# FLUE PIPE

**American Society of Heating, Refrigerating, and Air Conditioning Engineers, Inc.**
Shreveport Chapter

**February 2005**

## PRESIDENT'S MESSAGE

We appreciate Mr. Charles Robinson, Director of LSUHSC Facilities, taking time to share with us an enlightening and educational presentation about construction in the Health Care industry. The numbers were staggering on how many deaths occur in hospitals, much less the number that could be prevented if better construction design and practices were followed.

This month's meeting will feature Mr. Jim Oxner, of Oxner Engineering, presenting about the current NEBB changes that have taken place as of January 1, 2005. Mr. Oxner is currently on the National Board for NEBB and will share additional information about possible major changes in the future regarding NEBB requirements. This will also be a membership promotion meeting, so please bring an associate so we can help show them what ASHRAE is all about. I look forward to seeing everyone there.

This year's CRC is quickly approaching and will be in San Antonio, TX. This event will be held on April 15th and 16th. Everyone is encouraged to attend as this is a great way to network as well as learn more about how you can make a difference in ASHRAE and what ASHRAE can do for you. Please let me know if you need any additional information regarding this event.

**Jim Watts**
**President**

## MEETING FACTS

**DATE:** Thursday
February 17, 2005

**PLACE:** Superior's Steakhouse
855 Pierremont
Shreveport, Louisiana

**TIME:** 11:30 a.m. - Lunch
12:00 p.m. – Meeting/Speaker

**PROGRAM:** **"Current Changes to NEBB Standards"**

**SPEAKER:** Jim Oxner, P.E.
Oxner Engineering

**COST:** $16.00/Person

### Region VIII CRC Fiesta San Antonio

**April 14, 15 & 16, 2005 on the San Antonio Riverwalk.**

**Crown Plaza Riverwalk Hotel**
**111 East Pecan Street**
**San Antonio, TX 78205**

**Reservations: 210-354-2800**
**(Reference ASHRAE)**

# TREASURER'S REPORT

| Statement of Accounts | Dec 31, 2004 | Jan 31, 2005 |
|---|---|---|
| Certificate of Deposit (Heller) | $ 6,500.00 | $ 6,500.00 |
| Certificate of Deposit (Jordan) | $ 7,000.00 | $ 7,000.00 |
| Certificate of Deposit (Guth) | $ 500.00 | $ 500.00 |
| Savings Account | $ 576.20 | $ 598.21 |
| Checking Account | $ 296.27 | $ 526.71 |
| **Total Account Balance** | **$ 14,872.99** | **$ 15,114.92** |

**Statement of Income**

**Income**:

| | |
|---|---|
| Dues | $ 200.00 |
| Meals | $ 511.00 |
| Golf Tourn. | $ 0.00 |
| ASHRAE Research | $ 0.00 |
| Misc. | $ - |
| Other | $ - |
| Total: | $ 711.00 |

**Expenses**:

| | |
|---|---|
| Meeting/Meals | $ 480.56 |
| Bar Bill | $ 0.00 |
| Newsletter –Sept. | $ 0.00 |
| Web Site | $ 0.00 |
| Misc | $ 0.00 |
| Total: | $ 480.56 |

**Net Income (Loss): $ 230.44**

**Interest Income from Savings and CD's in 2005 ……. $ 21.49**
**Interest Income from Savings and CD's in 2004 ……. $164.77**

**Submitted by Gary Patrick, Treasurer**

# COMMITTEE REPORTS

## Membership Promotion

Jim Oxner will be our speaker at this meeting. Jim does a great job balancing our HVAC systems and making things work. I've run into Jim out in the field on several jobs and I know the real story. As Jim plays with his laptop his helper crawls out of the air handler with a pitot tube in one hand and a tachometer in her other hand. Why she's the good looking young lady we all saw on the top half of the front page of The Shreveport Times the morning after the last Mardi Gras parade. Thanks Debbie O.

This February ASHRAE meeting is our second Membership Promotion Meeting for the year. Take this as an opportunity to bring along a prospective new member and introduce him to the key people in the HVAC industry in our local area who are our members. If you know of someone who should be one of us, invite them to join or pass on name and phone number and I will contact.

**Charles R. Jones, PE**

## Resource Promotion

In March we will be celebrating resource promotion in ASHRAE. At our March chapter meeting, we will be honored to have John Rhodes our regional vice chair of resource promotion, and our regional director and Chairman Hugh McMillan in attendance. They will discuss the state of the society and brief us on recent developments on a regional and national level.

