Tracer ES&Times

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The Win-Win in Biological Restoration

In 2004, Tracer ES&T expanded into the biological restoration field. Tracer ES&T partnered with Dr. V.L. Holland, botanical restoration expert and Chair of the Plant and Restoration Ecology Department at the California Polytechnic State University at San Luis Obispo (Cal Poly). Additionally, Tracer ES&T hired John Fox, recent graduate from the biology department at the University of California – Santa Barbara, to manage the restoration efforts.

Through Tracer ES&T's program efforts on one *Quercus agrifolia* (Coast live oak) restoration project, our client has seen a release rate increase of 141% in just four years compared to the previous two decades of restoration work. Tracer ES&T developed a database program for this restoration project that allows tracking of each individual specimen. Information is tracked from the day the tree is planted to the day it is successfully released from the restoration program. This has given us the ability to recognize trends and adjust the program as needed. The data recorded in the database has given us the necessary information to present to the regulators evidence in support for the release of trees from the program. In every case, we have been able to present a report for each tree which details the positive growth and justification for the requested release. In fact, this system has worked so well for both our client and regulators that the reports have become standard submittals with each requested release and are used by the regulators as supporting information in favor of release.

Another project involving the restoration of the *Scrophularia atrata* (Black-flowered figwort), a Santa Barbara County species of special concern, saw an increase of over 1,000 individual trees released over the same timeframe. This has brought our client to 95% of their required mitigation number. A riparian habitat project restoring *Salix lasiolepis* (Arroyo willow) and other native vegetation in Santa Barbara County was completed and released in three years with a survivorship of 86%.

Our projects traverse various habitats including riparian, coastal valley grassland, coastal scrub, maritime chaparral, Coast live oak and Bishop pine woodlands. Through each of these habitats we have met with success. In addition to our restoration capabilities, Tracer ES&T also conducts botanical surveys and assists our clients in moving forward with their projects while providing the plant and habitat protection measures required by their permits. In fact, Tracer ES&T recently began management of a project related to a Federally-listed endangered plant species. We work with the client to identify areas of expansion necessary to their operations while insuring that the endangered plant species receive all the protection required by the regulators. We call this a win-win program. √

Houston Update

Compliance agencies continue to inspect/audit PSM/RMP facilities throughout the country. Our office has been involved with several audits. In our experience, the focus on completing these audits has been on the following items:

Hazard Assessment supporting documentation:
- Worst Case
- Alternative
- Methodology

Training:
- Operator three year refresher
- General HAZCOM

Mechanical Integrity:
- Sensor Calibration
- System Visual Inspection

Stop by our booth at the IIAR Conference and Exhibition in Dallas. See ad on page 2. √

Key Service Area Contacts

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Inside This Issue...

Risk Group Update

Ammonia Refrigeration System Pressure Relief Valves and Condensers – To Install or Not to Install?

The proper and safe operation of mechanical refrigeration systems is dependent on many variables including properly trained operators and integrated safety features. Pressure relief valves (PRVs) are used to control or limit the pressure in a system or vessel which can build up by a process abnormality, instrument or equipment failure, or fire. The pressure is relieved by allowing the pressurized fluid to flow out of the system to protect pressure vessels and other equipment from being subjected to pressures that exceed their design limits.

Traditionally pressure relief valves have been installed at the condensers on the high stage suction lines. Such installation provides a key safety feature in the event of an improperly isolated condenser.

Within the last decade the use of relief valves on the condenser has decreased. In their 1999 Bulletin "Equipment, Design, and Installation of Ammonia Mechanical Refrigeration Systems," the International Institute of Ammonia Refrigeration (IIAR) IIAR/ANSI 2 states (in section 5.3.1.4) "Where the refrigerant coil inlet and outlet lines of evaporative condensers can be isolated, 7.3.4 shall apply."

The bulletin further described Section 7.3.4:

"Piping in the system, and other components required to comply with this paragraph, which may contain liquid refrigerant that can be isolated from the system during operation or service, shall be protected from hydrostatic pressure due to expansion of liquid by one of the following provisions:

a. Installation of pressure-relief device, above or below the liquid level, with piping to relieve hydrostatic pressure to another part of the system or to another acceptable location, or

b. Use of trained technicians to isolate liquid-containing parts of the system."

This bulletin is frequently used by industry as a standard for the design, fabrication, manufacturer, installation and use of ammonia mechanical systems.

