

# ASPE BALTIMORE CHAPTER GOLF OUTING and COOKOUT

**Monday, April 28, 2008  
The Timbers at Troy  
Columbia, Maryland  
\$100 / Person**

- Prizes for Team Play
- Door Prizes
- Longest Drive Prizes
- Closest to the Pin Prizes

## SCHEDULE

7:30 AM Registration/Check-In  
  
8:30 PM Shotgun Start  
  
Scramble Format  
"Captain's Choice"  
Mulligans Available

12:30 PM Cookout (Hamburgers,  
Hot Dogs, etc.)  
  
1:30 PM Awards & Prizes

### Sponsors and Participants, please contact:

Paul Baker  
c/o Bay Associates, Inc.  
1432 Front Avenue  
Lutherville, MD 21093  
Phone: 410-825-6616  
Fax: 410-825-6618  
Email: paul@bayassoc.com

Jason Eagles  
c/o Bay Associates, Inc.  
1432 Front Avenue  
Lutherville, MD 21093  
Phone: 410-825-6616  
Fax: 410-825-6618  
Email: jason@bayassoc.com

**Make checks payable to ASPE Baltimore Chapter.  
Reservations will be confirmed when check and participant information is received.  
PLEASE RETURN COMPLETED FORMS BY APRIL 14, 2008.**

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No. of Golfers \_\_\_\_\_ @ \$100 each = Total for Golfers: \$ \_\_\_\_\_

Hole Sponsor: Yes \_\_\_\_\_ @ \$150 each = Total for Hole Sponsor: \$ \_\_\_\_\_

Total Amount for Check: \$ \_\_\_\_\_

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## *VP Technical Message*

*Juan Rojas, VP Technical*

It's hard to believe spring is here, considering current temperatures, but it is and I know I am ready for to get outside and enjoy the outdoors – at least for a good cookout.

In our industry it seems like time goes by so quickly or it could be the constant deadlines. So even if spring just got here some of us are already, mentally, in summer time mode. We're all trying to juggle our schedules so we can allow a week or two of vacation and a few getaway weekends in between.

Yes, we all know how busy each and everyone of us are, and the last thing that we need to do is add another chore to our list, like attending the ASPE local chapter monthly meetings. I know we get consumed with our work, especially in this design build world, that it becomes easy to postpone attending until the next meeting.

The reality is, work will always be there waiting for us so let us take a break from work. Come and join us every month, the chapter needs your presence and your input. Engineers, designers, contractors, manufacturer representative, and AHJ need to interact; this is our chance to work our network for our company benefit and our professional growth.

How many times has a plumbing engineer been asked a question, and more than likely they don't know the answer? We go and do our own research until we exhaust our resources to no luck – he/she has probably also been required to design with a variety of plumbing codes and amendments. Wouldn't it be nice just pick up the phone and consult your question with a peer or a knowledgeable expert? It is easy to say, "All I need to do is read the code and go along with it," but we all know how vague the code or guidelines can be.

A good example as to why plumbing engineers should attend is last meetings' speaker, Mr. Dave Thomas from The Fairfax County Fire Protection Division. His presentation was specifically geared to plumbing engineers, since most of our involvement with fire protection is performance spec. However even to this level we sometimes fail to provide adequate information to sprinkler contractors for proper bidding of the project as well as necessary information to permit the contract documents.

A responsible plumbing engineer can really make a difference, in a project, in the office, and in the community, it all starts with a good relationship. A relationship that needs to be established with clients, architects, contractors, code officials and the network of colleagues in this big industry.

With that said, I encourage you to attend your local chapter monthly meetings.

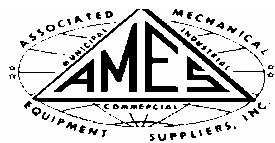
As always, thank you for attending and supporting your local DC chapter.

Looking forward to see you at the meeting again.

Sincerely,

Juan Rojas\VP Tech

ASPE DC Chapter



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Contact: Frank McQuilkin x101, Carole Pappas x104, Dan Galloway x110, Ken Dell x107,  
Maureen Shettle x124, Rachel Anderson x105

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# ASPE SEMINAR

(For those needing CEU's for CPD, THIS COUNTS!)

