DJS 308: 2015
ICS 91.040.01

DRAFT

Jamaican Standard

Jamaica Application Document

for the

International Property Maintenance Code

Draft Jamaican Standard

BUREAU OF STANDARDS JAMAICA

COMMENT DEADLINE: 05 OCTOBER 2015

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JBS CERTIFICATION MARK PROGRAMME

The general policies of the JBS Certification Mark Programme are as follows:

- The JBS provides certification services for manufacturers participating in the programme and licensed to use the gazetted JBS Certification Marks to indicate conformity with Jamaican Standards.

- Where feasible, programmes will be developed to meet special requirements of the submitter. Where applicable, certification may form the basis for acceptance by inspection authorities responsible for enforcement of regulations.

- In performing its functions in accordance with its policies, JBS will not assume or undertake any responsibility of the manufacturer or any other party.

Participants in the programme should note that in the event of failure to resolve an issue arising from interpretation of requirements, there is a formal appeal procedure.

Further information concerning the details of the JBS Certification Mark Programme may be obtained from the Bureau of Standards, 6 Winchester Road, Kingston 10.

CERTIFICATION MARKS

Product Certification Marks

Plant Certification Mark

Certification of Agricultural Produce
(CAP) Mark

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Jamaica Application Document

for the

International Property Maintenance Code

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First published February 2009.

First revision Month 20xx

This standard was circulated in the draft form for comment under the reference DJS 308: 2015.

Jamaican Standards establish requirements in relation to commodities, processes and practices, but do not purport to include all the necessary provisions of a contract.

The attention of those using this standard specification is called to the necessity of complying with any relevant legislation.

Amendments

No.	Date of Issue	Remarks	Entered by and date

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Foreword

This standard is a revision of and supersedes JS 308: 2009.

Property Maintenance is indispensable to the proper functioning and upkeep of plants and buildings. Unless the operation of a plant or building is efficient and cost effective its productivity and competitiveness will not compare favourably with those competitors who take maintenance seriously. Maintenance is critical to productivity, profitability, energy efficiency and contributes to the health and safety of building occupants.

Jamaican code officials have recognized the importance of maintenance to building energy efficiency, rentability, occupant's productivity, health and safety and are seeking ways to facilitate effective maintenance as a rule. With this code, code officials, designers and contractors appreciate the essential elements of maintenance and by collective action help to make it an essential and manageable part of building operation. This Application Code with the International Property Maintenance Code will enable code officials, designers and contractors to approach their work with maintenance issues in mind.

Applicable version of the IPMC

This Application Document is based on the 2009 version of the International Property Maintenance Code (IPMC). It shall be read in conjunction with this version of the IPMC.

Subsequent versions of the IPMC may require subsequent versions of this Application Document.

Use and structure

Users wishing to apply the IPMC in Jamaica must first consult this Application Document in order to get guidance on what applies, alternate compliance paths, additional data and information that apply to maintenance in Jamaica.

The structure of this application document runs parallel to that of the IPMC at the Chapters' level. This means that all chapter titles from the IPMC are covered and included in the application document. The numbering system of the chapters is also maintained as far as is practicable.

Section and sub-section titles and numbering system are maintained according to the following rules:

1. Where all the requirements of a section, sub-section or clause of the IPMC applies without any addition or local caveat, the section title, the sub-section or clause, number and text are usually omitted from this Application Document and reference made to the IPMC. This is represented by the term "IPMC shall apply";
2. Where there are national requirements, the section and/or sub-section number and title along with the appropriate clause are included in this Application Document. The number and title of sections and sub-sections follow the numbering sequence of the IPMC;
3. For ease of use and to minimize any ambiguity in the reading or interpretation of this Application Document, there are instances when number and title of a section or sub-section are retained; this rule applies mainly to scope and application or when the information may be helpful to establish sequence or context.

Development

A Steering or Managing Committee comprising stakeholders from the Jamaica Institution of Engineers (JIE), Jamaica Institution of Architects (JIA), Incorporated Master-builders Association of Jamaica (IMAJ), Academia (University of Technology, Jamaica), Ministry of Local Government & Community Development (MLGCD), Ministry of Land and Development (MLD), Bureau of Standards Jamaica (BSJ), Housing Developers & Mortgagers / Financiers, National Environmental Protection Agency and Practicing Architects and Engineers was first put in place to manage the code development process. This Committee started monthly meetings in September 2003 to plan the adoption process, develop implementation strategy and put in place the organizational structure to accomplish the adoption process.

Within four months of its establishment the Steering Committee's made and implemented the following decisions that impacted directly on the drafting of the International Property Maintenance Code (IPMC) Application Document (Guide to the use of the International Property Maintenance Code in Jamaica):

i) Established the Electrical and Mechanical Sub-committee and gave it the responsibility to review the IPMC and draft its Application Document.
ii) Empowered the Electrical and Mechanical Sub-committee the freedom to appoint its Working Group members that would be undertaking the review and drafting process.
iii) Mandated that the Electrical and Mechanical Sub-committee draft and deliver the terms of reference for the Working Group.
iv) Requested that the Electrical and Mechanical Sub-committee require of the Working Group establishment of meeting schedule, review and drafting schedules.
v) Requested that the Electrical and Mechanical Sub-committee work out with the Working Group a system for reporting on its review and drafting progress at least once per month.

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vi) Requested that the Electrical and Mechanical Sub-committee inform the Working Group that the draft Application Document shall:
- Outline areas of the IPMC that do not apply in Jamaica.
- Specify alternate compliance paths for IPMC Clauses that are too costly for general implementation or technologically too difficult for national acceptance at this time.
- Specify local technologies that have been tried, tested and proven but not included in the IPMC.
- Include clauses or information from the existing building code and Regulations.
- Inform the Working Group of the Code Secretariat services including the logistical support that is available to the project on a daily basis.

The IPMC Working Group started it work in April 2004 under the guidance of the Electrical & Mechanical Sub-committee.

Adoption

The International Code Council (ICC) has made the IPMC available for adoption and use by jurisdictions internationally through the Ordinance process. In view of this, a Sample Ordinance is included at the front of the IPMC showing the information that a jurisdiction needs to fill in for the adoption process to be legally complete and binding. However, in Jamaica adoption by Ordinance is not possible as Ordinance is considered subsidiary legislation. This Jamaica Application Document for the IPMC and the associated International Code is legally binding through the enactment of the Building Laws of Jamaica.

Maintenance

Application documents will require updating and changes over time. Jamaica will participate in the ICC Standards Development and Maintenance programme.

Letter designations in front of section numbers

JIE / BSJ do not plan annual reviews of the Application Documents and to indicate by way of vertical or other positional marks areas that have been revised. No letter designation scheme will therefore be required for the Application Documents.

Committee representation

The preparation of this standard for the Standards Council, established under the Standards Act of 1968, was carried out under the supervision of the Building Code Steering Committee and the attendant Sub-committees which at the time comprised the following members:

Existing Building & Property Maintenance Committee

Acknowledgement

The Jamaica Institution of Engineers (JIE) and the Bureau of Standards Jamaica (BSJ) wish to acknowledge the kind cooperation and assistance of the International Code Council (ICC) in allowing the use of its International Property Maintenance Code (IPMC) in the production of this Application Document.

The JIE and the BSJ wish to thank the following organizations for their financial support of this project:
- National Housing Trust
- Jamaica National Building Society
- Jamaica Mortgage Bank
- Victoria Mutual Building Society
- Directors of the Bureau of Standards, Jamaica
- Directors of the Bureau of Standards Foundation

The JIE and BSJ wish to recognize the unstinting service that its many members, staff and other committed citizens have made in the development and publication of this Application Document.

Application document units of measurement

This Application Document must use hard metric measurements (preferred metric units or metric units that are not straight mathematical equivalent of inch-pound units) in order to comply with the Weights and Measures Act of Jamaica. The use of hard metric measurement in conjunction with the IPMC will create problems for the user if the following steps are not rigidly applied:

i) If a formula, table or graph from the IPMC is to be used in the determination of a building parameter in which hard metric measurements from this Application Document are to used, then the code user shall insert the inch-pound value shown in bracket beside the hard metric value in the formula, table or graph in the IPMC to arrive at the building parameter.

ii) Once the parameter has been determined then the user shall convert the inch-pound value obtained to metric using the strict mathematical conversion relationship.

iii) Equipped with the exact metric value the user shall convert this to hard metric using the following guide:

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a. All linear dimensions shall be in mm, square dimensions in mm^2 and volumetric in litres or m^3
b. Every inch (1”) measurement shall be converted at 25 mm per inch hence 1’ – 0” would convert to 300 mm; 1 square foot would convert to 90,000 mm^2 (0.09 m^2) and 1 cubic foot would convert to 0.02832 m^3. Some popular linear inch – pound conversions to hard metric are:
    i. ⅛” = 3 mm
    ii. ¼” = 6 mm
    iii. ⅓” = 8 mm
    iv. ⅜” = 9 mm
    v. ½” = 12 mm
    vi. ⅝” = 15 mm
    vii. ⅔” = 16 mm
    viii. ¾” = 19 mm
    ix. ⅞” = 21 mm
    x. 1” = 25 mm
    xi. 1¼” = 31 mm
    xii. 1½” = 37 mm
    xiii. 2” = 50 mm
    xiv. 3” = 75 mm
    xv. 4” = 100 mm
    xvi. 1’ – 0” = 300 mm
c. Every 1 pound shall be converted to 0.450 kg
d. Every US gallon shall be 3.785 litres while British gallon shall be 4.2 litres
e. ºC shall be [(ºF) – 32] / 1.8
f. 1 pound per square inch shall be 6.895 kPa.