ASHRAE has been supporting research to improve the quality of life since 1919. It is thought to be the largest program of fundamental research sponsored by any engineering society in the world. The guiding principles include: (1) not for a few but for all people. (2) not for the present but for the future, and (3) not for development of products but for discovery of principles.

ASHRAE maintained a research laboratory until 1958. Today, sponsored research is conducted under contract by universities and private organizations. Projects originate from either Work Statements or Unsolicited Research Proposals. Technical committees and task groups are charged with identifying, processing, and recommending appropriate projects for funding. ASHRAE's Technology Council is responsible for approving projects.

The funds for approved research projects conic from four sources: (1) contributions from members and the HVAC&R industry, (2) a percentage of the membership dues, (3) income from the AHR exposition held in conjunction with each ASHRAE Winter Meeting, and (4) interest earned on the research fund reserve. 10000 of all contributions are used directly for funding research projects because all administrative, committee, and support material costs are paid by the Society.

This year our chapter has contributed $6,653. Our chapter's goal for contributions this year is Approximately $11,000. We have some ground to make up and I look forward to working with you to meet our goal.

**Kurt Lyles**

# 5 Threats to Chiller Efficiency

Building chillers are the single largest energy-using component in most institutional and commercial and facilities. In many facilities, more than 50 percent of the annual electricity use can be attributed to the building chillers. So proper operation and maintenance of the building chillers should be a high priority in any facility energy management program.

It is surprising, however, to see just how often chillers are operated or maintained inefficiently or ineffectively, resulting in higher energy costs, lower system performance and reliability, and decreased equipment life.

While many factors contribute to decreased chiller efficiency, the five most common ones include: poor operating practices, ignored or deferred maintenance, ignored cooling tower maintenance, oversizing, and ignoring alternate-fuel chillers. While each of these factors poses a real and significant threat to chiller efficiency, all can be easily controlled or eliminated by maintenance managers.

**Poor operating practices**

Poor operating practices not only can decrease chiller efficiency, but also chiller life. Most such practices are the result of one of two situations: trying to get a chiller to do something that it was not designed to do or not understanding the consequences of a particular action.

For example, one common practice when trying to provide more cooling water to a facility is to increase the rate of chilled water flow through the chiller. The belief is that with a higher flow rate, more cooling water will be available.

In reality, however, increasing the flow rate through a chiller beyond the manufacturer's recommendation actually reduces the operating efficiency of the chiller. Equally important, flow rates higher than those recommended increase the rate of erosion in the chiller's tubes, leading to early tube failure.

Making certain that poor operating practices do not become standard operating procedure requires training personnel in both maintenance and operating practices. Proper training helps operating and maintenance personnel set up and operate chillers in an efficient manner.

It also allows maintenance personnel to develop an ongoing chiller maintenance program to ensure long and efficient equipment life. It allows maintenance personnel to recognize and correct problems early before they develop into more extensive and costly ones. Finally, training helps operating and maintenance personnel identify poor operating practices before they become accepted as standard operating procedure.

**Ignored maintenance**

Although good maintenance practices are important to the efficient operation of all building equipment, there are few areas where this is more evident than in the maintenance of building chillers. For example, consider the impact that good maintenance can have on chiller efficiency.

Most new, high-efficiency centrifugal chillers carry a full-load efficiency rating of approximately 0.50 kW per ton. If that chiller is well maintained, in five years it can be expected to have a full-load efficiency of 0.55-0.60 kW per ton.

If maintenance has been ignored for that same chiller, it would not be surprising to find that the full-load efficiency had decreased to 0.90 to 1.0 kW per ton. On an annual basis, this means that a poorly maintained chiller will use 20-25 percent more energy annually to produce the same cooling.

Good chiller maintenance begins with keeping a chiller operating log. Recording chiller operating parameters regularly can provide maintenance personnel with a valuable diagnostic tool. While it is common for most facilities to maintain chiller operating logs, it is less common to find that someone regularly reviews them, which is essential. Refrigerant leaks, air leaks, tube fouling and other problems can be identified through a thorough reviews of operating logs.

Another important element in chiller maintenance programs is the performance of regularly scheduled inspections. These inspections — performed daily, weekly, monthly or annually — help to identify the health and operating efficiency of the chiller. They form the foundation of any chiller maintenance program.

