



# The South Texan

2003 Marx Isaacs Award for Outstanding Large Section Newsletter

VOLUME 104 NUMBER 10

September 2004

## MONTHLY MEETING • SEPTEMBER 2, 2004



### Competitive Electric Markets-Where Are We?

**Speaker:** John Stauffacher  
Executive Director, Gulf  
Coast Power Association  
(GCPA)

In the good old days, electricity was just another regulated market. On a limited basis, large industrials did have the option of self generating, and after the Public Utility Regulatory Policy Act (PURPA) in 1978, even selling power from Qualifying Facilities (QFs) to the utilities. Much has changed over the past few years. Some individual states have experimented with competitive retail electric models: some with success, some with notable failures. The Texas Legislature passed a market deregulation measure in 1999 and the majority of the Texas retail market was opened to competition in 2002. Now two and a half years later, over 60% of the large non-residential load in the ERCOT region has switched to new suppliers. While substantial cost savings have been realized by industrial customers new uncertainties are on the horizon: the PUC is in the process of determining the competitive transition costs in true up proceeding (the answer will be in the billions of dollars) and the ERCOT market is in the midst of a significant market redesign that will likely result in a nodal rather than zonal congestion costs. Rather than spreading zonal congestion to all within a zone, it will be more directly assigned. As a result, some will see higher costs and some lower.

Elsewhere, in California, after the disastrous market meltdown in 2001-2002 is now cautiously talking about re-opening electric markets to selected customers. Meanwhile, in the southeastern part of the country strong utilities such as Entergy and Southern Companies are successfully forestalling attempts to establish even elemental competitive inroads. The unsteady path toward competitive markets in electric and its impacts on industrial and individual households will be explored.

John Stauffacher became Executive Director of GCPA in January of 2004. He has over 20 years experience in the electric power industry holding executive positions with industrial users, independent power producers and power marketers. He has been active in leadership roles in a number of regional and national trade groups including the Texas Industrial Energy Consumers (TIEC), Electric Consumers Resource Council (ELCON), and Electric Power Suppliers Association (EPSA). John has testified before state regulatory commissions, FERC, state legislatures and at the U.S. Congress on issues confronting the electric industry.

John earned his BS in ChE from University of Wisconsin-Madison and a MBA from Central Michigan University. After four years in the U.S. Navy, he started his career with The Dow Chemical Company and has held positions with Destec Energy and Dynege, Inc.

### Meeting Location

Park Place at Reliant Park

formerly Radisson Astrodome  
(Kirby at South Loop)

**WORKSHOP (NO FEES - NO RSVP)** ..... 5:30-6:30 p.m.  
**SOCIAL PERIOD** ..... 6:00-7:00 p.m.  
**DINNER** ..... 7:00-7:45 p.m.  
**PRICE** . \$22.00 with reservation • \$24.00 without reservation  
..... Students and Unemployed 1/2 price  
**MEETING / SPEAKER** ..... 7:45-8:45 p.m.

*AUTO - R.S.V.P.* By 4:00 p.m., Tuesday, August 31, 2004  
Call (713) 295-4847

Make reservation using the STS web site: [www.sts-aiche.org](http://www.sts-aiche.org)

### Workshop Announcements

Refer to page 3 of the newsletter for detailed workshop topic and speaker information.

<b>PSM</b>	<b>Topic:</b> What Change? We Didn't See It.
	<b>Speaker:</b> Kathy Pearson, Risk Analyst, Rohm and Haas Company
<b>CAST</b>	<b>Topic:</b> Quantifying Project Risks - and their impact on schedules and costs
	<b>Speaker:</b> Dr. Gus Cammaert, DNV
<b>PEPO</b>	<b>Topic:</b> A Review of Current Emissions Reduction Technology
	<b>Speaker:</b> R. T. Waibel, Ph.D. John Zink Company, LLC

### How to Stay in Touch with South Texas Section While Migrating to a Paperless South Texan Newsletter

Mandatory Notification of STS for the Mailed Newsletter After This May 2004 Issue. To continue to receive after this issue you must actively notify us.

