DEPARTMENT OF GENERAL SERVICES
BUREAU OF CAPITAL OUTLAY MANAGEMENT
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BCOM Newsletter

Issue # 19

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BCOM Organizational Changes

Anne B. Hooker has been selected as BCOM's Architectural Group Manager, filling the position previously held by Les Harcum, who recently retired. Anne has served as an Architectural/Lead Reviewer with BCOM since July, 1999. Before joining BCOM, Anne worked in various capacities for architectural and engineering firms in the Richmond area. Anne has a BS degree from University of Massachusetts at Amherst. Anne is a Registered Architect, a Virginia Construction Contracting Officer (VCCO), and has ICC certifications as a Building Plans Examiner and Commercial Building Inspector. She is also a past president of the Richmond Chapter, Construction Specifications Institute (CSI). ❑

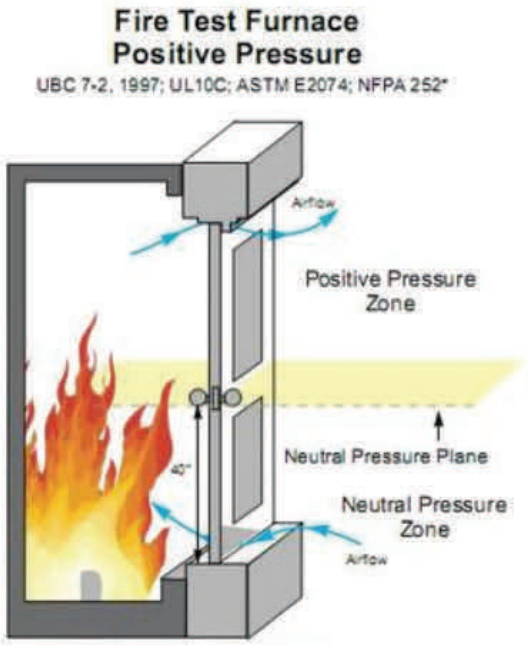
Fire Door Seal Requirements

BCOM's fire safety reviewers frequently comment on the positive pressure classification of fire doors and/or the classification of their respective door edge seal.

Virginia Construction Code (VCC) Section 716.5.1 requires all side-hinged fire door assemblies to be tested per UL 10C (Positive Pressure Fire Tests of Door Assemblies) or NFPA 252 (Standard Methods of Fire Tests of Door Assemblies). For doors tested per NFPA 252, the VCC also requires that "After 5 minutes into the NFPA 252 test, the neutral pressure level in the furnace shall be established at 40 inches or less above the sill". The intent of this section is to require positive pressure fire doors.

Positive pressure fire door testing is required because, in actual fire conditions, the heat causes the pressure on the fire side of a room to build up, and smoke, hot gases, and flame are forced through the top portion of the fire door assembly through the gap between the door and frame. Normally, a steel fire door will expand under such conditions to seal off the smoke, hot gases, and flame.

For wood fire doors, seals are normally used to address the problem with the smoke, hot gases, and flame forced between the door and frame. The seal usage is covered by Category A positive pressure fire doors and Category B positive pressure fire doors.

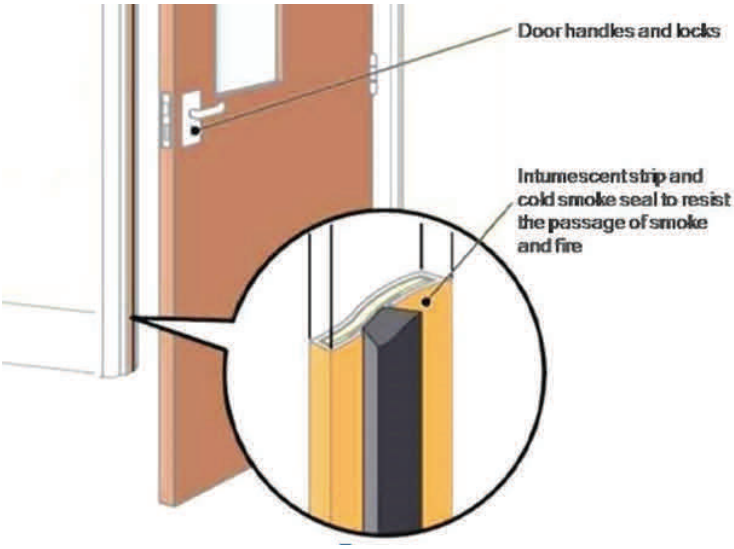


- **Category A** positive pressure fire doors include doors which are tested to demonstrate that no seal is required (such as a steel fire door) or use an intumescent edge seal which is built into the door.

