Council Bill Number: 112644
Ordinance Number: 119507

AN ORDINANCE Relating to building and construction codes: repealing Section 22.300.010 of the Seattle Municipal Code (Ordinance 118553), and adopting a new Section 22.300.015 to adopt the 1999 National Electrical Code with Seattle amendments as the Seattle Electrical Code.

Status: PASSED
Note: 4th Quarter 1998 Reclassification Ordinance
Vote: 8-0 (Excused: Pageler)
Date filed with the City Clerk: 1999/06/30
Date of Mayor's signature: 1999/06/21 (about the signature date)

Date introduced/referred to committee: 1999/04/19
Committee: Business, Economic and Community Development
Sponsor: DRAGO
Committee Recommendation: Pass

Index Terms: ELECTRICAL-CODES

Electronic Copy: PDF scan of Ordinance No. 119507

Reference: Reoealing: Ord 118553

Text:

BE IT ORDAINED BY THE CITY OF SEATTLE AS FOLLOWS:

Section 1. Section 22.300.010 of the Seattle Municipal Code adopting the 1996 National Electrical Code as adopted in Ordinance 118553 is hereby repealed, and a new Section 22.300.015 is added to the Seattle Municipal Code to read as follows:

22.300.015 Adoption of the National Electrical Code.

The National Electrical Code, 1999 edition, published by the National Fire Protection Association, one copy of which is filed with the City Clerk in C.F. _____, is hereby adopted and by this reference made a part of this subtitle. The National Electrical Code, 1999 edition, together with the amendments and additions thereto adopted by Ordinance _____ constitute the Seattle Electrical Code.

Section 2. The National Electrical Code, 1999 edition, is amended by adding Chapters 1, 2 and 3 as follows:

CHAPTER 1

APPLICATION OF THIS CODE

Section 101. Title. This code shall be known as the "Seattle Electrical Code Supplement" and may be so cited. It is referred to herein as the "Electrical Code" or "this code."

Section 102. Purpose. The purpose of this code is to protect persons, buildings and the contents thereof in a practical

manner from hazards arising from the use of electricity for lights, heat, power, radio, signaling and other purposes. An additional purpose of this code is to provide equal, higher or better standards of construction and/or equal, higher or better standards of materials, devices, appliances and equipment than that required by the State of Washington under the provisions of Chapter 19.28 RCW (Revised Code of Washington). This code is intended to provide for and promote the health, safety and welfare of the general public, and not to create or otherwise establish or designate any particular class or group of persons who will or should be especially protected or benefited by the terms of this code. This code is not intended as a design specification nor an instruction manual for untrained persons.

Section 103. Scope. The Electrical Code shall apply to all electrical wiring and equipment, including communications systems, installed or used within the City.

Exception No. 1: Installations in ships and watercraft not connected to public utilities, railway rolling stock, aircraft or automotive vehicles.

Exception No. 2: Installations of railways or generation, transformation, transmission or distribution of power used exclusively for operation of rolling stock or installations used exclusively for signaling and communication purposes.

Exception No. 3: Installations of communication equipment under exclusive control of communication utilities, located outdoors or in building spaces used exclusively for such installations.

Exception No. 4: Installation of communication or signaling equipment used exclusively for the operation of a municipal fire alarm or police telegraph system.

Exception No. 5: Installations under the exclusive control of electric utilities for the purpose of communication, metering or for the generation, control, transformation, transmission and distribution of electric energy located in buildings used for such purposes or leased by the utility or on public highways, streets, roads or other public ways, or outdoors on established rights on private property up to service point as defined in this code. The installation and maintenance of all service conductors up to the point of connection to the consumer's service entrance conductors shall be the responsibility of the serving utility.

Section 104. APPLICATION TO EXISTING BUILDINGS

(a) Additions, Alterations and Repairs. Additions, alterations and repairs may be made to the electrical system of existing buildings or structures without making the entire electrical system comply with all of the requirements of this code for new buildings or structures, provided the additions, alterations or repairs that are made shall comply with the requirements of this code except as otherwise specifically provided in other applicable retroactive ordinances of the City.

Exception: Subject to the approval of the building official, repairs may be made with the same materials of which the building or structure is constructed, provided the repair complies with the electrical code in effect at the time of original installation and provided further that no change shall be permitted which increases its hazard.

(b) Existing Electrical Systems. Electrical systems in existence at the time of the passage of this code may continue to be used provided such use was legal at the time of the passage of this code and provided continued use is not dangerous to life or limb.

(c) Maintenance. All buildings or structures, both existing and new, and all parts thereof shall be maintained in a safe condition. All devices or safeguards which are required by this code or which were required by a code in effect when the building or structure was erected, altered or repaired shall be maintained in good working order. The owner or the owner's agent shall be responsible for the maintenance of buildings and structures.

It shall be the duty of the owner or the owner's agent to maintain in a safe and usable condition all parts of buildings or equipment which are intended to assist in the extinguishing of fire, or to prevent the origin or spread of fire, or to safeguard life or property. It shall be unlawful to fail to immediately comply with any notice or order of the fire chief or

the building official.

Exception: The building official may modify the requirements of this subsection where all or a portion of a building is unoccupied.

(d) Historic Buildings and Structures. The building official may modify the specific requirements of this code as it applies to buildings and structures designated as landmarks of historical or cultural importance and require in lieu thereof alternate requirements which, in the opinion of the building official, will result in a reasonable degree of safety to the public and the occupants of those buildings.

A historic building or structure is one which has been designated for preservation by City Landmarks Preservation Board or the State of Washington, has been listed, or has been determined eligible to be listed, in the National Register of Historic Places, has been officially nominated for such status, or is a structure contributing to the character of a designated landmark or special review district.

(e) Moved Buildings. Buildings or structures moved into or within the city shall comply with standards adopted by the building official. No building shall be moved into or within the City unless, prior to moving, the building official has inspected the building for compliance with those standards and the permit holder has agreed to correct all deficiencies found and has been issued an electrical permit for the work. Any moved building that is not in complete compliance with those standards within one year from the date of permit issuance and is found to be a public nuisance may be abated.

Section 105. Tests. Whenever there is insufficient evidence of compliance with the provisions of this code or evidence that any material or construction does not conform to the requirements of this code, the building official may require tests as proof of compliance to be made at no expense to the City.

Test methods shall be specified by this code or by other recognized test standards. If there are no recognized and accepted test methods for the proposed alternate, the building official shall determine the test procedures.

All tests shall be made by an approved agency. Reports of tests shall be retained by the building official.

Section 106. Alternate Materials and Methods of Wiring. This code does not prevent the use of any material, method or design of wiring not specifically allowed or prohibited by this code, provided the alternate has been approved and its use authorized by the building official.

The building official may approve an alternate, provided he/she finds that the proposed alternate complies with the provisions of this code and the alternate, when considered together with other safety features or relevant circumstances, will provide at least an equivalent level of strength, effectiveness, fire resistance, durability, safety and sanitation.

The building official may require that sufficient evidence or proof be submitted to reasonably substantiate any claims regarding the use or suitability of the alternate. The building official may, but is not required to, record the approval of alternate materials and methods and any relevant information in the files of the building official or on the approved permit plans.

Section 107. Modifications. The building official may grant modifications for individual cases whenever there are practical difficulties involved in carrying out the provisions of this code. The building official must first find that a special individual reason makes the strict letter of this code impractical and that the modification is in conformity with the intent and purpose of this code and does not lessen any fire protection requirements or any degree of structural integrity. The building official may, but is not required to, record the approval of modifications and any relevant information in the files of the building official or on the approved permit plans.

CHAPTER 2

ORGANIZATION AND ENFORCEMENT

Section 201. Authority. Whenever the term or title "Authority Having Jurisdiction," "Administrative Authority," "Responsible Official," "Building Official," "Chief Inspector" or "Code Enforcement Officer" is used in this code, it shall be construed to mean the Director of the Department of Design, Construction and Land Use of the City of Seattle.

Section 202. POWERS AND DUTIES OF THE BUILDING OFFICIAL

(a) General. The building official is authorized and directed to interpret and enforce the provisions and intent of this code.

Compliance with the requirements of this code shall be the obligation of the owner of the building, structure or premises, the duly authorized agent of the owner, or other person responsible for the condition or work, and not of the City or any of its officers or employees.

(b) Deputies. The building official may appoint such officers, inspectors, assistants and other employees as shall be authorized from time to time. The building official may deputize such employees as may be necessary to carry out the functions of the Department of Design, Construction and Land Use.

(c) Right of Entry. With the consent of the owner or occupier of a building or premises, or pursuant to a lawfully issued warrant, the building official may enter a building or premises at any reasonable time to perform the duties imposed by this code.

(d) Stop Orders. Whenever any installation, alteration, repair or removal of electrical work is being done contrary to the provisions of this code, or in the event of dangerous or unsafe conditions related to electrical work, the building official may order the affected work stopped and a notice describing the violation in writing posted on the premises or served on any person responsible for the condition or work. It shall be unlawful for any person to engage in or cause any further work to be done until authorization from the building official is received.

(e) Authority to Disconnect Utilities. The building official shall have the authority to disconnect or order discontinuance of any utility service or energy supply to buildings, structures or equipment therein regulated by this code in cases of emergency or where necessary for safety to life and property. The building official may enter any building or premises to disconnect utility service or energy supply. Utility service shall be discontinued until the equipment, appliances, devices or wiring found to be defective or defectively installed are removed or restored to a safe condition.

It shall be unlawful for any person to reconnect any electrical equipment which has been disconnected by the building official until the equipment has been placed in a safe condition and approved by the building official.

(f) Liability. Nothing contained in this code is intended to be, nor shall be construed to create or form the basis for any liability on the part of the City or its officers, employees or agents, for any injury or damage resulting from the failure of a building to conform to the provisions of this code, or by reason or in consequence of any inspection, notice, order, certificate, permission or approval authorized or issued or done in connection with the implementation or enforcement of this code, or by reason of any action or inaction on the part of the City related in any manner to the enforcement of this code by its officers, employees or agents.