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CHAPTER 1

ADMINISTRATION

SECTION 101
GENERAL

101.1 Title. These requirements constitute the Jamaica Standard Application Document for the International Property Maintenance Code and shall be read in conjunction with the International Property Maintenance Code (IPMC) which together with the IPMC are referred to as the Property Maintenance Code of Jamaica (PMCJ); PMCJ hereinafter referred to as ”this code”.

101.2 Scope. IPMC shall apply.

101.3 Intent. This code shall be construed to secure its expressed intent, which is to ensure public health, safety and welfare insofar as they are affected by the continued occupancy and maintenance of structures and premises. Existing structures and premises that do not comply with these provisions shall be altered or repaired to provide a minimum level of health and safety as required herein. Repairs, alterations, additions to and change of occupancy in existing buildings shall comply with the International Building Code or the International Existing Building Code and their Jamaica Application Documents.

101.4 Severability. IPMC shall apply.

SECTION 102
APPLICABILITY

102.1 General. The provisions of the IPMC shall apply to all matters affecting or relating to structures and premises, as set forth in Section 101. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall govern. Where differences occur between provisions of this code and the referenced standards, the provisions of this code shall apply. Where, in a specific case, different sections of this code specify different requirements, the most restrictive shall govern. The provisions of this code shall not be deemed to nullify any provisions of any national law.

102.2 Maintenance. IPMC shall apply.

102.3 Application of other codes. Repairs, additions or alterations to a structure, or changes of occupancy, shall be done in accordance with the procedures and provisions of the International Building Code, International Existing Building Code, International Fuel Gas Code, International Mechanical Code, National Electric Code (NFPA 70) and their Jamaica Application Documents. Requirements in this code shall not be construed to cancel, modify or set aside any provisions of the Town and Country Planning Act of Jamaica.

102.4 Existing remedies. IPMC shall apply.

102.5 Workmanship. IPMC shall apply.

102.6 Historic buildings. The requirements of this code shall not be mandatory for existing buildings or structures designated as historic by the National Heritage Trust if such buildings or structures in the assessment of the code official, do not constitute a threat to public health, safety and welfare. However any necessary maintenance activity conducted on historic buildings or structures shall be carried out as close as possible to code requirements without doing injury to the historic integrity of the buildings or structures.

102.7 Referenced codes and standards. IPMC shall apply.

Exception: IPMC shall apply.

102.8 Requirements not covered by code. Requirements necessary for the strength, stability or proper operation of an existing fixture, structure or equipment and for public safety, health and general welfare, not specifically covered by this code, shall be referred by the responsible officer under the National Building Act to the relevant authority for determination.

102.9 Application of references. IPMC shall apply.

102.10 Other laws. The provisions of this code shall not be deemed to nullify any provisions of local or national laws.

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SECTION 103
DEPARTMENT OF PROPERTY MAINTENANCE INSPECTION

103.1 General. Part II Section 5 of the National Building Act 2011 shall apply.

103.2 Appointment. Part II Section 7 of the National Building Act 2011 and its Regulations shall apply.

103.3 Deputies. Part II Section 7 of the National Building Act 2011 and its Regulations shall apply.

103.4 Liability. Part V Section 38 of the National Building Act 2011 and its Regulations shall apply.

SECTION 104
POWERS AND DUTIES OF THE CODE OFFICIAL

104.1 General. Part II Section 8 and Part III Section 27 of the National Building Act 2011 and its Regulations shall apply.

104.2 Inspections. Part IV Section 26 and 27 of the National Building Act 2011 and its Regulations shall apply.

104.3 Right of entry. Part V Sections 32 and 41 of the National Building Act 2011 and its Regulations shall apply.

104.4 Identification. The National Building Act 2011 Regulations shall apply.

104.5 Notices and orders. Part V Sections 30 and 39 of the National Building Act 2011 and its Regulations shall apply.

104.6 Department records. The National Building Act 2011 Regulations shall apply.

SECTION 105
APPROVAL

105.1 Modifications. Where there are practical difficulties involved in applying the provisions of this code, the Local Authority shall have the power to grant modifications to code requirements for individual cases upon application of the developer or the developer's representative, provided the Local Authority shall first find that special unique reason that makes the strict letter of this code impractical to implement and the modification to code requirements is in compliance with the intent and purpose of this code, and such modification shall not lessen health, accessibility, life and fire safety or structural adequacy, accessibility adequacy, acceptable quality or durability.

The developer's registered architect or engineer shall outline in writing and drawing, where necessary, the details of the modification requested and the reason for such request.

The Local Authority shall detail and record the action of granting approval for the modification and file all records including the registered architect/engineer report as permanent records for public scrutiny if required.

105.2 Alternative materials, methods and equipment. The provisions of this code are not intended to prevent the use of any construction material or to prohibit any design or method of construction or use of equipment not specifically prescribed by this code, provided that any such alternative material, design or method of construction or equipment has been approved by the Bureau of Standards Jamaica or by a testing or accredited agency recognized by the Bureau.

All alternative materials or designs or methods of construction or equipment for which a building permit is sought shall be approved by the Local Authority if it satisfies the following criteria:

a. The developer that seeks a permit for usage of the alternative material or design or method of construction or equipment shows an authentic, stamped and sealed report from the BSJ granting its approval for construction use.

b. Supports the intent of the provisions of this code by virtue of how it will be utilized and the expected result.

c. Is at least the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and structural safety.

105.3 Required testing. IPMC shall apply.

105.3.1 Test methods. IPMC shall apply.

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105.3.2 Test reports. IPMC shall apply.

105.4 Used material and equipment. IPMC shall apply.

105.5 Approved materials and equipment. IPMC shall apply.

105.6 Research reports. IPMC shall apply.

SECTION 106
VIOLATIONS

106.1 Unlawful acts. Part V Sections 30, 31, 32 and 33 of the National Building Act 2011 and its Regulations shall apply.

106.2 Notice of violation. Part V Section 34 and 35 of the National Building Act 2011 and its Regulations shall apply.

106.3 Prosecution of violation. Part V Section 38 of the National Building Act 2011 and its Regulations shall apply.

106.4 Violation penalties. Part V Section 39 item (7) of the National Building Act 2011 and its Regulations shall apply.

106.5 Abatement of violation. The National Building Act 2011 Regulations shall apply.

SECTION 107
NOTICES AND ORDERS

107.1 Notice to person responsible. Part V Section 34, 39 and 40 of the National Building Act 2011, shall apply.

107.2 Form. Part V Section 35, 39 item 4 and 40 item 4 of the National Building Act 2011, shall apply.

107.3 Method of service. Part V Section 39 item 5 of the National Building Act 2011, shall apply.

107.4 Unauthorized tampering. The National Building Act 2011 Regulations shall apply.

107.5 Penalties. Part V Section 39 item (7) of the National Building Act 2011 and its Regulations shall apply.

107.6 Transfer of ownership. The National Building Act 2011 Regulations shall apply.

SECTION 108
UNSAFE STRUCTURES AND EQUIPMENT

108.1 General. Part VI Section 49 of the National Building Act 2011, shall apply.

108.1.1 Unsafe (dangerous) structures. Part VI Section 48 of the National Building Act 2011, shall apply.

108.1.2 Unsafe equipment. IECC shall apply.

108.1.3 Structure unfit for human occupancy. IECC shall apply.

108.1.4 Unlawful structure. IECC shall apply.

108.1.5 Dangerous structure or premises. IECC shall apply.

108.2 Closing of vacant structures. The National Building Act 2011 Regulations shall apply.

108.2.1 Authority to disconnect service utilities. The utility companies that supply electrical power, water, sewage, cable or telecommunications services to buildings, structures or systems regulated by this code and the referenced codes and standards of section R102.4, shall have the authority to disconnect its own utility service in cases:

a) Where an emergency makes it necessary to eliminate an immediate hazard to life or property;

b) When a service connection has been made to a utility without the requisite approvals of Local Authority and the utility company.

In the case of electrical power the code official (Government Electrical Inspector) shall have the authority to recommend disconnection of a building, structure or system by the power utility company where it is necessary to eliminate an immediate hazard to life or property.

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108.2.1.1 Connection after order to disconnect. A person shall not reconnect a disconnected utility supply by himself / herself but shall await reconnection by the utility company supplying the service. When electricity supply dis-connection has been made because of a fire or other danger to the building and its occupants, reconnection shall require Government Electrical Inspectorate (GEI) re-certification of the corrected electrical system. The power utility company shall require the original certified copy of the GEI inspection / approval report duly stamped and signed by the authorized officer as a condition for reconnection of the service.

108.3 Notice. Part VI Section 51 item (b) of the National Building Act 2011, shall apply.

108.4 Placarding. Part VI Section 52 item (b) of the National Building Act 2011, shall apply.

108.4.1 Placard removal. The National Building Act 2011 Regulations shall apply.

108.5 Prohibited occupancy. Part V Section 43 of the National Building Act 2011, shall apply.

SECTION 109
EMERGENCY MEASURES

109.1 General. Part VI Sections 49 and 50 of the National Building Act 2011, shall apply.

109.2 Temporary safeguards. Part VI Sections 51 of the National Building Act 2011, shall apply.

109.3 Closing streets. The National Building Act 2011 Regulations shall apply.

109.4 Emergency repairs. Part VI Sections 52 of the National Building Act 2011, shall apply.

109.5 Costs of emergency repairs. Part VI Sections 53 of the National Building Act 2011, shall apply.

109.5.1 Power of sale to recover expenses. Part VI Sections 54 of the National Building Act 2011, shall apply.

109.5.2 Building surveyor fees. Part VI Sections 55 of the National Building Act 2011, shall apply.

109.5.3 Special service fees. Part VI Sections 56 of the National Building Act 2011, shall apply.

109.6 Hearing. Part VI Sections 57 of the National Building Act 2011, shall apply.

SECTION 110
DEMOLITION

110.1 General. The National Building Act 2011 Regulations shall apply.

110.2 Notices and orders. The National Building Act 2011 Regulations shall apply.

110.3 Failure to comply. Part VI Sections 52 of the National Building Act 2011, shall apply.

110.4 Salvage materials. The National Building Act 2011 Regulations shall apply.

SECTION 111
MEANS OF APPEAL

111.1 Application for appeal. Part VII Section 71 item (2) of the National Building Act 2011, shall apply.

111.2 Membership of board. Part VII Second schedule of the National Building Act 2011, shall apply.

111.2.1 Alternate members. Part VII Second schedule of the National Building Act 2011, shall apply.

111.2.2 Chairman. Part VII Second schedule of the National Building Act 2011, shall apply.

111.2.3 Disqualification of member Part VII Second schedule of the National Building Act 2011, shall apply.

111.2.4 Secretary. Part VII Second schedule of the National Building Act 2011, shall apply.

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111.2.5 Compensation of members. Part VII Second schedule of the National Building Act 2011, shall apply.

