

1791 Tullie Circle, NE • Atlanta, Georgia 30329-2305

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Thomas Anderson, CFRE Manager of Research Promotion

TO:

Chapter Research Promotion Chairs

FROM:

Thomas Anderson

DATE:

July 25, 1994

SUBJECT:

FY 1993-94 Year-End Research Contributions Report

Congratulations on a record breaking year!

1. Year-End Contributions = \$1,383,113 (78.1% of Goal).

A big THANK YOU to everyone who helped make this year the best year ever for Research Promotion. We ended the year with \$97,796 (7.8%) over last year's collections.

Your fundraising efforts are important for ASHRAE and the industry. The enclosed press releases reporting on the Summer ASHRAE Meeting in Orlando demonstrate how active ASHRAE Research is in providing technology that we all use. Results from 17 ASHRAE-sponsored projects (a record number) were reported in the technical sessions. Additionally, \$1,120,147 was approved for 16 new research projects. Because of your success ASHRAE is the global leader in providing HVAC&R technology.

For the first time, two regions exceeded their Chapters' Goals. Congratulations to Danny Castellan, Region II RP RVC and Gary L. Cooper, Region IX RP RVC and their Chapter RP Chairs for their leadership and great results.

Randy Sikkema, Region VI RP RVC and his Chapter RP Chairs are to be commended for establishing a NEW RECORD for total collections from a region. Region VI investments totaled \$184,443.

2. Goal Busters (see complete listing of 61 chairmen)

Congratulations to the 36 new "Goal Busters" since May 16th:

Gary M. Franchi, Champlain Valley Brien D. Storey, New Brunswick

Jean R. Bundock, Quebec Gary E. Booth, Anthracite

Robert D. Black, Central Pennsylvania

Roger Lee Howard, Johnstown

Michael R. Bognaski, Granite State

Neil K. Armstrong, Ottawa Frank A. Frabotta, Windsor William A. Cather, Baltimore

Donald E. Larsson, Hampton Roads Todd S. Goodstein, Philadelphia

Andrew N. Evans, Greenville Michael B. Hurd, Roanoke Michael Anthony Pietrantano, Cincinnati William J. Tipperreiter, Chicago Louis E. Sonneville, Mississippi Valley Robert E. Stagg, St. Louis Richard A. Camp, Birmingham Daniel V. Gonzalez, Wisconsin Joel J. Goldberger, East Tennessee Terence W. McLorg, Bluegrass Scotty M. Hutto, Mississippi Kenneth C. Peet, Louisville Frank H. Schambach, New Orleans Harold C. Cook, Nashville Ronald Richard Grant, Alamo Guy M. Beaty III, Tennessee Valley Charles J. Sloup, Nebraska Carl W. Wampler, West Texas Roy Kenneth Neese, Pikes Peak Robert Bryan Padgett, Rocky Mountain Juan A. Soler, Florida West Coast Harry D. Brattin, San Diego Brian E. Curtin, Spacecoast Steven M. Feller, Gold Coast

### 3. Excellence in Research Promotion

ASHRAE Research has completed the year with many fine examples of volunteer achievement. Notable milestones were achieved:

- ASHRAE Research Golden Circle includes 14 companies and organizations that have invested \$10,000 or more in research.
- \$88,624 was personally contributed by 918 ASHRAE leaders.
- Northeastern Oklahoma and Regina obtained more contributions than assigned members.
- Region VI collected a record \$184,443.
- Region VIII collected the most per assigned member (\$57.39 per member).
- Eight Regions established new Regional High Fives

# Chapter achievement summaries follow:

- 61 Chapters exceeded Goal.
- 68 Chapters established new High Fives.
- 33 Chapters achieved the Research Promotion High Five Award by obtaining a new record high this year and 4 of the past 5 years.
- 2 Chapters obtained more contributors than chapter assigned members.
- 1 Chapters obtained more than 200 contributors.
- 17 Chapters obtained between 100 and 200 contributors.
- 1 Chapter collected more than \$40,000.
- 1 Chapter collected between \$30,000 and \$40,000.
- 15 Chapters collected between \$20,000 and \$30,000.
- 34 Chapters collected between \$10,000 and \$20,000.
- 4 Chapters exceeded \$100 per assigned member.
- 40 Chapters collected between \$50 and \$100 per assigned member.
- 64 Chapters exceeded par (\$40 per assigned member).

### 4. Year-End Best Ten

June Best Ten lists include 34 different ASHRAE chapters. Seventeen different chapters listed in bold italics are new to one or more categories. Congratulations to these leading Research Promotion Chairs. Congratulations to our leading chairmen for a fine job.

