

MINUTES OF THE
MARICOPA ASSOCIATION OF GOVERNMENTS
BUILDING CODES COMMITTEE

April 15, 2009

Maricopa Association of Governments Office
Cholla Room
Phoenix, Arizona

COMMITTEE MEMBERS

Michael Clack, Scottsdale, Chair
Ken Sowers, Avondale
*Phil Marcotte, Buckeye
*Mike Tibbett, Carefree
A-Mike Baxley, Cave Creek
*Alex Banachowski, Chandler
Mary Dickson, El Mirage
*Peter Johnson, Fountain Hills
*John Smith, Gila Bend
*Jo Rene DeVeau, Gila River Indian
Community
A- Ray Patten, Gilbert
Bryan Woodcox for Deborah Mazoyer,
Glendale

Bill King for Ed Kulik, Goodyear
John Rae for Chuck Ransom, Litchfield
Park
Tom Ewers, Maricopa County
A-Steven Hether, Mesa
Bob Lee, Paradise Valley
Cheryl Mullis for Dennis Marks, Peoria
Tom Wandrie, Phoenix
A-Dean Wise, Queen Creek
Forrest Fielder, Surprise
A-Michael Williams, Tempe
Mario Rochin, Tolleson
John Stigsell, Youngtown
Rus Brock, Home Builders Association
V-Those members participating via
videoconference

OTHERS IN ATTENDANCE

Nathan Pryor, MAG
Heidi Pahl, MAG
Ray Schmidt, R&R Engineering
Robert Dumitruk, R&R Engineering
Robert Erikson, Corgan Associates Inc.
Mike Galvez, Solar City
Albert Laird, Solar City
Don Penn, IEG
Robin Boudreau, AZ Department of
Commerce
Greg Pitz, Logos Solar
Clint Taylor, Arizona Solar Concepts
Rick DeStefano, Wickenburg

*Those members neither present nor
represented by proxy.

A-Those members participating via
audioconference

1. Call to Order

Michael Clack, Chair, called to order the April 15, 2009 meeting of the MAG Building Codes Committee (BCC) at 2:00 p.m.

2. Introductions

Voting members Steven Hether, Michael Williams, Mike Baxley, Dean Wise and Ray Patten attended via telephone conference call. All members introduced themselves.

3. February 18, 2009 Meeting Minutes

Forrest Fielder said that the last paragraph on page two of the meeting minutes should state, "Forrest Fielder said the ICC sent out..." It was moved by Bob Lee, seconded by Bryan Woodcox and unanimously recommended to approve the February 18, 2009 meeting minutes as amended.

4. Call to the Audience

Robin Boudreau from the Arizona Department of Commerce (ADOC) Energy Office said there is more than \$3 billion available for competitive grants via the Energy Efficiency and Conservation Block Grant Program. He said that cities and towns with a population of more than 35,000 persons are eligible for funds by formula and will need to apply through www.fedconnect.net. He said all others will have to apply for grants through the Arizona Energy Office in the Department of Commerce. He said their contact information is: www.azcommerce.com/Energy/; and he provided his contact information, (602) 771-1153 or RobinB@azcommerce.com. Mr. Boudreau encouraged all cities and towns to take advantage of the grant opportunities.

Bob Lee asked if there is any money available for towns less than 35,000 people. Robin Boudreau replied yes, it will fall into a category of balance of state program and money would come from the state energy office.

Robert Dumitruk said he wanted to attend the Building Inspectors/Plans Examiners (BI/PE) meeting but did not receive the meeting notice. He stated his position on structural engineering standards in regards to solar and wanted emphasized that he wished to receive an update from the BI/PE meeting.

5. Comments From the Committee

Bob Lee said members of the photovoltaic (PV) community, including panel manufacturers, installers, and electrical engineers met on March 25, 2009 to discuss supply side taps. Mr. Lee said the meeting was well represented. He said it was hosted by Mark Skidmore. Mr. Lee said the group concluded that there is no current way to make a supply side tap on the generic "All-in-one" service entry sections. Mr. Lee said there will be another meeting on load side taps. He said that based on information that has been gathered the only way to make a connection from a PV system into an existing system is by back feeding a circuit breaker. Mr. Lee said the manufacturers think that in future they may be able to create a load side tap for all in one. Mr. Clack said MAG BCC is looking forward to that update.