(1) Mail notice to STS-AIChE; P.O. Box 710773; Houston, TX 77271-0773

(2) Phone to Freeman Self at 713-235-3055 or Matt Kolodney 713-767-3752

(3) Subscription on-line in the South Texan box at <http://www.sts-aiche.org>. Fee for Mailed Newsletter printing and mailing cost after December 2004. Website: <http://www.sts-aiche.org>

#### Newsletter Access:

1) Snail Mail to all registered STS members - one week before meeting +/- one week.

2) Website at [sts-aiche.org](http://sts-aiche.org) - click on Newsletter or Newsletter Archives, accessible mid-month before meeting.

3) E-Mail - enroll at the Topica prompt at the bottom of the STS home page - includes URL to current Newsletter, accessible mid-month before meeting.

#### Workshops and Dinner Meeting Topics, Speakers, Synopses, and Bios:

1) About a week after meeting, speakers and topics appear on the website home page for the next month's meeting. Navigation keys home on detailed synopses and bios for each workshop or dinner meeting presentation.

## 2004 South Texas Section Officers

### CHAIRMAN

**MATTHEW KOLODNEY, P.E.**

TCEQ  
5425 Polk Avenue, Suite H  
Houston, Texas 77023-1486  
Ph: (713) 767-3752  
Fax: (713) 767-3761  
mkolodne@hal-pc.com

### CHAIRMAN-ELECT

**TOMMY JOHN**

401 Post Oak  
Baytown, Texas 77520  
Ph: (281) 424-9354  
tommyjohn@aol.com

### SECRETARY

**MARC FELLOWS**

Magnum Engineering  
1322 Space Park Dr., Ste. B255  
Webster, Texas 77058  
Ph: (281) 286-0503  
mjfrieb@ev1.net

### TREASURER

**ROBERT GOODMARK**

7723 Braes Meadow Drive  
Houston, Texas 77071-1402  
rlgoodmark@earthlink.net

### PAST CHAIR

**DAVID MITCHELL, P.E.**

Ph: (281) 479-6408  
losrarge@flash.net

### EXECUTIVE COMMITTEE

#### POSITION 1, EDUCATION

**JIM MORRIS, P.E.**

3010 West Lake Crescent Dr.  
Kingwood, Texas 77339  
Ph: (281) 358-7986  
ejmorris@vonl.com

#### POSITION 2, OUTREACH

**RICHARD WILLSON, Ph.D.**

Department of Chemical Engineering  
University of Houston  
S222D Engineering Building 1  
Houston, Texas 77204-4004  
Ph: (713) 743-4308  
Fax: (713) 743-4323  
willson@uh.edu

#### POSITION 3, COMMUNICATIONS

**KIM M. DIXON, P.E.**

Dixon Enterprises  
Ph: (713) 977-9755  
kimdixon@ev1.net

#### POSITION 4, HUMAN RESOURCES

**LOUIS TURNER, III**

10 Russet Wood Ct.  
The Woodlands, Texas 77381  
Ph: (281) 363-1238  
l.turner.sts@att.net

#### MEMBERSHIP CHAIR

**JERRY GRESHAM**

Gresham & Gresham  
P. O. Box 820888  
Houston, Texas 77282  
Ph: (713) 780-1000  
Fax: (713) 781-3300  
gresham@pdq.net

#### NEWSLETTER EDITOR

**TIMOTHY LOWRY**

P.O. Box 760  
Spring, Texas 77383-0760  
Ph: (713) 335-9650  
Fax: (713) 335-9655  
timlowry@engineeringwriting.com

#### INSTITUTE LIASON

**ROBERT GOODMARK**

7723 Braes Meadow Drive  
Houston, Texas 77071-1402  
rlgoodmark@earthlink.net

#### CHEMICAL / ENGINEERING OPPORTUNITIES

**Kellogg Brown & Root, Inc.**

10200 Bellaire Blvd.  
Houston, Texas 77072  
Ph: (281) 575-4348  
Fax: (281) 575-5258  
aichestceo@pdq.net

#### STS MAILING ADDRESS

P.O. Box 710773  
Houston, Texas 77271-0773

#### STS WEBSITE

[www.sts-aiche.org](http://www.sts-aiche.org)

## From the Chairman

*Matt Kolodney, P.E.*



The transition to an all-electronic editorial is proceeding. This issue will be the last one sent to all members by snail mail. We can reach most paid members by monthly e-mail blast, are working to reach all members electronically. We are testing a second list server to see if it will improve delivery. We will continue to post the full downloadable PDF newsletter on the web site.