\$ per Membe	# Contributors through 6-30-9		\$ Contributed through 6-30-94		
Rockford Utah	\$156.26 109.14	N.E. Oklahoma C. Oklahoma	237 187	Minnesota Illinois	\$40,368 35,320
N.E. Oklahoma	103.04	Hawaii	186	Wisconsin	29,115
Mississippi	102.23	Minnesota	183	Atlanta	28,125
Southern Nevada	95.30	Atlanta	174	Toronto	27,167
Central Penn	92.36	St. Louis	161	National Cap.	27,062
Arkansas	86.71	S. Piedmont	148	Central Penn.	26,968
Wisconsin	76.82	Utah	145	C. Oklahoma	26,406
Black Hills	76.11	Baltimore	137	Baltimore	25,960
Windsor	76.05	Triangle	136	Dallas	23,285

% of Chapte Goal	er's	% of Challe Goal	nge	% Contributors to Members		
San Diego	176.7%	San Diego	148.4%	N.E. Okla.	124.7%	
Utah	155.2	Rockford	148.0	Regina	100.0	
Tri County	149.3	Tri County	145.8	S. Nevada	84.0	
Southern Nevada	146.6	Utah	144.2	Black Hills	80.6	
Central Penn.	145.8	S. Nevada	143.1	Utah	69.4	
Kansas City	137.3	N.E. Oklahoma	138.0	Johnstown	64.5	
Chicago	<i>136.8</i>	Bluegrass	126.8	Windsor	61.4	
Hampton Road	134.6	Ottawa Valley	125.2	Hawaii	61.4	
Montreal	134.2	Central Penn.	120.2	W. Texas	58.8	
N.E. Oklahoma	130.5	Mississippi	120.1	La Crosse	58.3	

### 5. Year-End Wrap Up Needs

I need your help with two things within the next 2 weeks to complete the 1993-94 year:

1. Please review the enclosed list of names to be included in the 1993-94
Honor Roll for the Journal. I need your response on corrections or
additions immediately to meet publication deadlines. If I don't hear from
you, I will assume that the names for contributors to your chapter are correct.

2. The list of contributor certificate and plaque recipients will be sent for your review in August. Please let me know by September 5th if anyone was missed. If you need volunteer certificates for solicitors, please provide those names when you respond to our list of contributors to receive recognition items.

Distribution: RP Committee

Regional Directors
Chapter Presidents
Frank M. Coda, E DIR
J. Richard Wright, D TECH

Robert D. Heym Jeffrey D. Brouillette Conny R. Brown, DAL John S. Blossom, V-PRES David E. Knebel, R&T Kenneth W. Dean, ARC

Ronald P. Vallort George A. Jackins Gerald H. Seifert

# 1993-94 GOAL BUSTERS

Congratulations on a successful year. Your success enables ASHRAE to keep its commitment to develop technology for the HVAC&R industry.

