



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HOUSING, BUILDING AND CONSTRUCTION
DIVISION OF BUILDING CODE ENFORCEMENT

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June 30, 2003

Garry Beach/
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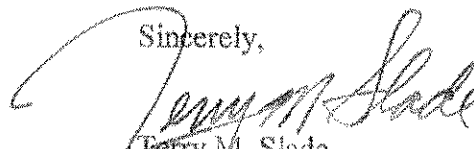
Re: Chemical Laboratories & Application of
NFPA 45 Chemical Storage Limits

Dear Sirs:

This is in response to your memorandum dated June 13th regarding your proposal for this office to accept using NFPA 45 chemical storage limits in lieu of the current Kentucky Building Code (KBC). We had previously granted this request for the Plant Science Building and your latest memo has added nine- (9) other campus buildings to the list in which you want to use the NFPA 45 storage limits. I concur with your request and rather than list specific buildings I would prefer to use NFPA 45 for all campus buildings that have chemical storage. I plan on working with the Board of Housing to add such a change to the KBC.

If you should have any questions, please feel free to contact me at the noted addresses.

Sincerely,



Terry M. Slade,
Acting Director

TMS/tms

E-mail: Terry.Slade@mail.state.ky.us

Copy: Carvon Hudson, Assistant State Fire Marshall
BCE Technical Advisors



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MEMORANDUM

TO: Terry Slade

FROM: Garry Beach ^{GB}
Harry Enoch ^{HE}

DATE: June 13, 2003

RE: Variance Request for Recently
Constructed or Renovated Laboratories

The University of Kentucky recently requested and received approval from your office to apply NFPA 45 chemical storage limits in the new Plant Science Building. We have a number of other buildings recently completed or under construction, where, for consistency, we would like to apply the same standard.

Therefore, the University of Kentucky requests a variance from the Kentucky Building Code to allow application of NFPA 45 (*Fire Protection for Laboratories Using Chemicals, 2000 Edition*) in lieu of KBC for establishing storage limits for chemicals in laboratories in the following buildings:

Robotics Building #0108
Wethington Allied Health Building #0200
Bosomworth Health Science Research Building #0305
ASTeCC Building #0286
Ralph G. Anderson Mechanical Engineering Building #0503
Gluck Equine Research Center #0099
~~Sanders-Brown Gerontology Center #0230~~
Oliver H. Raymond Civil Engineering Building #0281
Biomedical and Biological Sciences Research Building #0509

NFPA 45 is a widely accepted, modern fire and life safety code, specifically written to protect chemical laboratories. This consensus standard was prepared by a Technical Committee with a wide range of laboratory expertise, was acted on by the National Fire Protection Association at its World Fire Safety Congress in May 2000, and issued by the Standards Council in July 2000. In addition, NFPA 45 is referenced by the *Kentucky Fire Prevention Code* (by way of NFPA 30), which the Division of Fire Prevention uses for its inspections.

The University is seeking approval from the Division of Building Codes Enforcement to use the NFPA 45 maximum quantity limits on chemicals in *2.2 Laboratory Unit Fire Hazard Classification* (Table 2.2.1(a) and Table 2.2.1(b) for Class B, Moderate Fire Hazard Labs) in place of the KBC limits in *414.5 Inside Storage, Dispensing and Use* (Table 307.7(1) and Table 414.2.2).

As a further condition of this variance, the University agrees to the following additional fire protection measures in the above listed buildings, which are not required under KBC:

1. chemical laboratories shall be sprinklered
2. chemical laboratories shall meet NFPA 45 requirements for chemical fume hoods (6.8, 6.9 and 6.13)
3. UL listed flammable liquid storage cabinets shall be provided beneath each chemical fume hood and shall be vented into the hood
4. chemical laboratories shall meet NFPA 45 requirements for perchloric acid hoods (6.11)
5. required exit doors in chemical laboratories shall be self-closing and self-latching
6. interior connection doors in chemical laboratories shall be self-latching
7. door hardware for chemical laboratories shall meet requirements for the physically impaired
8. chemical laboratories shall be provided with fire extinguishers
9. chemical laboratories requiring two exits and windowless labs shall be provided with emergency lighting
10. chemical laboratories shall meet NFPA 45 requirements for chemical storage, handling and waste disposal (Chapter 7)

We have evaluated this request very carefully and believe that this variance offers greater fire protection for these laboratories than KBC. One additional advantage will be to resolve the difficulty raised by the different storage limits in KBC (used by the Division of Building Codes Enforcement) and NFPA 45 (used by the Division of Fire Prevention).

In conclusion, the University argues that fire protection in chemical laboratories will be enhanced by using the chemical storage limits in NFPA 45, as well as the other conditions set out in this memo, in lieu of the limits in KBC and requests approval of this variance for the above listed buildings.

cc: Carvon Hudson