines and belts in good order shall be provided and kept in some secure and readily accessible place for immediate use in case it becomes necessary to rescue a workman, and also for use by any workman whose duties require him to work in an atmosphere which is liable to become dangerous by reason of the presence of noxious gases.
- Shields for protection against burning. (219) Workmen employed at metallurgical works shall be supplied with suitable shields and appliances to protect them as far as possible from being burned with molten material.
- Stairways protected. (220) All stairways shall be inclined at an angle not greater than fifty degrees from the horizontal, and be provided with landings or turnouts, at intervals of twenty-five feet, so that it will not be possible for a workman to fall from the top to the foundation landing below.
- Supervision of hazardous work. (221) Every foreman shall personally supervise or appoint a competent assistant to supervise any work around the furnace involving unusual accident hazard; and it shall also be the duty of such foreman or person appointed by him to examine all ladles, moulds and other receptacles with a view to ascertaining that they are clear of moisture or other substance which may endanger the safety of persons.
- Rescue apparatus. (222) At any operation where the nature of the work may cause air to become dangerous by reason of the presence of noxious gases there shall be provided and maintained in a readily accessible place breathing apparatus and portable resuscitating apparatus of approved type, with an adequate supply of oxygen and absorbent material. There shall always be on duty in each working shift a workman or workmen appointed by the superintendent and trained in the use of breathing and resuscitating apparatus.
- Age, elevator and crane operators. (223) No person under the age of eighteen years shall be allowed to operate any elevator or power-driven crane.
- Riding prohibited. (224) No person other than the operator shall be permitted to ride on any crane or part thereof or on any material carried by such crane except for inspection, supervision, maintenance and repair, or instruction of a new operator.
- Warning devices (225) Every crane operated from a cab mounted on the crane shall be equipped with a whistle, bell, gong or horn which shall be sounded at such times as it may be necessary to give warning of the approach of the crane to places where men are working or are liable to pass.

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- Overwinding devices (226) Every crane shall be equipped with suitable devices to prevent overwinding and over-running of limits.
- Daily examination of cranes. (227) The owner or manager shall depute some qualified person or persons to examine daily such parts of the crane or apparatus pertaining thereto upon the proper working of which the safety of persons depends. A record of such examinations shall be kept.

ELEVATORS AND HOISTWAYS

- Folding gates (228) Every entrance to a hoistway shall be provided with a substantial door or doors or gate or gates at least six feet in height. All folding gates over three feet wide shall have top, bottom and centre braces.
- Lighting (229) Every hoistway landing and place where machinery is erected shall be well lighted.
- Guarding hoistway (230) When a hoistway is not enclosed in walls, access to the hoistway by means of an adjacent stairway shall be prevented by means of a partition to a height of at least six feet.
- Guide rails. (231) All guide rails for cars and counter-weights shall be of substantial construction, and shall be securely fastened to the sides of the hoistway, and the bottom ends shall rest on a secure foundation, and be firmly fixed in that position.
- Clearance for car. (232) On every elevator hereafter installed a clear space of not less than three feet shall be provided between the bottom of the hoistway and the lowest point of the car when the car is at its lowest landing, and between the top of the car and the sheave when the car is at its top landing, and also between the top of the counter-weight and the sheave when the car is at its lowest landing.
- Automatic safety devices. (233) Every elevator shall be provided with automatic devices at the top and bottom of the travel of a car in the hoistway, so arranged that the car will be stopped before it has travelled two feet above the top landing, or two feet below the bottom landing, and all drum hoists shall, in addition, be fitted with automatic stop motions to prevent overwinding.
- Protecting counter-weights. (234) All counterweights shall have their sections strongly bolted together and shall be so situated that they cannot fall on any part of the elevator or machinery, and shall be suspended in guides in such a manner that they will run freely without danger of being detached.
- Protection on elevator. (235) Every elevator on which any person travels shall be provided with side casing, and shall have a door or doors extending at least five feet above the bottom of the elevator, and the top shall be covered with suitable protective roofing.
- Safety catches. (236) Every elevator on which any person travels shall be provided with efficient safety clutches of sufficient strength to hold the elevator with its maximum load in any position in the hoistway. When the safety catches are operated through shafts, all the levers and

safety catches shall be keyed to the shafts.

RULES GOVERNING USE OF ELECTRICITY

(237) In these Rules, -

- "Cut-out" (a) "Cut-out" shall mean any device, such as a fuse or circuit-breaker, by which the electrical continuity of a conductor may be automatically broken by changes in current or voltage;
- "Disconnecter" (b) "Disconnecter" shall mean a switch which is intended to open a circuit only after the load has been thrown off by some other means;
- "Electrical Supply Station" (c) "Electrical Supply Station" shall mean any building, room or separate space within which is located electrical supply equipment and which is accessible, as a rule, only to properly qualified persons, and shall include generating stations and substations and generator, storage battery and transformer rooms;
- "Grounded" (d) "Grounded" shall mean connected to earth or to some extended conducting body which serves instead of earth, and this ground connection may be at one or more points;
- "Panelboard" (e) "Panelboard" shall mean a single panel containing busses, fuses and switches to control lights, and devices of small individual as well as aggregate capacity, placed in or against a wall or partition and accessible only from the front;
- "Reconstruction" (f) "Reconstruction" shall mean replacement of any portion of an existing installation by new equipment or construction, but does not include ordinary maintenance replacements;
- "Switch" (g) "Switch" shall mean a device for opening or closing or changing the connections of a circuit manually, and in these Rules a "switch" is always to be understood as operated manually, unless otherwise stated;
- "Switchboard" (h) "Switchboard" shall mean a large single panel or assembly of panels on which are mounted switches, fuses, busses and usually instruments, and accessible both in front and in rear. Circuits and machinery of relatively large capacity are controlled from such boards;
- "Utilization Equipment" (i) "Utilization Equipment" shall mean equipment, devices and connected wiring, which utilize electrical energy for mechanical, chemical, lighting, testing or similar purposes and are not a part of supply equipment;
- "Voltage", "Volts", "Voltage to Ground." (j) "Voltage" or "Volts" shall mean the highest effective voltage between the conductors of the circuit concerned, except that in grounded multi-wire circuits, not exceeding 750 volts between outer conductors, it means the highest effective voltage between any wire of the circuit and the ground, and

in ungrounded, low-voltage circuits "voltage to ground" shall mean the voltage of the circuit;

"Wire Gauge"

(k) "Wire Gauge" shall mean the standard known as Brown and Sharpe (B. & S.).

