The combined Southern California Plumbing and Mechanical Chapters of IAPMO met on Tuesday, October 16, 2012 with 18 members and guests present. Pete Sandoval, Chapter Chairman called the meeting to order and Larry Soskin of Ace-Duraflo led the salute to the flag. This was followed by the self-introduction of members and guest.

Ed Saltzberg, Chapter Secretary, read the minutes of the September 18, 2012 meeting. The minutes were approved as read.

Jerry Plank, Chapter Treasurer reported that we have $1322.44 prior to today’s meeting.

New and Old Business

1. Bob Bailey reported that UPPA-LB meets on the 2nd Saturday of each month and everyone is invited.

2. Larry Soskin reported on the recent IAPMO conference. He said that there were no code change hearings only code seminars. Larry said that the weather was unbearable. He said that the 105°F in Granada Hills felt much cooler than the 89°F in Florida.

Technical Program
Our speaker for the day was David R. Flores, Regional Manager of Lochinvar LLC. David was an excellent replacement for the proposed speaker from Raypak who stood us up last month. David spoke about Lochinvar and said that they have been around since 1954 but can trace their roots in the hot water industry to as early as 1919. Lochinvar is now a wholly owned subsidiary of the A.O. Smith Corporation. Lochinvar is
represented locally (Southern California) by Elmco Duddy Company. David showed a slide presentation covering ways of designing water heating systems. He covered both water heaters with storage tank(s) and storage tank type heaters. David also talked about the heater size with regards to air quality. David pointed out that the required expansion tank for systems has to be up stream of any check valve in the cold water line. Also the expansion tank has to be charged so as to be 10-15 pounds higher pressure than the system pressure. David gave the group a "Good Rule of Thumb" for sizing domestic systems at 4.5 to 5 Gallons of expansion for every 100 Gallons of stored domestic water. David then covered the correct method of piping for domestic water heaters. He showed a chart for the correct header size for multiple heaters based on their input. David said that it is best practice to pipe multiple heaters in a reverse return piping configuration.

David then covered the subject of heater efficiency. He said that non-condensing heaters are in the range of Up to 87% Thermal Efficiency. High efficiency condensing units are achieving a thermal efficiency in the high 90's%. David showed the group a condensing chart from ASHRAE that pointed out that the dew point is at 130°F. Condensing will occur in a gas fired appliance when the water temperature is below 130°F. David showed proper piping methods for both condensing and non-condensing heaters. For non-condensing water heaters, it is critical that the cold water supply line is piped to the manifold piping that is moving the heated water away from the heaters to the storage tank. In addition the storage tank must be stored at temperatures above the dew point so the heaters do not see any temperature below 130°F. For condensing heaters, the cold water supply line needs to be tied into the manifold piping from the storage tank to the heaters. This will promote cooler inlet temperatures to the heaters so they can achieve a higher thermal efficiency. Next, David went over problems with incorrect water piping. David mentioned that Elmco Duddy (So. Cal. Rep.) will provide jobsite review and start-up.

David then covered the basics of hydronic heating system, covering Primary/secondary systems and required flow rates to ensure trouble free operation. David explained that flow rates are critical when designing a hydronic system and that the system loop (secondary loop) always has to have a higher flow rate than the maximum flow rate of the boiler loop (primary loop). David mentioned that a good "Rule of Thumb" is to size your system flow rates at 25% higher than the maximum broiler flow rates. This will prevent hot water recirculation through the two closely spaced tees that decouple the primary loop from the system loop. David spoke about vent sizing, materials and slope. He said that installations have to be per the National fuel gas code. David covered
appliance categories and their vent materials and requirements. David said that common venting is o.k. with category I & II appliances only. David explained common code violations.

David stated that condensing heaters can discharge approx. 1 gal of condensate per hour for every 100,000 BTU input and it has to be neutralized before discharging into the drainage system. David stated that Lochinvar will provide ASME equipment when the input is over 200,000 btu/hr input. He also explained the difference between a boiler and a water heater. After answering all the questions from the attendees that concluded our technical presentation.

The $10.00 door prize was won by Shane Peters of Santa Monica. Kelly Gilfoy of Specification Sales donated a bottle of wine and a 6 pack of beer. These were won by Bob Bailey of UPPA of Long Beach and Jim Fry of L A Co. Winners of prizes donated by the chapter were Mei Kwan of Long Beach, Jesus Murillo of South Gate & Jerry Schreiber and Wes Cruz both of Vernon and Lindsey Pete.

With that we concluded our meeting. We wish to thank David R. Flores, Regional Manager of Lochinvar LLC for his very informative and interesting presentation.

Respectively submitted
Edward Saltzberg

Chapter Secretary