111.3 Notice of meeting. Part VII Second schedule of the National Building Act 2011, shall apply.

111.4 Open hearing. Part VII Second schedule of the National Building Act 2011, shall apply.

111.4.1 Procedure. Part VII Second schedule of the National Building Act 2011, shall apply.

111.5 Postponed hearing. Part VII Second schedule of the National Building Act 2011, shall apply.

111.6 Board decision. Part VII Second schedule of the National Building Act 2011, shall apply.

111.6.1 Records and copies. Part VII Second schedule of the National Building Act 2011, shall apply.

111.6.2 Administration. Part VII Second schedule of the National Building Act 2011, shall apply.

111.7 Court review. Part VII Second schedule of the National Building Act 2011, shall apply.

111.8 Stays of enforcement. Part VII Second schedule of the National Building Act 2011, shall apply.

SECTION 112
STOP WORK ORDER

112.1 Authority. Part V Section 39 item (1) of the National Building Act 2011, shall apply.

112.2 Issuance. Part V Section 39 items (3), (4) and (5) of the National Building Act 2011, shall apply.

112.3 Emergencies. The National Building Act 2011 Regulations shall apply.

112.4 Failure to comply. Part V Section 39 item (7) of the National Building Act 2011, shall apply.

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CHAPTER 2
DEFINITIONS

SECTION 201
GENERAL

201.1 Scope. IPMC shall apply.

201.2 Interchangeability. IPMC shall apply.

201.3 Terms defined in other codes. Where terms are not defined in this code and are defined in the International Building Code, International Fire Code, International Mechanical Code, International Plumbing Code or National Electrical Code NFPA 70, and their Jamaica Application Documents, such terms shall have the meanings ascribed to them in those codes and Application Documents.

201.4 Terms not defined. IPMC shall apply.

201.5 Parts. IPMC shall apply.

SECTION 202
GENERAL DEFINITIONS

IPMC shall apply to all general definitions in this section.

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CHAPTER 3
GENERAL REQUIREMENTS

SECTION 301
GENERAL

301.1 Scope. The provisions of this chapter shall govern the minimum conditions and the responsibilities of persons for maintenance of structures, equipment, building services and exterior property.

301.2 Responsibility. IPMC shall apply.

301.3 Vacant structures and land. All vacant structures and premises thereof or vacant land shall be maintained in a clean, safe, secure and sanitary condition as provided herein so as not to cause urban decay and its consequential depressing effect on surrounding property values, public health or safety.

SECTION 302
EXTERIOR PROPERTY AREAS

302.4 Weeds. All urban premises and exterior property shall be maintained free from weeds or plants in excess of 450 mm (18”). All noxious weeds shall be prohibited. Weeds shall be defined as all grasses, annual plants and vegetation, other than trees or shrubs provided: however, this term shall not include cultivated flowers and gardens.

Upon failure of the owner or agent having charge of a property to cut and destroy weeds after service of a notice violation, they shall be subject to prosecution in accordance with Subsection 106.3 and as prescribed by the authority having jurisdiction. Upon failure to comply with the notice of violation, any duly authorized employee of the jurisdiction or contractor hired by the jurisdiction shall be authorized to enter upon the property in violation and cut and destroy the weeds growing thereon, and the cost of such removal shall be paid by the owner or agent responsible for the property.

302.5 Rodent harborage. All structures and exterior property shall be kept free from rodent harborage and infestation. Where rodents are found, they shall be promptly exterminated using materials and methods approved by the Environmental Health Unit of the Ministry of Health. Approved elimination materials and application shall not be injurious to the health of humans or code official approved pets. After extermination, proper precautions shall be taken to eliminate the accommodation and attractions to prevent re-infestation.

302.6 Exhaust vents. Pipes, ducts, conductors, chimneys, exhaust grills, fans or blowers shall not discharge gases; steam; vapour; hot, stale or foul air; oil or grease; smoke; odors; dust or any other gaseous or particulate wastes directly upon, abutting or adjacent to a public or private property, road, driveway, walkway, neighbouring house or another tenant on the same property. Unless impossible to implement, exhaust vents shall be taken to at least 750 mm (2’ – 6”) above roof level where dissipation can be achieved before reaching another tenant on the same building or in a neighbouring building. Exhaust vents which cannot be taken to above-roof level shall be installed a minimum of 1,200 mm (4’ – 0”) away from the nearest opening of the nearest tenant or neighbouring building.

302.7 Accessory structures. IPMC shall apply.

302.8 Motor vehicles. Except as provided for in other regulations, no inoperative or unlicensed motor vehicle shall be parked, kept or stored on any premises, public side walk or verge and no vehicle shall at any time be in a state of disassembly, disrepair, or in the process of being stripped or dismantled. Painting and repair of vehicles are prohibited in residential areas and are only allowed in other areas if:

a. Painting is conducted inside a spray booth or approved building fitted with a spray room.

b. Repairs are done in buildings or other facilities equipped for this type of operation.

Exception: IPMC shall apply.

302.9 Defacement of property. IPMC shall apply.

302.10 Lawns and gardens. The owner(s) of detached dwelling units, townhouses or non-

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residential buildings that will be owner occupied or leased or rented shall be responsible initially for establishing any lawn and/or garden on the owner occupied, leased or rented property. After the building is occupied, responsibility for maintaining such lawns and gardens in good shape and order shall be that of the building occupants.

For multi-family apartments properties the developer shall establish the lawns and or gardens prior to hand over of the property to the Strata Corporation. After the property has been handed over, the Strata Corporation shall be responsible to maintain the lawns and/or gardens in good shape and order with the cost being shared among all apartment occupants or owner(s).

SECTION 303
SWIMMING POOLS, SPAS AND HOT TUBS

IPMC shall apply.

SECTION 304
EXTERIOR STRUCTURE

304.1 General. IPMC shall apply.

304.1.1 Unsafe conditions. IPMC shall apply.

1. IPMC shall apply.
2. IPMC shall apply.
3. IPMC shall apply.
4. IPMC shall apply.
5. IPMC shall apply.
6. IPMC shall apply.
7. IPMC shall apply.
8. IPMC shall apply.
9. IPMC shall apply.
10. Cornices, belt courses, corbels, trims, wall facings and similar decorative features not properly anchored or that are anchored with connections not capable of supporting all nominal loads and resisting all load effects.
11. Overhang extensions or projections including but not limited to cantilevers, trash chutes, canopies, marquees, signs, awnings, fire escapes, standpipes and exhaust ducts not properly supported or anchored or that are anchored with connections not capable of supporting all nominal loads and resisting all load effects.
12. IPMC shall apply.
13. IPMC shall apply.

Exceptions:

1. IPMC shall apply.
2. IPMC shall apply.

304.18 Building security. Doors, windows or hatchways for dwelling units, room units or housekeeping units shall be provided with devices designed to provide security for the occupants and property within. Such security shall include patterned steel grille installed internally over all external windows and possibly doors in such a manner as to enable occupants in each room to get out of the building without the use of special tools or keys in case of fire. Each room shall have at least one security grille that will facilitate easy escape in case of emergency.

304.18.1 Doors. IPMC shall apply.

304.18.2 Windows. IPMC shall apply.

304.18.3 Basement hatchways. Basement hatchways that provide access to a dwelling unit, rooming unit or housekeeping unit that is rented, leased or let shall be equipped with devices that secure the units from unauthorized entry. Basement hatchways or doors leading from the ground floor to the basement shall not be grilled. However if a basement hatchway or door must be grilled it shall be done only if there is at least one external basement door that can facilitate easy escape to the outdoors without the use of special tools or keys in case of an emergency.

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SECTION 308
RUBBISH AND GARBAGE

308.1 Accumulation of rubbish or garbage. IPMC shall apply.

308.1.1 Sorting of garbage. The Local Authorities shall decide when it will require building occupants to sort their garbage into organic matter, plastics, glass and metals or other categories and place it in colour coded containers for collection by the central garbage collection system. A garbage container colour scheme decided on by the Local Authority shall be used to differentiate the type garbage.

308.2 Disposal of rubbish. Every occupant of a structure shall dispose of all rubbish in a clean and sanitary manner by placing such rubbish in approved containers for collection and disposal by the Local Authority's central garbage collection and disposal system. Garbage shall not be placed outside approved containers or placed in approved containers in a manner where dogs can get to scatter it. Garbage scattered by dogs shall be cleaned up by the building occupant that disposed of it and not by the Local Authority's central garbage collectors.

308.2.1 Rubbish storage facilities. The owner of every occupied building or dwelling unit shall provide Local Authority approved street located covered containers for the garbage awaiting collection. Detached building or dwelling unit occupants shall provide the containers for sorted or unsorted garbage leaving the building or dwelling unit for the street covered garbage container. The building or dwelling unit occupant(s) shall be responsible for taking the garbage to the street located garbage container and dispose of it in a manner that prevents dogs getting access to it.