Unfortunately, technology still has limitations that cannot be overcome at a price that is affordable for nonprofit organizations. We treat STS money as your own (FRUGALLY). So, we will proceed with the available partial solutions in parallel.

(1) Send the e-mail blast to all members who do not opt out of it (request to be taken off the e-mail list.) (2) Ensure that information on the upcoming monthly meeting gets posted on a timely basis (preferably two weeks ahead). [New information can be posted piecemeal before the full newsletter is posted in PDF format.] (3) Explore options for maintenance for the e-mail list. (4) Selected, limited use of reminder post cards. [This is too expensive for extensive use] (5) Send paper newsletters by snail mail to those who opt in (individually request it). (6) Asking around to see what large local sections of AIChE and other engineering societies are doing.

There are some important things that our members can do to help: (1) Keep your e-mail address updated at National (see the instructions in the related notice). (2) Consider using your home e-mail, rather than your work e-mail, as it is usually less prone to being blocked by your system administrator.

(3) Consider a free, long-term e-mail address. You can get one free at AIChE National. See the related message for instructions. In addition, you can easily set up your AIChE e-mail box to automatically route incoming mail to your everyday mailbox. You can probably get a free mailbox, as well, from your university's alumni society (as they want to keep in touch for fundraising purposes.)

Migration to electronic transmission has turned out to be more complicated than anticipated, and your officers are learning-by-doing. We appreciate your assistance.

### Electronic Newsletter Update

#### THE COUNTDOWN CONTNUES

The STS is shifting to an electronic newsletter, which will save our section approximately \$15,000 per year. We will continue to post the newsletter electronically (in PDF format) on our website, [www.sts-aiche.org](http://www.sts-aiche.org). We will continue to send a monthly electronic announcement by e-mail. The hard copy newsletter will be sent by snail mail only to those who actively request it. (Only a handful of people have done so to date.)

STS obtains addresses (both print mail and e-mail) from AIChE National, so it is very important that your addresses are current. You can easily check your e-mail on-line on the AIChE Members Only On-line Community at [www.aiche.org](http://www.aiche.org).

Directions: (1) Go to the AIChE home page. (2) Click on Membership (on the left side of the screen). (3) Click on Members Only (on the right side of the screen). (4) Scroll down to the Members-only Online Community hyperlink, and click on it. (a) Enter Here (or Register Here if not already registered). (b) Then click on Members Directory or View/Update Your Online Directory to check and update your entry, including your e-mail address. Here, one can search the directory or view/update your e-mail address.

If you change your e-mail, AIChE gives a Successful Revision message. Another hint - you can get a free permanent e-mail from AIChE (from the menu on the Members-only Online Community page. You can easily have the incoming mail forwarded automatically to your everyday mailbox.

*The Purpose of the Section, a nonprofit scientific, educational and charitable organization, is the furtherance of the aims and purposes of the American Institute of Chemical Engineers, and the advancement of the science of chemical engineering and of related sciences through (i) the education of members and non-members in the sciences (ii) career guidance and financial assistance to students of the sciences and (iii) encouragement of research in the sciences.*

#### ADDRESS CORRECTIONS

To expedite your request, all inquiries should be made through New York: [xpress@aiche.org](mailto:xpress@aiche.org)  
**1-800-AIChemE**  
**1-800-242-4363**  
AIChExpress Service Center  
3 Park Ave, New York, NY 10016-5991

*The South Texan is published monthly, except June, July and August, by the American Institute of Chemical Engineers, South Texas Section. Opinions expressed are those of the authors and not of AIChE.*

## Workshops & Forum Announcements

### CAST Workshop Announcement

Topic:  
**Quantifying Project Risks -  
and their impact on schedules  
and costs**

Speaker:  
**Dr. Gus Cammaert, DNV**

Bio: Dr. Gus Cammaert works with DNV's Enterprise Risk Management team in Houston. Currently he is involved in project and business risk management assignments for the oil and gas, petrochemical, electronics and food industries, and has over 30 years of related experience. He has presented a series of risk management courses in the US, UK, Europe and the Middle East.