GENERAL RULES

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| Competent person in charge | (238) Where electrical apparatus or machinery is used at any mine it shall be in charge of an authorized person, who shall be qualified by experience to handle such apparatus or machinery. Every person operating or having charge of electrical apparatus shall have been instructed in his duty and shall be competent for the work that he is set to do. Repairs, extensions and changes shall be made to existing electrical equipment and conductors only by authorized persons. |
| Supply stations to be inaccessible to unauthorized persons. | (239) No person, other than the person authorized by the owner, manager, or superintendent, shall enter an electrical supply station or interfere with the workings of any machine, transformer, motor, or apparatus connected therewith, and when the authorized person is not present the door of such room shall be kept securely locked. |
| General requirements | (240) All electrical equipment shall be of such construction and so installed and maintained as to reduce the life and fire hazard as far as practicable. |
| Inspections and repairs | (241) Electrical equipment shall comply with these Rules when placed in service, and shall thereafter be periodically inspected and, when necessary, cleaned. Defective equipment shall be put in good order or permanently disconnected. Defective wiring shall be repaired or removed. |
| Exceptions. | (242) Electrical utilization equipment as well as generating equipment, if enclosed in a separate room which is inaccessible to unauthorized persons, and when in service is under the control of a qualified electrical operator whose attention is not distracted by other processes, shall be considered as electrical supply station equipment, and such exceptions as are made to the general Rules for supply stations shall apply to those installations. |
| Identification of equipment. | (243) All electrical equipment shall be suitably identified where necessary for safety. The voltage and intended use shall be shown, where important. |

GENERAL GROUNDING RULES

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| Circuits to be grounded | (244) All circuits not over 150 volts shall be grounded if exposed to leakage from higher voltage circuits either through overhead construction or through transformers having primary voltage exceeding 750 volts. Three-wire single-phase circuits and three-wire direct-current circuits not exceeding 300 volts between outer conductors shall have the neutral grounded. |
| Equipment to be grounded. | (245) Electrical equipment shall, when practicable, have the exposed non-current-carrying parts, such as frames of motors, generators, switchboards, cases of transformers, oil switches and instruments and casings or wiring and conductors, permanently grounded; |

48.

(a) For all equipment over 150 volts;

(b) For all equipment where metal parts are within reach of exposed grounded surfaces, such as metal frames of other machines, plumbing fixtures, conducting floors or walls (such as damp wood, concrete or rock underground). Grounded surfaces within five feet horizontally of the parts considered, or within eight feet vertically of the floor, shall be considered within reach.

Equipment and wire runways. (246) The point at which the ground conductor is attached to the equipment or wire runways, shall be readily accessible.

Material and continuity of ground conductor. (247) The ground conductor shall be of copper or other metal which will not corrode excessively under the existing conditions and, if practicable, shall be continuous. Ground connections from circuits shall not be made to jointed piping within buildings, except that water or air piping beyond any point which is liable to disconnection may be used.

Size of ground conductor. (248) For grounding circuits the ground conductors shall have a carrying capacity equal to that of the circuit and shall never be less than No. 6, B. and S.

(249) For electrical equipment the current-carrying capacity of a ground conductor shall not be less than that provided by a copper wire of the size indicated in the following table. When there is no cut-out protecting the equipment, the size of the ground wire shall be determined by the design and the operating conditions of the circuit:

Capacity of nearest automatic cut-out	Required size ground conductor B. & S. gauge
0 to 200 amperes.....	6
201 to 500 amperes.....	4
Over 500 amperes.....	2

(250) In portable cord to portable equipment protected by fuses not greater than ten ampere capacity, No. 16 ground wire may be used.

Protecting ground wire. (251) Ground conductors shall have mechanical protection and insulating guards extending for a distance of not less than eight feet above any ground, platform or floor. If attached to buildings ground conductors shall be supported on insulators and shall be protected by porcelain bushings through floors, partitions or walls.

Character of ground. (252) Main water or air lines may be used for grounds, provided that connection is made at a point where the pipe is not liable to disconnection for alteration or repairs. Main water or air lines may be substantially bound together for this purpose, but shall, unless connected to a buried piping system of considerable extent, be connected to an artificial ground.

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| Method of connection | (253) The ground connection to metallic piping systems shall be made by sweating a ground wire into a lug attached to a suitable clamp and firmly bolting the clamp to the pipe, after all rust and scale have been removed, or by any other equivalent method. |
| Artificial grounds. | (254) Artificial grounds shall be located, where practicable, below the permanent moisture level, or, failing this, at least six feet deep. Each ground shall present not less than four square feet of surface to the exterior soil. Areas where the ground-water level is close to the surface shall be used where available. |
| Where separate ground conductors required. | (255) Ground conductors shall be run separately to the ground (or to a sufficiently heavy grounding bus or system ground cable which is connected to ground at more than one place) from equipment and circuits of each of the following classes: (1) lightning arresters; (2) secondaries connected to low-voltage lighting or power circuits; (3) secondaries of current and potential transformers and cases of instruments on these secondaries; (4) equipment operating in excess of 750 volts; (5) frames of utilization equipment or wire runways other than covered by item (4). |
| Lightning arrester grounds | (256) Lightning arrester ground connections shall not be made to the same artificial ground (driven pipe or buried plate) as circuits or equipment, but shall be well spaced, and, where practicable, at least twenty feet from other artificial grounds. |