6. Legislative Update

Nathan Pryor provided a legislative update noting that the state budget is at the forefront of discussion and the legislature is currently grappling with a 3.5 billion dollar deficit in the FY 2010 budget. Mr. Pryor said there is a holding pattern on bills in the legislature until the FY 2010 budget has been put to rest. He said largely no bills have gone through the Senate, and very few bills have moved through the House. He said it is possible that the state budget may be finalized by end of April 2009. He said the bills in the previous MAG BCC bill summary have not changed.

7. Geothermal Technology

Bob Erikson, Corgan Associates Inc., and Don Penn, Image Engineering, introduced themselves and gave a presentation on geothermal technology and geexchange systems. The presentation included energy and cost data. Mr. Erikson said geothermal is recognized by the Department of Energy and the Environmental Protection Agency (EPA) as the most energy efficient HVAC system on the market. He said it is a reliable source for heating and cooling. He said geothermal installation needs the same square footage as the building. He said it is governed through a water well drillers license. Bob Erikson said it is essentially water travelling back to the building at the temperature of the earth. He said no boiler rooms or mechanical rooms are needed. He said installing geothermal provides tax credits, LEED points, and agencies can use federal stimulus money to install it because it is recognized as a renewable resource. He said geothermal is very economical and better for the air quality. He said it is a closed system.

Bob Lee asked if these are code compliant systems. Don Penn said yes. Bob Lee asked what the problems are with plan reviewers or building inspectors. Don Penn said there is no problem other than a lack of understanding.

Cheryl Mullis asked how it deals with outside air requirements of the IMC. Don Penn replied that they use an Energy Recovery Ventilator (ERV) on the inside of the unit. Mr. Penn said the ERV has two blowers and a core and it recovers around 70 percent of the energy from the air that is being exhausted. He said it is healthier for indoor air quality to run a geothermal unit than the conventional HVAC unit.

Forrest Fielder asked if the time that the system is operating is upon demand, in other words working hardest at the hottest time of day. Don Penn said it responds the same as any system to a thermostat and the occupants. Don Penn provided a comparison of this technology vs. central plant technology in the PowerPoint using the example of Richland Middle School.

Michael Clack asked if geothermal was more expensive than a conventional system. Don Penn provided cost information in the PowerPoint using Frisco ISD schools mechanical cost comparison. Mr. Penn said maintenance cost of geothermal is a lot less than pipe and single zone units. He said the payback is less than a year. He said ASHRAE states that the life of the system is 24 years based on heat exchange units.

Bob Erikson said Clark County Nevada will have every school using geothermal moving forward, that is a mandate. Bob Erikson said they drilled a well at Cactus Shadows High School in Cave Creek and it was successful.

Bob Lee asked if the other end of the system was installed by regular mechanical contractors. Bob Erikson replied yes and the mechanical contractors are giving push back because they are unaware of geothermal technology and they cannot service the job, so it takes work away from them.

Mr. Erikson said Corgan is trying to educate those in the state on geothermal in order to reduce CO2 and collectively use less energy.

Don Penn said if geothermal was installed with solar it would reduce the size of the solar project because geothermal reduces energy demand.

Michael Clack asked how difficult it is to do a retrofit. Bob Erikson said they can retrofit a 300-400 square foot building over the summer.

Mr. Clack asked if these have been implemented in other places other than schools. Don Penn replied yes, in police and fire stations, court buildings and mid-rise office buildings. Mr. Clack asked if geothermal could be installed in an existing urban setting surrounded by concrete. Don Penn said yes as long as geothermal gets there first and there is enough land, adding that geothermal can go under an existing building. He said that geothermal is coupled with retrofit of rooftop equipment.

Bob Erikson said the federal stimulus package has about 50 percent grant for installing a system like this. Michael Clack asked how they deal with expansive soils. Don Penn said they have very expansive soils in Texas where they install geothermal without problem and they use a good pipe that goes down to even 500 feet in solid granite without losing a bore. He said you can use lakes or ponds for geothermal.