Neither the building official nor any employee charged with the enforcement of this code shall be personally liable for any damage that accrues to persons or property as a result of any act or omission committed in the discharge of their duties, provided that the building official or employee acted in good faith and without malice.

(g) Code Interpretation or Explanation. Electrical inspectors may give information as to the meaning or application of the National Electrical Code and the Seattle Supplement, but shall not lay out work or act as consultants for contractors, owners or users.

(h) Cooperation of Other Officials and Officers. The building official may request, and shall receive so far as may be necessary in the discharge of duties, the assistance and cooperation of other officials of the City of Seattle and officers

of public and private utilities.

Section 203. Unsafe Conditions. The building official may inspect any new or existing electrical installation or equipment, and if the installation or equipment is found to be maintained or used in an unsafe condition or found to be in violation of this code, the building official shall serve upon the owner or user a notice or order requiring correction. Any person served such notice who fails to comply with the order therein shall be in violation of this ordinance and subject to the penalties provided in this code.

Whenever the building official finds that any building or structure, or portion thereof, is in such a dangerous and unsafe condition as to constitute an imminent hazard to life or limb, the building official may issue an emergency order directing that the building or structure, or portion thereof, be restored to a safe condition. The order shall specify the time for compliance. The order may also require that the building or structure, or portion thereof, be vacated within a reasonable time, to be specified in the order. In the case of extreme danger, the order may specify immediate vacation of the building or structure, or may authorize disconnection of the utilities or energy source pursuant to Section 202(e). No person shall occupy the building or structure, or portion thereof, after the date on which it is required to be vacated until it is restored to a safe condition as required by the order and this code. It shall be unlawful for any person to fail to comply with an emergency order issued by the building official.

Section 204. VIOLATIONS AND PENALTIES

(a) Violations. It shall be a violation of this code for any person, firm or corporation to erect, construct, enlarge, repair, move, improve, remove, convert or demolish, equip, occupy, or maintain any building or structure in the City, contrary to or in violation of any of the provisions of this code.

It shall be a violation of this code for any person, firm or corporation to aid, abet, counsel, encourage, hire, commend, induce or otherwise procure another to violate or fail to comply with any of the provisions of this code.

It shall be a violation of this code for any person, firm or corporation to use any materials or to install any device, appliance or equipment which does not comply with applicable standards of this code or which has not been approved by the building official.

(b) Civil Penalty. Any person, firm or corporation failing to comply with the provisions of this code shall be subject to a cumulative civil penalty in an amount not to exceed $500 per day for each violation from the date the violation occurs or begins until compliance is achieved.

(c) Criminal Penalties. 1. Anyone violating or failing to comply with any order issued by the building official pursuant to this code shall, upon conviction thereof, be punished by a fine of not more than $1,000 or by imprisonment for not more than 360 days, or by both such fine and imprisonment. Each day's violation or failure to comply shall constitute a separate offense.

2. Anyone violating or failing to comply with any of the provisions of this code and who within the past five years has had a judgment against them pursuant to Section 204(b), shall upon conviction thereof be fined in a sum not to exceed $500 or by imprisonment for not more than 180 days, or by both such fine and imprisonment. Each day's violation or failure to comply shall constitute a separate offense.

(d) Additional Relief. The building official may seek legal or equitable relief to enjoin any acts or practices and abate any condition which constitutes a violation of this code when civil or criminal penalties are inadequate to effect compliance.

Section 205. Notices. It shall be unlawful for any person to remove, mutilate, destroy or conceal any lawful notice issued or posted by the building official pursuant to the provisions of this code.

The building official may record a copy of any order or notice with the Department of Records and Elections of King County.

The building official may record with the Department of Records and Elections of King County a notification that a permit has expired without a final inspection after reasonable efforts have been made to obtain a final inspection.

Section 206. RULES OF THE BUILDING OFFICIAL

(a) Authority. The building official is authorized to promulgate, adopt and issue the following rules:

(1) "Electrical Wiring Standards" to promulgate standards which are acceptable as a method or as an alternative design for meeting code required performance criteria, to edit or update national standards which are referenced in the Electrical Code and to eliminate conflicts among code requirements.

(2) "Code Interpretations" to interpret and clarify conditions or language expressed in this code.

(3) "Product Approvals" to approve a specific building construction material or product, or a particular component fabricator which has been found acceptable as meeting required performance criteria of this code.

(4) Any other rule necessary for administration of the purpose and intent of this code.

(b) Procedure for Adoption of Rules. The building official shall promulgate, adopt and issue rules according to the procedures as specified in Chapter 3.02 of the Seattle Municipal Code.

Section 207. Construction Codes Advisory Board. An Electrical Code Committee of the Construction Codes Advisory Board, as established in Section 105 of the Seattle Building Code, may examine proposed new editions of, and amendments to this code and any proposed administrative rules promulgated to enforce this code. The Electrical Code Committee may make recommendations to the building official and to the City Council relating to this code and administrative rules. The committee shall be called on an as-needed basis for the Construction Codes Advisory Board.

Section 208. Appeals. Appeals from decisions or actions pertaining to the administration and enforcement of this code shall be addressed to the building official. The applicant may request a review by a panel of the Construction Codes Advisory Board, convened by the Board Chair. The chair shall select a panel of at least three members from the Electrical Code Committee. The results of the panel's review shall be advisory only.

CHAPTER 3

PERMITS AND INSPECTIONS

Section 301. PERMITS

(a) Permits Required. It shall be unlawful to install, alter, extend or connect any electrical equipment in a building or premises, or allow the same to be done, without first obtaining a permit for the work from the building official.

(b) Exempted Work. An electrical permit shall not be required for the following work:

(1) Replacing flush or snap switches, fuses, lamp sockets, receptacles, or ballasts.

(2) Reconnecting or replacing a range within an individual dwelling unit, hot plate, water heater, electric baseboard, wall heating unit to a circuit which has been lawfully installed and approved, when no alteration of the circuit is necessary.

(3) The setting of meters by the City Light Department of the City of Seattle or anyone else engaged in the business of supplying electricity to the public, provided that meter loops have been installed under permit and that such meters are not connected to any electrical installation regulated by this code until approval for such connection has been given by the building official.

(4) The installation of 1000 feet or less of wiring for communications systems.

(5) The installation or repair of electrical equipment installed in connection with an elevator, dumbwaiter, or similar conveyance provided that work is covered under the issuance of an elevator permit.

Exemption from the permit requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of the City.

(c) Flood Hazard Areas. In addition to the permit required by this section, all work to be performed in areas of special flood hazard, as identified in the report entitled "Flood Insurance Study for King County, Washington and Incorporated Areas" and the accompanying Flood Insurance Rate Maps filed in C.F. 295948, is subject to additional standards and requirements, including floodplain development approval or a Floodplain Development License, as set forth in Chapter 25.06, the Seattle Floodplain Development Ordinance.

Section 302. APPLICATION AND PLANS

(a) Application. Application for an electrical permit shall be made on a form provided by the building official. Each application shall state the name and address of the owner or occupant in possession of the building or premises where the work is to be done, the name of the licensed contractor, if any, that will be responsible for the installation, and such other information as the building official may require. Application shall include documentation of compliance with the Seattle Energy Code. The building official may refuse to issue or revoke a permit if any statement in the permit application is found to be untrue.

(b) Plans and Specifications. 1. General. In addition to the requirements of Section 302(a), two sets of plans and specifications shall be submitted with each application for an electrical permit for an installation of: services or feeders of 400 amperes or over; all switches or circuit breakers rated 400 amperes or over; any proposed installation which cannot be adequately described on the application form; and installations of emergency generators.

Exception: Plans and specifications shall not be required for installations for one- and two-family dwellings.

Two sets of electrical plans shall be submitted with each application for an electrical permit for new or altered electrical installations in educational, institutional, and health or personal care occupancies as indicated in Section 300- 1(c) of this code.

Exception: One set of electrical plans shall be submitted with each application when a service or feeder is new or altered and the sum of the equipment ampere rating is less than 200 amperes.

Three sets of plans and specifications for fire alarm systems shall be submitted. See Seattle Fire Code Section 1007.3.1 for required submittal information.

2. Clarity of Plans. Plans shall be drawn to a clearly indicated and commonly accepted scale of not less than 1/8 inch to 1 foot upon substantial paper such as blueprint quality or standard drafting paper. The plans shall be of microfilm quality and limited to a minimum size of 11 inches by 17 inches and maximum size of 41 inches by 54 inches. Plans shall indicate the nature and extent of the work proposed and shall show in detail that it will conform to the provisions of this code. All electrical work shall be readily distinguishable from other mechanical work. If plans are incomplete, unintelligible or indefinite, the building official may require that the plans be prepared by a licensed electrical engineer, or may reject or refuse to examine such plans, even though a plan examination fee has been paid.

3. Information on plans and specifications. Information on plans and specifications shall include the following:

(1) The type of occupancy and a complete scope of work.

(2) A complete riser and one line diagram to include all service and feeder connections.

(3) Clear identification of all circuitry, to include but not limited to: circuit numbers, wire sizes, insulation types, conduit sizes and types.

(4) A complete set of switchboard and panel schedules. These shall include all load calculations and demand factors used for computation.

(5) A complete project load summary to include existing loads as applicable (peak demands as per NEC excepted) and all added loads. Electrical calculations, heat loss calculations and lighting summaries may be submitted on separate computation sheets.

(6) Fault current calculations and the listed interrupting rating of all feeder and service equipment.

(7) Voltage characteristics of all electrical systems and equipment.

(8) A key to all symbols used.

(9) A fixture schedule showing all pertinent fixture information.

(10) Any other information as may be required by the plans examiner.

(c) Advance Plan Examination. An architect or engineer registered in the State of Washington may apply for an electrical permit and may request an advance plan examination of electrical plans where the electrical contractor has not yet been selected. Upon submission of an application including required plans, and payment of fifty percent of the estimated permit fee, the Department will review the application. When the application and plans are found to be in compliance with the Seattle Electrical Code, the Department will approve the application and plans as ready for issuance. Neither the permit nor the plans shall be issued until the remainder of the fee is paid and the electrical contractor's name and license number is placed on the permit.

