HB

720

Bill No. House Bill 720am

Date May 22, 1984

Title "An Act relating to electrical codes."

Contact: Bob Bacolas
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The National Electrical Code (NEC) and the National Electrical Safety Code (NESC) establish the State's minimum electrical standards. Both of these codes have been updated recently through the issuance of 1984 editions to replace earlier editions which are now outdated and will not be reprinted. Adoption of the 1984 codes would bring Alaska's minimum electrical standards into conformity with those commonly accepted and used by industry across the nation.

House Bill 720am provides a delayed effective date, to January 1, 1985, for Section 336.2 of the 1984 NEC which requires that conductors be rated at 90°C. The delayed effective date of this provision will assure that the new conductors are readily available from manufacturers and will also provide Alaskan suppliers additional time to exhaust their inventories of the 60°C rated conductors presently allowed but not permitted in the 1984 code.

The Department supports passage of HB 720am. It will not have a fiscal impact on the Department.

APPROVED:

Robert W Sandan, Deputy
for Jim Robison
Commissioner

POSITION PAPER/Department of Labor

STATE OF ALASKA

BILL SHEFFIELD, GOVERNOR

DEPARTMENT OF LABOR

OFFICE OF THE COMMISSIONER

P.O. BOX 1149
JUNEAU, ALASKA 99802
PHONE:

(907) 465-2700

May 10, 1984

Honorable Richard Eliason
Alaska State Senate
Pouch V
Juneau, AK 99811

Dear Senator Eliason:

Pursuant to our telephone conversation, enclosed are copies of the 1984 National Electrical Code and National Electrical Safety Code which the Department would like to have adopted as the minimum electrical standards for Alaska.

Also enclosed for your consideration is a draft amendment to AS 18.60.580 which if enacted, would accomplish this.

I appreciate your expression of interest and willingness to review this proposed update to our minimum electrical standards.

Thank you.

Sincerely,

Jim Robison
Commissioner

Enclosures

07 G9LH

STATE OF ALASKA 1984 LEGISLATIVE SESSION
FISCAL NOTE

Revision Date:

REQUEST
Bill/Resolution No.: HB 720 am
Title: "An Act relating to minimum electrical standards"
Sponsor: House Labor and Commerce
Requestor: Senate Labor and Commerce
Date of Request: 5/21/84

FISCAL DETAIL
Agency Affected: Labor
Program Category Affected: Public Protection
BRU, Program or Subprogram(s) Affected: Labor Standards and Safety BRU, Mechanical Inspection

EXPENDITURES/REVENUES: (Thousands of Dollars)

	FY 84	FY 85	FY 86	FY 87	FY 88	FY 89
OPERATING						
100 PERSONAL SERVICES						
200 TRAVEL						
300 CONTRACTUAL						
400 SUPPLIES						
500 EQUIPMENT						
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS						
800 MISCELLANEOUS						
TOTAL OPERATING	0	0	0	0	0	0
CAPITAL						
REVENUE						

FUNDING: (Thousands of Dollars)

GENERAL FUND						
FEDERAL FUNDS						
OTHER						
TOTAL	0	0	0	0	0	0

POSITIONS:

FULL-TIME	0	0	0	0	0	0
PART-TIME						
TEMPORARY						

SOURCE OF FUNDS TO OFFSET FISCAL IMPACT OF BILL:

ANALYSIS: Attach a separate page for analysis

Prepared By: Robert J. Bacolas Phone: 465-4870
Division: Labor Standards and Safety Date: 5/21/84

Approved by Commissioner: for Robert W Jordan Jim Robison Date: 5/21/84
Agency: Labor

LEG:A:69

Distribution (by Agency preparing fiscal note):
Legislative Finance
Legislative Sponsor
Requestor
Office of Management and Budget
Impacted Agency(ies)

12/1/83

HB 720

HOUSE BILL 720 AM ADOPTS THE 1984 EDITIONS OF THE NATIONAL ELECTRICAL CODE AND THE NATIONAL ELECTRICAL SAFETY CODE AS THE STATE'S MINIMUM ELECTRICAL STANDARDS. ADOPTION OF THESE CODES WOULD BRING ALASKA'S STANDARDS INTO CONFORMITY WITH THOSE COMMONLY ACCEPTED AND USED BY INDUSTRY ACROSS THE NATION.