Reg	RP CHAIR	Chaper	PAR	High 5	High 5 Award	Challenge C Goal	hapter's Goal
ı	Christopher C. Leister	Champlain Valley	No	No	No	78.7%	106.8%
- 1	Gary M. Franchi	Connecticut	No	Yes	Yes	101.7%	105.2%
1	Michael R. Bognaski	Granite	No	Yes	No	82.4%	104.1%
1	Kevin Patrick Phillips	Twin Tiers	Yes	Yes	Yes	<i>85.5%</i>	113.3%
II	Daniel Robert	Montreal	No	Yes	No	<i>78.4%</i>	134.2%
11	Brien D. Storey	New Brunswick	No	Yes	Yes	95.8%	102.2%
11	Neil K. Armstrong	Ottawa	Yes	Yes	No	125.2%	124.2%
II	Jean R. Bundock	Quebec	No	Yes	Yes	<i>73.1%</i>	100.0%
11	Frank A. Frabotta	Windsor	Yes	Yes	Yes	110.1%	108.4%
111	Gary E. Booth	Anthracite	Yes	Yes	No	93.7%	110.7%
111	William A. Cather	Baltimore	No	No	No	84.2%	103.8%
III	Robert D. Black	Central Penn	Yes	Yes	No	120.2%	145.8%
Ш	Donald E. Larsson	Hampton Roads	No	No	No	72.1%	134.6%
III	Roger Lee Howard	Johnstown	Yes	Yes	No	104.8%	109.2%
111	Todd S. Goodstein	Philadelphia	No	Yes	No	87.7%	115.3%
111	Michael B. Hurd	Roanoke	Yes	Yes	No	102.4%	108.9%
IV	Andrew N. Evans	Greenville	Yes	Yes	No	101.5%	101.5%
_ IV	William Davis Mann	Southern Piedmont	Yes	Yes	No	104.2%	104.2%
) IV	Keith M. Spring	Triangle	Yes	Yes	No	104.4%	104.4%
V	Michael Anthony Pietrantano		No	Yes	No	91.1%	104.5%
V	Dennis P. Sczomak	Detroit	No	Yes	No	112.6%	123.5%
VI	William J. Tipperreiter	Chicago	No	No	No	65.3%	136.8%
VI	Daniel L. Doyle	Illinois	No	Yes	No	97.7%	104.6%
VI	Louis E. Sonneville	Mississippi Valley	Yes	Yes	No	91.2%	106.4%
VI	William J. Kushner	Rockford	Yes	Yes	Yes	148.0%	101.6%
VI	Robert E. Stagg	St Louis	No	Yes	Yes	86.3%	100.0%
VI	Daniel V. Gonzalez	Wisconsin	Yes	Yes	No	100.5%	100.4%
VII	Richard A. Camp	Birmingham	Yes	Yes	Yes	90.7%	104.3%
VII	Terence W. McLorg	Bluegrass	Yes	Yes	No	126.8%	108.4%
VII	Joel J. Goldberger	East Tennessee	Yes	Yes	No	101.9%	114.9%
	Kenneth C. Peet	Louisville	Yes	Yes	No	99.4%	111.6%
	Scotty M. Hutto	Mississippi	Yes	Yes	Yes	120.1%	120.1%
	Gayle S. Merritt	Mobile	Yes	Yes	Yes	96.9%	104.1%
VII	Betty B. Plaster	Montgomery	Yes	Yes	Yes	96.5%	107.9%
VII	Harold C. Cook	Nashville	Yes	Yes	Yes	90.5%	101.4%
VII	Frank H. Schambach	New Orleans	Yes	No	No	103.6%	87.1%
VII	Guy M. Beaty III	Tennessee Valley	Yes	Yes	Yes	104.8%	97.8%
	Ronald Richard Grant	Alamo	Yes	Yes	Yes	107.8%	104.1%
VIII	Jerry A. Baldwin	Arkansas	Yes	No	Yes	102.0%	101.0%
	Tony Moore	Northeastern Oklahoma	Yes	Yes	Yes	138.0%	130.5%
	Mody K. Boatright	South Texas	Yes	Yes	Yes	86.8%	122.6%
	Carl W. Wampler	West Texas	Yes	Yes	Yes	103.2%	103.2%
IX	John C. Waddington	Black Hills	Yes	Yes	Yes	117.8%	101.5%
/ IX	Bradley L. Bird	Idaho	Yes	Yes	Yes	92.5%	120.9%

### 1993-94 GOAL BUSTERS Continued

IX	Michael F. Lorenz	Kansas City	No	Yes	Yes	104.6%	137.3%
ΙX	Charles J. Sloup	Nebraska	Yes	Yes	No	95.9%	120.0%
IX	Stephen B. Maggart	New Mexico	No	Yes	No	84.0%	101.2%
IX	Roy Kenneth Neese	Pikes Peak	Yes	Yes	No	101.6%	100.5%
IX	Robert Bryan Padgett	Rocky Mountain	No	Yes	No	108.9%	104.3%
IX	Thomas D. Colvin	Utah	Yes	Yes	Yes	144.2%	155.2%
X	Blake M. Araki	Hawaii	Yes	Yes	Yes	101.7%	114.0%
X	Harry D. Brattin	San Diego	No	Yes	No	148.4%	176.7%
X	Michael W. Gallagher	Southern California	No	Yes	No	115.4%	115.4%
X	Donald G. Koch	Southern Nevada	Yes	Yes	No	143.1%	146.6%
X	R. Anthony Pierce	Tri-County	Yes	Yes	No	145.8%	149.3%
XII	T. Mark Kirby	Central Florida	Yes	Yes	Yes	101.4%	113.7%
XII	Juan A. Soler	Florida West Coast	Yes	Yes	Yes	93.1%	102.2%
XII	Steven M. Feller	Gold Coast	No	No	No	99.3%	103.3%
XII	Ben W. Bickham	Gulfstream	Yes	Yes	Yes	104.5%	101.3%
XII	Jon R. Ellis	Southwest Florida	Yes	Yes	No	95.8%	107.8%
XII	Brian E. Curtin	Spacecoast	No	Yes	No	103.4%	103.0%