308.2.2 Refrigerators. Refrigerators and similar appliances or equipment that are inoperable or to be disposed of shall not be discarded, abandoned or stored on premises without first removing the door(s) and rendering the units unattractive for rodents and pests such as mosquitoes. Special arrangements with private truckers shall be made by building occupants or owners to dispose of refrigerators and similar appliances. These types of large and heavy appliances and equipment shall not be placed in the garbage.

308.2.3 Used tyres. Used tyre disposal shall follow the guidelines or regulations of the National Environmental and Planning Agency (NEPA) or any succeeding organizations having responsibility for the environment. Used tyres shall not be stored, abandoned or disposed of in a manner that encourages rodents and pests infestation. Used tyres shall not be placed in the garbage.

308.2.4 Other automobile parts and materials. No automobile parts, oils, fluids or grease shall be disposed in the garbage. NEPA requirements and guidelines shall be followed or parts shall be sold as scrap and the oils and fluids recycled.

308.3 Disposal of garbage. IPMC shall apply.

308.3.1 Garbage facilities. The owner(s) of every multi-storey, multi-family residential buildings or multi-storey, multi-office / multi-shop commercial buildings or multi-storey, multi-dwelling unit buildings shall provide one of the following:

a. An approved garbage chute system accessible from every floor that terminates in a covered container on the ground floor. The container shall be removable so it can be emptied into garbage collection trucks; or

b. An approved leak-proof, covered, outside garbage container or skip that can be picked up by the garbage collectors and replaced by another.

In addition to one of the above, the owner(s) may provide one or both of the following:

a. An approved mechanical food waste grinder in each dwelling unit. The grounded waste shall go directly into the sanitary waste disposal system.

b. An approved incinerator unit in the compound available to the occupants of each dwelling unit.

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308.3.2 Containers. IPMC shall apply.

SECTION 309
PEST ELIMINATION

309.1 Infestation. All buildings and structures shall be kept free from insect and rodent infestation. Where insects or rodents are found, they shall be promptly exterminated using processes approved by the Environmental Health Unit of the Ministry of Health. Approved elimination materials and application shall not be injurious to the health of humans or code-official-approved pets. After extermination, proper precautions shall be taken to eliminate the accommodation and attractions to prevent re-infestation.

309.2 Owner. The owner of any building or structure shall be responsible for extermination within the building or structure prior to renting or leasing the building or structure. Following rental or leasing, the lessee/occupant shall be responsible for exterminations during the period of rental or leasing.

309.3 Single occupant. IPMC shall apply.

309.4 Multiple occupancy. IPMC shall apply.

309.5 Occupant. IPMC shall apply.

Exception: IPMC shall apply.

SECTION 310
DESIGN PARAMETERS

310.1 General. Building services designers have the responsibility to ensure that equipment and systems are capable of being operated in accordance with the design parameters and can be efficiently and safely maintained. As part of this, the written procedures provided to fulfill operation and maintenance requirements should be easily understandable and achievable. Designers should also ensure that, either by specification or written recommendation, general requirements for maintenance of the installation are set out.

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CHAPTER 4

LIGHT, VENTILATION AND OCCUPANCY LIMITATIONS

SECTION 401
GENERAL

401.1 Scope. IPMC shall apply.

401.2 Responsibility. IPMC shall apply.

401.3 Alternative devices. IPMC shall apply.

SECTION 402
LIGHT

402.1 Habitable spaces. IPMC shall apply.

Exception: IPMC shall apply.

402.2 Common halls and stairways. Every common hall (passage ways) and stairway in residential occupancies, other than in one and two family dwellings, shall be lighted at all times with at least the equivalent of a 30 watt standard incandescent light bulb for each 10 square meters (100 square feet) of floor area, provided that the spacing between lights shall not be greater than 5,400 mm (18 feet). In other than residential occupancies, means of egress, including exterior means of egress, stairways shall be illuminated at all times. The building space served by the means of egress shall have minimum illumination levels of 11 lux (1.0 foot-candle) at floors, landings and treads.

402.2.1 Escape lighting. When the utility electrical supply to halls and stairways lighting in multi-storey residential or non-residential buildings fails, escape lighting shall immediately and automatically be illuminated. Buildings with standby power shall supply this power to the escape lighting so that as soon as standby power comes on the escape lights will go off and the passage and staircase lighting will be supplied from standby power. Escape lighting shall fulfill the following functions:

1) To indicate clearly and unambiguously the escape routes out of the building;

2) To provide sufficient illumination along the escape routes to allow for safe passage out of the building;

3) For buildings with standby power - provide staircase and exit passage lighting during the power outage period between utility power going off and standby power coming on and vice versa.

4) For buildings without standby power – provide staircase and exit passage lighting after a utility power outage for at least the time it takes to evacuate the building. In no case shall escape lighting last for less than an hour.

5) To ensure that fire alarm call points and firefighting equipment provided along the escape routes can be readily located.

Escape lighting is required not only when there is complete failure of the electrical supply but also when localized electrical failures occur.

402.2.2 Emergency lighting. Multi-storey residential or non-residential buildings with a standby electrical generator shall put all hall-way and stairway lighting (emergency lighting) on the standby electrical supply. The standby generator shall be set so these emergency lights will come on within 20 - 25 seconds of the failure of the normal electrical supply. Escape lighting shall be provided even where emergency lighting exists.

402.3 Other spaces. IPMC shall apply.

402.4 Uniformity of illuminance. In view of the possible dangers from stumble, care shall be taken to avoid abrupt changes in lighting intensity levels in the escape routes of buildings generally but particularly of multi-storey residential and non-residential buildings. Escape routes shall be illuminated to a minimum of 11 lux (1.0 foot-candle) all along the way.

Exception: Escape routes may have a minimum average illumination level of 5 lux (0.5 foot-candle) all along the way when it is lighted by escape lighting only.

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402.5 Signs for exits and escape routes. All escape routes out of multi-storey residential or non-residential buildings shall be equipped with directional exit signs that are visible in normal power, standby power or escape lighting conditions. Such escape route directional sign arrangement shall be strategically located to enable a building occupant to exit the building from any position inside regardless of whether the building is on utility, standby or escape lighting. Where direct sight of an exit or emergency exit is not possible and there could be any doubt as to the direction of the appropriate exit, a directional sign or series of signs shall be provided and so located that a person moving towards such signs will automatically progress towards a normal or emergency exit.

SECTION 403
VENTILATION

403.1 Habitable spaces. All habitable rooms and spaces shall have a minimum ventilation rate of 30 m^3/hr continuously for every 12 m^2 of floor area or part thereof. This ventilation may be supplied by windows, doors or openings through the external wall to the outdoor air or by mechanical means. A special 30m^3/hr air regulator may be used to achieve this requirement when mechanical ventilation is used.

Every habitable space shall have at least one openable window to the outdoor. The minimum openable area (windows and doors) to the outdoors shall be four percent (4%) of the floor area being ventilated if the building is built with air-conditioning. If the building is not being built with air-conditioning, the minimum openable area shall relate to its size as follows:

a. For building units of size up to 80 m² (800 ft²) the minimum openable area shall be ten percent (10%) of the floor area.

b. For building units having a size from 81 m² to 200 m² (810 ft² to 2,000 ft²) the minimum openable area shall be twelve and a half percent (12½%) of the floor area.

c. For building units having a size above 201 m² (2,010 ft²) the minimum openable area shall be fifteen percent (15%) of the floor area.

Exceptions:

1. Where a habitable room does not have any opening directly to the outdoors it shall be ventilated through an adjoining room that shall have the directly-to-outdoor vented space requirement for both rooms. The vented space or opening between the room being vented and the room through which it will be vented shall be a minimum of 2.5 m² (25 ft²) and shall be unobstructed under all occupancy conditions.

2. Habitable rooms that have insufficient opening directly to the outdoors to meet the above minimum ventilation requirements and the additional ventilation needed can be obtained either through an adjoining room that have the directly-to-outdoor vented space requirement for both the room and the additional requirement or the additional ventilation can be obtained from mechanical or forced means.

3. Habitable rooms without any direct opening to the outdoor that will get its entire ventilation requirement from mechanical or forced means.

403.2 Bathrooms and toilet rooms. Bathrooms, toilet rooms, water closet compartments and other similar rooms shall be provided with aggregate glazed or louvered windows of not less than 0.5 m² (5.4 ft²) that is directly vented to the outdoors. At least seventy five percent (75%) of such windows shall be openable. Air exhausted from a bathroom or toilet room shall not be discharged to the outdoors and shall not be re-circulated.

Exception: Where the bathrooms, toilet rooms, water closet compartments and other similar rooms are provided with mechanical or forced ventilation.

403.3 Cooking facilities. IPMC shall apply.

Exception: IPMC shall apply.

403.4 Process ventilation. IPMC shall apply.

403.5 Clothes dryer exhaust. IPMC shall apply.

Exception: IPMC shall apply.

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SECTION 404
OCCUPANCY LIMITATIONS

404.1 Privacy. IPMC shall apply.

404.2 Minimum room widths. Habitable rooms, except for kitchen, shall have a minimum dimension of 2,500 mm (8 ft) in any horizontal direction. Kitchens may have minimum horizontal dimensions as low as 1,800 mm (6 ft) in any direction but at least one side shall have no walls or walls no higher than 900 mm (3 ft) or walls with at least a 600 mm (2 ft) high opening running along 75 % of the wall's length. Kitchens shall also have a clear passageway of not less than 900 mm (3 ft) between counterfronts and appliances or counterfronts and walls.

404.3 Minimum ceiling heights. The minimum ceiling height of habitable rooms (living, eating, cooking and sleeping), hallways, corridors, laundry areas, bathrooms, toilet rooms and habitable basements without sloping ceiling shall be as follows:

a) 2,750 mm (9.0 ft 2 inches) where natural ventilation is designed for and;

b) 2,450 mm (8.0 ft 2 inches) where mechanical or forced ventilation is provided.

