



DUST-DEVIL

President....Jim Ray.....942-2502
V. Pres.....Dan Schwartz.....271-2650
Secretary....Tom Datena.....276-5113
Treasurer....Bob Center.....242-3420

Board Member....Bill Hicks.....271-7431
Board Member....Bob Bassett....265-7648
Board Member....Dave Falk.....264-3168
Editor.....Jim Bley.....273-5814

MAY 6 MEETING ANNOUNCEMENT

WHAT: TOPIC - "A PROFESSIONAL APPROACH TO ENERGY
MANAGEMENT FOR BUILDINGS"

..... the talk will include application
of nite setback, economizers and
automation

WHO: SPEAKER - MR. ERUING HALLANGER,
Systems Utilization Manager,
Honeywell Incorporated,
Minneapolis

WHEN: MONDAY, MAY 6, 1974

5:30 P. M.-- Attitude Adjustment

6:30 P.M. -- Dinner - \$5.50 per person

WHERE: Beef-Eaters
300 West Camelback Road

- GUESTS ARE WELCOME -

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PRESIDENT'S PAGE

The energy crisis appears to be taking a back seat to what I choose to call the price crisis.

I have talked with several equipment suppliers and it appears they are still making quotations with a guaranteed price, but those who are so bold in the piping business seem to be destined for early retirement.

The removal of price controls, coupled with an unprecedented demand for pipe, valves and fittings in oil, mining and new construction has brought almost total pricing instability to the industry.

This puts the contractor with a fixed price contract in an untenable position. Padding the cost estimates invites disaster in several ways. One, you could be too high and not get the contract. Two, you are low but didn't allow enough and start out with a deficit.

Obviously a solution must be found if the industry is to survive. I believe escalator clauses are the only option open to the individual contractor. In this manner the client pays for only the actual increases, not a pad which may or may not be sufficient.

The story must be presented to the client by the Engineer and Architect if any success is to be achieved. The general will not accept a quote with such a stipulation unless it is written into the contract documents.

Public agencies may not be able to comply even if they are sympathetic. It appears that changes in certain laws will be required before they could submit to such a procedure. I hope that a solution is found before too many of our industry are hurt.

Well, I am not ending up these monthly comments on a very light note, but I have enjoyed serving the Chapter and will continue to do so in whatever way I can. We are seeing many changes come about which requires flexibility as never before. None would really want to go back to the "good ole days" as I honestly believe they are today and tomorrow.

Regards,

Jim Ray

ENCLOSED IS YOUR TICKET FOR THE 20th ANNUAL ASHRAE DINNER DANCE ---

-----at Moon Valley Country Club

-----8:00 P.M. - Dinner -- 8:30 to 12:30 Dance

-----June 8, 1974

-----Mail your check to Bob Genter, Treasurer, 1920 E. Solano Dr., Phoenix 85016

-----Additional tickets may be obtained at the May 6th monthly meeting

-----Confirmations and further inquiries can be made through the Social Chairman,

Bill Seginski (Ph 258-1545)

APRIL MEETING MINUTES

The meeting was called to order by President Jim Ray at 7:25 p.m. at the Beef-Eaters Restaurant, Phoenix.

Following introductions of members and guests, Jerry Howell, Education Chairman, Region X, presented membership chairman Bob Zeleski with an award for the 1972-73 year.

Minutes of the previous meeting were approved as written in the "Dust Devil".

Pres. Ray brought up the election of officers for the 1974-75 year, and called for nominations from the floor. There being no nominations from the floor, it was moved by Walt Biddle that nominees, as written in the "Dust Devil", be elected. Motion was seconded and carried. Nominees for the Board of Governors were elected by ballot.

Officers and Board members thus elected for the ensuing year are as follows:

President	Dan Schwartz
Vice President	Tom Datena
Secretary	Bob Genter
Treasurer	Bill Hicks
Board of Governors	John Benson Paul Robinson

Dan Schwartz introduced the speaker, Mr. James Good, Western Regional Manager, AC Mfg. Co., Cherry Hill, New Jersey. His presentation, accompanied by slides, was on "Process Cooling for the Computer Center Environment".

Mr. Good categorized his talk into four general areas:

1. Problems that are caused essentially by the wrong environment.
2. The economics of the system in the computer room.
3. The system design criteria.
4. The type of systems available and popular for computer room applications.

Five of the potential problems are:

1. Space. Normally there is a lack of space and lack of possibilities within a space. Computer rooms are constantly growing, and most computer room applications are such that the system going in today was not ordered today. The people who actually ordered this are already thinking about their next computer room situation. Therefore, there is a great need for flexibility.
2. Fire, water and smoke detection is a very expensive item in a computer room. Unlike most office buildings, sprinkler systems are not sufficient. Two methods are used to combat the fire, water, and smoke problems. One is the carbon dioxide system, which is the least expensive but potentially hazardous. The other is the K line system, which is very expensive to install.
3. Security. Sabotage and riot are of deep concern. The loss to a computer program can be astronomical.
4. Power. Loss of power at the wrong time can erase the computer program or the memory banks.

APRIL MEETING MINUTES (continued)

5. Temperature and humidity controls, and air cleanliness. Examples of damage that can occur from high humidity included head crash with loss of disc memory, surface deterioration, silver migration of the contracts. Static electricity is a nightmare. It changes the characteristics of the small voltage and may result in the complete loss of a program. As for cleanliness, Mr. Good cited the example of a computer damaged beyond repair by a few bits of metal filings. Relative to air conditioning, he noted that he thinks of a computer as essentially an electric furnace.

The investment cost of a computer room is about \$1500 to \$2000 per square foot. Air conditioning to take care of this is approximately \$15.00 per square foot. For a 2000 sq. ft. facility, one is looking at a three million dollar investment. The process cooling system would go in at a maximum of \$30,000, or at a ratio of about 1% to the total investment.

The system design criteria is different from comfort air conditioning. Process system cooling is designed and rated for 72° inside - 2°, 50% R.H. - 5%, 100° dry bulb outside air. The equipment is designed and rated for these conditions. The tolerance is small to allow for operator power-down in the required sequence if anything should go wrong. Outside air needs are minimal and usually represent around 1% of the total air. Load and air changes are much greater than in the usual office room. Minimal design is 600 CFM per ton.

The raised floor system is recommended for air distribution, because of computer equipment design and for flexibility. Computers are designed with the air intake on the bottom, and top discharge. With an overhead system there is a constant state of turbulence and the air is mixed by the time it gets down to the air entry point. Vapor barrier to maintain humidity is another consideration.

The room and equipment must be flexible to allow for changes and additions. The raised floor system has another plus here in that it can be adjusted to handle different hot spots as computer equipment is moved around.

Process cooling is essentially a 24 hour per day, 365 days a year system. Reliability, therefore, is an essential factor. The system has to have redundancy in all its components to allow for stand-by power and expansion.

Types of systems available include the air-cooled, self-contained system which has the advantage of accurate factory testing and charging; direct expansion system with a water tower; a water-cooled, heat pump system which utilizes a small boiler; and the central chiller, chilled water unit, which is used normally in a very large system. Mr. Good noted the design for the chill water is 48° to avoid over-dehumidifying.

Following the speaker, Pres. Ray noted that there is one more meeting, one more social and possibly a golf tournament in May.

The meeting was adjourned at 8:55 p.m.

PEOPLE ON THE MOVE

W. B. Consulting Engineers - name changed to R. L. Bassett & Assoc. (265-7648)
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Phoenix, Arizona 85014