WORKING SPACE ABOUT ELECTRICAL EQUIPMENT

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| Utilization equipment | (257) Suitable working space shall be provided and maintained about all electrical equipment. Where adjacent to exposed live parts such working spaces shall be so arranged that they will not be used as passageways. The working space shall, where practicable, have minimum horizontal dimensions, where adjacent to exposed parts within eight feet of the floor, as follows: (1) parts above 150 volts to ground, if on one side, 2.5 feet; if on two sides, 4 feet; (2) parts below 150 volts to ground, if on one side, 1.5 feet; if on two sides, 2.5 feet. |
| Supply station equipment | (258) In supply station equipment the following clearances only need be maintained: (1) parts from 300 up to 750 volts, if on one side, not less than 2.5 feet; if on two sides, not less than 3 feet; (2) parts above 750 volts, if on one side, not less than 3 feet; if on two sides, not less than 5 feet. |

GUARDING OR ISOLATING LIVE PARTS

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| Guarding current-carrying parts | (259) In supply station equipment, current-carrying parts shall be guarded unless they are maintained at the following distances above the floors which may be occupied by persons: |
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Voltage of conductors		Elevation in feet
300 to	750	7
750 to	2,500	7.5
2,500 to	7,500	8
7,500 to	30,000	9
30,000 to	70,000	10
70,000 to	100,000	12

- (260) All exposed current-carrying parts of electrical equipment such as bus bars, conductors and terminals operating at over 150 volts and not isolated by an elevation of at least eight feet, shall be provided with suitable permanent enclosures or other guards arranged so as to prevent persons or conducting objects from inadvertently coming (or being brought) in contact with the parts in question.
- (261) Where the current-carrying parts at over 150 volts, or in supply stations at over 300 volts to ground, must necessarily be exposed (unguarded) within eight feet, or in supply stations within the limits called for in Rule 259 from the floor line, all surrounding conducting floors shall be covered with suitable insulating platform, mats or other insulating devices.
- (262) Where the current-carrying parts operate at over 7,500 volts, enclosing or barrier guards shall always be provided, even when insulating mats are also provided.

STORAGE BATTERIES

- Protection of storage batteries (263) Storage batteries in rooms used also for other purposes shall be adequately guarded or enclosed. Means shall be provided, if necessary, to prevent dangerous accumulations of inflammable gas. Batteries whose operating voltage exceeds 50 volts shall be installed in conformity with the general rules covering equipment.

TRANSFORMER RULES

- Protecting instrument transformers (264) Secondary circuits of current transformers shall be provided with means for short circuiting them which can be readily connected while the primary is energized, and which are so arranged as to permit the removal of any instrument or other device from such circuits without opening the circuits.
- (265) When primaries are above 7,500 volts secondary circuits of current and potential transformers, unless otherwise adequately protected from injury or contact of persons, shall be in permanently grounded conduit.
- (266) The low-voltage circuit of all instrument transformers shall be permanently grounded unless the circuits are installed and guarded as required for the high-voltage circuits of the transformers.
- Oil immersed transformers (267) Oil immersed transformers shall not be mounted on or above combustible roofs or attached to any building not of fire-proof construction other than a transformer house and if within a building other than a transformer house shall be in a fireproof compartment, suitably drained and ventilated to outdoors, the door openings to be provided with not less than six-inch non-combustible sills.

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- Transformer stations to be fireproof (268) Transformer stations, if not entirely of fireproof construction, shall be located at least fifty feet distant from other buildings.

LIGHTNING ARRESTER RULES

- Inaccessible to unauthorized persons (269) If the operating voltage of the circuit exceeds 750, the lightning arresters shall be made inaccessible to unauthorized persons.
- Location (270) Lightning arresters, when installed inside of buildings, shall be located as far as practicable from all other equipment and from combustible parts of the building.
- Provisions for disconnecting (271) Lightning arresters on circuits over 7,500 volts and all lightning arresters which may require work to be done upon them from time to time, shall be so arranged, isolated, and equipped that they may be readily disconnected by air-break manual disconnectors.
- Ground wires (272) Ground wires shall be run as directly as possible and be of low resistance and ample capacity. In no case shall ground wires be less than No. 6 copper wire. Ground conductors for lightning arresters shall not pass through iron or steel conduits unless electrically connected to both ends of such conduits.
- Grounding non-current-carrying parts. (273) All non-current-carrying parts of the arresters shall be grounded, unless effectively isolated by elevation, or guarded as required for live parts of the voltage of the circuit to which the arrester is connected, and suitably identified as to that voltage.
- Guarding live parts. (274) All current-carrying parts of arresters on circuits above 750 volts, unless effectively isolated by elevation shall be adequately guarded to protect persons from inadvertent contact with them, or from injury by arcing. Guarding shall comply with Rules 260 and 278.

CONDUCTORS

- Electrical protection of conductors (275) Conductors shall be suitable for the location, use and voltage and each conductor (except neutral conductors, ground wires, and conductors of circuits, the opening of which may cause special hazard by interruption of service or removal of protection), shall be protected against excessive current by suitable automatic cut-out or by the design of the system.
- Cut-outs omitted. (276) All conductors normally grounded for the protection of persons shall be arranged without automatic cut-outs interrupting their continuity between the sources of electrical supply and the point at which the ground wire is attached, unless the cut-out opens all the conductors of the system with one operation.
- Insulating conductors (277) All conductors where not protected by conduit or armouring shall have approved insulation and shall be mounted on cleats, porcelain knobs or insulators and shall be separated from contact with floors, walls or partitions by tubes of incombustible insulating material.

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| Isolating
conductors | (278) All fixed conductors operating at over 150 volts or in supply stations at over 750 volts unless isolated by an elevation of at least eight feet shall be enclosed in grounded metal conduit, grounded metal sheathing or shall be guarded by permanent screens or enclosures. |
| Use of bare
conductors | (279) Bare conductors shall be used only for switchboard, panelboard, storage-battery connections or for open wiring at voltages exceeding 2,400 volts in supply stations or for electrolytic low-voltage furnaces and similar connections, or for trolley wires and other contact conductors. Except at points where permanent ground connections are made such conductors within buildings shall be kept insulated from the ground. |
| Temporary
wiring | (280) Temporary wiring and equipment, which is not in compliance with these rules, may be used, but only when under competent supervision, or protected by suitable barriers or warning signs while it or neighbouring wiring is alive and accessible to unauthorized persons. |
| FUSES, CUT-OUTS, SWITCHES AND
CONTROLLERS | |
| General
requirement
of switches | (281) All switches, automatic cut-outs, controllers, starting rheostats, auto starters and other control devices shall be readily and safely accessible to authorized persons; they shall be so located, labelled or marked as to afford means of identifying circuits or equipment supplied through them, and to indicate whether they are open or closed. They shall be so installed, where practicable, that they cannot be closed by gravity and such switches as close by gravity shall be provided with a proper stop block or latch to prevent accidental closing. |
| Switches
required for
equipment. | (282) Suitable switches shall be inserted in all circuit leads to generators, motors, transformers, storage batteries, electric furnaces and similar equipment except between parts or pieces of apparatus intended to operate as a unit. |
| Switches
required
in feeders | (283) Suitable switches shall be inserted in all feeder conductors connecting utilization installations to service connections from either overhead or underground lines. These switches shall be readily accessible, and as close as practicable to the point of connection with the overhead or underground lines. |
| Switches for
temporary
wiring. | (284) Switches or plug connectors shall be placed in all circuit leads at the point where temporary wiring or portable conductors are connected to the permanent wiring.

