STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

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FIRE CODE TECHNICAL ADVISORY GROUP
Meeting Review Notes for June 27, 2018

LOCATION: Spokane Valley Fire Department – Administration Building
2120 N. Wilbur
Spokane Valley, WA 99206

Satellite location:
DES Building – Conference Rm. 3092
1500 Jefferson Street S.E.
Olympia, WA 98504

DATE: Wednesday, June 27, 2018

TIME: 9:30 a.m. – 12:30 p.m.

Minutes

1. **Welcome and Introductions**
   a. Traci Harvey, Chair, called the TAG Meeting to order at 9:35
   b. Introductions.

   TAG Members Present (In-person, WEBEX, or phone):
   Traci Harvey, TAG Chair representing SBCC
   Matt Campbell, State Enforcement Agency
   Paul Clark, State Enforcement Agency
   Corey Thomas, Cities/Counties
   Ken Brouillette, Cities/Counties
   Dave Kokot, Fire Protection Engineer
   Daniel Shier, Sprinkler Industry (East)
   Kevin Marr, Sprinkler Industry (West)
   Chris Seaman, Building Officials
   Diane Glenn, Housing/ Multi-family
   Mark Murray, Building Owners/Managers

   Staff Present:
   Ray Shipman

   Visitors Present:
   Terry Beals, Sound Transit

2. **Review and Approve Agenda**
   a. Agenda approved.

3. **Review and Approve Meeting Minutes**
   a. The May 16, 2018 and June 13, 2018 minutes approved
4. **Discussion Topics**
   a. Chapter 10 Means of Egress- 10.1.4.4- White Paper
      i. Contact Chris Seaman for details and clarifications. Chis will move forward with white paper at a later date.
   b. Chapter 12 Energy Systems – PV requirements – IRC correlation
      i. Forward the IRC (*International Residential Code)* portion to the IRC TAG for review when they get started.
      ii. IFC portion - Post proposal for review at next TAG meeting. Attached below.
5. **Code Proposals**
   a. IBC/IFC 3101/IFC 3801- Log Number BF01-2018
      i. TAG recommended not adding a new chapter but adding a new Section 320, titled Standards For Fixed Guideway Transit and Passenger Rail Systems. Then 320.1 would specify, fixed guideway transit and passenger rail systems shall be in accordance with 2017 NFPA 130.
   b. IBC/IFC 3304.5.1/IFC 3314.1- Log Number BF05-2018
      i. The proponent is going to modify the proposal. Proponent will also consult TAG members on a change in the language. TAG will review modification on 7/11/18.
   c. IFC 202 - Log Number F01-2018
      i. Recommended approval
   d. IFC 202 - Log Number F02-2018
      i. Recommended approval
   e. IFC 314 - Log Number F03-2018
      i. **Recommended Denial**, with the option to modify and be reviewed again at the 7/11/18 TAG meeting. Staff will forward proponent new language for the resubmittal.
   f. IFC 315.7.6(1) – Log Number F04-2018
      i. **Recommended approval**
   g. IFC Log Numbers - F05-2018, F06-2018, F07-2018, F08-2018, F09-2018, F10-2018, F11-2018, F12-2018, F13-2018
      i. **Recommended approval** of all.
   h. IFC 701.6 Log Number - F14-2018
      i. Revised proposal was submitted and **recommended approval**. Staff will update the proposal to the revised version with changes to IP-66 to IP-65.
   i. IFC 903.2.8 Log Number - F15-2018
      i. Motion to **recommend denial** of this proposal. It was seconded and unanimous vote. TAG deemed proposal made model code less clear. TAG has asked council to revisit the original interpretation request, with clarifying questions from original proponent.
   j. IFC 904.1.1 Log Number - F17-2018

i. **Recommended denial.** TAG recommends waiting for this to happen at the national level before doing it locally.

k. IFC 906.2 Log Number - F18-2018

i. **Recommended denial.** Proposal will be forwarded to the mechanical TAG. TAG agreed that this should be addressed by the mechanical TAG and not the fire TAG. Group asked that the proponent check the numbering on the proposal, may be some errors.

l. IFC 907.10 Log Number - F20-2018

i. **Recommended denial.** Conflicts with proposal F19-2018.