PERMITS

Section 303. (a) Issuance. 1. General. The application and plans filed by an applicant for a permit shall be checked by the building official. Such plans may be reviewed by other departments of the City to check compliance with the laws and ordinances under their jurisdiction. If the building official finds that the work as described in an application for permit and the plans filed therewith conforms to the requirements of this code and other pertinent laws and ordinances and that the fees specified in the Fee Subtitle have been paid, the building official shall issue a permit to the applicant who becomes the permit holder. The building official may refuse to issue an electrical permit to any person who refuses or fails to complete the work permitted by an existing permit on the same building or premises.

Exception No. 1: The building official may issue a permit for the installation of part of the electrical system of a building or structure before complete plans for the whole building or structure have been submitted or approved, provided adequate information and detailed statements have been filed complying with all pertinent requirements of this code. Holders of such permits may proceed at their own risk without assurance that the permit for the entire building or structure will be granted.

Exception No. 2: A permit may be issued for work to commence prior to the approval of plans, if such approval is delayed beyond 10 working days after the plans have been submitted for examination. The holders of such permits may proceed at their own risk, with the understanding that any work undertaken prior to approval of plans shall be done in accordance with the provisions of this code and in accordance with the plans as subsequently approved.

2. Compliance with Approved Plans and Permit. When issuing a permit, the building official shall endorse the permit in writing and endorse in writing or stamp the plans APPROVED. Approved plans shall not be changed, modified or altered without authorization from the building official, and all work shall be done in accordance with the approved plans, except as the building official may require during field inspection to correct errors or omissions.

3. Amendments to the Permit. When substitutions and changes are made during construction, approval shall be secured prior to execution; however, the electrical inspector may approve minor modifications to the plans for work not reducing the fire and life safety of the structure. Substitutions, changes and clarifications shall be as shown on two sets of plans which shall be submitted to the building official, accompanied by redesign fees, prior to occupancy. These changes shall conform to the requirements of this code and other pertinent laws and ordinances.

4. Requirement for License. No electrical permit shall be issued to an applicant who is engaging in or conducting or carrying on the business of installing wires or equipment to convey electric current or of installing apparatus to be operated by electric current unless the applicant possesses a valid State of Washington license as required by RCW 19.28. The licensed installer responsible for the work shall be identified on the electrical permit.

Exception: Persons not possessing a license may obtain an electrical permit in order to do electrical work at a residence, farm, place of business or other property which they own as described in RCW 19.28.610.

5. Cancellation of Permit Application. If a permit is not issued after a period of sixty days from the date of approval for issuance or if corrections are not received after a period of sixty days from the date of notification of required corrections, the building official may initiate cancellation procedures. Prior to cancellation, the building official shall notify the applicant that the permit application will expire and shall be canceled after 30 days. After the applicant has been notified, the site may be inspected to verify that no work has taken place. The application shall be canceled 30 days after notice has been sent to the applicant, and it and any accompanying plans and specifications destroyed and the portion of the fee paid forfeited. Upon written request of the applicant, the building official may extend the life of the permit application for a period not to exceed six months, with no further extensions possible, except that applications may be further extended by the building official where permit issuance is delayed by litigation, appeals or similar problems.

(b) Retention of Plans and Permits. One set of approved plans, which may be on microfilm, shall be retained by the building official. One set of approved plans shall be returned to the applicant and shall be kept at the site or the building or work at all times during which the work authorized thereby is in progress. The plans shall be available at the site of the work or installation for use by inspection personnel at all times. The permit issued by the building official shall be kept posted on the premises at all times during the course of the installation or work.

(c) Validity. The issuance or granting of a permit or approval of plans shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this code or any other ordinance. No permit presuming to give authority to violate or cancel the provisions of this code shall be valid, except insofar as the work or use which it authorizes is lawful.

The issuance of a permit based upon plans shall not prevent the building official from later requiring the corrections of errors in the plans. The issuance of a permit based upon plans shall not be construed as permitting violations of this code or of any other ordinance of the City.

The issuance of an electrical permit shall not prevent the building official from requiring correction of conditions found to be in violation of this code or any other ordinance of the City. The period of time for which a permit is issued shall not be construed to extend or otherwise affect any period of time for compliance specified in any notice or order issued by the building official or other administrative authority requiring the correction of any such conditions.

(d) Expiration and Renewal. 1. Expiration. Permits and renewed permits shall expire one year from the date of issuance.

Exception No.1: Initial permits for major construction projects that require more than one year to complete, according to a construction schedule submitted by the applicant, may be issued for a period that provides reasonable time to complete the work but in no case longer than three years.

Exception No.2: Permits which expire in less than one year may be issued where the building official determines a shorter period is appropriate.

2. Renewal. Permits may be renewed and renewed permits may be further renewed by the building official provided the following conditions are met:

A. Application for renewal shall be made within the thirty-day period immediately preceding the date of expiration of the permit;

B. The work authorized by the permit has been started and is progressing at a rate approved by the building official;

C. If an application for renewal is made either more than one year after the effective date of a new or revised edition of the Electrical Code, the permit shall not be renewed unless:

(i) The building official determines that the permit complies, or is modified to comply, with the code or codes in effect on the date of application for renewal; or

(ii) The work authorized by the permit is substantially underway and progressing at a rate approved by the building official.

Permits may also be renewed where commencement or completion of the work authorized by the permit was delayed by litigation, appeals, strikes or other causes related to the work authorized by the permit, beyond the permit holder's control.

3. Re-establishment. A new permit shall be required to complete work where a permit has expired and was not renewed.

Exception: A permit which has been expired for less than one year may be reestablished upon approval of the building official provided it complies with Items B and C of Section 303(d)2, above.

(e) Suspension or Revocation. The building official may, by written order, suspend or revoke a permit issued under the provisions of this code whenever the permit is issued in error or on the basis of incorrect information, or in violation of any ordinance or regulation or any provision of this code.

(f) Permit for Temporary Installations. The building official may issue permits for temporary electrical installations for use during the construction of buildings or for carnivals, conventions, festivals, fairs, the holding of religious services, temporary lighting of streets and the like if it is found that life or property will not be jeopardized.

Permission to use a temporary installation shall be granted for no longer than six months, except that a permit for a temporary installation to be used for the construction of a building may be issued for the necessary period of construction. Should temporary lighting be over the street area, proper authority for use of the street shall first be obtained from the Seattle Transportation Department. All temporary installations shall comply with all other requirements of this code.

Section 304. Permit Fees. A fee for each electrical permit and for other activities related to the enforcement of this Code shall be paid as set forth in the Fee Subtitle.

Section 305. INSPECTIONS

(a) General. It shall be unlawful to connect or to allow the connection of any electrical installations, extensions thereof, or electrical equipment to the electric current until the work is inspected and approved by the building official.

(b) Inspection Requests. It shall be the duty of the owner of the property, the owner's authorized agent, or the person designated by the owner/agent to do the work authorized by a permit to notify the building official that work requiring inspection as specified in this section is ready for inspection. Where a permit has been issued to a licensed contractor, it shall be the duty of the contractor to notify the building official that work requiring inspection is ready for inspection.

It shall be the duty of the person requesting any inspections required by this code to provide access to and means for proper inspection of the work. It shall be the duty of the permit holder to cause the work to be accessible and exposed for inspection purposes. Neither the building official nor the City shall be liable for expense entailed in the required removal or replacement of any material to allow inspection.

(c) Inspection Record. Work requiring a permit shall not be commenced until the permit holder or agent has posted an inspection record in a conspicuous place on the premises and in a position which allows the building official to conveniently make the required entries thereon regarding inspection of the work. This record shall be maintained in such position by the permit holder until final approval has been granted by the building official and the serving utility has made the connection to the electric current.

(d) Approvals Required. No work shall be done on any part of the building or structure beyond the point indicated in each successive inspection without first obtaining the written approval of the building official. Written approval shall be given only after an inspection has been made of each successive step in the construction as indicated by each of the inspections required in Section 305(e) below.

(e) Required Inspections. 1. Cover Inspection. Cover inspections may be required when all of the following work has been completed:

A. All piping, ducts, plumbing and like installations of other trades which are liable to interfere or run in close proximity to the electrical installation are permanently in place and inspected, but prior to any work to cover or conceal any installation of electrical equipment, and;

B. Electrical Equipment grounding (boxes, equipment, conductors and provisions for grounding receptacles, etc.) for all systems shall be completely made-up.

C. For conduit systems, after all conduit has been installed and properly secured to the structure.

2. Final Inspection. A final inspection shall be made after all wiring has been completed and all permanent fixtures such as switches, outlet receptacles, plates, electric hot water tanks, lighting fixtures and all other equipment has been properly installed. The permit holder shall call for a final inspection when the work described on the permit has been completed.

(f) Other Inspections. In addition to the called inspections specified in Subsection (e), the building official may make or require any other inspections of any construction work to ascertain compliance with the provisions of this code and other laws which are enforced by the building official.

Where work, for which any permit or approval is required, is commenced or performed prior to making formal application and receiving the building official's permission to proceed, the building official may make a special investigation inspection before a permit may be issued for the work. Where a special investigation is made, a special investigation fee may be assessed in accordance with the Fee Subtitle.

(g) Reinspections. The building official may require a reinspection when work for which inspection is called is not complete, corrections called for are not made, the permit card is not properly posted on the work site, the approved plans are not readily available to the inspector, for failure to provide access on the date for which inspection is requested, or when deviations from plans which require the approval of the building official have been made without proper approval.

For the purpose of determining compliance with Section 104(c) Maintenance, the building official or the fire chief may cause any structure to be reinspected.

The building official may assess a reinspection fee as set forth in the Fee Subtitle for any action listed above for which reinspection may be required, whether or not a reinspection is actually performed. A reinspection fee shall not be assessed the first time the work subject to inspection is rejected for failure to comply with the requirements of this

Code.