Topics: **Booster Systems-Sizing, Controls, VFD vs. Constant Speed  
Rainwater Re-use Systems  
Water Softener Systems  
Sump Pump and Sewage Ejector Systems**

When: **Thursday, April 24, 2008**

Time: **8:00 a.m. Registration  
8:30 a.m. – 4:30 p.m.  
(Continental Breakfast and Lunch will be provided)**

Cost: **\$10.00 donation to your local ASPE Chapter**

Where: **AMES, Inc.**  
8918 Herrmann Drive  
Columbia, Maryland 21045  
301-621-8899 (Washington)  
410-995-6971 (Baltimore)

Speakers: Marvin Yoder from Tigerflow Systems  
Greg Ositko, AMES, Inc.  
Dean Taylor, CATEC Water Recovery Systems  
Frank McQuilkin, AMES, Inc.  
Dan Galloway, AMES, Inc.

## Directions:

### From Washington

95 North towards Baltimore  
Exit 175 West towards Columbia  
Approx. 4<sup>th</sup> light – Left onto Dobbin Rd.  
After 3<sup>rd</sup> light make Left onto Herrmann Dr.  
We are straight ahead to the left.

### From Baltimore

95 South towards Washington  
MD 175 West towards Columbia  
Approx. 3<sup>rd</sup> light make Left onto Dobbin Rd.  
After 3<sup>rd</sup> light make Left onto Herrmann Dr.  
We are straight ahead to the left.

Space is limited to the 1<sup>st</sup> 70 people  
RSVP/email by April 10 to: Dan Galloway (dang@amesinc.com)

## Code Updates

Ron Ball, VP Legislative

### April 2008

Spring is almost here as witnessed by my itching eyes and crazy sinuses. The code front has been somewhat quiet lately but there are a few items of interest. The ICC recently finished hearings on revisions to the plumbing code. The proposed changes and rejections have been widely publicized in many of the trade magazines and in *Plumbing Systems & Design*, the official ASPE magazine. If you have some reaction either negative or positive, (names can be changed to protect the innocent) drop me an email and I will get it published in the May newsletter.

### Wisconsin

“The state of Wisconsin adopted the most recent edition of NFPA 1, Uniform Fire Code. The adoption became effective on March 1, 2008. Adopted in 20 states, the code provides requirements necessary to establish a reasonable level of fire safety and property protection from hazards created by fire and explosion.

The primary purposes of the code address the basic fire prevention requirements and reference or extract the fire prevention/protection aspects of several other NFPA codes and standards. Wisconsin officials already participated in training and will partake in future training programs developed by NFPA, which include instruction on code requirements, utilization, and code enforcement.”

#### Reference:

*Consulting-Specifying Engineer* magazine [electronic version], March 3, 2008, downloaded from <http://www.csemag.com/article/CA6539902.html?industrvid=47253>

Those of you out there that work on Federal projects you are probably aware that GSA promoting and in most cases requiring Green building certification. *Radiant and Hydronics* magazine reports, “The U.S. General Services Administration has established an Office of High-Performance Green Buildings that will ensure all federal buildings are meeting sustainable design and energy-reduction targets mandated by the recently enacted Energy Independence and Security Act of 2007. This newly created office will work in conjunction with the Department of Energy, which has the responsibility of commercial buildings.”

#### Reference:

*Radiant & Hydronics e-news*, March 13, 2008, downloaded from <http://www.pmmag.com>

Remember, if you have experienced any code issues send me an email with the details and I will include them in future articles.



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## Chapter Meeting Location

**Washington Chapter** meetings are currently being held at the Olive Garden located on Route 7 (8133 Leesburg Pike) in Tyson's Corner. Please join us for our **General Meeting April 16, 2008**

Call for directions: (703) 893-3175



**All Reservations for dinner are requested by:**  
Noon, Tuesday April 15, 2008

RSVP to the evite

Email Justin Lego at [nfuegolego@hotmail.com](mailto:nfuegolego@hotmail.com) to be added to mailing list.

Dinner:	Member:	\$28.00
	Non-Member	\$30.00



# BAY ASSOCIATES

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**BOARD OF DIRECTORS MEETING  
MINUTES OF THE MEETING  
March 19, 2008**

Attendees:    Dave Bailey                      Gareth Koogle                      James Yang  
                         Juan Rojas                              Dan Galloway                      Shawn Gerst  
                         Derek Wilson                              Tim Mullineaux

I.     Mr. President, James Yang opened the meeting at 5:15 PM.

II.    Officer's report's and comments:

A.     President (James Yang)

- Articles need to be provided to Justin for website.
- Board to research changing location to Dave & Buster's in White Flint.
- Ames seminar in April 24th. Invitations will be provided to both D.C. and Baltimore Chapters as a joint venture. Continuing Education Units will be provided.
- Golf outing date will be either September 8<sup>th</sup> or 15<sup>th</sup> as an alternate date.
- Elections for all positions are forthcoming.
- Dues rebates received February.
- Board in favor of moving Golf outing for this year to September. Exact date to be determined.
- Chapter will consider sponsoring a percentage towards fishing trip.
- Board member election information has been provided on web-site.
- The board needs to book hotel rooms for upcoming convention in October.
- James Yang will be attending the Annual Region 1 meeting in June. Funds need to be allocated by the board

B.     Technical (Juan Rojas)

- Next month speaker is Spears Manufacturing and they will discuss CPVC Lab waste piping..
- May's topic will be provided by Mueller Welding.

