



MIKE CAUSEY, INSURANCE COMMISSIONER & STATE FIRE MARSHAL  
BRIAN TAYLOR, CHIEF STATE FIRE MARSHAL

April 20, 2021

Michael Slate  
Director Brunswick County Code Administration  
75 Courthouse Drive NE  
Bolivia, NC 28422

**RE: 30" x 30" Platform Adjacent to Tankless Water Heater  
2018 NCRC Section M2801.4.**

Mr. Slate:

This letter is in response to your request for formal interpretation dated April 8, 2021 that was received in NCDOI by email on that same date. Your request for formal interpretation states:

"1) Does this definition include gas fired tankless (Rinnai) water heaters?"

The "definition" that is referenced in the question is found in Chapter 2 of the 2018 NC Residential Code. That definition reads as follows:

"WATER HEATER. Any heating appliance or equipment that heats potable water and supplies such water to the potable hot water distribution system."

"2) If the answer is yes, should P2801.4 should apply?"

**Remarks:**

Code sections noted in this letter are referring to the 2018 edition of the NC Residential Code (NCRC).

This response assumes that question #2 should read: "If the answer is yes, should P2801.4 apply?" and that "the answer is yes" refers to the answer to question #1.

The tankless water heater that generated this question is on the second story and is accessed from the exterior of the single-family dwelling.

**Attachments:**

- Attachment A: As a matter of record, the request for formal interpretation is provided.
- Attachment B: Photographs of the tankless water heater installation that precipitated the request for formal interpretation.

**Code Analysis:**

The definition of "appliance" in Chapter 2 reads as follows:

"A device or apparatus that is manufactured and designed to utilize energy and for which this code provides specific requirements."

Chapter 28 is dedicated to the installation of water heaters.

The definition of “appliance” in Chapter 2 would include water heaters because water heaters do utilize energy and specific requirements are provided in Chapter 28.

R2801.4 indicates that “water heaters ... shall be installed in accordance with M1305”.

M1305.1 indicates that a 30”x30” level workspace shall be located in front of the control side to service an appliance. The code is silent on the elevation required for the 30”x30” workspace. I understand that silence to mean the workspace can be at any elevation below the level of the appliance because the intent of the workspace is to provide adequate and safe access to the appliance. Providing the 30” x 30” workspace at grade level is then acceptable for an exterior accessed tankless water heater installed at or above grade level. Use of a portable ladder in the grade level workspace for maintenance, repair and replacement is then possible.

**Conclusions:**

Answer #1:

Yes, a water heater is considered an “appliance” by the code as it is manufactured and designed to utilize energy and the code provides specific requirements for it. This would include tankless water heaters.

Answer #2:

Yes, P2801.4 would apply because tankless water heaters meet the definition of “water heater” found in Chapter 2.

Please call if you have comments or questions.

Sincerely,



Carl Martin, RA  
Deputy Commissioner  
Division Chief of Engineering

cc: File  
Robbie Davis, Chairman – BCC  
Danny Priest, Vice-Chairman – BCC  
David Smith, Chairman Residential Code Committee – BCC  
Keith Rogers, Chairman Mechanical/Plumbing Committee – BCC

**ATTACHMENT A**



**APPENDIX E  
APPEALS  
NORTH CAROLINA  
BUILDING CODE COUNCIL**

325 North Salisbury Street, Room 5\_44  
Raleigh, North Carolina 27603  
(919) 647-0019

APPEAL TO NCDOI/NCBCC

Hearing Date \_\_\_\_/\_\_\_\_/\_\_\_\_

GS 153A-374, GS 160A-434

Formal Interpretation by NCDOI

Appeal of Local Decision to NCDOI \_\_\_\_\_

GS 143-140, GS 143-141

Appeal of Local Decision to NCBCC \_\_\_\_\_

Appeal of NCDOI Decision to NCBCC \_\_\_\_\_

APPELLANT Jeff McIntosh PHONE (910) 253 - 5738 X \_\_\_\_\_

REPRESENTING Brunswick County Code Administration

ADDRESS 75 Courthouse Drive NE

CITY Bolivia STATE NC ZIP 28422

E-MAIL jeff.mcintosh@brunswickcountync.gov FAX ( ) \_\_\_\_\_

North Carolina State Building Code, Volume NCRC 2018 - Section Multiple

REQUEST ONE:       Formal Interpretation by NCDOI       Appeal of Local Decision to NCBCC  
                          Appeal of Local Decision to NCDOI       Appeal of NCDOI Decision to NCBCC

Type or print. Include all background information as required by the referenced General Statutes and the attached policies. Attach additional supporting information.

Please attached information

REASON:

Signature [Handwritten Signature] DATE: 04-08-21 APPEAL TO NCDOI/NCBCC FORM 3/14/17



## **Brunswick County Code Administration Department**

75 Courthouse Drive N.E., Building I

P. O. Box 249

Bolivia, North Carolina 28422

Telephone: (910) 253-2050 • Fax: (910) 253-2024

Michael Slate, Director

Mr. Carl Martin,

Brunswick County Code Administration is requesting a formal code interpretation for the following 2018 NC Residential Codes and facts:

This is a residential project where the contractor has installed a Rinnai tankless gas fired water heater. The water heater is elevated off the ground on the second floor of the residence recessed into the exterior wall using the appropriate Rinnai installation kit. The water heater is only accessible by a ladder from grade.

Definition of a water heater. Any heating *appliance* or *equipment that* heats potable water and supplies such water to the potable hot water distribution system.

1) Does this definition include gas fired tankless (Rinnai) water heaters?

2) If the answer is yes, should P2801.4 should apply?

**P2801.4 Location.** Water heaters and storage tanks shall be installed in accordance with Section M1305 and shall be located and connected to provide access for observation, maintenance, servicing, and replacement.

P2801.5 also states: **P2801.5 Prohibited locations.** Water heaters shall be located in accordance with Chapter 20.

Chapter 20 states:

**M2005.1 (1002.1) General.** Water heaters shall be installed in accordance with Chapter 28, the manufacturer's instructions and the requirements of this code. Water heaters installed in an attic shall comply with the requirements of Section M1305.1.3. **Gas-fired water heaters shall comply with the requirements in Chapter 24.** Domestic electric water heaters shall comply with UL 174. Oiled-fired water heaters shall comply with UL 732. Thermal solar water heaters shall comply with Chapter 23 and UL 174. Solid fuel-fired water heaters shall comply with UL 2523.

Chapter 24 states:

**G2406.1 (303.1) General.** *Appliances* shall be located as required by this section, specific requirements elsewhere in this code and the conditions of the *equipment* and *appliance* listing. See Section **M1305** for appliance access requirements.

Section M1305 states:

**M1305.1 (306.1) Appliance access for inspection service, repair and replacement.** *Appliances* shall be accessible for inspection, service, repair and replacement without removing permanent construction, other *appliances*, or any other piping or ducts not connected to the *appliance* being

inspected, serviced, repaired or replaced. A level working space not less than 30 inches deep and 30 inches wide (762 mm by 762 mm) shall be provided in front of the control side to service an *appliance*.

Therefore, we feel that the water heater should be required to have a level working space per M1305.1. We are requesting a Formal Code Interpretation on this matter.

Thank you for your assistance,

Michael Slate  
Director  
Brunswick County Code Administration

**ATTACHMENT B**

Unit Installed