m. IFC Log Number F21-2018, F22-2018, F23-2018, F24-2018, F25-2018, F26-2018

i. **Recommended all for approval.**

n. IFC 10536.30 / 202 / 319.1 Log Number F27-2018

i. **Recommended for approval.**

6. **Other Business**

a. None

7. **Adjourned 12:30 p.m.**

SECTION 1204
SOLAR PHOTOVOLTAIC POWER SYSTEMS

1204.1 General. ~~Solar photovoltaic systems shall be installed in accordance with Sections 1204.2 through 1204.5, and the *International Building Code* or *International Residential Code*.~~ Installation, modification, or alteration of solar photovoltaic power systems shall comply with this section. Due to the emerging technologies in the solar photovoltaic industry, it is understood fire code officials may need to amend prescriptive requirements of this section to meet the requirements for firefighter access and product installations. Section 104.9 Alternative materials and methods of this code shall be considered when approving the installation of solar photovoltaic power systems. Solar photovoltaic power systems shall be installed in accordance with Sections 1204.2 through 1204.5, the *International Building Code* and RCW 19.28. The electrical portion of solar PV systems shall be installed in accordance with NFPA 70.

1204.2 Access and pathways. Roof access, pathways, and spacing requirements shall be provided in accordance with Sections 1204.2.1 through 1204.3.3. Pathways shall be over areas capable of supporting fire fighters accessing the roof. Pathways shall be located in areas with minimal obstructions, such as vent pipes, conduit or mechanical equipment.

Exceptions:

1. Detached, nonhabitable Group U structures including, but not limited to, detached garages serving Group R-3 buildings, parking shade structures, carports, solar trellises and similar structures.
2. Roof access, pathways and spacing requirements need not be provided where the *fire code official* has determined that rooftop operations will not be employed.

1204.2.1 Solar photovoltaic systems for Group R-3 buildings. Solar photovoltaic systems for Group R-3 buildings shall comply with Sections 1204.2.1.1 through 1204.2.1.3.

Exceptions:

1. These requirements shall not apply to structures designed and constructed in accordance with the *International Residential Code* and shall be in accordance with Section R324 of the International Residential Code.
2. These requirements shall not apply to roofs with slopes of 2 units vertical in 12 units horizontal or less.

1204.2.1.1 Pathways to ridge. Not fewer than two 36 inch-wide (914 mm) pathways on separate roof planes, from lowest roof edge to ridge, shall be provided on all buildings. Not fewer than one pathway shall be provided on the street or driveway side of the roof. For each roof plane with a photovoltaic array, not fewer than one 36-inchwide (914 mm) pathway from lowest roof edge to ridge shall be provided on the same roof plane as the photovoltaic array, on an adjacent roof plane or straddling the same and adjacent roof planes.

1204.2.1.2 Setbacks at ridge. For photovoltaic arrays ~~occupying 33 percent or less of the plan view total roof area~~, a setback of not less than 18 inches (457 mm) wide is required on both sides of a horizontal ridge. ~~For photovoltaic arrays occupying more than 33 percent of the plan view total roof area, a setback of not less than 36 inches (457 mm) wide is required on both sides of a horizontal ridge.~~

1204.2.1.3 ~~Alternative setbacks at ridge.~~ ~~Where an automatic sprinkler system is installed within the dwelling in accordance with Section 903.3.1.3, setbacks at the ridge shall conform to one of the following:~~

~~1. For photovoltaic arrays occupying 66 percent or less of the plan view total roof area, a setback of not less than 18 inches (457 mm) wide is required on both sides of a horizontal ridge.~~
~~2. For photovoltaic arrays occupying more than 66 percent of the plan view total roof area, a setback of not less than 36 inches (914 mm) wide is required on both sides of a horizontal ridge.~~

1204.2.2 Emergency escape and rescue openings. Panels and modules installed on Group R-3 buildings shall not be placed on the portion of a roof that is below an emergency escape and rescue opening. A pathway of not less than 36 inches (914 mm) wide shall be provided to the emergency escape and rescue opening.

1204.3 Other than Group R-3 buildings. Access to systems for buildings, other than those containing Group R-3 occupancies, shall be provided in accordance with Sections 1204.3.1 through 1204.3.3.

Exception: Where it is determined by the *fire code official* that the roof configuration is similar to that of a Group R-3 occupancy, the ~~residential access and ventilation~~ requirements in Section~~s~~ 1204.2.1~~.1 through 1204.2.1.3~~ are a suitable alternative.

1204.3.1 Perimeter pathways. There shall be a minimum 3 feet (914 mm) ~~6 foot wide (1829 mm)~~ clear perimeter around the edges of the roof.