The minimum acceptable height of any room with a sloping ceiling shall be 2,150 mm (7' – 2") measured vertically from finished floor level to the point of lowest acceptable ceiling height. Figure R304.4 shows how the measurement should be made.

Exceptions:

1. Buildings with concrete roofs. These shall have a minimum ceiling height of 3,000 mm (10 ft).

2. In one- and two-family dwellings, beams or girders spaced not less than 1,200 mm (4 ft) on centre may project as much as 150 mm (6 inches) below the above minimum ceiling heights.

3. Basement rooms in one- and two-family dwellings occupied exclusively for laundry, study or recreation purposes, having a ceiling height of not less than 2,150 mm (7 ft 2 inches) with not less than 2,000 mm (6 ft 8 inches) of clear ceiling height under beams, girders, ducts and similar obstruction.

4. Rooms occupied exclusively for sleeping, study or similar purposes and having a sloped ceiling over all or part of the room, with a clear ceiling height of at least 2,150 mm (7 ft 2 inches) over not less than fifty-percent (50 %) of the required minimum floor area. In calculating the floor area of such rooms, only those portions of the floor area with a clear ceiling height of 1,500 mm (5 ft) or more shall be included.

404.4 Bedroom and living room requirements. IPMC shall apply.

404.4.1 Room area. Every dwelling unit shall have at least one habitable room (living or sleeping room), with a minimum floor area of 11.5 m^2 (124 ft^2) of gross floor area. Other habitable rooms shall have a gross floor area of not less than 7.0 m^2 (75 ft^2).

404.4.2 Access from bedrooms. IPMC shall apply.

Exception: IPMC shall apply.

404.4.3 Water closet accessibility. IPMC shall apply.

404.4.4 Prohibited occupancy. IPMC shall apply.

404.4.5 Other requirements. IPMC shall apply.

404.5 Overcrowding. IPMC shall apply.

404.6 Efficiency unit. IPMC shall apply.

404.7 Food preparation. IPMC shall apply.

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CHAPTER 5

PLUMBING FACILITIES AND FIXTURE REQUIREMENTS

SECTION 501
GENERAL

501.1 Scope. IPMC shall apply.

501.2 Responsibility. IPMC shall apply.

[P] SECTION 502
REQUIRED FACILITIES

502.1 Dwelling units. IPMC shall apply.

502.1.1 Helper's facilities. Every dwelling unit shall have or have access to toilet (lavatory), basin and shower facilities for helpers and gardeners who may live on or do days work for occupants of that dwelling unit.

502.2 Rooming houses (dormitories). IPMC shall apply.

502.3 Hotels. Every hotel room or suite shall be provided with its own private bathroom containing at least one basin, one toilet (lavatory) and a shower and/or bathtub.

502.3.1 Motels. Every motel shall provide a communal bathroom for two (2) up to five (5) rooms or four (4) up to ten (10) occupants. Each communal bathroom shall be equipped with at least one basin, one toilet (lavatory) and a shower and/or bathtub for every two (2) rooms and shall be connected to the rooms it serves by a hallway.

502.4 Employees facilities. All institutional facilities, hotels, motels, commercial facilities, industrial facilities and any other work facility that have permanent employees shall provide bathroom facilities containing a minimum of one basin, one toilet and a shower for its employees.

502.4.1 Drinking facilities. IPMC shall apply.

502.5 Public toilet facilities. Every shopping plaza or mall, hotel, motel or stand alone commercial or industrial facility shall have public toilet facilities for customers doing business with the facility. Such public toilet facilities shall satisfy the adequacy and layout requirements of the International Building Code, International Residential Code and their Application Documents. Public toilet facilities shall be maintained in a safe, sanitary and working condition in accordance with the International Plumbing Code (IPC) and its IPC Application Document. Except for periodic maintenance or cleaning, public access and use shall be provided to the toilet facilities at all times during the hours of business.

[P] SECTION 503
TOILET ROOMS

503.1 Privacy. IPMC shall apply.

503.2 Location. IPMC shall apply.

503.3 Location of employee toilet facilities. IPMC shall apply.

Exception: IPMC shall apply.

503.3.1 Location of helper's toilet facilities. Live-off helper or gardener toilet facilities shall be located at the back or side of the premises and shall be constructed so it is accessible only from outside. It shall contain at least a basin and toilet. If the helper or gardener toilet facility is to serve a live-on helper or gardener it shall be accessible from within the helper or gardener room and shall contain at least a basin, a toilet and a shower.

503.4 Floor surface. IPMC shall apply.

[P] SECTION 504
PLUMBING SYSTEMS AND FIXTURES

IPMC shall apply.

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SECTION 505
WATER SYSTEM

505.1 General. Every kitchen or laundry sink, basins, bathtubs, showers, drinking fountains, toilet water closets, garden (outside) pipes and equipment requiring plumbing such as washing machines, dishwashers, refrigerators with ice-makers and water heaters shall be properly connected to either the public water supply or to an approved private water system. All kitchen and laundry sinks, basins, bathtubs, showers, washing machines and dishwashers shall be supplied with hot and cold running water in accordance with the International Plumbing Code.

[P] 505.2 Contamination. IPMC shall apply.

505.3 Supply. IPMC shall apply.

505.4 Water heating facilities. IPMC shall apply.

SECTION 506
SANITARY DRAINAGE SYSTEM

506.1 General. IPMC shall apply.

506.2 Maintenance. IPMC shall apply.

506.3 Grease interceptors. Building occupants or their maintenance personnel shall inspect grease traps periodically to ensure that they are not clogged with grease and close to allowing sanitary waste water to overflow the grease trap container. When the trapped grease has built-up very significantly, remove it and dispose of it in a manner that satisfies the requirements of NEPA. Having removed the trapped grease ensure that the waste water flow through the trap (interceptor) is strong. If the waste water flow is not strong, further cleaning shall be pursued until the flow through the trap is strong.

SECTION 507
STORM DRAINAGE

507.1 General. Drainage of roofs, paved areas, yards, courtyard and other open areas of the premises or lot shall not be discharged in the sanitary sewer or in a manner that will flood roads or neighbouring properties. Storm drainage shall be channeled into the natural or man-made drainage system and the following maintenance activities shall be put in place to keep the storm drainage system open:

a. Remove excessive grass and/or shrubs from the drainage path.

b. Prevent trees from growing in the drainage path.

c. Remove the soil or trash build-up periodically from the drain path.

d. Remove all other forms of debris from the drain path before and after the rainy season.

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CHAPTER 6

MECHANICAL AND ELECTRICAL REQUIREMENTS

SECTION 601
GENERAL

601.1 Scope. IPMC shall apply.

601.2 Responsibility. IPMC shall apply.

SECTION 602
HEATING FACILITIES

602.1 Facilities required. Heating shall be provided only on a elective or demand basis but whenever it is installed shall comply with the requirements of this code.

602.2 Residential occupancies. Dwelling units to be heated on an elective or discretionary basis shall be provided with heating facilities capable of maintaining a room temperature of 22°C (72°F) in all habitable rooms, bathrooms and toilets based on the winter outdoor design temperature for the locality indicated in Appendix D of the International Plumbing Code Application Document. Cooking appliances shall not be used to provide space heating in order to meet the requirements of this section.

Exception: IPMC shall not apply.

602.3 Heat supply. IPMC shall not apply.

Exceptions:

1. IPMC shall apply.
2. IPMC shall not apply

602.4 Occupiable work spaces. IPMC shall not apply.

Exceptions:

1. IPMC shall not apply.
2. IPMC shall not apply

602.5 Room temperature measurement. IPMC shall apply.

SECTION 603
MECHANICAL EQUIPMENT

IPMC shall apply.

SECTION 604
ELECTRICAL FACILITIES

604.1 Facilities required. IPMC shall apply.

604.2 Service. The size of the building electrical system as well as the type, number and usage pattern of electrical appliances and equipment shall serve as the basis for determining the need for the electrical service to be provided in accordance with the National Electric Code and its Jamaica Application Document. Nearly all dwelling units will require no more than a three-wire, 110/220 volt, single phase electrical supply. The amperage rating in no case shall be less than 60 amperes or more than 225 ampere. If electrical service demand exceeds this threshold the building shall be wired for a three phase 4-wire supply. Installations shall be approved by the Government Electrical Inspectorate and communicated to the power utility company before a connection to the grid can be applied for. The installation shall be maintained at the standard it was approved or the GEI can ask the power utility company to disconnect the service on the grounds of safety.

604.3 Electrical system hazards. IPMC shall apply.

604.3.1 Abatement of electrical hazards associated with water exposure. IPMC shall apply.

604.3.1.1 Electrical equipment. IPMC shall apply.

Exception: IPMC shall apply.

604.3.2 Abatement of electrical hazards associated with fire exposure. IPMC shall apply.

604.3.2.1 Electrical equipment. IPMC shall apply.

Exception: IPMC shall apply.

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SECTION 605
ELECTRICAL EQUIPMENT

605.1 Installation. IPMC shall apply.

605.2 Receptacles. Every habitable space in a dwelling shall maintain adequate, separate and remote receptacle outlets. Adequacy shall mean that there is a distance of no more than 1,800 mm (12 feet) between outlets. Every laundry area shall have a dedicated ground fault interrupter (GFI) protected outlet for a washing machine and/or dryer as well as a GFI controlled outlet that may be part of a circuit of four outlets, for an iron. A bathroom may have an outlet to accommodate a shaver or hairdryer. If an outlet is installed in the bathroom it shall be a grounded type with GFI protection on the circuit. Every dwelling unit kitchen shall have a dedicated 15- or 20 ampere circuit for a refrigerator, a counter-top dedicated 20 ampere circuit for a microwave and at least one 20 ampere receptacle outlet circuit with up to four outlets. All kitchen outlet circuits except the refrigerator shall have GFI protection. All receptacles shall be installed to comply with the 2008 National Electric Code NFPA 70 and its Jamaica Application Document and the owner or occupant shall ensure that such compliance is maintained.