(285) Switches used otherwise than as disconnectors shall have a rated capacity such as to insure safe interruption, at the working voltage, of the greatest current which they may be required to carry continuously, and shall be marked with the current they can safely interrupt. |
| Switches have
sufficient
rupturing
capacity. | (286) All cut-outs, switches, circuit breakers and other apparatus used for opening or closing an electric circuit shall be of such design as to operate safely on the system from which the circuit is energized. |

- Disconnectors (287) Disconnectors shall be of suitable voltage and ampere rating for the circuit in which they are installed and shall be accessible only to qualified persons. They shall also be protected by signs warning against opening the switch while carrying current in excess of the safe opening limit.
- Locking or tagging switches (288) All switches controlling apparatus shall be locked or plainly tagged in the open position to prevent the inadvertent closing thereof while work is being done on the apparatus.
- Good contact required on switches (289) Switches, controllers and rheostats shall be so constructed as to make and maintain good contact. Knife switches shall maintain such alignment under service conditions that they may be closed with a single, unhesitating motion.
- When air-break switches needed. (290) Unless a switch operating on a circuit above 300 volts makes an air-break there shall, if equipment controlled by such switch requires adjustment or repairs while the conductors leading to such switch are still alive, be installed between it and the source of energy supply a suitable air-break disconnecter.
- Enclosing live parts of switches. (291) All manual switches over 150 volts to ground or in supply stations over 300 volts to ground shall have suitable casings or guards protecting the operator from the danger of contact with current-carrying parts or being burned by arcing at the switch.
- Guarding switches above 300 volts. (292) All switches interrupting circuits over 300 volts shall be operated by means of remote control mechanism or be provided with suitable casings protecting the operator from danger of contact with current-carrying parts, except as provided in Rule 295.
- (293) The control device for switches shall indicate whether the switches are open or closed.
- Connections to switches (294) Switches shall, if practicable, be so connected that switch blades will not be alive when in the open position.
- Working spaces about ordinarily guarded switches above 750 volts. (295) Where switches, disconnectors, and fuses above 750 volts are ordinarily guarded by covers or enclosed in separate rooms, but must occasionally be operated without such protection, either by removal of the covers or by entrance into the rooms, adequate working space shall be provided about the live parts so that the operator will not be required to bring any part of his body within the following horizontal distances:

Voltage of parts	Distance in feet
750 to 7,500	1
7,500 to 30,000	2
30,000 to 50,000	3
50,000 to 70,000	4
70,000 to 100,000	5

Switches to be placed before fusible cut-outs. (296) On circuits up to 300 volts to ground, where fusible cut-outs are not so arranged that they are necessarily disconnected from all sources of electrical energy before the underground current-carrying parts can be touched, switches shall always be so placed or arranged that opening them will disconnect the fuses from all sources of electrical energy.

Protecting fusible cut-outs above 300 volts. (297) Fusible cut-outs above 300 volts to ground shall be in a cabinet or otherwise made inaccessible to all but authorized persons, and switches shall be so placed and arranged that opening them will disconnect the fuses from all sources of electrical energy.

Fuses in fireproof cabinets. (298) All fusible cut-outs shall be installed in approved fire-proof cabinets.

Capacity of fuses. (299) The rated capacity of the fuses shall not exceed the allowable current-carrying capacity of the conductor.

SWITCHBOARDS

Switchboards to be readily accessible. (300) Switchboards and panelboards shall have all switches arranged so that the means of control are readily accessible to the operator.

Switchboards to be convenient for operation. (301) Instruments, relays or other devices requiring reading or adjustment shall be so placed that the work can be readily performed from the working space provided.

Location and lighting of switchboards. (302) Switchboards shall be so placed that the person operating them will not be endangered by machinery or equipment located near the board. Means for adequate illumination shall be provided.

Protecting against short circuiting on switchboards. (303) Exposed bare parts of different potentials on any switchboard or panelboard shall be as few as practicable and these shall be effectively separated.

Guarding current-carrying parts of switchboards. (304) All switchboards and panelboards having exposed current-carrying parts operating at over 150 volts to ground shall, when practicable, be suitably encased in locked cabinets, screens, or rooms, or other enclosures to make them inaccessible to other than authorized operators. Conducting floors about such boards and in supply stations about boards having equipment operating at over 300 volts to ground shall be provided with suitable insulating platforms or mats so placed that no person can inadvertently touch live parts unless standing on an insulating platform or mat.

Switchboards below 150 volts accessible to unauthorized persons. (305) Where switchboards or panelboards at voltages below 150 to ground are accessible to other than authorized operators they shall, where practicable, be enclosed in cabinets or screens as an effective precaution against accidental short circuit at times when no operation of the board necessitates the opening of the cabinet or screen.

MOTOR CONTROL DEVICES

- Motor control devices (306) Manually controlled starters for all D.C. motors and for all A.C. motors over five horsepower shall be so designed and the circuits so arranged that they return automatically to the "off" position upon the failure of the energy supply, except where the motors and their starting devices are, during operation, under the supervision of qualified persons or equivalent protection is otherwise provided.
- Protecting motors against overload. (307) Each motor shall be protected against excessive overload current by cut-out or automatic circuit breaker. Any such overload device shall interrupt the circuit at fifty per centum over normal motor-current rating. An auto starter which disconnects all wires of the circuit automatically under overload when in the running position may be used as a circuit breaker.