~~**Exception:** Where either axis of the building is 250 feet (76 200 mm) or less, the clear perimeter around the edges of the roof shall be permitted to be reduced to a minimum width of 4 feet (1219 mm).~~

1204.3.2 Interior pathways. Interior pathways shall be provided between array sections to meet the following requirements:

1. Pathways shall be provided at intervals not greater than 150 feet (45 720 mm) throughout the length and width of the roof.
2. A pathway not less than 4 feet (1219 mm) wide in a straight line to roof standpipes or ventilation hatches.
3. A pathway not less than 4 feet (1219 mm) wide around roof access hatches, with not fewer than one such pathway to a parapet or roof edge.

1204.3.3 Smoke ventilation. The solar installation shall be designed to meet the following requirements:

1. Where nongravity-operated smoke and heat vents occur, a pathway not less than 4 feet (1219 mm) wide shall be provided bordering all sides.
2. Smoke ventilation options between array sections shall be one of the following:
   2.1. A pathway not less than 8 feet (2438 mm) wide.
   2.2. Where gravity-operated dropout smoke and heat vents occur, a pathway not less than 4 feet (1219 mm) wide on not fewer than one side.
   2.3. A pathway not less than 4 feet (1219 mm) wide bordering 4-foot by 8-foot (1219 mm by 2438 mm) venting cutouts every 20 feet (6096 mm) on alternating sides of the pathway.

1204.4 Ground-mounted photovoltaic panel systems. Ground-mounted photovoltaic panel systems shall comply with Section 1204.1 and this section. Setback requirements shall not apply to ground-mounted, free-standing photovoltaic arrays. ~~A clear, brush-free area of 10 feet (3048 mm) shall be required for ground-mounted photovoltaic arrays.~~

1204.5 Buildings with rapid shutdown. Buildings with rapid shutdown solar photovoltaic systems shall have permanent labels in accordance with Sections 1204.5.1 through 1204.5.3.

1204.5.1 Rapid shutdown type. The type of solar photovoltaic system rapid shutdown shall be labeled with one of the following:

1. For solar photovoltaic systems that shut down the array and the conductors leaving the array, a label shall be provided. The first two lines of the label shall be uppercase characters with a minimum height of $3/8$ inch (10 mm) in black on a yellow background. The remaining characters shall be uppercase with a minimum height of $3/16$ inch (5 mm) in black on a white background. The label shall be in accordance with Figure 1204.5.1(1) and state the following:

   SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN.
   TURN RAPID SHUTDOWN SWITCH TO THE “OFF” POSITION
   TO SHUT DOWN PV SYSTEM
   AND REDUCE SHOCK HAZARD IN ARRAY.

2. For photovoltaic systems that only shut down conductors leaving the array, a label shall be provided. The first two lines of the label shall be uppercase characters with a minimum height of $3/8$ inch (10 mm) in white on a red background and the remaining characters shall be capitalized with a minimum height of $3/16$ inch (5 mm) in black on a white background. The label shall be in accordance with 1204.5.1(2) and state the following:

   THIS SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN. TURN RAPID SHUTDOWN SWITCH TO THE “OFF” POSITION TO SHUT DOWN CONDUCTORS OUTSIDE THE ARRAY. CONDUCTORS WITHIN ARRAY REMAIN ENERGIZED IN SUNLIGHT.

FIGURE 1204.5.1(1)
LABEL FOR SOLAR PV SYSTEMS THAT REDUCE SHOCK HAZARD WITHIN ARRAY AND SHUT DOWN CONDUCTORS LEAVING ARRAY

1204.5.1.1 Diagram. The labels in Section 1204.5.1 shall include a simple diagram of a building with a roof. Diagram sections in red signify sections of the solar photovoltaic system that are not shut down when the rapid shutdown switch is turned off.

1204.5.1.2 Location. The rapid shutdown label in Section 1204.5.1 shall be located not greater than 3 feet (914 mm) from the service disconnecting means to which the photovoltaic systems are connected, and shall indicate the location of all identified rapid shutdown switches if not at the same location.

1204.5.2 Buildings with more than one rapid shutdown type. Solar photovoltaic systems that contain rapid shutdown in accordance with both Items 1 and 2 of Section 1204.5.1 or solar photovoltaic systems where only portions of the systems on the building contain rapid shutdown, shall provide a detailed plan view diagram of the roof showing each different photovoltaic system and a dotted line around areas that remain energized after the rapid shutdown switch is operated.

1204.5.3 Rapid shutdown switch. A rapid shutdown switch shall have a label located not greater than 3 feet (914 mm) from the switch that states the following:

RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

FIGURE 1204.5.1(2)
LABEL FOR SOLAR PV SYSTEMS THAT ONLY SHUT DOWN CONDUCTORS LEAVING THE ARRAY