605.3 Luminaires. Every public hall, interior stairway, toilet, kitchen, bathroom, laundry room and boiler room shall maintain at least one luminaire that can be switched on at the entrance to the space or room. The owner or building occupant shall ensure that this requirement remains in place and the luminaire and its circuit remains in good working order.

SECTION 606
ELEVATORS, ESCALATORS AND DUMBWAITERS

IPMC shall apply.

SECTION 607
DUCT SYSTEMS

607.1 General. IPMC shall apply.

607.2 Internally insulated duct. Internally insulated ducts shall be checked at least 6 monthly for insulation separation from the metallic portion of the duct. Insulation separation may be confirmed by differential pressure reading between either ends of a duct run or by sound differences to an applied vibration across the entire surface of the duct. Where defects are found they shall be corrected immediately.

607.3 Externally insulated duct. Externally insulated ducts shall be checked at least once per annum for insulation wetting due to condensation wetting (from escaping cold air) or moisture ingress from rain due to a puncture of the moisture barrier layer of the duct. Where defects are found they shall be corrected immediately.

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CHAPTER 7
FIRE SAFETY REQUIREMENTS

SECTION 701
GENERAL

701.1 Scope. IPMC shall apply.

701.2 Responsibility. IPMC shall apply.

701.3 Place of safety. The building owner or its occupants or its maintenance personnel or their agents shall select and maintain a place of safety where all building occupants or persons affected by a fire in the building, can gather and remain out of harm's way while the fire is being fought by competent persons such as the Fire Service.

701.3.1 Location of place of safety. The designated place of safety shall be out of harm's way from the fire, out of other dangers such as traffic and falling debris but within fairly close proximity to the building. In the case of a residential building it may be the backyard or the next door property for which prior permission should be obtained or the side-walk of the street the building is on or the street itself if it is a dead-end-street and the building is located at the dead end.

701.3.2 Building occupants to know place of safety instinctively. The building owner or occupant or the maintenance personnel or their agent shall select the designated place of safety and shall ensure that all building occupants are extremely conversant with it location by:

a. Initial notification.

b. Periodic fire drills.

c. Notification reminders issued at no more than six (6) monthly periods.

[F] SECTION 702
MEANS OF EGRESS

702.1 General. The building owner or its occupants or its maintenance personnel or their agents or the code official shall make periodic inspection to ensure that a safe, continuous and unobstructed path of travel is maintained from any point within the building or structure to the place of safety outside the building. Means of egress, from a building that was deemed compliant with the International Fire Code and its Jamaica Application Document shall continue to meet such requirements.

702.2 Aisles. The building owner or its occupants shall carry out periodic inspections to ensure that the width of aisles continue to be in compliance with the International Fire Code and its Jamaica Application Document or remain as it was when the building was deemed to be compliant with the code.

702.3 Locked doors. The building owner or its occupants or its maintenance personnel or their agents shall periodically inspect egress doors to ensure that they continue to be:

a. Readily openable from the side from which egress is to be made without the need for keys, special knowledge or effort.

b. Door locks, bolts and other hardware conforms to the International Building Code and its Jamaica Application Document.

702.4 Emergency escape openings. IPMC shall apply.

[F] SECTION 703
FIRE-RESISTANCE RATINGS

IPMC shall apply.

[F] SECTION 704
FIRE PROTECTION SYSTEMS

IPMC shall apply.

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CHAPTER 8

REFERENCED STANDARDS

This chapter lists the standards that are referenced in various sections of this document. The standards listed by the IPMC shall be considered applicable to Jamaica and shall be applied as their reference require.

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CHAPTER 9

MAINTENANCE STRATEGY AND CONTROL

SECTION 901
GENERAL

901.1 Scope. The type of maintenance strategy and control used by a building owner for his plant and services will determine the amount of satisfactory service availability that building occupants will get from the plant and its services. This chapter outlines the indispensable strategic considerations for the maintenance and control of building services. Building owners and maintenance personnel shall consider seriously the structured approach offered in the next three chapters so as to create the most effective maintenance program for their plants and building services.

901.2 Responsibility. The owner of the structure shall ensure that a maintenance strategy is included in the initial design stage of a building or a facility, with a critical appraisal of the maintenance implications of different design options carried out at the conceptual stage.

SECTION 902
MAINTENANCE STRATEGY

902.1 General. The maintenance strategy for building services shall be addressed at two stages of the life of the plant and installation:

902.1.1 Design stage maintenance strategy. Designers shall evaluate the maintenance requirements for different design options, taking into considerations the extent to which maintenance can be designed out and how support systems can be built into the installation to facilitate efficient and cost effective operation and maintenance. The following issues shall be considered:

a. Positioning and sizing of plant rooms and access to plant:
   i. Human, vehicular and materials traffic.
   ii. Access for operation, maintenance and refurbishment.
   iii. Storage.

b. Reliability of plant, availability and the provision of redundant systems:
   i. Reliability of the systems, plant and components.
   ii. User requirement for plant availability.
   iii. Mean time to repair and mean down time.

c. Requirement for specialist knowledge for maintenance and its availability:
   i. Specialist versus non-specialist plant.
   ii. Local availability of specialist and cost.
   iii. Training requirements.

d. Requirement for specialist labour for maintenance and its availability:
   i. Specialist versus non-specialist plant.
   ii. Local availability of specialist tools and cost.
   iii. Training requirements.

e. Spare parts requirement and availability:
   i. Local availability of spare parts.
   ii. Delivery periods.
   iii. Cost of spare parts.

f. After-sales support from the suppliers of plant and systems:
   i. Technical support.
   ii. Proximity of the company, agents or representatives.
   iii. Financial standing of the supplier.

g. Standardization plant and components:
   i. Reduce down time.
   ii. To minimize stock level of spare parts.

h. Monitoring and feedback of plant status:
   i. Building management systems (BMS).
   ii. Condition monitoring equipment.

i. Designing out maintenance:
   i. Components requiring no maintenance.
   ii. Increase mean time between failures.

j. Ease of maintenance:
   i. Accessibility.
   ii. Simplicity.

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iii. Established versus new technology.

k. Health and Safety Considerations

902.1.2 Building operational stage maintenance strategy. Senior management shall have the responsibility for setting the policy for wider issues of operation and maintenance of the building services that will affect the organization's corporate objectives. Policy setting shall involve the following:

a. The level of risk the organization is willing to tolerate: e.g. financial, business loss, employee satisfaction and health and safety.

b. Method of resourcing maintenance.

c. Budgets.

d. Benchmarks.

The organization at this stage shall have a maintenance strategy that matches the expectations of the company. The following parameters shall be considered:

a. Compliance with the requirements of this code.

b. Improving health and safety of the building users and those who operate and maintain the plant.

c. Functions of plant and equipment which are critical to company objectives.

d. Optimizing the utilization of resources.

e. Optimizing the plant reliability and availability to sustain those critical to company objectives.

f. Safeguarding assets.

Once the level of operation and maintenance required to satisfy the company objectives is understood, it shall be the responsibility of the operational management to:

a. Carry out risk assessment.

b. Establish the health and safety policy.

c. Establish the operation and maintenance policy.

d. Set budgets.

e. Monitor performance.

f. Organize improvements or changes to suit evolving business needs.

g. Procure and manage operation and maintenance activities.

h. Set performance targets to meet the bench marks determined by senior management.

i. Develop information systems for operation and maintenance.

SECTION 903
CONTROL OF MAINTENANCE

903.1 General. Controlling operation and maintenance shall be accepted as an ongoing imperative process. This process shall be monitored against pre-set goals, and the performance reported to the management responsible for these functions. Where performances fail to achieve set targets, changes to the maintenance regime shall be made to correct any deviation.

SECTION 904
OPERATING OVERSIZED PLANT

904.1 General. Oversize plant can result in excessive energy consumption, instabilities at low loads, an undermining of the economic life of the plant and premature equipment failure. Plant over-sizing is rarely a deliberate decision, but more often the cumulative result of a number of factors including:

a. In built allowances in design data and calculation procedures.

b. Specified client requirements being in excess of operational needs.

c. Changes that occur after the design stages.

d. Difficulties in matching system requirements to available equipment.

e. Margins added during the design process.

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FPN: Considering the cumulative impact of the above factors, most plants have some degree of over sizing. In fact it is estimated that fans and pumps are usually oversized by at least 10 - 15% while boiler and chiller plants can be oversized by anything up to a factor of 2.

Plant owners shall not allow the operation of oversized plant to continue in perpetuity. To meet this aim, the owners should consult their facilities manager to identify what plants are oversized and advise on what shall be done to optimize the situation. The following parameters may indicate over sizing:

a. Drive motor running currents well below the full load current.

b. Control valves serving heating/cooling coils never fully open and tending to hunt.

c. Plant modules that never operate or plant that never runs continuously, even in extreme weather.

d. Relatively short warm up/cool down times.

Where over sizing has been identified, action shall be taken to reduce energy consumption and improve plant efficiency. Cost effective prospective actions shall be implemented and may include:

a. Isolate, drain down and 'mothball' plant modules surplus to requirements.

b. Reduce the driven speed of belt driven equipment to match measured requirements.

c. Reduce fluid volume flow rates in distribution systems to match measured requirements.

d. Use reduced size components in control valves or dampers to give better control.

e. Isolate terminal units, emitters and air distribution outlets.

f. Reduce fresh air volume flow rates to match requirements more closely.

g. Check the control regime generally and ensure that plant operating times are trimmed to an absolute minimum

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CHAPTER 10

COMMISSIONING AND TESTING

SECTION 1001
GENERAL

1001.1 Scope. The initial testing and proper commissioning of plants and service systems impact greatly on the maintenance function from at least two perspectives:

a. Plants and service systems that undergo rigorous initial testing and proper commissioning are more likely to withstand the maintenance schedule ascribed to them without experiencing forced outages.

b. Rigorous initial testing and proper commissioning can contribute significantly to ascribing more realistic maintenance schedules.