FY 1993-94 Year-End Investment Report June 30, 1994

Region	YTD Amount	Increase Since 94/05/31	Chapter's Goal	1 1 1		Challenge
I	\$ 109,074	40.0%	\$ 150,650	72.4%	\$ 170,493	64.0%
п	81,767	84.3	81,700	100.1	99,978	81.8
ш	146,439	143.2	155,000	94.5	177,690	82.4
īv	97,548	26.0	106,153	91.9	106,158	91.9
v	72,622	30.6	99,096	73.3	98,907	73.4
VI	184,443	23.6	197,359	93.5	208,184	88.6
VII	103,613	131.3	105,721	96.0	109,660	94.5
VIII	159,371	29.0	208,333	76.5	204,683	77.9
IX	122,760	65.9	112,700	108.9	125,519	97.8
x	119,861	29.6	142,100	84.3	166,729	71.9
ХІ	68,421	54.9	104,844	65.3	107,185	63.8
XII	73,376	30.1	77,100	95.2	81,996	89.5
Int'l	24,560	8.1	30,000	81.9	30,000	81.9
GC/Other	19,260	_NA_	200,000	9.6	110,000	<u>17.5</u>
TOTAL	\$ 1,383,113	50.1%	\$1,770,756	78.1%	\$1,797,182	77.0%

Congratulations On A

**Record Setting Year** 

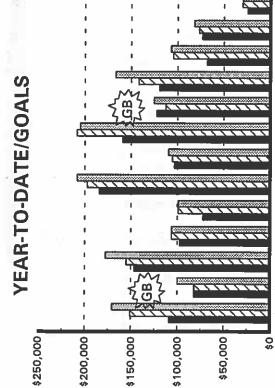
## Research Promotion Funds Received Compared with Prior Years

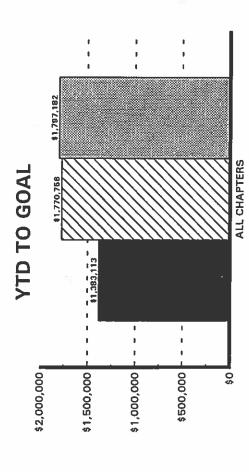
	1991-92		1992-93		1993-94	4
Date	Amount	% *	Amount	% *	Amount	% *
* FY Budget	\$1,680,000		\$1,700,000		\$1,800,000	
Sept 30	\$ 121,415	7.2	\$ 119,460	7.2	\$ 169,574	9.4
Oct 31	146,792	8.7	148,754	8.8	183,573	10.2
Nov 30	166,124	9.9	176,093	10.4	206,257	11.5
Dec 31	210,349	12.5	204,490	12.0	277,317	15.4
Jan 31	300,278	17.9	299,675	17.6	342,384	19.0
Feb 28	353,805	21.1	380,654	22.4	396,190	22.0
Mar 15 Mar 31	422,962 528,348	25.2 31.4	427,016 493,711	25.1 29.0	441,265 510,823	24.5 28.4
Apr 15	609,157	36.3	548,280	33.9	565,154	31.4
Apr 30	687,997	41.0	667,999	39.3	657,305	36.5
May 15 May 31	797,793 850,322	47.5 50.6	744,851 852,114	43.8 50.1	780,067 921,523	43.3 51.2
Iviay 51						
Jun 15	958,387	57.1	903,411		991,796 \$ 1,383,113	
Jun 30-Final	\$1,303,560	77.6	\$ 1,285,317	13.0	φ 1,303,113	70.0

June 30, 1994 - Contributions by Source

Source	\$\$\$	Number	Average Contribution
Golden Circle	\$ 146,050	14	\$ 10,434.14
Dual Recognition	49,606	277	179.08
Direct from Contributor	163,134	809	201.65
Presidential Solicitation	6,860	35	196.00
Chapter RP Volunteers	950,269	5,402	156.28
Direct Mail	43,405	252	172.24
Contributions with Dues	126,496	2,037	<u>62.10</u>
Totals	\$ 1,379,770	8,826	\$ 156.33