ILLUMINATING SUPPLY STATIONS

- Lighting for supply stations (308) Rooms and spaces shall have good artificial illumination. Arrangement of permanent fixtures and plug receptacles shall be such that the portable cords need not be brought into dangerous proximity to live electrical apparatus. All lamps shall be arranged to be controlled, replaced, or trimmed from readily accessible places.
- Emergency lighting for supply stations. (309) A separate emergency source of illumination, from an independent generator, storage battery, lanterns or other suitable source, shall be provided in every station where an attendant is located.

FIRE-FIGHTING APPLIANCES

- Fire-fighting appliances. (310) Each room or space where an operator is in attendance shall be provided with an adequate approved fire extinguishing appliance conveniently located and conspicuously marked. No chemical fire extinguishing appliance which has not been approved for use on live parts shall be placed in any room containing electric apparatus or exposed lines.

LIGHTING FIXTURES

- Guarding current carrying parts of lighting fixtures. (311) Electric fixtures, such as lamp sockets and lamp bases, plugs, receptacles, etc., shall be so installed that no current-carrying parts shall normally be exposed externally when these parts are within reach of grounded surfaces (see Rules 260, 261 and 262). The high-temperature current-carrying parts of radiant heaters are exempted.
- Portable lamps. (312) Portable lamps shall not be connected to circuits operating at over 300 volts to ground.
- Portable conductors exposed to injury. (313) In locations where exposed to dampness or mechanical injury, portable conductors shall be of reinforced weatherproof cord, and, when necessary, armoured.

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- Style of portable lamps permitted. (314) In locations where exposed to dampness or mechanical injury, portable lamps shall have their sockets enclosed in wood or composition handles, through which the conductor shall be carried, and shall have a substantial wire cage which encloses the lamp. A hook for hanging the lamp shall be attached either to the cage or to the handle.

TROLLEYS AND PORTABLE APPARATUS

- Guarding trolley or crane collector wires. (315) Trolley or crane collector wires, whether indoors or out, shall, where practicable, be elevated at least eight feet above the rail level and be provided with suitable guards so arranged that persons cannot inadvertently touch the current-carrying parts while in contact with the ground or with conducting material connected to the ground.
- Operating voltage in tunnels, etc. (316) In tunnels or under bins or in similar locations where trolley wires are necessarily less than eight feet above the rail level, the operating voltage shall not exceed 300 and the wires shall be efficiently guarded to prevent accidental contact of person.
- Portable and pendant conductors (317) Portable and pendant conductors shall not be installed or used on circuits operating at over 150 volts to ground, unless they are accessible only to persons authorized to approach them. In such cases they shall be of a type suitable to the voltage and conditions.

CRANES AND ELEVATORS

- Disconnections for cars and cranes (318) Readily accessible means shall be provided whereby all conductors and equipment located in or on cars or cranes may be disconnected entirely from the source of energy at a point as near as possible to the trolley or other current collector.
- Switch required on cars and cranes. (319) A circuit breaker or switch, capable of interrupting the circuit under heavy loads, shall be used unless the current collector can be safely removed, under heavy loads, from the trolley wire.

TELEPHONE EXPOSED BY SUPPLY LINES

- Protecting telephone equipment exposed by high voltage. (320) Telephone or other signal apparatus which must be handled by persons and which is connected to overhead signal circuits exposed by supply lines over 400 volts to ground shall be protected as follows:
- (a) By fuses and arresters;
 - (b) All exposed non-current-carrying metal parts shall be permanently grounded; or, the apparatus shall be installed in such a way that a person using it will be obliged to stand on an insulated platform, in an insulated booth, or on other insulating surfaces.
- Protecting telephone signal equipment exposed to induced voltage. (321) Telephone or signal apparatus which is connected to a line which parallels a supply circuit of high voltage in such a manner as to be exposed to induced voltage shall be protected by transformers and shall comply with the requirements of Rule 320.

TRANSMISSION LINES

- Design and construction of supply lines. (322) All electrical supply lines and equipment shall be of suitable design and construction for the service and the conditions under which they are to be operated, and all lines shall be so installed and maintained as to reduce the life hazard as far as practicable.
- Guarding supply lines. (323) Conductors and other current-carrying parts of supply lines shall be so arranged as to provide adequate clearance from the ground or other space generally accessible, or shall be provided with guards so as to effectively isolate them from accidental contact of person.
- Entrance to buildings. (324) Where supply lines over 300 volts to ground are attached to any buildings, for entrance, they shall be permanently guarded if accessible.
- Clearance required by supply lines over railways. (325) Supply lines carried over railways operated by steam, electric or other motive power and on which standard equipment, such as freight cars, is used shall have the style of construction and clearances overhead as called for in the regulations of the Board of Transport Commissioners for Canada. Supply lines crossing over railways on which standard equipment is not used and lines crossing over roadways shall have ample clearance for the operating conditions and shall be substantially supported.
- Room or junction box underground (326) At all underground stations where any cable transmitting power at a potential exceeding 300 volts leaves the shaft, a room or junction box shall be provided into which such cable shall be run.
- Junction or splice boxes. (327) Junction boxes on any cable transmitting power at a potential exceeding 300 volts shall not be located in any shaft or winze or attached to any timbers at a shaft or winze station or in a headframe. Splice boxes for cable extension in a shaft or winze shall be of a type approved by the Inspector.
- Rating of cables and circuit breakers underground. (328) (a) All cables transmitting power underground at a potential exceeding 750 volts shall have a voltage rating of 50 per centum higher than the normal operating voltage.
- (b) All circuit-breakers, cut-outs and disconnecting switches on circuits exceeding 750 volts shall have a voltage rating of fifty per centum higher than the normal operating voltage and shall be located in a room which may be kept locked.
- (c) The type and location of transformers installed underground shall be subject to the approval of the Inspector.
- Transformers, type and location.
- Switches on underground cables. (329) Where electrical energy is conducted underground provision shall be made so that the current may be cut off on the surface close to the point where it is led underground. The cut-off switch or switches shall be situated in a locked building or compartment and shall be accessible only to an authorized person or persons.