- There was discussion about LEED versus Green Globe by Juan and there is some considering to having Green Globe be a topic for a future general meeting.
  - Possible future speakers for general meetings include civil and structural engineers.
- C. Legislative (Ron Ball)
- Not present.
- D. Membership (Dan Galloway)
- Email addresses of new members need to be added to the Evite list.
  - There are currently 169 D.C. Chapter members.
- E. Treasurer (Gareth Koogle)
- Gareth to allocate monies for Region 1 meeting and ASPE convention.
- F. Administrative Secretary (Derek Wilson)
- Articles need to be provided to Shawn at least 7 days prior to end of month.
- G. Corresponding Secretary
- No report at this time.
- III. Old Business
- All board members are to submit articles for the chapter's website.
- IV. New Business.
- Be prepared for next month's meeting and be on time. If you cannot be there, please notify the President at least one week in advance. Attendance is critical.
  - Recommendations were made to try and utilize speakers from our chapter. Payment to be provided to those individuals.
  - Dave Bailey conducted CPD review courses during March. We appreciate his continued support. There was participation from both D.C. and Baltimore Chapter members.
  - New P.O. Box is active. **ASPE-DC, P.O. Box 3875, Frederick MD. 21705-3875.**
- V. Adjournment
- Next meeting is scheduled for **April 16, 2008**, starting promptly at **4:30PM** at Olive Gardens Restaurant, in Tyson's Corner, VA.
  - The meeting adjourned at 6:02 PM.

Respectfully Submitted,  
Derek Wilson  
Administrative Secretary

# **ASPE Presentation March 19, 2008**

**By David J. Thomas, MSCE, PE**

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***Fire Protection & Code Topics***

# Websites

- [http://www.fairfaxcounty.gov/dpwes/publications/pfm/pfm\\_main.htm](http://www.fairfaxcounty.gov/dpwes/publications/pfm/pfm_main.htm)
- <http://infoweb/dpwes/lds/codes/>
- [http://66.179.23.21/dp1/metroplex/fairfaxcounty//permit/WIZ\\_APWELCOME.asp](http://66.179.23.21/dp1/metroplex/fairfaxcounty//permit/WIZ_APWELCOME.asp)
- <http://www.fairfaxcounty.gov/fr/prevention/>
- <http://www.dhcd.virginia.gov/>
- <http://www.ul.com/regulators/codelink/>

# Topics

To be covered, per request from Mr. Rojas, ASPE:

- Fire apparatus access
- Fire hydrant location with reference to FDC
- Fire fighter access
- Equipment/utility identification
- Elevators – sprinklers and alarms
- Sprinkler system – division/zoning
- Standpipe Systems – FHV location, FHV additional locations
- Gaseous Agent Suppression Systems/Pre-Action Sprinklers
- Exterior sprinkler alarms
- New Code Adoptions
- Equipment shutdown/fire alarm requirements

# Access

- **Fire apparatus access:**
  - To within 100 feet of main entrance (vehicle)  
FXCO PFM 9-0202.2J(1).
  - If > 5 stories or > 50 feet height of structure, then front and rear access required.  
PFM 9-0202.2J(2).
  - Premises numbers: on front, visible. IFC 505.1
- FXCO County Code 102



# FDC

- **FDC/Hydrant location:**
- FDC on street front, address side of building PFM 9-0202.2C(9), IFC 903.3.7.
- NHS threads IBC 903.3.6, NFPA 14-07:4.7
- Covering hydrant within 100 feet of FDC PFM 9-0202.1K
- Note: One Siamese per building, per given address. A building is what is between fire walls and has a particular address.



# Access Again

- **Fire Fighter Access (to Equipment)**
- Exterior doors accessible IFC 504.1
- Stairway access to roof (> or = 4 stories w roof slope <4/12) IFC 504.3.
- Equipment room identification  
IFC 510.1

# Labels

- **Equipment/utility identification**
- Hazards, shaftways: marking required IFC 507.2
- AC, sprinklers, mechanical rooms, signage  
IFC 510.1
- Electrical room labels, IFC 605.3.1.
- Stairwell markings, IBC 1020.1.6,  
FXCO Code Reference Package

# Elevators

- IF NO SPRINKLERS IN BUILDING, THEN NO SHUNT TRIP.
- IF NOT A SPRINKLERED BUILDING, THEN NO SPRINKLERS IN EMR.