In instances where reinspection fees have been assessed, no additional inspection of the work shall be performed until the required fees have been paid.

Section 3. The National Electrical Code, 1999 edition, is amended by repealing Sections 90-1 and 90-2.

Section 4. Article 100 of the National Electrical Code, 1999 edition, is amended as follows:

ARTICLE 100 - DEFINITIONS

Scope. This article contains only those definitions essential to the proper application of this Code. It is not intended to include commonly defined general terms or commonly defined technical terms from related codes and standards. In general, only those terms that are used in two or more articles are defined in Article 100. Other definitions are included in the article in which they are used but may be referenced in Article 100.

Part A of this article contains definitions intended to apply wherever the terms are used throughout this Code. Part B contains definitions applicable only to the parts of articles specifically covering installations and equipment operating at over 600 volts, nominal.

Terms and phrases used in this code but not defined herein shall be as defined in the Seattle Building Code and the Seattle Mechanical Code. Where undefined terms are used, the definitions of Webster's Third New International Dictionary of the English Language, Unabridged, copyright 1986, shall apply.

General

Service Point. The point of connection between the facilities of the serving utility and the premises wiring. For requirements for service point connections, see Section 230-10.

Service Terminal Box. An approved box to be used exclusively for the connection of the utility distribution system to the consumer's service entrance conductors.

Section 5. Section 110-13 of the National Electrical Code, 1999 edition, is amended as follows:

110-13. Mounting, ~~and~~ Cooling and Location of Equipment.

(c) Location. No electrical equipment shall project beyond the face of the wall in halls, corridors or other locations which would reduce the width required by the Building Code for such locations. No electrical equipment such as pull boxes, junction boxes, conduit, panels, transformers, water heaters, motors, compressors, or similar equipment shall be installed within a required stairway enclosure. Electrical raceways pertaining to fire and life safety devices may be installed within a required stairway enclosure.

Equipment containing overcurrent protection shall be so placed that lowest possible overcurrent device will be no less than one foot above the floor or working platform.

Section 6. The National Electrical Code, 1999 edition, is amended by adding Section 110-23 as follows:

110-23. Electrified Fences. Electrified fences, associated equipment and similar devices shall be permitted only by special permission from the Building Official.

Section 7. The National Electrical Code, 1999 edition, is amended by adding Section 110-26(e) as follows:

(e) Headroom. The minimum headroom of working spaces about service equipment, switchboards, panelboards, or motor control centers shall be 6-1/2 ft (1.98 m). Where the electrical equipment exceeds 6-1/2 ft (1.98 m) in height, the

minimum headroom shall be not less than the height of the equipment.

~~Exception: Service equipment or panelboards, in existing dwelling units, that do not exceed 200 amperes.~~

Section 8. Section 210-8(a) of the National Electrical Code, 1999 edition, is amended as follows:

(a) Dwelling Units. All 125-volt, single-phase, 15- and 20- ampere receptacles installed in the locations specified below shall have ground-fault circuit-interrupter protection for personnel.

(1) Bathrooms.

(2) Garages, and also accessory buildings that have a floor located at or below grade level not intended as habitable rooms and limited to storage areas, work areas, and areas of similar use.

Exception No. 1: Receptacles that are not readily accessible.

Exception No. 2: A single receptacle or a duplex receptacle for two appliances located within dedicated space for each appliance that, in normal use, is not easily moved from one place to another, and that is cord- and plug-connected in accordance with Section 400-7(a)(6), (a)(7), or (a)(8).

Receptacles installed under the exceptions to Section 210- 8(a)(2) shall not be considered as meeting the requirements of Section 210-52(g).

(3) Outdoors.

Exception: Receptacles that are not readily accessible and are supplied by a dedicated branch circuit for electric snow-melting or deicing equipment shall be permitted to be installed in accordance with the applicable provisions of Article 426.

Crawl spaces. Where the crawl space is at or below grade level.

(5) Unfinished basements. For purposes of this section, unfinished basements are defined as portions or areas of the basement not intended as habitable rooms and limited to storage areas, work areas, and the like.

Exception No. 1: Receptacles that are not readily accessible.

Exception No. 2: A single receptacle or a duplex receptacle for two appliances located within dedicated space for each appliance that, in normal use, is not easily moved from one place to another, and that is cord- and plug-connected in accordance with Section 400-7(a)(6), (a)(7), or (a)(8).

Receptacles installed under the exceptions to Section 210- 8(a)(5) shall not be considered as meeting the requirements of Section 210-52(g).

(6) Kitchens. Where the receptacles are installed to serve the countertop surfaces.

(7) ~~Wet bar~~ <u>All other</u> sinks. Where the receptacles are installed to serve the countertop surfaces and are located within 6 ft (1.83 m) of the outside edge of the ~~wet bar~~ sink. Receptacle outlets shall not be installed in a face-up position in the work surfaces or countertops.

Section 9. The National Electrical Code, 1999 edition, is amended by adding Section 215-12 as follows:

215-12. Panelboards. Panelboards, existing or installed in an individual unit of multifamily dwellings, shall be supplied by one feeder.

Section 10. Section 220-3(a) of the National Electrical Code, 1999 edition, is amended as follows:

(a) Lighting Load for Specified Occupancies. A unit load of not less than that specified in Table 220-3(a) for occupancies specified therein shall constitute the minimum lighting load for each square foot (0.093 m2) of floor area. The floor area for each floor shall be computed from the outside dimensions of the building, dwelling unit, or other area involved. For dwelling units, the computed floor area shall not include open porches, garages, or unused or unfinished spaces not adaptable for future use.

FPN: The unit values herein are based on minimum load conditions and 100 percent power factor, and may not provide sufficient capacity for the installation contemplated.

Exception: Occupancy Lighting Loads. In determining feeder and service entrance conductor sizes and equipment ratings, the currently adopted Seattle Energy Code Unit Lighting Power Allowance table and footnotes may be used in lieu of NEC Table 220-3(a).

Section 11. Section 220-15 of the National Electrical Code, 1999 edition, is amended as follows:

220-15. Fixed Electric Space Heating. Fixed electric space heating loads shall be computed at 100 percent of the total connected load; however, in no case shall a feeder or service load current rating be less than the rating of the largest branch circuit supplied. Where fixed electric space heating is installed as the primary means of heating, heat loss calculations shall be submitted.

Exception: ~~Where reduced loading of the conductors results from units operating on duty cycle, intermittently, or from all units not operating at one time, the authority having jurisdiction may grant permission for feeder conductors to have an ampacity less than 100 percent, provided the conductors have an ampacity for the load so determined.~~ A minimum demand factor of 75 percent of the installed heating capacity may be used in sizing service entrance and feeder equipment for dwelling, commercial and industrial occupancies when electric service is provided to four or more fixed space heaters, or electric furnaces sequentially controlled. These exceptions shall not apply when optional calculations allowed by Section 220-32 are used.

Section 12. Section 220-17 of the National Electrical Code, 1999 edition, is amended as follows:

220-17. Appliance Load - Dwelling Unit(s). It shall be permissible to apply a demand factor of 75 percent to the nameplate rating load of four or more appliances fastened in place, other than electric ranges, clothes dryers, space-heating equipment, or air-conditioning equipment, that are served by the same feeder or service in a one-family, two-family, or multifamily dwelling. For space heating equipment, see Section 220-15.

Section 13. Section 230-1 of the National Electrical Code, 1999 edition, is amended as follows:

230-1. Scope.

(a) This article covers service conductors and equipment for control and protection of services and their installation requirements.

(FPN): See Figure 230-1.

(b) Service Requirements. The serving utility shall be consulted by the owner, the owner's agent or the contractor making the installation regarding service entrance location before installing equipment. Provisions for metering equipment, attachment of service drop, or for an underground service lateral shall be made at a location acceptable to the serving utility.

Section 14. The National Electrical Code, 1999 edition, is amended by adding Section 230-10 as follows:

230-10. Service Point Connection. Service point connections shall comply with paragraphs (1) through (3) below.

(1) For overhead service drop conductors from the utility pole to the point of attachment to the building, connections of the service entrance conductors shall be at a weatherhead outside the building.

(2) For underground service connections outside of buildings, connection shall be made in one of the following:

(i) A service terminal box or current transformer cabinet.

(ii) A handhole or power transformer installed outdoors in accordance with requirements of the utility, the Seattle Building Code, or any other applicable ordinance.

(iii) A meter socket of 200 amperes minimum size, direct- metered.

(3) For underground service connections inside of buildings, connection shall be made to one of the following:

(i) Where utility-supplied conductors are used, a service terminal box or current transformer cabinet connected by no more than eighteen inches of rigid conduit inside the building.

(ii) A transformer vault within the building.

(iii) A meter socket of 200 amperes minimum size, direct- metered.

Section 15. The National Electrical Code, 1999 edition, is amended by adding Section 230-5 as follows:

230-5. Types of Services. All services shall be single-phase or three-phase 4-wire. Three-phase 3-wire services shall not be installed unless prior approval is granted by the utility and the building official.

Section 16. Section 230-28 of the National Electrical Code, 1999 edition, is amended as follows:

230-28. Service Masts as Supports.

(a) Where a service mast is used for the support of service-drop conductors, it shall be of adequate strength or be supported by braces or guys to withstand safely the strain imposed by the service drop. Where raceway-type service masts are used, all raceway fittings shall be identified for use with service masts. Only power service-drop conductors shall be permitted to be attached to a service mast.

(b) Where service masts are used for support of the service- drop conductors, the conduit shall be secured as required by WAC 296-46-23028 Drawings E-101, E-102, and E-103.

(c) Service drops to buildings with service conduits extended through the roof shall be attached to the bracket installed on the mast, or other approved supporting structure located within 24 inches of the mast.

Service conduits for mast-type services shall be rigidly supported with minimum 5/16-inch U-bolts fastened through at least 2-inch solid wood backing. A minimum of 2 x 6 inch wood solidly secured between rafters shall be installed and drilled for snug fit of the conduit.