Mr. Clack asked what kind of in roads are being made on the single family residential side. Don Penn responded that there is a 30 percent tax credit with no cap in the stimulus package for homeowners.

Ken Sowers asked if this would work on a 400,000 square foot indoor sport center. Bob Erikson responded yes. He said there are many ways to have this technology work for a jurisdiction.

Michael Clack thanked the guest speakers.

8. MAG Building Inspectors/Plans Examiners (BI/PE) Forum Update

Cheryl Mullis said a BI/PE meeting was held April 15, 2009 in the morning. She reviewed topics discussed at this meeting in regards to existing roofs with solar panels and structural standards. She said the Wood Truss Council of America (WTCA) gave a presentation at the BI/PE meeting and said each truss is different so it is site specific. Ms. Mullis said the WTCA would meet with Michael Neery, a solar industry professional to derive a recommendation to be presented to the BI/PE forum. Cheryl Mullis said at the moment jurisdictions are going to stay status quo. Cheryl Mullis said jurisdictions need to do their due diligence and they are not purposefully being negligent. She said Gilbert is the only jurisdiction requiring engineering on every submittal.

Michael Clack asked if the two groups willingly wanted to meet. Cheryl Mullis replied yes.

Albert Laird said the solar industry wants to participate in BI/PE meeting. Mr. Laird said the solar industry wants to be responsible contractors. Cheryl Mullis said the concern is with the smaller new solar companies that lack expertise and history in the field.

Several members of the solar industry expressed concern that they did not receive an invite to the April 15th BI/PE meeting. Heidi Pahl offered to work together with Cheryl Mullis to create a list of solar industry professionals to ensure all the correct people are invited to future BI/PE meetings.

Forest Fielder asked if the conversation with Mark Luther considered live loads that trusses and roof systems are designed for and think of these systems in lieu of live loads. Cheryl Mullis said this was addressed at the meeting, and the 350 pound live load on the roof cannot be replaced by dead load. Ben Cox said Mark Luther discussed the fact that they don't recognize a reduction in the live load as it is there for wind and rain and not replacement of additional dead load on the truss. He said the 350 pound live load is a requirement out of the IBC. John Rae said this additional dead load is not necessarily uniformly distributed and this is a safety concern.

9. Updated MAG Building Codes Committee Membership

Chairman Michael Clack reminded members to keep their membership information current and to report any changes to Heidi Pahl. Michael Clack recognized Rick DeStafano who is new to the committee.

10. Update Survey of Code Adoption

Michael Clack said he believed that most jurisdictions are using the 2006 family of codes and the MAG BCC had a consensus of adopting the new codes in January 2010.

Tom Wandrie said city of Phoenix adopted the 2008 NEC and is discussing the adoption of the new set of codes.

Bob Lee asked if Phoenix carried forward the 5 amendments. Tom Wandrie replied yes they were carried forward and explanations were provided.

11. Topics for Future Agendas

Cheryl Mullis said sustainability topics could be addressed at future MAG BCC meetings. She asked that the environmental issues that are not life safety issues be discussed.

Bob Lee said he volunteered to help ASU Sustainable Cities Network (SCN) with solar photovoltaic standards that are uniform across the region.

Rus Brock said there was an Arizona Republic newspaper announcement about Shasta pools working with a heat pump company installing geothermal. Mr. Brock said he would ask Shasta to give a presentation at a future MAG BCC meeting.

Michael Clack said he has been contacted by the Arizona Masonry Group and they would like to make a presentation on 6 inch masonry fences.

Heidi Pahl said that Ecotality, Nissan and MAG are having a press conference April 16, 2009 to launch their partnership with an agreement to develop electric vehicle charging infrastructure in the MAG region. Ms. Pahl said Ecotality would like to make a presentation to the MAG BCC about the electric vehicle charging infrastructure that will support all electric and plug-in hybrid electric vehicles. She said the proposed infrastructure will use a 220-volt charging station in residential and commercial areas and a 440-volt fast-charge in strategically located areas.

12. Adjournment

The meeting adjourned at 3:30 p.m.