# Sprinklers/Shafts

- IF combustible fluids (hydraulic), then one sprinkler, bottom of shaft  $\leq 24$ " AFF.  
NFPA 13-07, 8.15.5
- If ASME A17.1 cab, then no sprinklers at top of shaft, unless, (If motor in hoistway, then sprinkler at top.) 13-07, 8.15.5.5.



# Elevators/Sprinklers

- ASME A17.1 requirements:
  - 2.8.2.3.1: risers and returns to be outside of hoistway
  - Branch lines in hoistway to supply not more than one floor level.
  - 2.8.2.3.2: if sprinklers in machine room and/or hoistway, then shunt trip, except if only sprinklers in pit at  $\leq 24$ " AFF, then no shunt trip.
- 2.8.2.3.3 Smoke detectors not to be used for shunt trip.



# Shunt Trip

- NFPA 72-07:
  - 6.16.4: elevator shutdown – heat detectors within 2 feet of sprinkler head
  - 6.16.4.4: shunt trip circuit to have power monitoring supervision
  - 6.16.4.5: Heat detectors shall be connected to fire alarm system.
  - See 6.16.3 for recall, etc.



# Sprinkler Systems: Zoning/Divisions

- See FXCO Code Ref Pkg.: Risers (sprinkler take offs) to be interconnected per floor). OSY, check, flow at each take-off (see NFPA72-07, 5.11.3, surges not to initiate alarms).
- Sprinkler zones = 52K square feet (light or ordinary hazard)
- Fire alarm zones = 22.5K square feet.  
Hence use two in one nesting.
- Sprinklers alarm by floor.



# Water Supply

- Water supply: can supply multiple buildings, but one address = one FDC = one building.
- FIRE DEPARTMENT RESPONDS TO AN ADDRESS.



# Standpipes/FHVs

IBC 905.4 (all): DON'T LEAVE HOME WITHOUT IT.  
**Location of Class I standpipe hose connections.**

Class I standpipe hose connections shall be provided in all of the following locations:

1. In every required stairway, a hose connection shall be provided for each floor level above or below grade. Hose connections shall be located at an intermediate floor level landing between floors, unless otherwise approved by the building official.
2. On each side of the wall adjacent to the exit opening of a horizontal exit.
3. In every exit passageway at the entrance from the exit passageway to other areas of a building.

## IBC 905.4

4. In covered mall buildings, adjacent to each exterior public entrance to the mall and adjacent to each entrance from an exit passageway or exit corridor to the mall.
5. Where the roof has a slope less than four units vertical in 12 units horizontal (33.3-percent slope), each standpipe shall be provided with a hose connection located either on the roof or at the highest landing of stairways with stair access to the roof. An additional hose connection shall be provided at the top of the most hydraulically remote standpipe for testing purposes

## IBC 905.4

6. Where the most remote portion of a non-sprinklered floor or story is more than 150 feet (45 720 mm) from a hose connection or the most remote portion of a sprinklered floor or story is more than 200 feet (60 960 mm) from a hose connection, the building official is authorized to require that additional hose connections be provided in approved locations.

The above is from IBC 2003. In 2006, added exception for horizontal exits.

# Position of FHV:

- 14-07, 7.3.2.: “At the highest intermediate landing ...”
- **FHV shall be located on the intermediate landing such that, when hose is moved upward to the floor level above, the hose does not cross the intermediate landing. This means that you have to show upward and downward directions on the stairs, with arrows, on the plumbing plans, or no one will be able to evaluate your plans.**



# Standpipes and Sprinkler Take Offs in Stairwells

- At Intermediate landing –as above
- Roof hydrant – what is this? If a flat roof, the FHV's on roof, on top of stair (standpipe extends through roof). If stair goes to roof, then dual FHV's at topmost landing. Note: 905.4(5) is expanded on at 14-00, 5-3.2(e): “on the roof where stairways do not access the roof.”
- Both sides horizontal exit (see IBC 06 exception)
- Topmost landing/remote location/dual valves
- 200/150 foot coverage rule
- Malls/entry areas

# Intermediate Landing Issues

- Can't interfere with exit required width. Period. Swing stairwell required width arc on landing, stay out of arc.
- Must be located in proper corner of landing. Looking down from floor landing above, you must see the FHV in the corner. Why? Hose must come up along wall to allow people to come down and exit the building along the guardrail side of the stair. This is critical. Operational need of fire department. Code Reference: NFPA 14-00, 3-1.1 (special requirements).