Brackets shall be installed to permit a clearance of not less than 18 inches from the roof to the lowest wire. Service conduits through the roof shall be a minimum of 2-inch rigid steel conduit. Service conduits over 26 inches above the roof shall be rigidly supported with brackets or guy wires. The serving utility shall be consulted for bracket and guy wire requirements.

In no case shall a coupling be installed between the last support below the roof line to the bracket. All connections and service drops shall be below the weatherhead.

Openings where service conduits pass through the roof shall be made watertight with approved neoprene or lead flashings.

Section 17. Section 230-29 of the National Electrical Code, 1999 edition, is amended as follows:

230-29. Supports Over Buildings and Wires on or about Buildings or Structures Over Water. ~~Service-drop conductors passing over a roof shall be securely supported by substantial structures. Where practicable, such supports shall be independent of the building.~~

(a) All service entrance conductors for piers, docks, wharves and other structures over water shall terminate in a disconnecting means or service equipment at the street side or end of such structure, or as otherwise approved by the building official.

Exception: When the vault for the utility transformer is located over water, a disconnecting means for the service entrance conductors shall be provided immediately outside the vault at a location acceptable to the building official.

FPN): For utility service conductors on piers, docks or wharves, refer to "Requirements for Electric Service Connection" published by Seattle City Light.

(b) Service entrance conduit containing wires not protected by circuit breakers or switches and fuses shall follow and be supported on parapets or other walls and shall not be laid upon or across roofs.

(c) All service entrance conduits in the Fire District shall terminate on the side of the building nearest to the lines or mains of the utility. The service shall not terminate over adjacent private property, and shall extend to the street or alley wall of the buildings.

(d) Open wiring for service conductors shall contact the building at only one point except where the utility will agree to contact the building at more than one point.

(e) No wire access fittings or junction boxes of any type shall be permitted within 15 feet of the ground level on street, alley, or driveway margins.

Section 18. The National Electrical Code, 1999 edition, is amended by adding Section 230-33 as follows:

230-33. Conversion to Underground Service or Increasing Existing Overhead Services. Where service for an existing single-family dwelling is converted to an underground service or where existing overhead services are increased, the following requirements shall be met:

(a) Unless a 200 ampere meter enclosure was provided for the existing service, a new 200 ampere approved wide meter enclosure shall be permitted to be installed over the existing meter enclosure. Service grounding continuity shall be maintained and the perimeter of such new enclosure shall be sealed watertight with a silicone sealant or approved equivalent.

(b) Conversions to underground service shall have existing overhead service conductors removed and the top opening of the existing conduit at the weatherhead shall be closed.

(c) Where a new meter enclosure is installed the interior of the existing meter enclosure shall be removed and service conductors of the same size as those removed shall be installed from the new meter enclosure to the existing service panel. Conductors shall be run through a 2-inch bushing in the back of such new enclosure, through the void area between enclosures, and continue in the existing conduit to the panel.

(d) Any exposed wood or combustible material between the two meter enclosures shall be covered with noncombustible material.

(e) On installations where a meter has been moved outdoors, the existing meter shall be removed. An approved fitting shall be installed on the existing conduit with new conduit of the same size as the existing, to extend from such fitting to a new 200 ampere meter enclosure.

(f) Conductors shall be continuous from the new meter enclosure to the service panel.

(g) On existing services, a weatherhead-to-weatherhead connection shall be permitted. The distance between weatherheads shall not exceed 24 inches.

Section 19. Section 230-43 of the National Electrical Code, 1999 edition, is amended as follows:

230-43. Wiring Methods For 600 Volts, Nominal, or Less. Service-entrance conductors shall be installed in accordance with the applicable requirements of this Code covering the type of wiring method used and shall be limited to the following methods:

~~(1) Open wiring on insulators~~

~~(2) Type IGS cable~~

(3) Rigid metal conduit

(4) Intermediate metal conduit

~~(5) Electrical metallic tubing~~

~~(6) Electrical nonmetallic tubing (ENT)~~

~~(7) Service entrance cables~~

~~(8) Wireways~~

(9) Busways

~~(10) Auxiliary gutters~~

(11) Rigid nonmetallic conduit

(12) Cablebus

~~(13) Type MC cable~~

(14) Mineral-insulated, metal-sheathed cable

~~(15) Flexible metal conduit not over 6 ft (1.83m) long or liquidtight flexible metal conduit not over 6 ft (1.83 m) long between raceways, or between raceway and service equipment, with equipment bonding jumper routed with the flexible metal conduit or liquidtight flexible metal conduit according to the provisions of Section 250-102(a), (b), (c), and (e)~~

~~(16) Liquidtight flexible nonmetallic conduit~~

Cable tray systems shall be permitted to support cables for use as service-entrance conductors in accordance with Article 318.

Section 20. The National Electrical Code, 1999 edition, is amended by adding Section 230-44 as follows:

230-44. Service-Entrance Conductor Length

(a) Length at service head. Service-entrance conductors shall extend at least 18 inches from the service head to permit connection to the service drop.

(b) Inside a building. Service-entrance conductor raceways shall extend no more than 15 feet inside a building.

Section 21. Section 230-46 of the National Electrical Code, 1999 edition, is repealed.

Section 22. Section 230-52 of the National Electrical Code, 1999 edition, is repealed.

Section 23. The National Electrical Code, 1999 edition, is amended by adding Sections 230-62(c) and (d) as follows:

(c) Location. Service equipment shall be readily accessible and shall not be located in a bathroom, clothes closet, shower room, cupboard, attic, stairway, nor above a washer, range, dryer, water heater, sink, plumbing fixture or drain board.

(d) Accessible. Service equipment shall be readily accessible after any subsequent building additions.

Section 24. Section 230-82 of the National Electrical Code, 1999 edition, is amended as follows:

230-82. Equipment Connected to the Supply Side of Service Disconnect. Only the following equipment shall be permitted to be connected to the supply side of the service disconnecting means:

(1) Cable limiters or other current-limiting devices by special permission of the building official.

When fault current limiters are installed on the line side (utility's side) of the first disconnect or main breaker, there shall be a "current limiter enclosure" for the installation of such current limiters which shall meet the following requirements:

(a) The "current limiter enclosure" shall be separate from the utility's service termination point. The weatherhead, service terminal box, meter socket or current transformer can is not an acceptable location.

(b) The "current limiter enclosure" shall not be used for service taps or extensions and shall be clearly recognized and marked "fault current limiters."

(2) Meters nominally rated not in excess of 600 volts, provided all metal housings and service enclosures are grounded in accordance with Article 250. Taps under meter socket lugs shall not be permitted, except by prior approval from the building official.

(3) Instrument transformers (current and voltage), high- impedance shunts, surge-protective devices identified for use on the supply side of the service disconnect, load management devices, and surge arresters

(4) Taps used only to supply load management devices, circuits for stand-by power systems, fire pump equipment, and fire and sprinkler alarms, if provided with service equipment and installed in accordance with requirements for service-entrance conductors

(5) Solar photovoltaic systems or interconnected electric power production sources (See Articles 690 or 705 as applicable.)

(6) Control circuits for power-operable service disconnecting means, if suitable overcurrent protection and disconnecting means are provided

(7) Ground-fault protection systems where installed as part of listed equipment, if suitable overcurrent protection and

disconnecting means are provided

(8) Current transformer cabinets shall contain only the main service conductors, metering equipment and secondary wiring. One tap shall be permitted on the load side of the current transformers on all installations for legally-required standby service and one tap shall be permitted on the load side of the current transformers for a fire pump service. One additional normal power service tap from the current transformer enclosure may be made by special permission of the service utility. In a single-family dwelling, two connections shall be permitted on the load side of the current transformers. No other taps shall be permitted. Approved terminal lugs shall be provided for the main service conductors and for all taps.

(9) Listed service accessory buss gutters or termination boxes that are approved for use on the line side of service equipment. Junction and pull boxes are not permitted

Section 25. Section 230-90(a) of the National Electrical Code, 1999 edition, is amended as follows:

(a) Ungrounded Conductor. Such protection shall be provided by an overcurrent device in series with each ungrounded service conductor that has a rating or setting not higher than the allowable ampacity of the conductor.

Exception No. 1: For motor-starting currents, ratings that conform with Sections 430-52, 430-62, and 430-63 shall be permitted.

Exception No. 2: Fuses and circuit breakers with a rating or setting that conform with Section 240-3(b) or (c) and Section 240-6 shall be permitted.

Exception No. 3: Two to six circuit breakers or sets of fuses shall be permitted as the overcurrent device to provide the overload protection. The sum of the ratings of the circuit breakers or fuses shall be permitted to exceed the ampacity of the service conductors, provided the calculated load in accordance with Article 220 does not exceed the ampacity of the service conductors.

If the service-entrance conductors are sized less than the rating of the service equipment, an engraved permanent placard that clearly identifies the service-entrance conductor ampacity must be installed.

Exception No. 4: Overload protection for fire pump supply conductors shall conform with Section 695-4(b)(1).

Exception No. 5: Overload protection for 120/240-volt, 3-wire, single-phase dwelling services shall be permitted in accordance with the requirements of Section 310-15(b)(6).

FPN: See Standard for the Installation of Centrifugal Fire Pumps, NFPA 20-1996.

A set of fuses shall be considered all the fuses required to protect all the ungrounded conductors of a circuit. Single-pole circuit breakers, grouped in accordance with Section 230-71(b), shall be considered as one protective device.

Section 26. Section 250-56 of the National Electrical Code, 1999 edition, is amended as follows:

250-56. Resistance of Made Electrodes. A single electrode consisting of a rod, pipe, or plate ~~that does not have a resistance to ground of 25 ohms or less~~ shall be augmented by one additional electrode of any of the types specified in Section 250-50 or 250-52. ~~Where multiple rod, pipe, or plate electrodes are installed to meet the requirements of this section,~~They shall be not less than ~~6~~ 8 ft ~~1.83~~ 2.44 m) apart.