**Ignoring cooling towers**

Cooling towers are critical components in the efficient operation of chiller systems. In most cases, the operation of the cooling tower determines the operating efficiency of the chiller, to a great extent. Towers that are in good condition, operated properly and well maintained allow chillers to operate at peak efficiency.

Even the slightest decrease in performance in cooling tower operation will have a major impact on chiller efficiency. For example, for each degree Fahrenheit increase in condenser-water supply coming from the tower, chiller efficiency will decrease by an average of 2 percent.

In spite of the important role that cooling towers play in chiller operation, they are often overlooked. Typically located on a building's roof, cooling towers all too often suffer from being out of sight and out of mind. Performing proper maintenance is particularly important, given the environment in which cooling towers must operate.

Proper cooling tower operation requires that managers schedule regular inspections of towers and, if needed, repairs. Water-treatment programs must be implemented in order to keep the concentration of suspended solids in the tower water system within acceptable limits.

**Oversizing**

Properly sizing a chiller also is important to its efficient operation because chiller efficiency drops off rapidly with decreasing load. Chances are, when the facility was new, the chiller was slightly oversized in order to allow some growth in cooling loads within the facility without having to replace the chiller.

But given the state of churn in facilities, the loads that a chiller faces after even just a few years can be vastly different from those for which it was designed to meet. This situation is particularly true if a facility has been modified to improve its energy efficiency.

Oversizing is most easily corrected at the time when the chiller is replaced. By studying the operation and performance of the existing chiller and the cooling loads it is actually serving, managers can more closely size a new chiller to meet these needs. If a facility is served by multiple chillers, replacements can be sized so that different chillers of different capacities operate as needed to meet cooling loads, allowing operators to stage operation as needed.

Between chiller replacements, managers can help correct for oversizing by installing variable-frequency drives on existing chillers. These drives slow the operation of the chiller as cooling loads decrease, allowing chillers to operate at near full-load capacity over a range of loads.

**Ignoring alternative-fuel chillers**

A common mistake made when chillers finally wear out is a simple one-for-one replacement. If an old chiller was electric-drive centrifugal unit, a manager replaces it with a new electric-drive centrifugal unit. While the type of chiller installed 15 to 20 years ago might have made sense then, too many conditions have changed since then to simply assume that the same type of chiller is the best choice for the facility today.

Deregulation, real-time pricing for electricity, and technology advances all have worked to give managers choices when it comes to replacing existing building chillers. Deregulation and real-time pricing of electricity provide managers with the incentive to manage their electrical loads.

With its high electrical load, an electric chiller is a very big target when looking for ways to reduce electrical loading and controlling costs. New technology chillers, including natural-gas driven centrifugal chillers and steam- or gas-fired absorption units, allow managers to use alternative fuels during times when electricity costs are high. By investigating the cost new-generation chillers and their impact on operating costs, managers can gain significant savings in energy costs without sacrificing either performance or reliability.

**Roger S. Stanley, D.E., P.E. & Kurt Lyles**

## MEETING MINUTES

### BOG Meeting Minutes

1. Jim Watts opened the meeting and thanked everyone for coming.
2. Jim Watts called for volunteers to fill in as delegates at the CRC meeting in San Antonio.
3. Jim Watts asked about the President Training Course coming up this month and Elmer Tingler said that he was planning on attending
4. Jim Oxner is to be speaker at the next meeting,
5. Jim Oxner will also be speaking to the Student Chapter on Wednesday night in Ruston.
6. Rick Fisher reported that there was a good turn out for the last Student Chapter meeting. They went on a tour of the Turbine Plant at Louisiana Tech.
7. Gary Patrick gave the Treasurer's Report.
8. Brad Howlett of Edward Jones presented options on how to make more money from the endowments that we currently have in CD's.
9. The Board of Governors voted unanimously to approve the moving of the funds to a recommended mutual fund.
10. Gary Patrick agreed to coordinate this with Mr. Howlett.
11. Meeting was adjorned.

## HISTORY

# A BACKWARD GLANCE

Dee Nooner

*This is a reprint from ten years ago, but is still applies. I like it anyway!*

One of the nicer little museums in our part of the country is the one found in the entrance of Fitzgerald Contractors' Shreveport office. It's not big and its not real fancy, but it speaks of the history of the company, the changing nature of the business, and most of all about the men who made it what it has become today. The museum is a lot more interesting than the typical trade magazines found in most waiting rooms and gives a very clear glimpse of the people who founded the company. People who clearly believed in tradition and family pride.