# SOCIETY PROGRESS

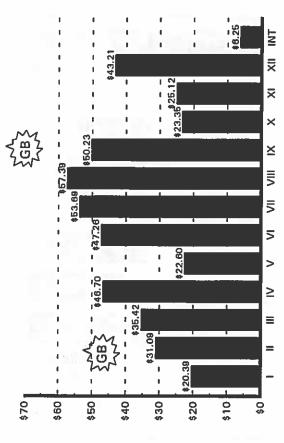




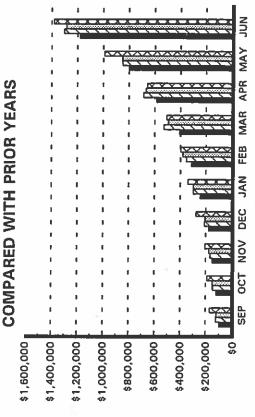
■YTD ØREGION GOAL ®CHALLENGE GOAL

■YTD ZICHAPTER GOALS CHALLENGE GOAL 1993-94 Final Report



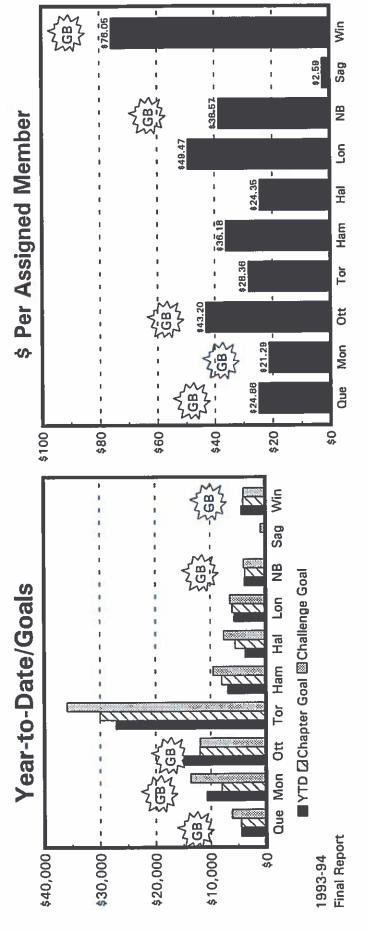


# MONTHLY YTD



■1990-91 Ø1991-92 Ø1992-93 Ø1993-94

# REGION II Progress



PAOE Par is \$40 per Assigned Member Society Budget is \$47 per Assigned Member

S	Γ.	_		_	•			_	_	_	•		_		_	
3/AWAR	ADD TL \$	FOR NEW	HIGH 6		HIGH 5	HGH 8	HGHE	\$7,26	\$2,086		HIGH 8	HGH 6	\$1,551	HGH 6		
ADDITIONAL \$ FOR GOALS/AWARDS	ADOTL \$	FOR CHAP FOR NEW	GOAL		OVER GOAL HIGH 5	SO OVER GOAL HIGHS	OVER GOAL I	\$2,833	\$1,090	\$1,775	\$360	OVER GOAL HIGHS	NA	OVER GOAL		
NAL \$ FO	ADOTL \$ 1		PAOE		008	800	000	\$	Ş	8	S	0 25	\$505	000		
АБЫПО	ADOTL \$ N	FOR 400- FOR 200	PAOE		\$1,835	\$6,908	\$	\$11,153	\$730	\$2,395	S S	\$0	\$1,085	<b>₩</b>		
SNS	TOTAL	PAOE	POINTS		580	263	432	284	382	243	545	481	8	781	387	3674
ULATIC	IAY 31	HGH 6	<u>n.</u>		٥	0	0	0	0	0	0	75	0	0	verage	90
RP PAOE CALCULATIONS	RP NITE N	_			20	23	0	0	0	0	20	0	0	0	egion II A	Total RP PACE
RP PAC	PAOE II	POINTS			249		432								<b>E</b>	ř
	HIGH	FIVE			4480	6854	14635	34428	9882	7538	5495	3330	1625	3753		01141
:	MEMBER	50 A			\$24.88	\$15.87	S34.78	\$31.22	\$41.88	\$35.85	\$52.63	\$37.76	00'0\$	\$70.18		\$31.08
	* PER MEMBER				\$24.88	\$21.28	\$43.20	\$28.38	\$36.18	\$24.35	\$49.47	\$38.57	\$259	\$76.05		15.2% \$31.09
	IORS	* 0F	MEMB	GMNG	15.5%	118%	27.5%	5.9%	215%	19.0%	28.9%	21.4%	3.4%	B1.4%		15.2%
	INVESTORS	TOTAL	ASSG	MEMB	181	8	345	928	191	153	114	88	ଷ	22		2830
IMARY	SE GOA I	y <sup>2</sup>			73.1%	78.4%	125.2%	75.0%	72.4%	490%	88.1%	95.8%	87.8	110.1%		81.8%
ONS SUN	CHALLENG	45			6160	13688	11903	35928	9546	7804	6405	3944	985	3837		96976
RIBUTI	$\overline{}$	Hg.			100.0%	134.2%	124.2%	90.6%	86.4%	87.7%	940%	102.2%	¥	108.4%		81700 100.1%
CH CON	CHAPTER'S GOA	•			4500	8000	12000	30000	8000	5500	8000	3700	0	4000		91700
YEAR-END RESEARCH CONTRIBUTIONS SUM	ATE	NCHEASE	SINCE	05/31/94	111.6%	73.8%	50.1%	142.1%	240.4%	10.4%	68.6%	3.4%	0.0%	78.9%		84.3%
I-END	YEAR-TO-DATE	•			4500	10732	14903	27167	6910	3725	5840	3780	75	4335	0	91767
YEAR	YEA	**	_		28	8	8	25	4	8	8	21	-	38	0	400
1993-94	CHAPTER		_		13 Quebec	14 Montreal	15 Ottawa	18 Toronto	37 Hamilton	100 Halifax	118 London	117 N Brusswick	140 Saguenay	141 Windsor	890 Other 2	902 Total 2
	HEG	_			N	CI.	2	N	N	N	N	N	C4	N	N	2

