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Robert Anderson
Administrator

Date: May 13, 2010

Name of Appellant: Quincy Housing Authority

Service Address: Paul Moriarty, Esq.
22 Washington Street
Norwell, MA. 02061

In reference to: 400 Dwelling Units &
36 Dwelling Units
Quincy, MA.

Docket Number: 10-873

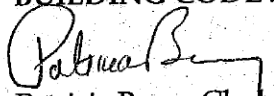
Property Address: 400 Dwelling Units &
36 Dwelling Units
Quincy, MA.

Date of Hearing: 05-06-10

Enclosed please find a copy of the decision on the matter aforementioned.

Sincerely:

BUILDING CODE APPEALS BOARD


Patricia Barry, Clerk

cc: Building Code Appeals Board
Building Official

COMMONWEALTH OF MASSACHUSETTS

SUFFOLK, ss.

Building Code Appeals Board
Docket No. 10-873

Quincy Housing Authority,
Appellant

v.

City of Quincy,
Appellee

BOARD'S RULING ON APPEAL

Introduction

This matter came before the State Building Code Appeals Board ("Board") on Appellant's appeal filed pursuant to G.L. c.143, §100 and 780 CMR 122.1. In accordance with 780 CMR 122.3 the Appellant petitioned the Board to interpret/vary decisions made by the City of Quincy Building Commissioner ("Building Commissioner") based on the Seventh Edition of the Massachusetts State Building Code ("Code") so that building permits can be issued for certain, planned HVAC upgrades.

A hearing relative to the appeal was convened on May 6, 2010. Paul J. Moriarty, Esq., representatives from the QHA, the Engineering Firm of Record and others appeared on behalf of the QHA. The City was represented by Building Commissioner Joseph Duca, the Plumbing Inspector and the City Fire Chief. All witnesses were duly sworn. For the following reasons, this appeal is hereby **ALLOWED** (building permits to be issued) conditioned on providing certain information to the City of Quincy. The Appellant is ordered to provide the Quincy Inspectional Services Department (the Appellee, hereinafter "Q-ISD") a letter from the Rinnai Corporation (manufacturer of the subject wall furnaces) indicating such furnace systems can be utilized for the purposes intended – i.e., the wall furnaces can be used not only as room heaters but can be utilized for whole dwelling unit heating.

Exhibits

The following Exhibits were entered into evidence at the hearing on this matter without objection and reviewed by the Board:

- Exhibit 1: State Building Code Appeals Board appeal application form with attachments, dated April 1, 2010.
- Exhibit 2: Photographs of representative buildings – 3 photographs.
- Exhibit 3: Representative heat loss calculations - 5 Pages.
- Exhibit 4: Heat Loss and Equipment Capacity Comparison - 1 Page.
- Exhibit 5: MA Plumbing Board Plumbing Approved Products Info (certain Rinnai gas-fired direct vent wall furnaces) – 4 Pages.
- Exhibit 6: Rinnai Product Literature describing installation, venting and operation of subject furnaces – 5 Pages.

Exhibit 7: Letter from the Fire Chief, Quincy Fire Department, opposing the proposed HVAC design – 1 Page.

Exhibit 8: Rinnai Corporation Consumer Safety and Installation Information – 2 Pages.

Findings of Fact

The Board bases the following findings upon the exhibits identified above and the testimony presented at the hearing. There is substantial evidence to support the following findings:

1. Between late Fall of 2009 to present (May, 2010), the Appellant, in pursuit of building permits, submitted supporting information to Q-ISD for planned building permissible HVAC upgrades to certain buildings with the intention of evaluating said upgrades and ultimately providing HVAC upgrades to many dwelling units within two QHA housing complexes – Snug Harbor and Westacres.
2. The applications were reviewed under the 7th Edition of the State Building Code (780 CMR) which was in effect at the time of the submissions.
3. On February 17, 2010 Q-ISD issued a “Denial” letter relative to building permit applications, requesting further information.
4. In a series of letters, e-mails and transmittals ranging from January, 2010 to May 2010, the Appellant and engineering firm of record responded to requests by Q-ISD with information requested by Q-ISD.
5. In a series of letters and e-mails ranging from January, 2010 to May, 2010, Q-ISD communicated with the Appellant that certain information required by 780 CMR, had not been provided.
6. The Appellant, QHA Facilities Manager and other QHA representatives, the QHA Engineer of Record, others from the City of Quincy and a third party sales representative of Rinnai products and transfer fan products, collectively presented a lengthy, detailed description of the present state of the subject Housing Complexes, the poor condition of existing steam heating systems, the need to replace such heating systems and the design intent of the engineered heating system consisting of replacement Rinnai gas furnaces and transfer fans.
7. In his written Appeal application, the Appellant seeks relief from:
 - (a) 780 CMR Chapter 13, Section 1301.8, noting that said Code section has been replaced by IECC-2006 w/2007 Supplement), Section 104.2 - the Appellant argues that the original filed required narrative description of the heating system design and subsequent additions provided to the Q-ISD, in response to questions from Q-ISD, meet the intent of the governing Building Code sections and provide sufficient information to describe the HVAC system.
 - (b) 780 CMR Chapter 13, IECC-2006, Chapter 2, Section 202 “General Definitions”//Q-ISD interpretation of what constitutes a “zone” (for heating purposes) – the Appellant argues that the engineered design of the heating system sufficiently identifies the heating zones and that the grouping of several rooms on a single zone complies with the intent of the Building Code.
 - (c) 780 CMR Chapter 13, IECC-2006, Chapter 4, Section 403. Section 403.1 “Controls” / Q-ISD objection to the design of the temperature controls – the Appellant argues that the Rinnai gas furnace thermostatic temperature controls meet the intent of the Building Code.

8. The subject proposed HVAC upgrade is recognized as an engineered system per 780 CMR, Chapter 1, Section 109.4.
9. The Appellee (Q-ISD Inspector of Buildings) along with the Chief Plumbing Inspector and the Fire Chief of Quincy, provided lengthy, detailed reasons why Q-ISD is not issuing the required building permits (or, in the case of the testimony of the Plumbing Inspector and the Fire Chief, why Q-ISD should not issue such building permits / only the Building Official can issue building permits) - emphasis was made regarding general concern as to the proposed design's ability to satisfy safe, comfortable heating.
10. Historic correspondence from the Building Official to QHA and/or the Engineering Firm of Record, included concerns regarding obligations of QHA and their Engineering Firm to provide (Summary below but Q-ISD's detailed letter is found in the Appeal documentation):
 - (a) A description of the design intent.
 - (b) A description of the basis of design.
 - (c) A description of the sequence of operation of the HVAC system.
 - (d) A description of the systems, including capacities of the equipment or systems.
 - (e) A description of the testing requirements and criteria for passing to be used for final equipment acceptance.
 - (f) A requirement for submittal of operations manuals and maintenance manuals.
 - (g) Plans, specifications and computations that indicate conformance to 780 CMR (the Building Code).
 - (h) Details to include pertinent data, features of the building, equipment and systems in sufficient detail to permit a determination of compliance with 780 CMR.
 - (i) Submission of supplemental information such as calculations, worksheets, vendor literature.
 - (j) Documentation that all calculations procedures are in conformance with ASHRAE Handbook fundamentals or as otherwise specified by 780 CMR.
 - (k) Building Permit applications with Contractor information, construction/installation costs and fee payment.
 - (l) Plumbing/gas permit application with contractor information and fee payment.

Code Analysis

The matter before this Board is, in essence, straightforward. The Appellant asserts that all Code-required design and construction information necessary for Building Permit issuance has been provided to Q-ISD and therefore the HVAC upgrade project should be permitted (building permits issued) and allowed to go forward. The question for this board then, is whether that is true.

The Appellant, the City of Quincy Housing Authority (hereinafter "QHA"), seeks to renovate the heating systems of some 400 apartment units in 100 two-story wood framed buildings in the QHA complex referred to as Snug Harbor and some 36 or more apartments in 9 two-story wood framed buildings in the QHA complex referred to as Westacres. The QHA, in conjunction with its engineering and construction teams, first intends to upgrade 10 representative dwelling units, referred to as the "mock-up" units so that the new engineered heating systems can be evaluated to determine in-field adequacy against the intended design. Once adequacy, with further design refinement, if necessary, is demonstrated, the QHA intends to renovate all identified remaining dwelling units slated for heating system upgrade.