On the wall in a prominent place is a picture of a tall stocky man in a snap brim hat. It is in a frame that includes miniature wrenches and other plumbing gear as part of its decoration. This was William Fitzgerald, the man who founded the company. Below the picture is a letter of recommendation dated 2/23/06 from a Mr. Daniel P. Curtis of Dublin stating how highly he regards William and how sad he is that the hard times of the country have necessitated that William leave to seek his fortune in another place.

Another frame on the wall is the master plumbers certificate issued to William Fitzgerald on 12/18/14 by Shreveport. Obviously he worked hard in his new city. Another frame holds the master plumbers license of his son, William E. Fitzgerald, issued on 8/18/38. (Obviously continuing the family tradition in the Plumbing business.)

Below the items on the wall is a three level, glass-faced bookshelf that is packed with items once used at the company or found on construction sites. For example, there's a rusted stillson wrench found at the site of the Barnwell center in 1962 by C.C. Nicholas; no telling how old it really is. There is a nameplate with a card that says between 1914 and 1923 plates like this were used to identify items on projects as being supplied by "Fitzgerald Plumbing". The bookshelf also includes various examples of old pipes and fittings taken from notable projects that were renovated by the company.

I know that William E. Fitzgerald was the first president of our chapter in 1948. I know that Robert Fitzgerald was president of the Chapter in 1990. I know Bob's son Chris has recently joined ASHRAE and wants to serve the chapter. Four generations of Fitzgerald's have been in our industry. Pride and tradition live on.

The people who work at Fitzgerald's all say that they have been there a long time and that the museum was there when they got there. I have a strong feeling that it will be there long after they have departed too.

# IN MEMORIUM

## JAMES EARL SLATER

There was really nothing so unusual about Wednesday, February 9, 2005. It was a day like so many others, but it was a special day nonetheless. It was the last day that our friend James Earl Slater was with us. The world is now a little different and each of us that knew "Chief" realizes that.

Chief was raised in Shreveport and went to C.E. Byrd High School. He was a member of "The Greatest Generation" and as soon as he was able he joined the U.S. Navy and served for over 20 years. He was a submariner (and as you might imagine "a crusty old salt"); a man how feared very little but his God and one on whom you could count to do what he said. He was an individual who was like many sailors from that time, but at the same time he was different and had his own ways about him. It was hard to know him and not like him a lot, but he really didn't let too many get to know him too well. He was like that.

He loved to tease, but he was very serious about most things.

He loved to carve. He was a member of the American Wood Carvers Association. He could make things with his hands that were just beautiful.

For a man who lived under water for so long while in the Navy, it seems strange that he had such a love for birds. Mention pigeon racing and he would talk to you for as long as you would listen. Mention a race and he would be willing to drive a hundred miles just to turn the birds loose.

There was something about seeing a flock of pigeons soar into the air, circle several times almost as one body, and then all head for home at the same time that will cause most anyone's heart and spirit to lift, to want to go with them and fly away above the earth.

That is what happened the day of his funeral. The last few words were spoken, the bugler blew "Taps" one last time, and then the birds were released. As they circled in the sunny sky, I am sure everyone wanted to go with them, but only Chief was doing that that day, flying high and free.

Have a good trip James Slater, you earned it and we will miss you.

The officers, board of governors, and committee chairmen for 2003-2004 are listed below.
Call with your ideas and suggestions.

*We encourage your support!*

| OFFICERS | | | BOARD OF GOVERNORS | |
|---|---|---|---|---|
| President | Jim Watts | 869-3262 | Thomas Sanders | 425-4500 |
| President Elect | Elmer Tingler | 797-5006 | Gary Patrick | 221-3549 |
| Secretary | Nathan Wilemon | 634-1934 | Dan Cason | 865-1466 |
| Treasurer | Gary Patrick | 671-0015 | Mike Middleton | 221-8638 |

COMMITTEE CHAIRMEN

| | | | | | |
|---|---|---|---|---|---|
| Membership | Charles Jones | 221-8638 | Resource | Kurt Lyles | 865-1466 |
| Chapter Programs | Elmer Tingler | 797-5006 | Newsletter | John Gegg | 865-1466 |
| Historian | Dee Nooner | 865-1466 | Honors & Awards | Nancy Simonton | |
| TEGA/Refrigeration | Roger Stanley | 865-1466 | CRC Delegate | TBA | |
| Student Activities | Rick Fisher | 869-3262 | CRC Alternate | TBA | |

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