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YTD CHAPTER CONTRIBUTIONS DETAIL REPORT FOR ALL DATES

LONDON
116
CHAPTER
02
REGION

MEMORIAL		00.00	
EARMARKED		0.00	,640.00 114 \$49.47 88.1
GENERAL	1, 22,220.0000000000000000000000000000000	5,640.00	ral S (PAOE) ER L
MEMBER	50 .00 50 .00 50 .00 50 .00 50 .00 50 .00 50 .00 50 .00	515.00	CONTRIBUTION TOTAL ASSIGNED MEMBERS ( CONTRIBUTIONS PER ASSIGNED MEMBER \$ CHALLENGE GOAL
NON-MEMBER	250.00 1,000.00 200.00 1,000.00 1,000.00 500.00 100.00 250.00 125.00 125.00 125.00 125.00 150.00 150.00	5,125.00	
CHECK NUMBER	02 744 7440 744193 7741933 777510 777510 7775110 7775110 7775110 778013 778013 778013 778013 778013 778013 778011 778		5,495 6,000 6,405 \$52.63
MEMBER NUMBER	2050869 20176869 2013691 10084033 10084033 10084033 2013698 20117562 20117562 20117562 20117562 20117562 20117563 2011756 2011756 2011756 2011756 2011756 2011756 2011756 2011756 2011756 2011756 2011756 2011756 2011756 2011756 2011756 2011756	33	e cz
CONTRIB DATE S NAME OF CONTRIBUTOR	07/21/93 X RENZO FERRERA 07/29/93 I JOSEPH M CLAESSENS 10/26/93 I KRISTINE ANN NORRIS 10/26/93 I KRISTINE ANN NORRIS 10/26/94 I KRISTINE ANN NORRIS 06/31/94 I CANADIAN BLOWER/CANADIAN 05/31/94 I TRANE SALES AGENCY - LOND 05/31/94 I TRANE SALES AGENCY - LOND 05/31/94 I SMYLIE & CROW ASSOCIATES 05/31/94 I SMYLIE & CROW ASSOCIATES 05/31/94 I DARRYL K ZIEBART 05/31/94 I DONDON CANADA CHAPTER ASH 05/31/94 I GLOVER HILL INCORPORATED 06/31/94 I GLOVER HILL INCORPORATED 06/15/94 I GLOVER HILL INCORPORATED 06/15/94 I GLOVER HILL INCORPORATED 06/15/94 I GLOVER LIMITED 06/15/94 I GRACE DEARBORN INCORPORAT 06/15/94 I GRACE DEARBORN INCORPORAT 06/15/94 I GRACE DEARBORN INCORPORAT 06/15/94 I WALNE FREDERIC WALKER 06/15/94 I WALNE FREDERIC WALKER 06/15/94 I WALNE FREDERIC WALKER 06/15/94 I WANDERWESTEN & RUTHERFORD 06/30/94 I WALLILIAM A OVINGTON 06/30/94 I WILLIAM A OVINGTON 06/30/94 I WOBERTS BROTHERS SHEET ME 06/30/94 I HONEYWELL LIMITED - LONDO 06/30/94 I INTEGRATED DESIGN SERVICE	CHAPTER 116 - TOTAL	HIGH FIVE CHAPTER'S GOAL CHALLENGE GOAL CHAPTER GOAL PER ASSIGNED MEMBER

	S.	



### AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS, INC.

1791 Tullie Circle, NE • Atlanta, Georgia 30329-2305 • (404) 636-8400 • Teletax (404) 321-5478

For Release: July 1, 1994

Contact: Anthony Giometti

Public Relations 404/636-8400, x 611

ASHRAE President: Society to Increase Work in Codes, Total Building Design

ORLANDO -- A code-language standard covering safety requirements for the operation of mechanical refrigeration systems was approved by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) at its annual meeting held June 25-29 in Orlando, Fla.

ASHRAE approved Standard 15-1994, Safety Code for Mechanical Refrigeration, the Society's first standard written in code useable language, said ASHRAE President Billy R. Manning, P.E. The standard prescribes the safety procedures required for the safe operation of air-conditioning and refrigerating equipment and systems. Procedures for systems are determined by the toxicity and flammability classifications of the refrigerant used.

"The new Standard 15 will make it easier for building owners and consulting engineers to receive approval of their mechanical refrigeration rooms containing systems that use the new refrigerants which are replacing ozone-depleting refrigerants,"

said Manning. It replaces Standard 15-1992, a standard which was not written in code language.

"By writing ASHRAE standards in code language, the Society is meeting the industry's and public's need for updated technical information put into an application-type format," Manning said. The code-language ASHRAE Standard 15-1994 will be submitted to the three major code-writing organizations in the United States for adoption into their model building codes. By submitting a code-language document instead of a standard, the adoption period can be shortened by three to four years, said Manning.