# Intermediate Landing Issues

Sizing is critical. Check diameters of pipe. E.g. 6 inch schedule 10 pipe is actually 6.625 inches outside diameter. FHV outlet usually projects about 12-14 inches out from standpipe.  $6.625 + 12 = 18.625$  out to end of FHV valve turning stem. Gloved hand needs 4-6 inches between valve itself and the wall for clearance.

- Overhead clearance. Have to have 80 inches per IBC 1003.3.1. Be careful here of pipe sprigs down the wall to get to the intermediate landing

# Sprinkler Take Offs

- See NFPA 13 for sample take off at 13-99, Fig A-5-15.4.2 (b). Ours is somewhat different, since we put a check valve after the indicating valve to avoid water flow flutter (water flow flutter is prohibited by NFPA 72-99, 2-6.2).

Note: Test valve, sight glass, orifice, drain pipe. Drain piping goes over to sectional drain which runs down alongside standpipe. If you have pressure reducing valves in the building, then the drain pipe has to be 3 inches in diameter to test those valves. This drain and its location can be critical in the space on a landing.

# Sprinkler Take Offs

- Penetrations of the wall of the stair where the sprinkler pipe goes out to the floor – must be protected with through penetration fire stop. See IBC 712.
- If sprinkler take off piped vertically (which it can be), then have both head room issues and projections into exit width issues. If piped horizontally, primary issue is headroom.

# Other Issues

- FHV's in cabinets, etc. Sizing is the critical issue, plus compatibility with the wall rating in which the cabinet is placed. Most commercial cabinets will have proper sizing, but some show FHV piped with valve output horizontal. Valve output should be placed either vertically downward or at most at 45 degrees from the vertical. This is to prevent a failed coupling from injuring the firefighter or the public. Normal orientation for all FHV's in FXCO is straight down, for safety reasons.

## Other Issues Cont.

Anchors. These are important, if there are long runs of 2.5 inch pipe to the FHV (as in malls). Can also be important if FHV's in stairwells are run from the floor landing standpipe down to the intermediate landing.

- Interconnection of standpipes: IBC 905.4.2:
- In buildings where more than one standpipe is provided, the standpipes shall be interconnected in accordance with NFPA 14. (See NFPA 14-00, 5-5; IBC 905.4.2).

# Riser Control Valves

- 14-00, 4-2.2. Valves shall be provided to allow isolation of a standpipe without interrupting the supply to other standpipes from the same source of supply. (This includes dry standpipes, as in garages).
- 4-2.3. Listed indicating valves shall be provided at the standpipe for controlling branch lines for remote hose stations.

- Why ? You must be able to isolate portions of the system for maintenance without rendering the rest of the system inoperative.
- Supervision of standpipe valves. For dry standpipes (garages) have lock and chain. Otherwise, have tamper switches.

# Risers/Alarms

- Flow switches: NFPA 14-00, 3-7, Water flow alarms. FXCO requires at the base of each wet standpipe a flow switch. This identifies the location of water flowing to a fire in a combined system.
- See diagrams of whole systems at NFPA 14-00, A-5-1.



# Gaseous Agents/Sprinklers

- Clean agents are for equipment. See NFPA 2001-08, A.1.4.2.
- See FXCO Code Ref Pkg: if a fully sprinklered building, then it remains so.
- We do not dump gas.
- Pre-action can be of any listed type.
- IBC 903.2 is for telecommunications buildings only. A building with other tenants is not such a building.

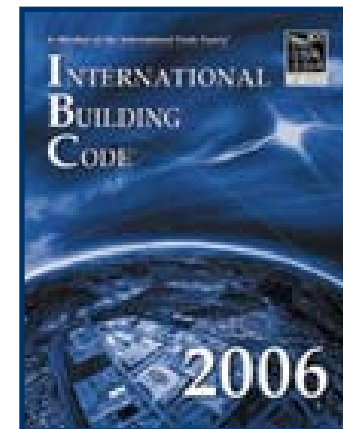
# Exterior Sprinkler Alarms:

- IBC 903.4.2. One bell or horn on outside of the sprinkler room on exterior face of structure.



# New Codes

The above has given, where possible, the references for the upcoming USBC 2006 editions. The adoption date for the 2006 codes is May 1, 2008.



# EPOs/Shutoffs

- The only place where an EPO is required is NEC 645.
- Regular service disconnects at 230.70 (NEC 2002).
- National Fuel Gas code states: Service Shutoff at 5.12, Emergency shutoff at 6.9.3. (multiply fed systems).
- NFPA 13 requires “valve controlling water supplies.”