(FPN): The paralleling efficiency of rods longer than 8 ft (2.44 m) is improved by spacing greater than 6 ft (1.83 m).

Section 27. The National Electrical Code, 1999 edition, is amended by adding Section 250-104(e) as follows:

(e) Water System Requirements. It is unlawful to connect to or use any water main or water pipe belonging to Seattle

Public Utilities distribution and transmission systems for electrical grounding purposes.

Section 28. The National Electrical Code, 1999 edition, is amended by adding Section 300-1(c) as follows:

(c) Wiring Methods for Designated Building Occupancies. See classifications and definitions of occupancies in Washington Administrative Code Section 296-46-130 and Section 296-46-140.

Section 29. Section 300-23 of the National Electrical Code, 1999 edition, is amended as follows:

300-23. Panels Designed to Allow Access. Cables, raceways, and equipment installed behind panels designed to allow access, including suspended ceiling panels, shall be arranged and secured so as to allow the removal of panels and access to the equipment. All out-of-service cable shall be removed from accessible ceiling spaces.

Section 30. Section 324-4 of the National Electrical Code, 1999 edition, is amended as follows:

324-4. Uses Not Permitted. Concealed knob-and-tube wiring shall not be used in commercial garages, theaters and similar locations, motion picture studios, hazardous (classified) locations, or in the hollow spaces of walls, ceilings, and attics where such spaces are insulated by loose, rolled, or foamed-in- place insulating material that envelops the conductors.

Exception: This provisions of 324-4 shall not be construed to prohibit the installation of loose or rolled thermal insulating material in such a concealed space provided all the following conditions are met:

(1) The wiring shall be surveyed by an appropriately- licensed electrical contractor who shall certify that the wiring is in good condition with no evidence of improper overcurrent protection, conductor insulation failure or deterioration, and with no improper connections or splices. Repairs, alterations or extensions of or to the electrical system shall be inspected by an electrical inspector as defined in RCW 19.28.070.

(2) The insulation shall meet Class I specifications as identified in the Uniform Building Code, with a flame spread factor of 25 or less as tested using ASTM E84-98e1 Foam insulation may not be used with knob-and-tube wiring.

(3) All knob-and-tube circuits shall have over-current protection limited to 15 amp, or protection which is appropriate for the wire size. Over-current protection devices must either be circuit breakers or S-type adapters, equipped with S-type fuses.

Section 31. Section 336-4 of the National Electrical Code, 1999 edition, is amended as follows:

336-4. Uses Permitted. Type NM, Type NMC, and Type NMS cables shall be permitted to be used in the following:

(1) One- and two-family dwellings

(2) Multifamily dwellings and other structures, except as prohibited in Section 336-5

(3) Cable trays, where the cables are identified for the use

(FPN): See Section 310-10 for temperature limitation of conductors.

(a) Type NM. Type NM cable shall be permitted for ~~both exposed and~~ concealed work in normally dry locations. It shall be permissible to install or fish Type NM cable in air voids in masonry block or tile walls where such walls are not exposed or subject to excessive moisture or dampness.

(b) Type NMC. Type NMC cable shall be permitted as follows:

(1) For ~~both exposed and~~ concealed work in dry, moist, damp, or corrosive locations

(2) In outside and inside walls of masonry block or tile

(3) In a shallow chase in masonry, concrete, or adobe protected against nails or screws by a steel plate at least 1/16 in. (1.59 mm) thick, and covered with plaster, adobe, or similar finish

(c) Type NMS. Type NMS cable shall be permitted for ~~both exposed and~~ concealed work in normally dry locations. It shall be permissible to install or fish Type NMS cable in air voids in masonry block or tile walls where such walls are not exposed or subject to excessive moisture or dampness. Type NMS cable shall be used as permitted in Article 780.

Section 32. Section 336-5(a) of the National Electrical Code, 1999 edition, is amended as follows:

(a) Types NM, NMC, and NMS. Types NM, NMC, and NMS cables shall not be used in the following:

(1) In any multifamily dwelling or other structure exceeding three floors above grade

~~For the purpose of this article, the first floor of a building shall be that floor that has 50 percent or more of the exterior wall surface area level with or above finished grade.~~ The Department's building permit shall be used to determine the number of habitable floors above grade. One additional level that is the first level and not designed for human habitation and used only for vehicle parking, storage, or similar use shall be permitted.

(2) As service-entrance cable

(3) In commercial garages having hazardous (classified) locations as provided in Section 511-3

(4) In theaters and similar locations, except as provided in Article 518, Places of Assembly

(5) In motion picture studios

(6) In storage battery rooms

(7) In hoistways

(8) Embedded in poured cement, concrete, or aggregate

(9) In any hazardous (classified) location, except as permitted by Sections 501-4(b), Exception, 502-4(b), Exception, and 504-20

(10) In any building or structure located in the Fire District

Section 33. Section 336-6 of the National Electrical Code, 1999 edition, is amended as follows:

336-6. Exposed Work - General. In exposed work, except as provided in Section 300-11(a), the cable shall be installed as specified in (a) ~~through~~ (b), (d), and (e) below.

~~(a) To Follow Surface. The cable shall closely follow the surface of the building finish or of running boards.~~

(a) Work Considered as Concealed. Nonmetallic-sheathed cable shall be considered as concealed where installed in inaccessible void areas of buildings or where run in between or through bored holes of studs, joists and similar members as required in Section 300-4, provided that all outlet, junction or device boxes shall be installed as required for concealed work.

(b) Protection from Physical Damage. The cable shall be protected from physical damage where necessary by conduit, electrical metallic tubing, Schedule 80 PVC rigid nonmetallic conduit, pipe, guard strips, listed surface metal or

nonmetallic raceway, or other means. ~~Where passing through a floor, the cable shall be enclosed in rigid metal conduit, intermediate metal conduit, electrical metallic tubing, Schedule 80 PVC rigid nonmetallic conduit, listed surface metal or nonmetallic raceway, or other metal pipe extending at least 6 in. (152 mm) above the floor.~~ Nonmetallic-sheathed cable shall not be considered as concealed by boxing in, or by the use of running boards, and shall not be run across the face of ceilings, walls, beams or similar unoccupied locations.

Exception No. 1: Nonmetallic-sheathed cable may be installed in the attic space of buildings, provided such cable is protected from physical damage by the use of running boards, conduit, guard strips or other approved means as required in Section 336-6(d).

Exception No. 2: Exposed nonmetallic-sheathed cable which is properly supported and neatly disposed may enter the top section only of a surface-mounted main service panel where the distance from the top of the panel to the bottom of the ceiling joist above does not exceed 2-1/2 feet.

~~(c) In Unfinished Basements. Where the cable is run at angles with joists in unfinished basements, it shall be permissible to secure cables not smaller than two No. 6 or three No. 8 conductors directly to the lower edges of the joists. Smaller cables shall either be run through bored holes in joists or on running boards.~~

(d) In Accessible Attics. The installation of cable in accessible attics or roof spaces shall also comply with Section 333-12.

(e) Unexcavated Spaces. Type NM cable installed in compliance with the requirements of this section may be used in unexcavated spaces under dwellings provided that all outlet and junction boxes are installed in accessible locations.

Section 34. Section 336-21 of the National Electrical Code, 1999 edition, is repealed.

Section 35. Section 338-2 of the National Electrical Code, 1999 edition, is repealed.

Section 36. The National Electrical Code, 1999 edition, is amended by adding Section 338-3(d) as follows:

(d) Uses not permitted. Type SE and USE cables shall not be permitted in the Fire District.

Section 37. Article 342 of the National Electrical Code, 1999 edition, is repealed.

Section 38. Section 348-4, 348-5 and 348-6 of the National Electrical Code, 1999 edition, are amended as follows:

348-4. Uses Permitted.

(b) Corrosion Protection. Ferrous or nonferrous electrical metallic tubing, elbows, couplings, and fittings shall be permitted to be installed in concrete above grade, ~~in direct contact with the earth,~~ or in areas subject to severe corrosive influences where protected by corrosion protection and judged suitable for the condition.

FPN: See Section 300-6 for information on protection against corrosion.

348-5. Uses Not Permitted. Electrical metallic tubing shall not be used

(1) Where, during installation or afterward, it will be subject to severe physical damage.

(2) Where protected from corrosion solely by enamel.

(3) In cinder concrete or cinder fill where subject to permanent moisture unless protected on all sides by a layer of noncinder concrete at least 2 in. (50.8 mm) thick or unless the tubing is at least 18 in. (457 mm) under the fill.

(4) In any hazardous (classified) location except as permitted by Sections 502-4, 503-3, and 504-20.

(5) For the support of fixtures or other equipment except conduit bodies no larger than the largest trade size of the tubing. Where practicable, dissimilar metals in contact anywhere in the system shall be avoided to eliminate the possibility of galvanic action.

Exception: Aluminum fittings and enclosures shall be permitted to be used with steel electrical metallic tubing.

(6) In direct contact with earth or in concrete at or below grade.

348-6. Wet Locations. All supports, bolts, straps, screws, etc., shall be of corrosion-resistant materials or protected against corrosion by corrosion-resistant materials. Circuits installed in electrical metallic tubing in wet locations shall use equipment grounding wires sized according to Section 250-122.

FPN: See Section 300-6 for information on protection against corrosion.

Section 39. Section 370-1 of the National Electrical Code, 1999 edition, is amended as follows:

370-1. Scope. This article covers the installation and use of all boxes and conduit bodies used as outlet, junction, or pull boxes, depending on their use, and manholes and other electric enclosures intended for personnel entry. Cast, sheet metal, nonmetallic, and other boxes such as FS, FD, and larger boxes are not classified as conduit bodies. This article also includes installation requirements for fittings used to join raceways and to connect raceways and cables to boxes and conduit bodies.

See Section 1206 of the Seattle Building Code for location of outlet boxes in sound transmission control assemblies.