  (An intumescent is a substance that swells as a result of heat exposure, thus increasing in volume and decreasing in density.)

- **Category B** positive pressure fire doors require the application of a Category G listed edge seal. This is usually a field application.

The required positive pressure fire door labels specify whether the doors are Category A or Category B. The Category B labels state that listed edge seals are required. It is important for project specifications to stipulate which of the two door categories are required. If this is not done, providing correct hardware specifications and schedules is difficult.



- If **Category A** fire doors are specified, the hardware specifications and schedules need to make it clear that no Category G or H *listed* edge seals are required on the fire doors. (Note that Category A fire doors can be equipped with seals for other purposes, such as for acoustics, provided that Category J *listed* seals are specified and scheduled.)

- If **Category B** fire doors are specified, the hardware specifications need to require the correct Category G listed edge seals. Likewise, the hardware schedules need to specify which doors require the seals. For some Category B fire doors, the door listings or installation instructions may require a specific manufacturer for the **Category G** listed edge seals. This needs to be determined in writing the specifications.

In addition to the previously listed requirements, *all* doors in VCC required smoke barriers are required by Section 716.5.3.1 to be Smoke and Draft Control Doors which are *listed* per UL 1784 (*Air Leakage Tests of Door Assemblies)* testing and installed per NFPA 105 (*Standard for the Installation of Smoke Door Assemblies*). Certain leakage requirements are also specified in Section 716.5.3.1. Category H *listed* edge seals are required on these doors. The door *listings* or installation instructions may require a specific manufacture for the Category H *listed* edge seals. The fire door labels for Smoke and Draft Control Doors shall also include the letter "**S**". No other doors are required to be "S" labeled. If they are so labeled, the *listing* and label requirements shall be met.

Note that some edge seal manufacturers provide seals which are *listed* under more than one edge seal category, such as **Category G and H** or possibly **Category G, H, and J**.

As an additional measure to protect the gaps between the doors and frames, it is also necessary that the door installations comply with the door-to-frame clearance requirements of NFPA 80-2010 Section 6.3.1.7 and any more restrictive clearance requirements of the door *listings* and installation instructions. If the gaps exceed these requirements, the door installation is not compliant and the door assembly may not perform as required.

Another issue for wood fire doors is compliance with NFPA 80-2010 Section 4.8.1.1, which requires the walls in which the door assemblies are installed to be plumb and true. If they are not, one result is that the door edges may be directly exposed to a fire condition. This could cause premature failure of the fire door edge.

Recommended additional reading includes the UL *Door & Window Application Guide* as well as online articles by Assa Abloy and Dorma. ❑

Construction Manager at Risk Contracts

The Commonwealth's Construction Manager at Risk (CM@R) contracts were developed to provide consistency and to address elements that are unique to the CM@R process.

The Commonwealth addresses CM@R contracting with two primary contracts:

- **DGS-30-461 CO-9CM(1), CM at Risk Contract - Phase 1 (Pre-Construction Phase Services)**
- **DGS-30-462 CO-9CM(2), CM at Risk Contract - Phase 2 (Construction Phase Services)**

There is also the **DGS-30-463 CO-9CM(ER), CM at Risk Contract - Early Work Package Release/Limited NTP** contract to address early release packages for fast-tracked projects.

CO-9CM(1): **Preconstruction Phase Services** are contracted using the CO-9CM(1). This document is intended to be executed early in the design process (no later than Schematic Design) and addresses the work of the CM@R between their initial selection and the end of design. The contract is a stand-alone contract which indicates the intent to subsequently award a construction contract, but does not guarantee it. If, at the end of the preconstruction phase of the project, the agency does not believe that the CM@R is acting in good faith, the agency could choose to bid the project. However, in the vast majority of cases, the CM@R and the agency can agree on a Guaranteed Maximum Price (GMP) and the construction contract is executed.

CO-9CM(2): When the Preconstruction Services contract has been completed, the CO-9CM(2) contract for **Construction Phase Services** is executed. This is ideally implemented once the working drawings have been completed and the CM@R has obtained subcontractor bids for the various subcontract packages based upon those documents. The basis for the overall contract price is the cost of the work plus a fee, with a Guaranteed Maximum Price (GMP). The Fee and the General Conditions cost components utilized in developing the GMP are established by the original proposal received and subsequent negotiations during the RFP process. The CO-7CM, General Conditions of the Construction Management Contract, is a part of the construction phase agreement. In the General Conditions, the cost of the work is defined, as is the CM Contingency and the terms for the appropriate use of this Contingency. Upon the completion of the Work, the final contract value is the actual cost of the work plus the agreed upon fees or the GMP, whichever is less.

