Domestic Cooking in Other Than Group R-Residential Occupancies

Introduction
The latest data available from the National Fire Protection Association indicates that 29% of fires in Office buildings, 31% of fires in school properties, 30% of fires in religious buildings and similar occupancies, 13% of fires in stores or other mercantile uses, 50% of hotel and motel and 83% of residential board and care facilities fires are caused by cooking equipment/activities. To combat this problem, the 2018 International Building Code, in conjunction with the International Fire Code and International Mechanical Code contain provisions for the safe use of both commercial cooking equipment and domestic cooking equipment and activities in aforementioned occupancies.

International Mechanical Code
In applying the regulations properly, it must first be understood what commercial cooking appliances and commercial food service establishments are defined as:

COMMERCIAL COOKING APPLIANCES. Appliances used in a commercial food service establishment for heating or cooking food. For the purpose of this definition, a commercial food service establishment is where food is prepared for sale or is prepared on a scale that is by volume and frequency not representative of domestic household cooking.

Commercial cooking appliances are typically found in: restaurants, cafeterias, institutional kitchens, charity kitchens, dormitory and barrack kitchens, cooking schools, church or fellowship hall kitchens, school kitchens, mercantile kitchens, banquet and catering facilities, bakeries, wholesale production kitchens, take-out pizza businesses, and even television studios. Such uses of commercial appliances are typically used with an intensity, even if infrequently, that has a higher heat content, a longer duration of cooking, and more grease laden vapors. Infrequent uses including cooking in a church fellowship hall for: spaghetti dinners, fish frys and pancake breakfasts, day care businesses providing cooked breakfasts or lunches for a large number of people as well as preparing food for sale, can be classified as commercial cooking. Domestic cooking, though not defined in the model code, is any cooking that is not taking place in a commercial food service establishment using commercial cooking appliances.

The City of Knoxville classifies any cooking in an assembly occupancy as commercial cooking unless a warning placard, as directed by the City of Knoxville Fire Marshal, is provided. The following activities based on occupancy and intensity are also classified as commercial cooking:

- **I-4, Institutional** occupancies (child or adult daycare) with more than 12 occupants receiving cooked food.
- **E-Educational** occupancies with more than 12 occupants receiving cooked food.
- **B-Business** occupancies with commercial cooking equipment (unless a warning placard as directed by the City of Knoxville Fire Marshal, is provided).
Commercial Hood, Exhaust and Fire Protection

Commercial cooking requires an appropriate type of exhaust hood in accordance with IMC Section 506-COMMERCIAL KITCHEN HOOD VENTILATION SYSTEM DUCTS AND EXHAUST EQUIPMENT requiring either a Type I or II hood per Section 507-COMMERCIAL KITCHEN HOODS. In addition, makeup air and fire suppression systems as detailed in Section 508 and 509 are necessary.

Domestic Cooking Appliances

On occasion, cooking activities in commercial buildings take on a more domestic or residential type of use. Cooking far less frequently, of shorter durations and at lower heat output results in a much lower production of grease laden vapors and therefore a reduced risk of fire. Such activities in buildings other than Group R-Residential buildings are regulated by Section 505.6-DOMESTIC COOKING EXHAUST EQUIPMENT, where domestic cooktops, ranges, and open-top broilers are used for domestic purposes--domestic cooking exhaust systems shall be provided. Examples of domestic cooking in a commercial building can be: office break room range or oven, small daycare businesses, small tv studio featuring homestyle cooking instruction. The City of Knoxville classifies the following as domestic cooking:

- **I-4, Institutional** occupancies (Child or Adult Daycare) with **12 or fewer** occupants receiving cooked food.
- **E-Educational** occupancies with **12 or fewer** occupants receiving cooked food.
- **B-Business** occupancies with listed domestic equipment (listed above) and warning placard as directed by the City of Knoxville Fire Marshal.

Fire Marshal’s Office

Please contact the City of Knoxville Fire Marshal’s Office at 865.215.2283 for information regarding commercial/domestic cooking requirements and placards.

We look forward to assisting you in a timely completion of your rack storage project. If you have any questions please contact us at 865.215.2999 or by email: buildinginspections@knoxvillete.gov.