HOUSE BILL 720 AM PROVIDES A DELAYED EFFECTIVE DATE, TO JANUARY 1, 1985, FOR SECTION 336.2 OF THE 1984 NEC WHICH REQUIRES THAT CONDUCTORS BE RATED AT 90° 194° C. THE DELAYED EFFECTIVE DATE OF THIS PROVISION WILL ASSURE THAT THE NEW CONDUCTORS ARE READILY AVAILABLE FROM MANUFACTURERS AND WILL ALSO PROVIDE ALASKAN SUPPLIERS ADDTIONAL TIME TO EXHAUST THEIR INVENTORIES OF THE 60°C 140° RATED CONDUCTORS PRESENTLY ALLOWED BUT NOT PERMITTED IN THE 1984 CODE.

THE DEPARTMENT OF LABOR, AS WELL AS THE ELECTRICAL UNION, SUPPORT LEGISLATION. I RECOMMEND PASSAGE OF HB 720 AM.

ADDITIONAL INFORMATION

1) THE 90°C RATED WIRE WILL NOT BE MANUFACTURED IN QUANTITY UNTIL DECEMBER 17, 1984. THIS IS THE DATE ESTABLISHED BY

UNDERWRITER'S LABORATORY BY WHICH ALL MAUNFACTURERS MUST PRODUCE 90°C RATED WIRE.

2) THERE IS A ZERO FISCAL NOTE.

720 TITLE & SPONSOR SUMMARY [illegible] [illegible]/04/84 PAGE 1 OF 3
ENDED TITLE: HB 720AM
ACT RELATING TO MINIMUM ELECTRICAL STANDARDS
IME SPONSOR: HOUSE LABOR&COMM COMMITTEE
-SPONSORS:
RRENT STATUS: 5/30/84 PASSED [illegible]

720 HOUSE ACTION [illegible] [illegible]/04/84 PAGE 2 OF 3

DATE	SEQ	PAGE	LEGISLATIVE ACTION
5/14/84	01	383[illegible]	FIRST READING -- COMMITTEE REPORTS
5/16/84	02	[illegible]	L&C -- [illegible]
5/17/84	03	3894	SECOND READING
5/17/84	04	3894	AM01 ADOPTED BY UNAN CONSENT
5/17/84	05	3895	POSTPONED UNTIL 05/18/84 BY UNAN CONSENT
5/18/84	06	3913	ADVANCED TO 3RD READING BY UNAN CONSENT
5/18/84	07	3913	THIRD READING
5/18/84	08	3913	PASSED BY DIV [illegible]
XXXX	XX	XX	XXX XXX XXX

720 SENATE ACTION [illegible] 20 [illegible]/04/84 PAGE 3 OF 3

DATE	SEQ	PAGE	LEGISLATIVE ACTION
5/[illegible]/84	09	[illegible]	FIRST READING -- COMMITTEE REPORTS
[illegible]/84	10	[illegible]	L&C -- [illegible]
5/30/84	11	[illegible]	[illegible] -- [illegible]
			TAKEN UP IMMEDIATELY
5/30/84	12	3402	SECOND READING
5/30/84	13	3402	ADVANCED TO 3RD READING BY UNAN CONSENT
5/30/84	14	3402	THIRD READING
5/30/84	15	3402	PASSED BY DIV 20-00-00
XXXX	XX	XX	XXX XXX XXX

Exception: See Section 501-4(b), Exception.

(FPN): See Section 300-6 for protection against corrosion.

334-4. Uses Not Permitted. Type MC cable shall not be used where exposed to destructive corrosive conditions, such as direct burial in the earth, in concrete, or where exposed to cinder fills, strong chlorides, caustic alkalis, or vapors of chlorine or of hydrochloric acids.

Exception: Where the metallic sheath is suitable for the conditions or is protected by material suitable for the conditions.

B. Installation

334-10. Installation. Type MC cable shall be installed in compliance with Articles 300, 710, and 725 as applicable.

(a) Support. Type MC cable shall be supported and secured at intervals not exceeding 6 feet (1.83 m).

(b) Cable Tray. Type MC cable installed in cable tray shall comply with Article 318.

(c) Direct Buried. Direct buried cable shall comply with Section 300-5 or 710-3, as appropriate.

(d) Installed as Service-Entrance Cable. Type MC cable installed as service-entrance cable shall comply with Article 230.

(e) Installed Outside of Buildings or as Aerial Cable. Type MC cable installed outside of buildings or as aerial cable shall comply with Article 225.

334-11. Bending Radius. All bends shall be so made that the cable will not be injured, and the radius of the curve of the inner edge of any bend shall not be less than shown below.

(a) Smooth Sheath.