Abstract: Quantifying Project Risks - and their impact on schedules and costs will answer the following questions:

- \* What is project risk management, and why do it?
- \* Identifying and ranking project risks
- \* Quantitative schedule and cost risk assessment
- \* Measuring impact of risk mitigation
- \* Effective software solutions
- \* Case study

CAST Contact:  
Shane Tierling  
Process Design - 3D Conceptual  
Kellogg Brown & Root  
Ph: (713) 753-6892  
shane.tierling@halliburton.com

### PSM Workshop Announcement:

Topic:  
**What Change?  
We Didn't See It.**

Speaker:  
**Kathy Pearson, Risk Analyst,  
Rohm and Haas Company**

This presentation will cover two incidents which resulted in significant business loss in a sulfuric acid plant. In these incidents, the packing was melted in an off-gas caustic scrubber and resulted in extended downtime to replace the packing. The two incidents highlight the potential effect of subtle changes and include elements of unanticipated reactive chemistry and consequences of utility failures. Opportunities for improvement in management of change will be identified.

Kathy Pearson is a Risk Analyst with Rohm and Haas Company. She is a professional engineer with over 20 years experience in the engineering, production, and safety areas. In Kathy's current position, she leads HAZOPs, Layer of Protection and Analyses, Security or PSM audits, and reviews designs.

She has been active on the Texas Chemical Council Safety Seminar Planning Committee since 1995. She is a director of the AIChE Safety & Health Division. She worked on the CCPS Guidelines for Investigating Chemical Process Incidents published in 2003.

PSM Contact:  
Jack Chosnek  
(281) 334-1536  
jc@knowledge1.net

### PEPO Workshop Announcement:

Topic:  
**A Review of Current Emissions  
Reduction Technology  
- A View from the Burner  
Manufacturer**

Speaker:  
**R. T. Waibel, Ph.D., John Zink  
Company, LLC**

C. T. Bowman of Stanford University entitled his invited lecture at the Twenty-Fourth Symposium (International) on Combustion with Control of Combustion-Generated Nitrogen Oxide Emissions: Technology Driven by Regulation. Virtually all NOx reduction developments have been the result of increasingly more and more stringent environmental regulations. Regulations in Japan and the US were early drivers, especially regulations in California. Then, on December 6, 2000, the Texas Commission on Environmental Quality (TCEQ) adopted revisions to the State Implementation Plan (SIP) in order to comply with the US Clean Air Act. The provisions of the Texas SIP required extraordinary reductions in NOx emissions. Needless to say, the anticipation of this regulation had already spurred low NOx burner research to try to achieve these unprecedented levels.

Low NOx technology has progressed from air staging, external flue gas recirculation, fuel staging and internal furnace gas recirculation. The latest ultra-low NOx or Next Generation Low NOx burners reduce NOx emissions using a combination of NOx reduction techniques that include enhanced fuel staging and internal furnace gas recirculation, flameless or dilute oxidation and lean pre-mix combustion. A wide variety of furnaces and boilers have been retrofit with the latest technology and, depending on firebox/burner configuration, fuel composition, firebox operating temperature and other factors, they are achieving from 0.01 to 0.03 lb/MMBtu, in some cases representing reductions of 90% from conventional technology. These applications include high temperature ethylene cracking furnaces and steam methane reformers as well as process heaters and boilers.

Richard (Dick) Waibel, Ph.D., is Director of Combustion Technology for the Process Burner Department at John Zink Company. He has worked for John Zink Company since 1983. Dr. Waibel graduated from The Pennsylvania State University with a Bachelor of Science in Fuel Science and a Doctorate in Fuel Science. His expertise includes combustion, burner design, flame characteristics, low calorific value fuel characteristics, high hydrogen fuel characteristics, NOx emissions, fuel/air mixing, flame shaping, flame stabilization, and radiation flux profiles. Dr. Waibel is a member of The Combustion Institute and has been Chairman of the American Flame Research Committee since 1995.

PEPO Contact:  
Steve Haynie  
(713) 336-5221  
Steve.Haynie@EquistarChem.com

## Free Seminar

# Flooding in Houston Area

## Past - Present - Future



An ECH "Houston in the 21<sup>st</sup> Century" Seminar

### Sponsored by

ECH - Engineering, Science & Technology Council of Houston  
Harris County Flood Control District

**Saturday, September 11, 2004 • 9:00AM to 3:00 PM**  
**Cy-Fair College • Building 5 College Center Auditorium**  
**9191 Barker Cypress Rd, Cypress, TX**

### Session 1

#### *Flooding Experiences in Houston Area - 1935 to Present*

by Andrew Yung, Dodson and Associates

Learn how can we connect past flooding with our present experiences and learn from those past experiences. Review flooding history in the Houston area, using Tropical Storm Allison as an example. Learn tools for anticipating and dealing with flooding in your area.