58.

- Fire prevention about electrical installations. (330) The bases of electric motors, transformers, starting equipment and other electrical apparatus and the compartments in which such are installed shall be of such material and constructed in such manner as to reduce the fire hazard to a minimum. No inflammable material shall be stored or placed in the same compartment with any such equipment or apparatus.
- Conduits required. (331) All cables over 150 volts transmitting power underground shall be armoured or enclosed in standard conduit and substantially supported.
- Conduits or insulators for lighting circuits. (332) Wires carrying not over 150 volts to ground for lighting and signal circuits shall either be installed in standard conduits or casings, or suspended from and securely tied to porcelain or glass insulators, so that they do not touch any timbering or metal. On no account shall staples be used.
- Grounding of casings. (333) The armouring or casing of cables, mentioned in Rules 331 and 332, shall be bonded together so as to be electrically continuous, and shall be connected at some point or points to a satisfactory ground.
- Method of grounding. (334) All rules governing grounding of electrical apparatus in general work shall apply equally to underground work.
- Precautions to protect signal and telephone wires. (335) Adequate precautions shall be taken to prevent electrical signal or telephone wires, whether insulated or not, coming into contact with other electrical conductors.

RULES GOVERNING ELECTRIC HOISTS

- Testing for overloading (336) When the Inspector has cause to believe that the shaft conveyance operated by any electric hoist is being overloaded he shall have the power to order a test to be made.

DAMAGE TO PROPERTY

- Wilful damage (337) No person shall wilfully damage, or without proper authority remove or render useless, any fencing, casing, lining, guide, means of signalling, signal, cover, chain, flange, horn, brake, indicator, ladder, platform, steam-gauge, water-gauge, safety-valve, electrical equipment or other appliance or thing provided in any mine in compliance with this Ordinance.

GENERAL

- Persons under the influence of or carrying liquor. (338) No person under the influence of or carrying intoxicating liquor shall enter any mine or be in the proximity of any working place on the surface or near any machinery in motion.
- Abstract of rules to be posted. (339) Abstracts of the rules contained in this Ordinance, authorized by the Chief Inspector, shall be posted up in suitable places at the mine or works where the same can be conveniently read and the owner or agent of the mine shall maintain such abstracts, duly posted, and the removal or destruction of the same shall be an offence against this Ordinance.

59.

PAYMENT OF WAGES

- Prohibition of pay ment of wages at public houses. ^{27.} 28. (1) No wages shall be paid to any person employed in or about any mine or metallurgical works to which this Ordinance applies at or within any tavern, shop or place where spirits, wine, beer or other spirituous or fermented liquors are sold or kept for sale, or within any office, garden, or place belonging or contiguous thereto or occupied therewith.
- Penalty (2) Every person who contravenes or permits any person to contravene this section shall be guilty of an offence against this Ordinance and in the event of any such contravention by any person whomsoever the owner and agent of the mine in respect of which the wages were paid shall also each be guilty of an offence against this Ordinance, unless he proves that he had taken all reasonable means to prevent such contravention by publishing and to the best of his power enforcing the provisions of this section.
- Payment of wages. (3) Notwithstanding any agreement to the contrary, every person who performs labour for wages in connection with any mine, mining claim, mining lands, or works connected therewith, shall be paid such wages not less frequently than once a month and may be paid twice a month.

DAMAGING OTHER CLAIMS

- Licensees not to damage other claims 28. No person or company shall, without right or authority, cause damage or injury to the holder of any other mining property by throwing earth, clay, stones, or mining material thereon, or by causing or allowing water which may be pumped or bailed or which may flow from a mining claim or other mining property of such person, to flow into or upon such other mining property, and the offender in addition to any civil liability shall incur a penalty of not more than \$10 for every day such damage or injury continues, and in default of payment of the penalty and costs, may be imprisoned for any period not exceeding one month.

PARTY WALL

- Party walls, thickness of 29. (1) Except as provided in subsection 30 of section 26, or unless the owners agree to dispense therewith, in all mining operations there shall be left between all adjoining properties a party wall at least fifteen feet thick (being seven and one-half feet on each property), to the use of which the adjoining owners shall be entitled in common.
- Use in common (2) The owners shall be entitled to use such party wall in common as roadway for all purposes, and such roadway shall not be obstructed by the throwing of soil, rock or other material thereon, or in any other way, and any person obstructing the same in addition to any civil liability shall incur a penalty of not more than \$10 for every day such obstruction continues.

Dispensing
with

- (3) Any such adjoining owners may, in any case, apply to the Mining Recorder, who may make an order dispensing with such party wall or roadway, or providing for the working of any material therein, or otherwise as he may deem just.

Examination of
party wall.

- (4) When the owner of a mine or mining property has reason to believe that a breach has been made in the party wall between his own and an adjoining property or that a trespass has been committed with respect thereto, the Commissioner may upon application to him authorize a competent and disinterested person to examine such party wall and for such purpose enter the said mine or mining property with an assistant or assistants and use if necessary the workings and appliances thereof, and the person so appointed shall immediately after such examination report in writing his findings to the Commissioner. The time when such examination shall be made and the cost thereof and any damage resulting therefrom shall be fixed by the order of the Commissioner.

Order for
closing breach
in party wall

- (5) Where a breach has been made in a party wall of a mine by the owner of an adjoining mine or by his workman, servants or agents without permission of the owner of such first mentioned mine or the authority of the Commissioner, the Commissioner upon the application of such first mentioned owner may make an order directing the owner of such adjoining mine to permanently close such breach or do such other things as the Commissioner may deem necessary or advisable to prevent water flowing into the mine of the applicant, and if work has been discontinued in such adjoining mine, or if for any other reason he deems it expedient, the Commissioner may authorize the applicant to enter upon the adjoining mine and into the works thereof and to erect bulkheads therein and do all such other things or make such use of the works of the adjoining mine as the Commissioner may deem necessary or advisable for the purpose of protecting the mine of the applicant and his workmen and employees from damage or danger from accumulations of water in the adjoining mine.