Also, advances in alternative refrigerant development were reported. ASHRAE approved the safety rating of several alternative refrigerants by toxicity and flammability in addenda to ASHRAE Standard 34-1992, Number Designation and Safety Classification of Refrigerants, said Manning. Approval of the addenda and Standard 15-1994 are subject to a 30-day appeal period.

Throughout the ASHRAE meeting, data on alternative refrigerants for R-22 and R-502 were released. One paper studied alternative refrigerants for low-temperature refrigeration equipment, finding that the zeotropic blend R-32/R-125/R-134a (10%/70%/20%) is an acceptable long-term replacement for R-502, especially at lower condensing temperatures and higher subcooling conditions.

Total building design was another topic addressed at the ASHRAE meeting. Manning said the Society should advance the concept of total building design to fill the world's need for controlled indoor environments that are economical in both original investment and operation and have no adverse impact on the world environment.

"Total building design, the sum of all components of building construction and the electrical and mechanical systems that contribute to energy use, is a concept driven by economics and the well-being of occupants," said Manning. "ASHRAE will increase its activity in total building design and develop programs that will establish ASHRAE as the focal point of information that guides total building design."

Manning, president of SBCCI, Public Safety Testing and Evaluation Services, Inc. in Birmingham, Ala., was installed ASHRAE president at the meeting.

Other members of the Board of Directors installed were:

- President-Elect Richard B. Hayter, Ph.D., P.E., associate dean of Engineering for Extension and Outreach at Kansas State University in Manhattan, Kan.
- Treasurer James E. Hill, Ph.D., chief of Building Environment Division for National Institute of Standards and Technology (NIST) in Gaithersburg, Md.

### ASHRAE meeting...\4

- Vice President John S. Blossom, P.E., a consulting engineer
   in Cincinnati, Ohio.
- Vice President Donald E. Holte, P.Eng., senior vice president of marketing for Visionwall Technologies, Inc. in Edmonton, Alberta, Canada.
- Vice President George A. Jackins, P.E., principal with
   Engineering Resource Group, Inc. in Birmingham, Ala. and Jackson,
   Miss.
- Vice President Ronald J. Kessner, P.E., regional marketing and sales manager for Carrier Corporation in Orlando, Fla.

New regional chairman serving on the ASHRAE Board are:

- Joseph K. Ting, P.E., senior mechanical engineer for the New York State Dormitory Authority in Delmar, N.Y.
- John T. Dugan, a consultant with Landis & Gyr Powers, Ltd. in Ottawa, Ontario, Canada.
- J. Thomas Sobieski, executive vice president of Miller-Picking/York International Corp. in Johnstown, Pa.
- Alexander J. Boome, P.Eng., president of Alexander Boome
   Consulting Engineering, Ltd. in Vancouver, British Columbia,
   Canada.

Taking office as directors-at-large are:

• John B. Bisset, P.Eng., president of Chorley & Bisset in London, Ontario, Canada.

### ASHRAE meeting...\5

- William J. (Joe) Buck, secretary/treasurer of Engineering Refrigeration Systems, Inc. in Mobile, Ala.
- Laurence S. Staples, Jr., president of L.S. Staples, Co. in Prairie Village, Kan.

Also, the Society approved \$1,120,147 for 16 research projects at the meeting. Approved were:

- \* Implementation of On-Line Optimal Supervisory Control of Cooling Plants Without Storage at the University of Colorado.
- \* Characterization of Frost Growth and Heat Transfer at Low Temperatures at the University of Saskatchewan.
- \* Research Protocols for Evaluating the Relationship Between the Indoor Environment and Productivity at Virginia Polytechnic Institute.
- \* Impact of Fuel Sulfur Content on Energy and Environmental Performance of Oil-Fired Boilers at the National Resources Canada-CANMET.
- \* Impacts of High Use Automatic Doors on Infiltration at Pennsylvania State University.
- \* Relevance of Existing Heat Pump Testing and Rating Methods to Specify a Method of Test for Engine-Driven Heat Pumps at Battelle Laboratories.
- \* Selecting and Preparing a Thermal Sensation Model for Use by the Profession at Environmental Analytics.