Section 40. Section 380-3(a) of the National Electrical Code, 1999 edition, is amended as follows:

380-3 Enclosure.

(a) General. Switches and circuit breakers shall be of the externally operable type mounted in an enclosure listed for the intended use. The minimum wire-bending space at terminals and minimum gutter space provided in switch enclosures shall be as required in Section 373-6.

~~Exception No. 1: Pendant- and surface-type snap switches and knife switches mounted on an open-face switchboard or panelboard shall be permitted without enclosures.~~

~~Exception No. 2: Switches and circuit breakers installed in accordance with Sections 110-27(a) (1), (2), (3), or (4) shall be permitted without enclosures.~~

Section 41. Section 380-10(a) of the National Electrical Code, 1999 edition, is repealed.

Section 42. The National Electrical Code, 1999 edition, is amended by adding Section 380-13(e) as follows:

(e) Capacity Limitation. All switches shall be of the interlocking type. All switches used as service disconnecting means or those rated over 300 volts shall have two way interlocking.

Section 43. Section 450-10 of the National Electrical Code, 1999 edition, is amended as follows:

450-10. Grounding. (a) Exposed noncurrent-carrying metal parts of transformer installations, including fences, guards, etc., shall be grounded where required under the conditions and in the manner specified for electric equipment and other exposed metal parts in Article 250.

(b) Transformer Neutral Grounding. Where services over 600 volts are supplied from multi-ground, neutral systems in which transformer protection is provided by fuses in the primary feeders as provided in the National Electrical Code,

Section 450- 3(a), the grounded neutral conductor shall be connected to a grounding electrode at each transformer location. Where the secondary of the transformer or transformers is grounded, the secondary ground shall be connected to the common neutral ground.

Exception: Will not apply to industrial distribution systems.

Section 44. The National Electrical Code, 1999 edition, is amended by adding Sections 450-19 and 450-20 as follows:

450-19. Location.

(a) Location of Pad-Mounted Transformers.

Definition - A pad-mounted transformer installation is an installation of an oil-filled transformer outdoors wherein all bushings, handholes and live and operating parts are guarded by a solid metal enclosure so secured as to be available to authorized qualified personnel only. This will not prohibit the use of approved glass monitoring devices or properly baffled ventilators.

(1) Where a pad-mounted transformer is to be installed adjacent to a structure of combustible material, it shall not be closer than 10 feet. This ten-foot separation shall be measured from the nearest metal portion of the pad-mounted transformer installation to the nearest building features required to be safeguarded. In the case of overhanging eaves or roof lines of combustible material on standard single story structure, the ten- foot measurement shall be made in such a way as to provide at least ten feet of clear space between the eaves and the nearest metal portion of the pad-mounted transformer installed outside a vertical line extended from the ends of the eaves to the ground if this distance is at least ten feet horizontally from a combustible wall. In addition, the grade of the ground at the location of the pad-mounted transformer shall be such that any oil leaking from the transformer will flow away from the building and will not form pools.

Exception: In urban residential areas where improved alleyways are used, and where a pad-mounted transformer is to be installed adjacent to a structure of combustible material, it shall not be closer than 2 feet provided the structure is noninhabited, such as a detached automobile garage.

(2) Pad-mounted transformer installations shall not be made nearer than two feet, measured horizontally, to a noncombustible building surface having no doors, windows or other openings closer than indicated in paragraph (2).

(3) Pad-mounted transformer installations shall not be located where exposed to damage by automobiles, trucks or other mobile types of machinery. Where transformers are installed in areas subject to other than pedestrian traffic, they shall be provided with additional guarding.

(4) Pad-mounted transformer installations shall meet the requirements for being effectively grounded as provided in Section 250-2, National Electrical Code.

(b) Total Underground Transformers. Enclosures for total underground transformers shall not be located within 10 feet of a doorway or fire escape. Adequate space shall be maintained above the total underground transformer enclosure so that a boom may be used to lift the transformer.

(c) Transformer Vaults. Articles 450-41 through 450-48, inclusive, of the NEC are repealed. See the Seattle Building Code, Section 414 and Appendix Chapter 4 for construction requirements for transformer vaults.

450-20. Rating of Dry-Type Transformers. Dry-type transformers shall be rated not less than the load served as determined in accordance with Article 220 of the National Electrical Code.

Section 45. Sections 450-41 through 450-48 of the National Electrical Code, 1999 edition, are repealed.

Section 46. Section 553-4 of the National Electrical Code, 1999 edition, is amended as follows:

553-4 Location of Service Equipment. The service equipment for a floating building shall be located adjacent to, but not in or on, the building.

Exception: In existing situations, the service equipment may be located in or on the building by special permission.

Section 47. The National Electrical Code, 1999 edition, is amended by adding Section 555-12 as follows:

555-12. Lighting Fixtures. All walkways over water shall be illuminated to provide safe access. All lighting fixtures shall be listed for the use.

Section 48. Section 620-5 of the National Electrical Code, 1999 edition, is amended as follows:

620-5. Working Clearances. Working space shall be provided about controllers, disconnecting means, and other electrical equipment. The minimum working space shall not be less than that specified in ~~Section 110-26(a)~~ the Seattle Building Code, Section 3016.3.

~~Where conditions of maintenance and supervision ensure that only qualified persons will examine, adjust, service, and maintain the equipment, the clearance requirements of Section 110-26(a) shall be waived as permitted in (a) through (d).~~

~~(a) Flexible Connections to Equipment. Electrical equipment in (1) through (4) is provided with flexible leads to all external connections so that it can be repositioned to meet the clear working space requirements of Section 110-26(a).~~

~~(1) Controllers and disconnecting means for dumbwaiters, escalators, moving walks, wheelchair lifts, and stairway chair lifts installed in the same space with the driving machine~~

~~(2) Controllers and disconnecting means for elevators installed in the hoistway or on the car~~

~~(3) Controllers for door operators~~

~~(4) Other electrical equipment installed in the hoistway or on the car~~

~~(b) Guards. Live parts of the electrical equipment are suitably guarded, isolated or insulated, and the equipment can be examined, adjusted, serviced, or maintained while energized without removal of this protection.~~

~~FPN: See definition of Exposed in Article 100.~~

~~(c) Examination, Adjusting, and Servicing. Electrical equipment is not required to be examined, adjusted, serviced, or maintained while energized.~~

~~(d) Low Voltage. Uninsulated parts are at a voltage not greater than 30 volts rms, 42 volts peak, or 60 volts dc.~~

The clear working space in front of a disconnecting means shall be not less than 48 inches (1.22m) in depth and 30 inches (.76m) in width.

Elevator machine rooms are required to have not less than 7 feet 0 inches of headroom, per ASME A17.1, Rule 101.4.

Section 49. Section 620-21 of the National Electrical Code, 1999 edition, is amended as follows:

620-21. Wiring Methods. Conductors and optical fibers located in hoistways, in escalator and moving walk wellways, in wheelchair lifts, stairway chair lift runways, and machinery spaces, in or on cars, and in machine and control rooms, not including the traveling cables connecting the car or counterweight and hoistway wiring, shall be installed in rigid metal conduit, intermediate metal conduit, electrical metallic tubing, rigid nonmetallic conduit or wireways, ~~or shall be Type~~

~~MC, MI, or AC cable~~ unless otherwise ~~permitted~~ specified in (a) through (c).

Type MC cable or Type MI cable shall be permitted to be installed in elevator spaces only by special permission and prior approval of the building official.

(a) Elevators.

(1) Hoistways.

~~(a)~~ Nonmetallic raceways and wireways shall only be installed in hoistways not required to be noncombustible fire resistant construction. Flexible metal conduit, liquidtight flexible metal conduit, or liquidtight flexible nonmetallic conduit shall be permitted in hoistways between risers and limit switches, interlocks, operating buttons, and similar devices. Flexible conduit runs are limited to 6 feet (1.83 m) in length.

~~(b) Cables used in Class 2 power-limited circuits shall be permitted to be installed between risers and signal equipment and operating devices provided the cables are supported and protected from physical damage and are of a jacketed and flame-retardant type.~~))

Feeders shall be permitted inside the hoistway for elevators with driving machine motors located in the hoistway or on the car or counterweight.

(2) Cars.

(a) Nonmetallic raceways and wireways shall only be installed on cars located in hoistways not required to be noncombustible fire resistant construction. Flexible metal conduit, liquidtight flexible metal conduit, or liquidtight flexible nonmetallic conduit of 3/8-in. nominal trade size or larger, not exceeding ~~6 ft (1.83 m)~~ 3 feet (.915 m) in length shall be permitted on cars where located so as to be free from oil and if securely fastened in place. Flexible conduit shall not be located where it can be walked on or damaged.

Exception: Liquidtight flexible nonmetallic conduit of 3/8 in. nominal trade size or larger, as defined by Section 351-22(2), shall be permitted in lengths not in excess of 6 ft (1.83 m).

(b) Hard-service cords and junior hard-service cords that conform to the requirements of Article 400 (Table 400-4) shall be permitted as flexible connections between the fixed wiring on the car and devices on the car doors or gates. Hard-service cords only shall be permitted as flexible connections for ~~the~~ portable type top-of-car operating devices or ~~the~~ car-top work lights. Devices or fixtures shall be grounded by means of an equipment grounding conductor run with the circuit conductors. Cables with smaller conductors and other types and thicknesses of insulation and jackets shall be permitted as flexible connections between the fixed wiring on the car and devices on the car doors or gates, if listed for this use.

~~(c) Flexible cords and cables that are components of listed equipment and used in circuits operating at 30 volts rms or less or 42 volts dc or less shall be permitted in lengths not to exceed 6 ft (1.83 m) provided the cords and cables are supported and protected from physical damage and are of a jacketed and flame-retardant type.~~

(d) Flexible metal conduit, liquidtight flexible metal conduit, liquidtight flexible nonmetallic conduit or flexible cords and cables, or conductors grouped together and taped or corded that are part of listed equipment, a driving machine, or a driving machine brake shall be permitted on the car assembly, in lengths not to exceed ~~6 ft (1.83 m)~~ 3 feet (.915 m) without being installed in a raceway and where located to be protected from physical damage and are of a flame-retardant type.