This chapter outlines the requirements for commissioning building services system from static completion to functioning order and thereby sets in motion the tenets for a cost effective maintenance program.

SECTION 1002
COMMISSIONING MANAGER

1002.1 General. All large projects shall assess the need for appointing a Commissioning Manager. The function/role of the Commissioning Manager is to interface all the various work packages activities to produce a complete operational system on time, by coordinating and dealing with any or all of Sections 1002.1.1 and 1002.1.2.

1002.1.1 Design stage maintenance requirements. Designers shall evaluate the maintenance requirements for different design options, taking into considerations the extent to which maintenance can be designed out and how support systems can be built into the installation to facilitate efficient and cost effective operation and maintenance. Design of the following areas shall be scrutinized to see if maintenance has been designed out to the fullest extent:

a. Mechanical Services:
   i. All mechanical plants.
   ii. Air and water systems.
   iii. Gas systems.
   iv. Heating, ventilation and air-conditioning systems.

b. Electrical Services:
   i. High voltage and low voltage systems.
   ii. Uninterruptible and standby power supply systems.
   iii. Audio and information technology systems.
   iv. Grounding and lightning protection systems.
   v. Security and fire systems.

c. Control Systems:
   i. Building Management Systems.
   ii. Field Controls and Panels.
   iii. Lighting Control Systems.
   iv. Software.

d. Specialist Equipment (normally commissioned by the equipment / system supplier):
   i. Car Park Barriers.
   ii. Large Refrigerating and boiler plant.
   iii. Lifts and Escalators.
   iv. Sprinkler Systems.

1002.1.2 Scope of work items. The following shall apply to items (a) to (d) for a complete project or to one specific element of the project:

a. Design Review.

b. Drawing Review.

c. Planning / programming for commissioning.

d. Witnessing of works testing.

e. Monitoring services installation against the specification and programme.

f. Coordination of commissioning and maintenance documentation.

g. Witnessing of site testing.

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h. Witnessing of the flushing and cleaning of pipe-work distribution systems.

i. Witnessing of commissioning.

j. Coordination of record documentation.

k. Client training for proper plant operation.

SECTION 1003
COMMISSIONING SPECIALIST

1003.1 General. Even without a Commissioning Manager, commissioning specialists are required to ensure success of the commissioning program. The specialist responsibilities may include the following activities but their role can be further circumscribed if the owner or design engineers are comfortable with other undertaking the tasks:

a. Design Stage:
   i. Review the commissionability of the design.
   ii. Review maintainability of the design.
   iii. Review the commissioning and testing content of the contract documents / specifications.
   iv. Prepare a commissioning and testing program and schedule.

b. Post Design Stage:
   i. Produce project specific commissioning and testing conclusion statements.
   ii. Prepare an integrated commissioning and testing program.
   iii. Prepare a comprehensive report with all data included.

c. On Site Duties:
   i. Monitor and review installation in line with specified requirements.
   ii. Coordinate, oversee and witness the testing & commissioning as it progresses.
   iii. Monitor the commissioning and testing program and report on progress.
   iv. Collate and analyze test data for satisfaction.
   v. Oversee/coordinate production of operations and maintenance manuals and as-built drawings.
   vi. Coordinate client training.
   vii. Coordinate demonstrations of the safety systems to the local authorities, fire officer and building insurer.

If no commissioning specialist engineer is appointed, a suitable professional engineer from the design team shall be delegated the responsibilities.

SECTION 1004
DOCUMENTATION

1004.1 General. Documentation shall be provided to support commissioning and testing activities and to show that statutory requirements have been met for both electrical and mechanical systems thereby allowing the building to be certified as safe for occupation. These documents shall be safely stored and made available to required persons:

a. As proof that the performance of the systems tested has met the code / standard requirements;
b. To provide an essential basis for the logical adjustment of system performance during the maintenance period;
c. For the re-commissioning of systems following modifications or alterations to the building or its function.

The completed documentation shall be kept safe and made available to persons involved with the operation and maintenance of the building and its services.

1004.1.1 Information to be available at practical completion. The following information shall be made available, in tabulated format where appropriate, from the practical completion commissioning exercise:

a. Test sheets recording the progressive testing results of the electrical installation works in accordance with the National Electric Code NFPA 70 and its Jamaica Application Document.

b. Electrical Inspection Test Certificates as issued by the testing agent and Government Electrical Inspectorate.

c. Emergency Lighting Test Certificate.

d. Lightning Protection Test Certificate.

e. Fire Alarm Test Certificate.

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f. Security/CCTV test certificates.

g. Check sheet records of the commissioning of building management/controls systems.

h. Main plant performance results.

i. Air and water (flow regulation) test results.

j. Specialist plant commissioning/test results.

k. Pipework and ductwork pressure test certificates.

l. Sprinkler/dry riser test and insurance certificates.

m. Check sheets recording systems interface results.

n. Water chlorination test result.

o. Statutory Authorities approvals.

p. As-fitted record drawings (indicating location of test points).

q. Operation and maintenance manuals.

r. Flushing and cleaning, water treatment test regime results.

SECTION 1005
DESIGNER'S CHECKLIST

1005.1 General. The following checklist questions shall applicable to all sizes of installations and should be answered by the designer as the design is being finalized:

a. Has the appointment of a commissioning specialist been considered?

b. Can the systems be commissioned in accordance with the specifications?

c. Can the installed building services be adequately and safely maintained after handover?

d. Have validation checks at manufacturer's works been allowed for on the major plant items?

e. Have the patented systems been checked or tested rather than just assumed to be working?

f. Has sufficient detailed design information been provided, especially in respect of control regimes, including set points, system flow rates and plant capacities?

g. Is the specification definitive in its content of the commissioning responsibilities and acceptance criteria and tolerances?

h. Is the specification adequately detailed in respect of the protection of plant and equipment during transportation, installation, commissioning and testing?

i. Has a feedback procedure been implemented to recognize and address design problems that manifest during commissioning and testing in order to prevent repetition on future projects?

If the answer to any of the questions is not "yes" then further work shall be done to make it yes.

SECTION 1006
REPEAT TESTING AND COMMISSIONING

1006.1 General. There are a number of situations where repeat commissioning and testing / commissioning checks shall be considered during the life of a building. These shall include the following:

a. Change of use within building; these may result in physical modifications to a system and/or amendments to the design information which necessitates the proportional adjustment of air and/or water volume flow rates and the effect that this may have on the central plant relative to fan/pump power consumption.

b. A period of non occupation and/or prolonged system shut down depending on the complexity of the system and assuming that caretaker maintenance has been carried out during the shutdown.

c. Complaints from the building user regarding environmental conditions which, in turn, could result in a troubleshooting survey being required. This may indicate the need for aspects of the services installation to be re-commissioned.

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d. Periodic performance validation; comparison of data obtained from the initial commissioning with that obtained from regular testing and recording of particular specified aspects of an installation.

e. A periodic ductwork cleaning operation; for details refer to the International Mechanical Code and Jamaica Application Document.

SECTION 1007
NON OCCUPATION OR SYSTEM SHUTDOWN

1007.1 General. Where a building has been unoccupied but properly commissioned and caretaker maintenance provided, allowing water systems to be circulated and air plant to be 'spun over' at regular intervals, the services should continue to operate efficiently and air and water volume flow rates should remain in balance. This shall be checked by comparing random air and water flow rates or fan/pump power consumption with the original commissioning data.

1007.2 Health and safety risk assessment. Prospective tenants or building owners shall carry out a health and safety risk assessment for buildings to be returned to use before the mechanical and electrical services are inspected and re-commissioned into service. The risk assessment inspection shall ensure that:

1. The services are in safe working condition prior to being operated at full load.

2. The systems are operating and performing correctly and efficiently.

The risk assessment shall be achieved by:

a. Confirming documentation is in place.

b. Visually inspecting the installation and undertaking random tests to ensure that the services have remained as originally commissioned.

c. Taking water samples at various locations in hydraulic systems which shall be sent for analysis to check water quality including the iron/mineral content as an indication of the suitability of corrosion inhibitor treatment levels.

d. Undertaking biological analysis of all open water systems, to check for health hazards. As a minimum this shall include:

- Condenser cooling water and
- Hot and cold water service systems.

e. Writing a full report, in layman's language, that shall be issued to prospective tenant(s) summarizing the findings of the survey and giving recommendations for plant & services re-commissioning.

SECTION 1008
TROUBLE SHOOTING

1008.1 General. In the event of complaints or suspicion of incorrect operation of the services within a building, the cause shall be investigated with due consideration given to conclusions that can be drawn from as-built drawings. A logical, systematic approach shall be used to ensure that any recommended remedial works are directed at the true source of the problem and not make the situation worse. Before the investigation commences, the following actions shall be undertaken:

a. Check that the original commissioning and testing records are available.

b. Check that the services have been maintained correctly.

c. Listen to the information on plant & building services that the building occupants provide.

d. Talk to the building users and factor in their complaints into your trouble shooting solution.

e. Check the status of systems and undertake preliminary tests.

f. Consider how the services are designed to operate and what particular problems may have led to the situation being experienced.

g. Review control functions and set points and check their correct operation.

h. Conduct preliminary testing to provide definitive evidence of flow rates, temperatures and other factors.

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Only when the above course of action has been followed and preliminary tests carried out shall a suitable solution and a corrective action approach be decided.

The engineer leading the investigation shall be able to maintain an overview of the systems and understands how the systems were intended to operate and interact to achieve the required environmental conditions within the building.

Any alterations or modifications made as a result of these investigations shall be fully documented. The commissioning records and operation and maintenance manuals shall be revised accordingly.