(1) Ten times the external diameter of the metallic sheath for cable not more than ¾ inch (19 mm) in external diameter;

(2) Twelve times the external diameter of the metallic sheath for cable more than ¾ inch (19 mm) but not more than 1½ inches (38 mm) in external diameter; and

(3) Fifteen times the external diameter of the metallic sheath for cable more than 1½ inches (38 mm) in external diameter.

(b) Interlocked-type Armor or Corrugated Sheath. Seven times the external diameter of the metallic sheath.

(c) Shielded Conductors. Twelve times the overall diameter of one of the individual conductors or seven times the overall diameter of the multiconductor cable, whichever is greater.

334-12. Fittings. Fittings used for connecting Type MC cable to boxes, cabinets, or other equipment shall be identified for such use. Where single-conductor cables enter ferrous metal boxes or cabinets, the installation shall comply with Section 300-20 to prevent inductive heating.

334-13. Ampacity. The ampacity of Type MC cable rated 2000 volts or less shall be determined from Tables 310-16 through 310-19 and their accompanying notes. The ampacities of Type MC cable rated over 2000 volts shall be determined from Section 310-15.

Exception: The ampacities for Type MC cable installed in cable tray shall be determined in accordance with Sections 318-10 and 318-12.

C. Construction Specifications

334-20. Conductors. The conductors shall be of copper, aluminum, or copper-clad aluminum, solid or stranded.

The minimum conductor size shall be No. 18 copper and No. 12 aluminum or copper-clad aluminum.

334-21. Insulation. The insulated conductors shall comply with (a) or (b) below.

(a) 600 Volts. Insulated conductors in sizes No. 18 and 16 shall be of a type listed in Table 402-3, with a maximum operating temperature not less than 90°C (194°F), and as permitted by Section 725-16. Conductors larger than No. 16 shall be of a type listed in Table 310-13 or of a type identified for use in MC cable.

(b) Over 600 Volts. Insulated conductors shall be of a type listed in Tables 310-61 through 310-67.

334-22. Metallic Sheath. The metallic covering shall be one of the following types: smooth metallic sheath, welded and corrugated metallic sheath, interlocking metal tape armor. The metallic sheath shall be continuous and close fitting.

Supplemental protection of an outer covering of corrosion-resistant material shall be permitted, and shall be required where such protection is needed. The sheath shall not be used as a current-carrying conductor.

(FPN): See Section 300-6 for protection against corrosion.

334-23. Grounding. Type MC cable shall provide an adequate path for equipment grounding as required by Article 250.

334-24. Marking. The provisions of Section 310-11 shall apply.

ARTICLE 336 — NONMETALLIC-SHEATHED CABLE

Types NM and NMC

336-1. Definition. Nonmetallic-sheathed cable is a factory assembly of two or more insulated conductors having an outer sheath of moisture-resistant, flame-retardant, nonmetallic material.

336-2. Construction. Nonmetallic-sheathed cable shall be an approved Type NM or NMC in sizes No. 14 through 2 with copper conductors and in sizes No. 12 through 2 with aluminum or copper-clad aluminum conductors. In addition to the insulated conductors, the cable may have an approved size of insulated or bare conductor for equipment grounding purposes only.

Conductors of Types NM and NMC shall be one of the types listed in Table 310-13 which is suitable for branch-circuit wiring or one which is identified for use in these cables. Conductors shall be rated at 90°C (194°F). The ampacity of Types NM and NMC cable shall be that of 60°C (140°F) conductors in Table 310-16.

(a) Type NM. The overall covering shall have a flame-retardant and moisture-resistant finish.

SIGN-IN SHEET Proposed Legislation HB 720

Name (please print)	Address	Representing	Testify?? (YES or NO)	Phone Number
BOB LANDAU	Box 1149	DOL	✓	2700

SENATE LABOR AND COMMERCE COMMITTEE HEARING DATE 5/24/84

Electrical Code

COMMITTEE REPORT

SENATE

FURTHER:

3/13/84

Date 3/22/84

Mr. President

The Committee on Labor & Commerce considered SB 720 am

minimum electrical standards.

and (a majority of the committee) (the committee) reports it back with the following recommendations:

[ ] do pass

[ ] do pass with attached amendment(s)

[ ] replace with/or adopt CS for _____
[ ] new title
[ ] same title and recommends _____

[ ] and attached a "LETTER OF INTENT" [ ] NEW FISCAL NOTE

[ ] reports it back without recommendation

[ ] recommends referral to _____ Committee

MEMBERS SIGNING
DO PASS

MEMBERS HAVING
OTHER RECOMMENDATIONS

Chairman

Chairman recommendation