Varying order

- (6) The Commissioner or Mining Recorder, for good cause shown and on such terms as may seem just, may, by subsequent order at any time change, supplement, alter, vary or rescind any order made by him under the authority of this section.

Fatal
Accidents

30. (1) **NOTICE OF ACCIDENTS**
Where, in or about any mine, any accident occurs which causes loss of life to any person employed thereat, the owner, agent, manager or superintendent thereof shall immediately notify the Inspector or Mining Recorder resident in that part of the Northwest Territories in which the accident occurred and the Chief Inspector by telegraph.

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Scene to be
undisturbed

- (2) Subject to subsection 3, no person shall, except for the purpose of saving life or relieving human suffering, interfere with, destroy, carry away or alter the position of any wreckage, article or thing at the scene of or connected with the accident until an Inspector or an officer or constable of the Royal Canadian Mounted Police has completed an investigation of the circumstances surrounding such accident.

Permission to
alter scene.

- (3) Where it is impossible for an Inspector to make an immediate investigation of an accident, the Chief Inspector or any Inspector may permit such wreckage, articles and things at the scene of or connected with the accident to be moved to such extent as may be necessary to permit the work of the mine, quarry, sand, clay or gravel pit to be proceeded with, when an investigation has been made by an officer or constable of the Royal Canadian Mounted Police, provided photographs or drawings showing details of the scene of the accident have been made prior to such moving.

Notice of
accident to
be sent to
Inspector

31. Where, in or about any mine, any accident occurs which causes fracture or dislocation of any bones of the body, or any other injury to any person employed therein, which in the opinion of the attending physician may result in the injured person being incapacitated for work for at least three days, the owner, agent, manager or superintendent shall within three days of the accident send notice in writing to the Inspector or, in case of the Inspector's absence, to the Mining Recorder, resident in that part of the Northwest Territories in which the mine or works are situate on the form prescribed for such purpose.

Idem.

32. Where in or about any mine, -

- (a) any accident involving the hoist, sheaves, hoisting rope, shaft or winze conveyances, or shaft or winze timbering;
- (b) any inrush of water from old workings or otherwise;
- (c) any failure of an underground dam or bulkhead, as defined, by Rule 35 of the rules contained in section 22;
- (d) any outbreak of fire below ground or any outbreak of fire above ground if it endangers any structure at the mine entrance;
- (e) any premature or unexpected explosion or ignition of explosives;
- (f) any asphyxiation effecting a partial or total loss of physical control;
- (g) any inflammable gas in the mine workings; or
- (h) any unexpected and non-controlled extensive subsidence or caving of mine workings;

occurs, whether or not loss of life or personal injury is caused thereby, the owner, agent, manager

62.

or superintendent of the mine shall, within the twenty-four hours next after such occurrence, send notice in writing to the Inspector, or in case of the Inspector's absence, to the Mining Recorder, resident in that part of the Northwest Territories in which the mine is situate and shall furnish, upon request, such particulars in respect thereof as the Inspector may require.

Rockburst.

33. (1) Where a rockburst occurs whether or not loss of life or personal injury is caused thereby and the location of such rockburst is determined as being within the workings of any mine, the owner, agent, manager or superintendent of the mine shall, within the twenty-four hours next after the location of such burst has been determined, send notice in writing to the Inspector, or in case of the Inspector's absence, to the Mining Recorder resident in that part of the Northwest Territories in which the mine is situate and shall furnish, upon request, such particulars in respect thereto as the Inspector may require.

Record of
rockbursts.

- (2) A record of the occurrence of all rockbursts at a mine shall be kept showing, as far as possible the time, location, extent of the burst, any injury to persons and any other information pertaining to the burst and such record shall be available at all times to the Inspector.

OTHER NOTICES AND INFORMATION

Notice to
Chief
Inspector.

34. (1) The owner, manager or superintendent of a mine shall give written notice to the Chief Inspector, -
- (a) of the intended installation of a power plant or hoist or intended erection of any buildings to house a power plant or hoist at least fourteen days prior to the commencement of such installation or erection;
 - (b) of the commencement or resumption after an interruption of one month or more, of mining operations within fourteen days after such commencement or resumption; and
 - (c) of the closing down of the mine and that the requirements of subsection 1 of section 23 as to the fencing of the top of the shaft, entrances from the surface, pits and openings; the requirements of Rule 5.5 of the rules under section 25 as to the disposal of explosives and the requirements of subsection 4 of section 35 as to the filing of plans and sections have been complied with within fourteen days of such closing down.

Information
for Inspector

- (2) The owner, manager or superintendent of a mine shall furnish to the Chief Inspector or the Inspector resident in that part of the Northwest Territories where the mine is situate, all information which the Inspectors may require.

STATISTICAL RETURNS

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| Statistical returns by owners and agents of mines. | 35. (1) For the purpose of their tabulation under the instructions of the Commissioner the owner or agent of every mine, quarry or other works to which this Ordinance applies shall, on or before the 15th day of January in every year, send to the Commissioner a correct return for the year which ended on the 31st day of December next preceding, showing the number of persons ordinarily employed below and above ground, respectively, and distinguishing the different classes and ages of the persons so employed whose hours of labour are regulated by this Ordinance, the average rate of wages of each class and the total amount of wages paid during the year, the quantity in standard weight of the mineral dressed, and of the undressed mineral which has been sold, treated or used during such year, and the value or estimated value thereof, and such other particulars as the Commissioner may by regulation prescribe. |
| Monthly or quarterly returns. | (2) The owner or agent of every metalliferous mine shall, if required, make a similar return for the month or quarter at the end of each month or quarter of the calendar year. |
| Penalty | (3) Every owner or agent of a mine, quarry or other works who fails to comply with this section, or makes any return which is to his knowledge false in any particular, shall be guilty of an offence against this Ordinance. |

PLANS OF WORKINGS

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| Plans to be produced on inspection of mine. | 36. (1) On any examination or inspection of a mine the owner shall, if required, produce to the Inspector or to any other person authorized by the Commissioner, an accurate plan and sections of the workings of the same. |
| Marking subsequent progress on plan | (2) The plan and sections shall show the working of the mine up to within six months of the time of the examination or inspection, and the owner shall, if required by the Inspector or other authorized person, cause to be marked on the plan the progress of the workings of the mine up to the time of examination or inspection, and shall also permit him to take a copy or tracing thereof. |
| Plan of working mines to be filed. | (3) An accurate plan on a scale of not more than fifty feet to the inch of every working mine in which levels, crosscuts or other openings have been driven from any shaft, adit or tunnel, and of every mine consisting of a tunnel or shaft fifty feet or more in length shall be made and a certified copy filed with the Commissioner on or before the 31st day of March in each year, showing the workings of the mine up to and including the 31st day of December next preceding. |
| Plans to be filed before abandonment. | (4) Before a mine or any part of a mine is abandoned, closed down or otherwise rendered inaccessible, all underground plans and sections shall be brought up to |

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date and a certified copy filed with the Mining Recorder and Commissioner.