SECTION 1009
DECOMMISSIONING

1009.1 General. Decommissioning shall be a systematic process of isolating and draining down water systems or purging all mechanical and electrical plant and equipment, including specialist plant and equipment or services such as lifts, escalators, medical gases, fume cupboards. This shall be carried out through a planned sequence of events supported by method statements and work procedures, as appropriate. The decommissioning may be carried out as part of the process to demolish the building or to carry out a large scale refurbishment.

The following considerations and implications shall be taken into account when a decommissioning exercise is to be carried out:

a. Inter-relationship of the building services with neighbouring premises.

b. Integrity of the fire, security and safety systems.

c. Provision of temporary lighting and emergency lighting on staircases and hazardous walkways.

d. Possible retention of an in-service lift.

e. Possible need to maintain in running order, essential plant and equipment such as sump pumps, sewage ejectors, sprinkler pumps, dry riser or ventilation plant.

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CHAPTER 11
HANDOVER PROCEDURES

SECTION 1101
GENERAL

1101.1 Scope. This chapter covers the preparation, pre-handover checklist, commissioning, inspections, tools, spare parts & keys and defects liability list for handover procedures involving building services.

1101.2 Responsibility. The building services subcontractors (electrical, mechanical, plumbing, elevator, etc) are responsible for coordinating the handover of information on the building services.

SECTION 1102
PREPARATION

1102.1 General. The general preparations for the handover proceedings shall be coordinated and supervised continuously by the project manager (a specially appointed officer or the architect or project engineer) working in close liaison with the other members of the design team. A coordinated programme of activities shall be drawn up well in advance to ensure minimal complications.

1102.2 Pre-handover checklist. The pre-handover checklist shall be prepared two to three months before the scheduled completion date of the project and shall ensure the following:

a. The client is informed of any likelihood of change to the scheduled completion date.

b. Contractual obligations regarding witnessing of commissioning and testing, failure defect and deficiency inspections and outstanding items of work (snagging) are clarified.

c. The client is made fully aware of his/her post-handover obligations including the need to arrange insurances and contracts for maintenance.

d. Arrangements are made to recruit operation and maintenance personnel as required.

e. The relevant authorities shall be invited for any necessary inspections/approvals.

f. The client shall be consulted regarding the format and required procedures for the handover meeting.

g. The pre-commissioning cleaning of the Heating Ventilation and Air Conditioning (HVAC) system is carried out.

h. Connection for electrical power, water, sewage and telecommunication utilities have been negotiated, paid for and made.

i. The planning supervisor has issued general details of the structure's equipment, maintenance facilities and procedures, construction methods and materials for inclusion in the Health and Safety File.

j. That inspection of work commences in accordance with inspection policy and programme.

1102.3 One month before completion. One month before the scheduled project completion date the project manager shall ensure that:

a. If required, an engineer is appointed to assist the client during the initial period of occupation.

b. Licenses are obtained for the storage of hazardous chemicals if any.

c. Draft operation and maintenance manual and as-built drawings are submitted and checked.

d. Ongoing inspections are carried out in accordance with inspection policy.

e. A schedule of any outstanding work is agreed.

f. Any additional works that are required are arranged.

g. All necessary statutory examinations have taken place (fire systems, means of escape, pressure systems, lifts, electrical system, sewage system, storm drainage and plumbing system).

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h. All utility supplies are inspected, approved and signed off.

i. User demonstrations and training session(s) where required have taken place, details recorded of those in attendance and certificates of competence awarded, as appropriate.

1102.4 One week before completion. One week before project completion the project manager shall ensure that:

a. All commissioning work has been completed and witnessed.

b. The commissioning report(s) and associated information have been issued.

c. All the required test certificates have been obtained and ready for issue to the owners.

d. Final inspections have been completed as required.

e. Water treatment appropriate to the installed services has been carried out.

f. All warranty documentation has been compiled and ready for issue to the owners.

g. The completed/semi-complete operation and maintenance manuals and record drawings have been issued and approved.

h. All the required tools, spare parts, and consumables have been assembled and an inventory provided.

i. Waste/surplus materials have been removed from site.

~~j. The Health and Safety File has been checked and issued.~~

k. Relamping, filter changing and cleaning have taken place as required by the specification.

l. The listed outstanding defects have been rectified to acceptable standards.

m. All meter readings and fuel stocks have been recorded.

SECTION 1103
COMMISSIONING

1103.1 General. Prior to the commencement of the commissioning process, the designer shall ensure that a full programme of the work to be undertaken is available to all concerned. While the services may be fully installed and ready for commissioning, consideration shall be made as to how any incomplete building work might affect testing.

The following rules shall apply to the commissioning of a building system:

a. Any failure of a system to achieve the specified design duty appropriate to the time of year that commissioning is taking place shall be reported promptly by the commissioning specialist or project manager.

b. It is the designers' prerogative to consider how the implications of such a failure might affect the operation of the building.

c. Commissioning tests shall be witnessed by the designer and main contractor in accordance with the contract.

d. The final acceptance of the system will depend on how the actual commissioned performances compare with the specified duties and related tolerances.

SECTION 1104
INSPECTIONS

1104.1 General. Completion requires that, except for minor items, all systems shall be installed and commissioned in accordance with the works contract. Any outstanding items shall not pose a health or safety risk or interfere with the operation of the engineering system to which they relate.

The design team shall have a contractual duty to undertake a final inspection of the works for deficiencies and defects before completion is accepted as achieved. This shall be preceded by a comprehensive inspection by the installing contractors and subcontractors.

1104.2 Defect status sheet. The defect status sheet shall be used to keep track of outstanding items and enable rectification to be prioritized as

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appropriate. The Defects Status Sheet shall contain the following information:

a. Inspected item

b. Location

c. Date of inspection

d. Description of defect

e. Responsibility for rectification

f. Date of defect clearance

g. Date of re-inspection

SECTION 1105
TOOLS, SPARES AND KEYS

1105.1 General. Provision shall be included in the contract for the supply of spare parts and specialist tools. Checks shall be made to ensure that these have been provided by the contractor and that all items are accounted for. A complete description of all the spare parts shall be provided including, where appropriate:

a. Drawing number

b. Item and part number

c. Details of size and type

d. Manufacturer's name and reference number for all items supplied by a specialist manufacturer

1105.2 Key schedule. The contractor shall produce a key schedule before handover and ensure that it is up-to-date when passed to the client. The schedule shall be comprehensive, including a unique code for key identification and details of their availability on site.

SECTION 1106
EQUIPMENT WARRANTIES

1106.1 General. Equipment warranties shall run from the date of delivery or from the date when the equipment is first operated. To ensure that a warranty remains valid, the equipment shall be maintained in accordance with the manufacturer's instructions or other specified requirements. A comprehensive record of all maintenance work shall be kept. Where equipment failures occur, a determination shall be made by the supplier, contractor and engineering consultant regarding the cause of the failure, such as a fault within the equipment, the way it was operated or by features of the system which it serves. Disputes shall be resolved as quickly as possible; hence any meeting of all parties that will be beneficial to speedy resolution shall be supported.

SECTION 1107
DEFECTS LIABILITY

1107.1 General. The client shall keep a detailed record of any work carried out by the contractor(s) during the defects liability period in case of any subsequent disputes. The record shall include details of:

a. Nature of the defect(s).

b. Any consequent or subsequent damage to other plant and systems resulting from the defect(s).

c. Correspondence between client and contractor.

d. Action taken by contractor.

e. Dates of all events, actions and correspondence.

f. Details of maintenance work carried out.

1107.2 Liability period. The liability for defective equipment or material shall depend on the manufacturer and will run for a period up to five years from the date of purchase or installation completion. Liability for defective installation shall be at least six months. When the end of the contract defects liability period is reached (typically six months after project completion) the final account details shall be agreed, including the adjustment of prime costs, provisional sums and variations.

1107.3 Final certificate. When all listed outstanding defects have been made good, the remainder of the retention fund shall be released and the final certificate issued.

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Standards Council

The Standards Council is the controlling body of the Bureau of Standards and is responsible for the policy and general administration of the Bureau.

The Council is appointed by the Minister in the manner provided for in the Standards Act, 1968. Using its powers in the Standards Act, the Council appoints committees for specified purposes.

The Standards Act, 1968 sets out the duties of the Council and the steps to be followed for the formulation of a standard.

Preparation of standards documents

The following is an outline of the procedure which must be followed in the preparation of documents:

1. The preparation of standards documents is undertaken upon the Standard Council's authorization. This may arise out of representation from national organizations or existing Bureau of Standards' Committees of Bureau staff. If the project is approved it is referred to the appropriate sectional committee or if none exists a new committee is formed, or the project is allotted to Bureau staff.

2. If necessary, when the final draft of a standard is ready, the Council authorizes an approach to the Minister in order to obtain the formal concurrence of any other Minister who may be responsible for any area which the standard may affect.

3. With the approval of the Standards Council, the draft document is made available for general public comment. All interested parties, by means of a notice in the Press, are invited to comment. In addition, copies are forwarded to those known to be interested in the subject.

4. The Committee considers all the comments received and recommends a final document to the Standards Council

5. The Standards Council recommends the document to the Minister for publication.

6. The Minister approves the recommendation of the Standards Council.

7. The declaration of the standard is gazetted and copies placed on sale.

8. On the recommendation of the Standards Council the Minister may declare a standard compulsory.

9. Amendments to and revisions of standards normally require the same procedure as is applied to the preparation of the original standard.

Overseas standards documents

The Bureau of Standards maintains a reference library which includes the standards of many overseas standards organizations. These standards can be inspected upon request.

The Bureau can supply on demand copies of standards produced by some national standards bodies and is the agency for the sale of standards produced by International Organization for Standardization (ISO) members.

Application to use the reference library and to purchase Jamaican and other standards documents should be addressed to:

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