- \* A Sensitivity Study to Determine Parameters for Floor and Ceiling Plenum Energy Models at the University of Kansas.
- \* Test Method for Inorganic Acid Removal Capacity of
  Desiccants Used in Liquid Line Filter Driers at Imagination
  Resources, Inc.
- \* The Effect of Processing and Air Flow Parameters on Microbial Aerosol Dispersion in Poultry Plants at Purdue University.
- \* Development of a Component Model Translator for the Neutral Model Format at the Royal Institute of Technology (Sweden).
- \* Development of an ASHRAE Design Guide for Cold Air Distribution Systems at Colorado State University.
- \* Grease Extraction and Removal from Exhaust Air Streams of Cooking Processes at the American Gas Association Laboratories.
- \* Determination of Duct Fitting Resistance by Numerical Analysis at Pennsylvania State University.
- \* Energy and Demand Savings of Commercial Ground-Source Heat Pumps at Caneta Research, Inc.
- \* Determination of Outdoor Weather Design Conditions with Emphasis on International Locations at Lawrence Technological University.

ASHRAE's annual meeting was attended by 1,740 persons. Its next meeting will take place January 28-February 1, 1995 in Chicago. Held in conjunction with the 1995 ASHRAE Winter Meeting

### ASHRAE meeting...\7

will be the International Air-Conditioning, Heating,
Refrigerating Exposition, January 30-February 1 at McCormick
Place.

In a series of presentations tracing the evolution of building environment and refrigeration technologies, ASHRAE began celebration of the 100th anniversary of its founding.

"One hundred years ago, technology was considered optional," said Manning. "Electricity, the motor car and the Brooklyn Bridge were accepted as engineering marvels that you could choose to live with or without. Not today. The engineering giants of the 19th century set humanity on a journey from which there is no turning back. Today, our socio-economic structure demands reliance on technology.

"Engineers and others who harness the power of technology will hold the key to humanity's progress and survival in the 21st Century."



### AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS, INC.

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### Research Results Presented at ASHRAE Meeting

ORLANDO -- New findings in HVAC&R research were presented at the American Society of Heating, Refrigerating and Air-Conditioning Engineers' (ASHRAE) annual meeting held June 25-29 in Orlando, Fla.

Research results from 17 ASHRAE-sponsored projects were released on the following topics:

### Refrigerants

- \* "Heat Transfer of R-134a in Spray Evaporators," contracted by Iowa State University (Part 1: Test Rig Description and Initial Results).
- \* "Solubility, Viscosity and Density Measurement of Refrigerant Lubricant Mixtures," contracted by Imagination Resources, Inc. (Part 1: Branched Acid Pentaerythritol Polyolesters with R-134a; Part 2: Polyalkylene Glycols with R-134a).
- \* "Shellside Condensation Heat Transfer of R-134a," contracted by Iowa State University (Part 1: Finned Tube; Part 2: Enhanced Tube; Part 3 Comparison with R-12).

\* "In-Tube Heat Transfer and Pressure Drop of R-134a and Ester"
Lubricant Mixtures in a Smooth Tube and a Micro-Fin Tube,"
contracted by Iowa State University (Part 1: Evaporation; Part 2: "Condensation).

### Indoor Air Quality

- \* "Identification and Control of Viral Aerosols in Indoor Environments," contracted by University of Minnesota.
- \* "A Field Test Method for Determining Exhaust Rates in Commercial Kitchen Grease Hoods," contracted by American Gas Association Laboratories.
- \* "Stack Effect in Tall Buildings," contracted by Morrison Herschfield Ltd.
- \* "Field Experiments on Occupant Comfort and Office Thermal Environments in a Hot-Humid Climate," contracted by Macquarie Park Research Ltd.
- \* "Spot Cooling," contracted by Technical University of
  Denmark (Part 1: Human Responses to Cooling with Air Jets; Part
  2: Recommendations for Design of Spot Cooling Systems).
- \* "Evaluation of Test Methods for Determining the

  Effectiveness and Capacity of Gas Phase Air Filtration Equipment

  for Indoor Air Applications," contracted by Research Triangle

  Institute (Phase 1: Literature Review and Test Recommendations).

### Design Tools

- \* "A Toolkit for Primary HVAC System Energy Calculation," contracted by University of Liege (Part 1: Boiler Model; Part 2: Reciprocating Chiller Models).
- \* "Computer-Aided Design for Smoke Management in Atria and Covered Malls," contracted by University of Maryland.

### Other

- \* "Heat Recovery Heat Pump Operating Experiences," contracted by Caneta Research Inc.
- \* "Time Temperature-Humidity Relations for Fresh Commodities Storage," contracted by University of Florida.
- \* "Low Frequency Noise Assessment Metrics What Do We Know?" contracted by Vipac Engineers and Scientists Ltd.
- \* "Modeling the Solar Heat Gain Reflected from Neighboring Structures," contracted by Enermodal Engineering, Inc.
- \* "Equivalent Round Diameter of Spiral Flat Oval Ducts," contracted by Tennessee Technological University.

ASHRAE, founded in 1894, is an international organization of 50,000 persons. Its sole objective is to advance through research, standards writing and continuing education the arts and sciences of heating, ventilation, air conditioning and refrigeration for the public's benefit.

ii. 110