CO-9CM(ER): In cases where the project schedule requires the project to be fast-tracked, the CO-9CM(ER) **CM at Risk Contract - Early Work Package Release/Limited NTP** is used. Using this, the CM@R bids certain early "packages" of work (e.g., sitework, site utilities, foundations) to subcontractors based upon completed working drawings for those portions of the Work. An interim GMP is established based upon those subcontractor bids plus a pro-rated portion of the General Conditions and Fees. The CO-9CM(ER) document serves as an interim construction contract while the design is being completed for the remaining portions of the Work. This contract contains the clause, "This agreement shall be superseded by the CO-9CM Part 2 Construction Contract" which means that the CO-9CM(ER) becomes void upon execution of the CO-9CM(2). Accordingly, the CO-9CM(2) should be written to include the full scope of construction including the portions of the work released using the CO-9CM(ER). The CO-9CM(ER) is simply a temporary contract to allow the earlier portions of the work to proceed while the design is being finalized for the later portions of the Work; however, there is added risk associated with starting work prior to completing the full design and agreeing on a GMP for the entire project. Appendix C of the CPSM addresses how to mitigate this risk.

If the CM@R is not performing satisfactorily with the early portions of the work released under the CO-9CM (ER) or if the agency and the CM@R can't come to agreement on the full GMP, the agency may choose to not execute a CO-9CM(2) for the remainder of the work. In this case, the work outlined CO-9CM(ER) could be completed and the remainder of the project would be bid. However, care should be taken to select work packages for the CO-9CM(ER) that allow for a clear delineation between the early work and subsequent portions of the work should this situation arise. The dissolution of the relationship between the agency and the CM@R either at the end of preconstruction or, to an even greater degree, at the end of the early release work is a significant contractual decision. Consult BCOM and/or the OAG for guidance.

There are many other considerations in Construction Manager at Risk contracting. This procurement method requires that the Owner to fully understand its responsibilities during the process. BCOM strongly recommends that agencies have on staff (either in-house or contract) personnel who are experienced in using the Construction Manager at Risk project delivery method prior to employing it. ❑

AARB Meeting Location Update

Last month's Newsletter featured an article on the Art & Architectural Review Board (AARB). Please note that the regular meeting location of the Board is now the The Branch Museum, 2501 Monument Avenue, Richmond, VA 23220, rather than the Virginia War Memorial, but please refer to the DEB website each month to confirm the meeting location. ❑

DEB Notice 070116

DEB Notice 070161 is available for view or download from the BCOM website. This notice updates CPSM Appendix L — Memorandum of Agreement Between the Division of Engineering and Buildings and the State Fire Marshal's Office. ❑

BCOM Newsletter Index

By request, a master index to BCOM Newsletter articles is now available on the BCOM website. The index, illustrated below, may be sorted by Newsletter Number, Newsletter Date, Category, or Article Name. ❑

BCOM Newsletter

Index to Articles

#	Newsletter	Category	Article
1	Jan 2015	Roofing	Appendix A - DEB Roofing Policy and Technical Standards
1	Jan 2015	Cost	Pool Process for Funding Projects
1	Jan 2015	Energy	Virginia Energy Conservation Code and High Performance Building Act
2	Feb 2015	Electrical	Generators
2	Feb 2015	BITS	Guidance for Creating BITS Forms
2	Feb 2015	Cost	Scope and Extent for Pool-Funded Projects
3	Mar 2015	BITS	BITS Security
3	Mar 2015	Procurement	Debarment and Enjoinment Procedures
3	Mar 2015	Fire Safety	Lessons Learned: Fire Rated Laboratory Chemical Fume Hood Exhaust Systems
3	Mar 2015	Cost	Why Schematic Cost Reviews are Important
4	Apr 2015	CPSM	2014 CPSM, Revision 1
5	May 2015	Submittals	BCOM's Specialized Email Mailboxes
5	May 2015	Fire Safety	Code Guidance: Area of Refuge and Two-Way Communication Devices
5	May 2015	Submittals	Submittal Guidance
5	May 2015	Procurement	Summary of Key Changes Mandated by Executive Order 20 (July 2014)
5	May 2015	Cost	Using the New CR-3 Worksheet to Develop CBR Cost Proposals
6	[illegible]	[illegible]	BITS Q & A: Why are [illegible] Forms needed to [illegible]

Debarment and Enjoinment Procedures

Updated versions of the Debarment and Enjoinment Procedures for Construction are available for view or download on the DEB website.

The new June, 2016 procedures replace the prior February, 2015 procedures. ❑