In order to move forward with renovation of the heating systems in the mock-up buildings, Building Permits must be obtained from Quincy Inspectional Services Department (Q-isd), but Q-isd, for reasons documented, has not issued such Building Permits, thus requiring this Building Code Appeal. Q-isd maintains that at the time of permit application and over the past several months, certain Code-required information requested by Q-isd has not been provided; additionally Q-isd and others sharing the views of the Appellee, expressed concern over the general viability of the proposed HVAC upgrade and further expressed concern over public safety should such HVAC upgrades fail to satisfy legitimate comfort heating needs.

A brief review, then, of Code requirements is necessary. Prior to the construction of a building, the Code requires that application be made to the building official for a Building Permit. See 780 CMR 110.1. The application for a building permit must be accompanied by the requisite construction documents, see 780 CMR 110.4, 110.7, and 110.8, and if the reviewing building official is satisfied that the proposed work conforms to the requirements of the Code, a building permit shall be issued. See 780 CMR 111.1.

The subject proposed work (HVAC upgrades) is controlled, in part, by the energy conservation chapter of the Code, Chapter 34 (Existing Buildings). When distilled to its essence, the true issue in this case is whether the Code requirements of Chapter 34, in conjunction with applicable requirements of Chapter 13 and Chapter 1, have been satisfied.

Code Section 3404.19 (no USE Change, therefore no Hazard Index change) in conjunction with Section 3407 applies and 3407.1 requires energy efficiency provisions to comply with the International Energy Conservation Code (IECC) 2006 with IECC-2007 Supplement overlay and with applicable Massachusetts amendments per Chapter 13 of the Code. Further, Chapter 13 amends certain requirements of IECC-2006/2007 and per amendments to IECC Section 104 "CONSTRUCTION DOCUMENTS", inclusive and as applicable, coupled with requirements of the Code, Section 110, inclusive and as applicable, and it is these Sections that set forth documentation and supporting calculation and plans filing requirements.¹

In this case the record demonstrates that the documentation required to be submitted in accordance with the aforementioned provisions of the Code, and requested by the Appellee, were in fact satisfactorily submitted, with one exception. In fact, parties substantially agreed on this point. The one outstanding piece of documentation that if submitted would result in compliance with the Code and allow for the issuance of the sought after building permits is documentation from Rinnai Corporation stating that the subject wall furnaces can be utilized for whole dwelling unit applications and not just for single room heating. Further, it must provide that such whole dwelling unit heating does not violate any listings of these Rinnai wall furnaces.

Other permitting matters such as the obtaining of proper gas installation permits are beyond the authority of the State Building Code Appeals Board to address (but it is noted that based on information filed by the appellant, some gas permits were obtained for some gas furnace installations).

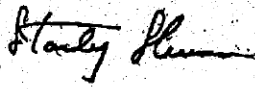
¹ Chapter 13, in conjunction with IECC-2006/2007, Section 104, also requires certain acceptance testing and also requires the transfer of construction documents required in Section 104, including controls documentation, operation manuals and maintenance manuals. However, such specific requirements only apply once the subject (HVAC) systems have been installed and tested, and such acceptance testing and documentation would follow actual system installation.

Conclusion

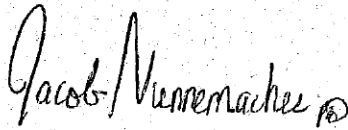
There was a motion to allow the appeal provided that the aforementioned documentation be provided and the motion was seconded. The vote was 2 – 1 in favor of the motion. The QHA is hereby **ORDERED** to provide Q-ISD specific documentation from Rinnai Corporation stating that the subject wall furnaces can be utilized for whole dwelling unit applications and not just for single room heating and such whole dwelling unit heating does not violate any listings of these Rinnai wall furnaces.

The purpose of this ORDER is to cause issuance of requested building permits by the Appellee providing the requirements of this ORDER are met.

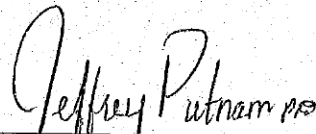
SO ORDERED.



Stanley Shuman



Jacob Nunnemacher - Chairman
(opposed)



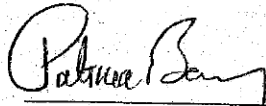
Jeffrey Putnam

DATED: May 13, 2010

Any person aggrieved by a decision of the State Building Code Appeals Board may appeal to Superior Court in accordance with G.L. c.30A, §14 within 30 days of receipt of this decision.

A complete administrative record is on file at the office of the Board of Building Regulations and Standards.

A true copy attest, dated: May 13, 2010



Patricia Barry, Clerk