### Session 2

#### *TSARP*

Harris County Control District

Learn about the multi-government agency Tropical Storm Allison Recovery Project (TSARP), which assists Harris County residents minimize future flood loss by developing and communicating accurate flood hazard information.

### Session 3

#### *Harris County Flood Plain Administration*

Harris County Flood Plain representative

Learn how the flood insurance program and flood plain regulations affect us. Review flood insurance information and new development regulations.

### Session 4

#### *Panel Discussion of Technical Challenges*

Dr. Philip B. Bedient, Department of Civil & Environmental Engineering at Rice University, Moderator

Richard Smith, President of Cypress Creek Flood Control Coalition

Andrew Yung, Dodson and Associates

Harris County Flood Control District representative

John Willy, Brazoria County Judge

Local media meteorological representative to be announced)

### Session 5

#### *Review of Flood Insurance Rate Map*

Diana Herrera, Regional National Flood Insurance Program

Discover what the Harris County flood insurance rate map looks like and how it affects you. Find out the basis of insurance premiums and rate zones.

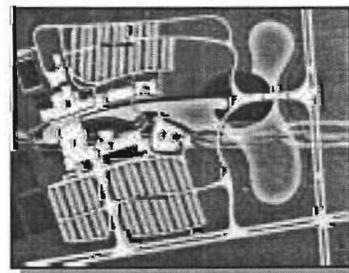
### About ECH

Founded in 1948, ECH is an umbrella organization for a number of engineering, science, and technology societies in Houston. ECH's function is to advance engineering, science, and technology through education and interdisciplinary communication. ECH's educational efforts include:

- Co-sponsor for the annual Science & Engineering Fair of Houston
- Co-sponsor for summer high school internships at the Houston Museum of Natural Science
- Sponsor for Excellence in Education awards and banquet to recognize local companies' contributions to engineering, science, and technology in area secondary schools

The "Houston in the 21<sup>st</sup> Century" program was recently created to educate the public on technical issues that affect the Houston metropolitan community. The seminars provide a forum for technical exchange between scientists, engineers, and technology experts in the private, education, and government sectors. The topics and session formats are non-political, and do not articulate any particular views or ideologies.

### Campus Directions



To access the college from Highway 290, take the Barker-Cypress exit traveling west. At the first traffic light, make a left turn traveling south. Travel to the intersection of West Rd. Make a right turn and follow the traffic signage to the campus. Seminar is in Building 5.



SNC-Lavalin GDS is a 500-person engineering firm providing engineering, procurement, project management and construction services separately or as a total package to suit our clients' requirements in the Chemicals and Petroleum industries. Our success as an EPC/EPCM contractor lies in our capability to handle all aspects of project execution for a wide variety of projects ranging from small plant additions to large grass-roots facilities.

The process engineering department consists of 60 engineers, with an average of 20 years experience with E&C and operating companies. Process engineering activities include:

- Heat and material balance
- PFD generation
- Major equipment specification
- Process simulation, including SimSci Provision, Hysys, and Aspen
- Unit Debottlenecking and Optimization Studies
- Tower and vessel design
- Heat Exchanger Design
- Process Troubleshooting
- Flare/Relief System Analysis
- System Hydraulics
- Environmental consulting, including NOx / HRVOC reduction
- Process Hazards Analysis (HAZOP, etc.)

For information, please contact Mike Najarian, P.E., the SNC-Lavalin GDS Process Engineering Manager at (713) 667-9162, Fax: 713-667-9241, E-mail: [mike.najarian@gdseng.com](mailto:mike.najarian@gdseng.com).

See us at: <http://www.snc-lavalin.com/>

## Continuing Education Credit in Ethics

Do you still need your Continuing Education Credit in Ethics to renew your Texas Professional Engineer License? Professional Excellence Courses and Seminars from Rossiter & Associates are the answer!

**Four Houston-area seminars  
in September!**

Home-study courses available!

Visit <http://www.rossiters.org/associates/ProfX> or phone 713-660-9503 for details.