(3) Machine Room and Machinery Spaces.

(a) Flexible metal conduit, liquidtight flexible metal conduit, or liquidtight flexible nonmetallic conduit of 3/8 in. nominal trade size or larger, not exceeding 6 ft (1.83 m) in length, shall be permitted between control panels and

machine motors, machine brakes, motor-generator sets, disconnecting means, and pumping unit motors and valves.

Exception: Liquidtight flexible nonmetallic conduit, as defined in Section 351-22(2), shall be permitted to be installed in lengths not in excess of 6 ft (1.83 m).

(b) Where motor-generators, machine motors, or pumping unit motors and valves are located adjacent to or underneath control equipment and are provided with extra-length terminal leads not exceeding 6 ft (1.83 m) in length, such leads shall be permitted to be extended to connect directly to controller terminal studs without regard to the carrying-capacity requirements of Articles 430 and 445. Auxiliary gutters shall be permitted in machine and control rooms between controllers, starters, and similar apparatus.

~~(c) Flexible cords and cables that are components of listed equipment and used in circuits operating at 30 volts rms or less or 42 volts dc or less shall be permitted in lengths not to exceed 6 ft (1.83 m) provided the cords and cables are supported and protected from physical damage and are of a jacketed and flame-retardant type.~~))

(d) On existing or listed equipment, conductors shall also be permitted to be grouped together and taped or corded without being installed in a raceway. Such cable groups shall be supported at intervals not over 3 ft (914 mm) and located so as to be protected from physical damage.

(4) Counterweight. Nonmetallic raceways and wireways shall only be installed on counterweights installed in hoistways not required to be noncombustible fire resistant construction. Flexible metal conduit, liquidtight flexible metal conduit, liquidtight flexible nonmetallic conduit or flexible cords and cables, or conductors grouped together and taped or corded that are part of listed equipment, a driving machine, or a driving machine brake shall be permitted on the counterweight assembly, in lengths not to exceed 6 ft (1.83 m) without being installed in a raceway and where located to be protected from physical damage and are of a flame-retardant type.

(b) Escalators.

(1) Flexible metal conduit, or liquidtight flexible metal conduit, or liquidtight flexible nonmetallic conduit shall be permitted in escalator and moving walk wellways. Flexible metal conduit or liquidtight flexible metal conduit of 3/8-in. nominal trade size shall be permitted in lengths not in excess of 6 ft (1.83 m).

Exception: 3/8 in. nominal trade size or larger liquidtight flexible nonmetallic conduit, as defined in Section 351-22(2), shall be permitted to be installed in lengths in excess of 6 ft (1.83 m).

~~(2) Cables used in Class 2 power-limited circuits shall be permitted to be installed within escalators and moving walkways provided the cables are supported and protected from physical damage and are of a jacketed and flame-retardant type.~~))

(3) Hard-service cords that conform to the requirements of Article 400 (Table 400-4) shall be permitted as flexible connections on escalators and moving walk control panels and disconnecting means where the entire control panel and disconnecting means are arranged for removal from machine spaces as permitted in Section 620-5.

(c) Wheelchair Lifts and Stairway Chair Lift Raceways.

(1) Flexible metal conduit or liquidtight flexible metal conduit shall be permitted in wheelchair lifts and stairway chair lift runways and machinery spaces. Flexible metal conduit or liquidtight flexible conduit of 3/8-in. nominal trade size shall be permitted in lengths not in excess of 6 ft (1.83 m).

Exception: 3/8 in. nominal trade size or larger liquidtight flexible nonmetallic conduit, as defined in Section 351-22(2), shall be permitted to be installed in lengths in excess of 6 ft (1.83 m).

(2) Traveling ~~C~~cables used in Class 2 power-limited circuits shall be permitted to be installed within wheelchair lifts and stairway chair lift runways and machinery spaces provided the cables are supported and protected from physical

damage and are of a jacketed and flame-retardant type.

Section 50. Section 620-22(a) of the National Electrical Code, 1999 edition, is amended as follows:

620-22. Branch Circuits for Car Lighting, Receptacles(s), Ventilation, Heating, and Air Conditioning.

(a) Car Light Source. A separate branch circuit shall supply the car lights, receptacles(s), auxiliary lighting power source, and ventilation on each elevator car. The overcurrent device protecting the branch circuit shall be located in the elevator machine room/machinery space.

Required lighting shall not be connected to the load side terminals of a ground-fault circuit-interrupter receptacle(s).

Section 51. Section 620-44 of the National Electrical Code, 1999 edition, is amended as follows:

620-44. Installation of Traveling Cables. Traveling cable shall be permitted to be run without the use of a raceway for a distance not exceeding 6 ft (1.83 m) in length as measured from the first point of support on the elevator car or hoistway wall, or counterweight where applicable, provided the conductors are ~~grouped together and taped or corded, or~~ in the original sheath.

Traveling cables shall be permitted to be continued to elevator controller enclosures and to elevator car and machine room connections, as fixed wiring, ~~provided they are suitably supported and protected from physical damage~~ and shall be installed in conduits or raceways.

Section 52. Section 620-51(b) of the National Electrical Code, 1999 edition, is amended as follows:

(b) Operation. No provision shall be made to open or close this disconnecting means from any other part of the premises. If sprinklers are installed in hoistways, machine rooms, or machinery spaces, the disconnecting means shall be permitted to ~~automatically~~ open the power supply to the affected elevator(s) prior to the application of water. No provision shall be made to automatically close this disconnecting means. Power shall only be restored by manual means.

(FPN): To reduce hazards associated with water on live elevator electrical equipment.

Section 53. Section 620-71 of the National Electrical Code, 1999 edition, is amended as follows:

620-71. Guarding Equipment. Elevator, dumbwaiter, escalator, and moving walk driving machines; motor-generator sets; motor controllers; and disconnecting means shall be installed in a room or enclosure set aside for that purpose unless otherwise permitted in (a) or (b). The room or enclosure shall be secured against unauthorized access.

Non-elevator equipment, wiring, pipes, etc., are prohibited in elevator hoistways, pits, machine rooms and spaces. Only such equipment and wiring that pertain to the elevator and its operation are permitted in these elevator spaces. See Section 3022 of the Seattle Building Code.

By special permission, when prior written approval is obtained from the building official, elevator motor controllers and driving machines may be permitted inside the hoistway.

(a) Motor Controllers. Motor controllers shall be permitted outside the spaces herein specified, provided they are in enclosures with doors or removable panels that are capable of being locked in the closed position and the disconnecting means is located adjacent to or is an integral part of the motor controller. Motor controller enclosures for escalator or moving walks shall be permitted in the balustrade on the side located away from the moving steps or moving treadway. If the disconnecting means is an integral part of the motor controller, it shall be operable without opening the enclosure.

(b) Driving Machines. Elevators with driving machines located on the car, counterweight, ~~or in the hoistway,~~ and driving machines for dumbwaiters, wheelchair lifts, and stairway lifts shall be permitted outside the spaces herein

specified.

Section 54. Section 700-4 of the National Electrical Code, 1999 edition, is amended as follows:

700-4. Tests and Maintenance.

(a) Conduct or Witness Test. The authority having jurisdiction shall conduct or witness a test of the complete system upon installation and periodically afterward under the control of the Seattle Fire Department.

(b) Tested Periodically. Systems shall be tested periodically by the building owner and/or manager on a schedule acceptable to the authority having jurisdiction to ensure the systems are maintained in proper operating condition.

(c) Battery Systems Maintenance. Where battery systems or unit equipments are involved, including batteries used for starting, control, or ignition in auxiliary engines, the authority having jurisdiction shall require periodic maintenance by the building owner and/or manager.

(d) Written Record. A written record shall be kept of such tests and maintenance.

(e) Testing Under Load. Means for testing all emergency lighting and power systems during maximum anticipated load conditions shall be provided.

Section 55. Section 700-16 of the National Electrical Code, 1999 edition, is amended as follows:

700-16. Emergency Illumination. Emergency illumination shall include all required means of egress lighting, illuminated exit signs, and all other lights specified as necessary to provide required illumination.

Emergency lighting systems shall be designed and installed so that the failure of any individual lighting element, such as the burning out of a light bulb, cannot leave in total darkness any space that requires emergency illumination.

Where high-intensity discharge lighting such as high- and low- pressure sodium, mercury vapor, and metal halide is used as the sole source of normal illumination, the emergency lighting system shall be required to operate until normal illumination has been restored.

Exception: Alternative means that ensure emergency lighting illumination level is maintained shall be permitted.

Fixtures of alternate design may be used when specifically approved by the building official.

Exit signs with open bottom lighting shall not be considered as taking the place of a required pathway light unless specifically approved for the purpose.

Exit illumination (pathway lighting) and emergency area lighting shall comply with Chapter 10 of the Seattle Building Code.

Section 56. Section 701-10 of the National Electrical Code, 1999 edition, is amended as follows:

701-10. Wiring Legally Required Standby Systems. For shaft pressurization installed according to exception 2 of Section 905.2.1 of the Seattle Building Code, the legally required standby system wiring shall be kept entirely independent of all other wiring and equipment and shall not enter the same raceway, cable, box, or cabinet with other wiring. For other ~~The~~ legally required standby systems, wiring shall be permitted to occupy the same raceways, cables, boxes, and cabinets with other general wiring.

Section 57. This ordinance shall take effect and be in force thirty (30) days from and after its approval by the Mayor, but if not approved and returned by the Mayor within ten (10) days after presentation, it shall take effect as provided by the Municipal Code Section 1.04.020.

Passed by the City Council the _____ day of _____, 1999 and signed by me in open session in authentication of its passage this _____ day of _____, 1999. _____ President of the City Council

Approved by me this ____ day of _____, 1999. _____ Paul Schell, Mayor

Filed by me this _____ day of _____, 1999. _____ City Clerk

6/10/99 v2