Responsibility of owner.

(5) The owner of every mine, to which this section applies shall be responsible for compliance with the provisions thereof and every owner or other person who fails to comply with any of the provisions of this section, or who produces to the Inspector or other authorized person, or files or causes to be produced or filed a plan which to his knowledge is false in any particular, shall be guilty of an offence against this Ordinance.

Plans to be treated as confidential

(6) Every such plan shall be treated as confidential information for the use of the Commissioner and Inspector and shall not be exhibited nor shall any information contained therein be imparted to any person except with the written permission of the owner or agent of the mine.

POWERS AND DUTIES OF INSPECTOR

Powers of Inspector.

37.(1) It shall be the duty of every Inspector, and he shall have power, -

Inquiries as to compliance with Ordinance

(a) to make such examination and inquiry as he may deem necessary to ascertain whether the provisions of this Ordinance are complied with; and to give notice to the owner or agent in writing of any particulars in which he considers such mine or any portion thereof, or any matter, thing or practice to be dangerous or defective or contrary to the provisions of this Ordinance and to require the same to be remedied within the time named in such notice;

Inspection

(b) to enter, inspect and examine any mine and any portion thereof at any reasonable time by day or night, but so as not to unnecessarily impede or obstruct the working of the mine.

Stopping work when mine unsafe.

(c) to order the immediate cessation of work in and the departure of all persons from any mine or portion thereof which he considers unsafe, or to allow persons to continue to work therein on such precautions being taken as he deems necessary;

General powers for protection of miners.

(d) to exercise such other powers as he may deem necessary for ensuring the health and safety of miners and all other persons employed in or about mines, smelters, metallurgical and mining works.

Annual report

(2) It shall be the duty of every Inspector to make an annual report of his proceedings during the preceding year to the Commissioner.

Special report 38.

The Commissioner may direct an Inspector to make a special report with respect to any accident in or about any mine which has caused loss of life or personal injury to any person.

Inspectors may take evidence. 39.

In conducting the enquiry the Inspector shall have power to compel the attendance of witnesses and the production of books, documents and things, and to take evidence upon oath.

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| Offences | 40. (1) Non-compliance with any written order of an Inspector issued in accordance with section 37 shall be deemed an offence against this Ordinance. |
| | (2) Failure to give written notice of the completion of any work in accordance with any written order of an Inspector issued under section 37 shall be deemed an offence against this Ordinance. |
| Regulations and Forms | 41. The Commissioner may from time to time make such regulations and prescribe such forms as may be deemed necessary for the proper carrying into effect the provisions of this Ordinance. |

OFFENCES, PENALTIES AND PROSECUTIONS

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| Liability of owner or agent | 42. (1) Every owner, agent, manager, superintendent or captain who fails to comply with any of the provisions of this Ordinance shall be guilty of an offence and liable upon summary conviction to a penalty of not less than \$100.00 nor more than \$1,000.00 or to imprisonment with or without hard labour for a term not exceeding three months unless the penalty and costs be sooner paid. |
| | (2) Every person, other than an owner, agent, manager, superintendent or captain, engaged or employed in or about a mine who fails to comply with any of the provisions of this Ordinance shall be guilty of an offence and liable upon summary conviction to a penalty of not less than \$10.00 nor more than \$100.00, or to imprisonment with hard labour for a term not exceeding one month unless the penalty and costs be sooner paid. |
| Additional penalty for continuing offence. | (3) Where pursuant to this Ordinance the Commissioner or an Inspector has given written notice to an owner or agent or any person engaged or employed in or about a mine to remedy any default under this Ordinance, such owner or agent or other person shall in addition to any other penalty incur a further penalty not exceeding \$100 for every day upon which the default continues after such notice. |
| Imprisonment of offender in certain cases. | (4) Where the offence is one which might have endangered the safety of those employed in or about the mine or caused serious personal injury or dangerous accident, and was committed wilfully by the personal act, default or negligence of the accused, every person who is guilty of an offence against the provisions of this ordinance shall, in addition to or in substitution for any pecuniary penalty that may be imposed, be liable to imprisonment with or without hard labour for a period not exceeding three months. |
| Instituting prosecutions | 43. (1) No prosecution shall be instituted for non-compliance with any provision of this Ordinance or any regulation made thereunder except, - |
| | (a) by an Inspector; or |
| | (b) by an officer or constable of the Royal Canadian Mounted Police; or |
| | (c) by the leave in writing of the Commissioner of the Northwest Territories. |

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When person
not actual
offender.
not liable.

- (2) No person not being the actual offender shall be liable in respect of such offence, if he proves that he did not participate in the contravention of the rule or provision for a breach of which he is charged and that he was not to blame for such breach and that according to his position and authority he took all reasonable means in his power to prevent such breach and to secure compliance with the rules and provisions of this Ordinance.

Onus of proof.

- (3) The burden of proving that any rule contained in Section 26 has been suspended shall be upon the person charged with a violation thereof and any such suspension may be proved by the evidence or certificate of an Inspector.

Procedure on
prosecutions.

44. (1) Every prosecution for an offence against or for the recovery of a penalty imposed by or under the authority of this Ordinance shall take place before a magistrate or two justices of the peace having jurisdiction in the Northwest Territories.

Limitation of
prosecutions.

- (2) The prosecution shall be commenced within six months after the commission of the offence,