# Thanks for Participation in the Spring Distillation Symposium

The Second Annual Distillation Symposium was a successful event, thanks to all attendees, registration volunteers, solicitors, exhibitors, speakers, treasurer, and sponsors. According to Henry Kister, the event was the largest ever in the Western Hemisphere, including the New Orleans Spring Meeting.

Lessons learned include:

- 1) The program was too long, and should have been limited to six papers for the time available. This reduced the time for breaks to view the exhibits and network with exhibitors..
- 2) The social hour bar should have been set up in the meeting room at the exhibitor end to improve networking with dinner meeting attendees.
- 3) Presentation projection may have been better from a raised platform.
- 4) Honoring a distillation professional for lifetime achievement should be continued, especially with so many area luminaries.

The list below of Exhibitors and Sponsors recognizes their important contribution to the financial success (to scholarships and STS educational programs) of the event:

AspenTech	Quest TruTec
Codeware	PB Energy Storage Services, Inc.
Chemstations	Petro Project Engineering
HTRI	3rdPhase Engineering Software
Hudson Products Corporation	Tracerco
HCS Group, Inc.	Sulzer
Koch-Glitsch	Wyatt Industries
Mustang Engineering	

Special thanks to the speakers, Dr Kenneth R. Cox, Dr. Ven Pinjala, Mr. Nathan D. Massey, Dr. Bruce Eldridge, Dr. Ralph H. Weiland, Mr. Henry Kister, Dr. Rayford Anthony, and our Honoree, Dr. Charles D. Holland. Without their excellent papers and honorarium, the symposium would not have been successful. Finally, thanks to all volunteers and officers of the South Texas Section who supported this event.

Jim Morris, Position I, Education

**Chemstations, Inc.**, makers of the CHEMCAD Suite of Chemical Process Simulation software, offers free use of its products to unemployed members of the American Institute of Chemical Engineers. Qualified members will have full access to the software for a 30-day period in which to build or brush up their skills with process simulation. An online discussion forum at Chemstations website, [www.chemstations.net](http://www.chemstations.net), is available to help users learn the software and discuss applications.

The offer is made in conjunction with the Career Services department of the AIChE and is open to members who have registered as unemployed with the organization. Unemployed chemical engineers should contact Herb Scheffel, of the AIChE, at [herbs@aiche.org](mailto:herbs@aiche.org) to learn more about and sign up for the program. To join the AIChE, visit <http://www.aiche.org> or call (800) 242-4636.



Adsorption is the  
Solid Solution

- Pressure Swing Adsorption
- Temperature Swing Adsorption
- Process Development
- Engineering / Design / Controls
- Troubleshooting

Herbert Reinhold  
936-321-5093  
[www.adsorption.com](http://www.adsorption.com)

# AIChE®

AMERICAN INSTITUTE OF CHEMICAL ENGINEERS

## SOUTH TEXAS SECTION

PMB 4101 • 17126 Stuebner Airline Rd. • Spring, TX 77379

Searching for the best heat exchanger design software?

You found it.



HTRI Xchanger Suite®—an integrated, easy-to-use suite of tools that delivers accurate design calculations for

- shell-and-tube heat exchangers
- air coolers
- tube layouts
- plate-and-frame heat exchangers
- economizers
- vibration analysis

Contact HTRI for a demo or more information on other products and services.

Heat Transfer Research, Inc.  
150 Venture Drive  
College Station, Texas 77845  
USA



+1-979-690-5050 voice  
+1-979-690-3250 fax  
Marketing@HTRI.net

A Few of the Services Provided Are:

- Corrosion Scanning
- Infrared Thermography
- Radiometric Imaging
- Steam Air Dioxide Monitor & Control
- Neutron Backscatter
- Partial Discharge Testing of Motors and Generators
- FCC & Residue Diagnostics
- Mechanical Integrity Inspection and Analysis
- Cat Scans
- Lean Coke Drum Scans
- Global Piping & Vessel Inspections (LMI)



Process Diagnostics



Magna-Tec



Infrared Surveys



2005 Power Engineering



QFSNDE

Achieve Optimum Productivity with Tru-Tec Services, Inc. On-line Analysis



Tru-Tec Services, Inc.  
11605 W Fairmont Pkwy  
La Porte, Tx 77571  
800-288-0970 www.tru-tec.com