Therefore, a facility that has or uses trained technicians when isolating the condensers is not required to have pressure relief valves installed. Due to the above standard, refrigeration contract design firms are no longer designing mechanical refrigeration systems with pressure relief valves at the condensers. In some instances, contractors have been removing pressure relief valves at condensers on existing systems.

If the possibility exists that an untrained person may isolate the condensers improperly, the installation of pressure relief valves is the safest route. As you can see, installation or lack of installation of pressure relief valves on your condensers directly relates to your Process Safety Management Program in that you need to have a procedure for isolating equipment, including lockout / tagout and line opening [29 CFR 1910.119 (f)(4)]. In addition to having these procedures, you need to document training on these procedures [29 CFR 1910.119 (g)(1), (2) and (3)].

Note: Some opinions and information obtained from Mechanic Refrigeration & Mericle Mechanical, Inc. √

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Do you have questions about an article appearing in Tracer ES&Times?

Call us at (760) 744-9611.

RETA LA Chapter 2
Meets the 3rd Wednesday of each month

Contact:

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IIAR 2009 Industrial Refrigeration Conference & Exhibition

March 22—25, 2009
Dallas, Texas

Tracer ES&T will be there!
Booth #118

For more information go to:
www.iiar.org

Air Monitoring Update

Maintenance is Key to CEMS Programs

Nearly all Continuous Emissions Monitoring (CEMS) programs are the result of permit requirements. Since this is a regulatory requirement, there is a tendency to try and limit the short-term fiscal impact of operating the program. This is a short-sighted approach.

A vigorous maintenance program is an excellent counter to this approach. Strong maintenance reduces the amount of instrument downtime. The benefits of this are threefold.

1. Reduction of Enforcement Liability

Permit conditions generally have data recovery standards built in. Excessive downtime could lead to enforcement in the form of Notices of Violation (NOVs).

2. Reduction in Emissions Fees

During CEMS system downtime, emissions are calculated by other methods (fuel usage, etc.). These methods generally produce higher emissions, which lead to higher emissions fees.

3. Extension of Instrument Life

Strong maintenance extends the life of analytical instruments preserving capital.

Tracer ES&T can assist with the design, operation and maintenance of CEMS programs.

For additional information regarding CEMS maintenance programs, contact Paul Schafer of Tracer ES&T, (760) 744-9611 x111. √

Air Quality Compliance Update

There are three major initiatives in California to reduce statewide greenhouse gas (GHG) emissions to 1990 levels by the year 2020 and then 80% below 1990 levels by the year 2050:

- Assembly Bill 32 (AB 32 - the California Global Warming Solutions Act of 2006);
- a 2005 Executive Order; and
- a 2004 California Air Resources Board (ARB) regulation to reduce passenger car GHG emissions.

Recent developments regarding the implementation of these California GHG regulations include:

- For facilities that are required to report GHG emissions, the ARB will make available in late February an on-line reporting tool. In March and April 2009, ARB staff will hold general training workshops for GHG emissions reporting.
- ARB posted the implementation timeline for various scoping plan measures (see below for web site). The scoping plan contains the main strategies for reducing GHG emissions.
- On January 21, 2009, the ARB sent a letter requesting the EPA to reconsider the denial of waiver to reduce GHG emissions from cars. If the EPA grants the waiver, then California and 13 other states will implement programs to reduce passenger car GHG emissions 30% by 2016.
- ARB adopted a regulation to reduce GHG emissions from do-it-yourself cans of automobile refrigerant. The regulation has four major components: better container technology using a self-sealing valve on all small containers; improving labeling instructions for use; a new industry-run container deposit and recycling program; and a manufacturer-developed education program so consumers can use the best techniques for recharging an air conditioner. This regulatory approach was chosen over an outright ban of the do-it-yourself cans that would have been far more costly to implement.
- California previously adopted Senate Bill 375 (SB 375) to curb sprawl; rethink how communities are designed; provide emission reduction goals and incentives for local governments and developers to follow new conscientiously planned growths patterns; establish automobile and light truck emission reduction targets for 2020 and 2035; and have California's 18 metropolitan planning organizations align their regional transportation, housing, and land-use plans as well as prepare a "sustainable communities strategy" to reduce vehicle miles traveled in these regions. Per SB 375, the Regional Targets Advisory Committee (RTAC) was appointed on January 23, 2009 to provide recommendations on factors and methodologies to be used in the target setting process. The RTAC will provide recommendations to ARB by September 30, 2009 so that the ARB can propose draft targets by June 10, 2010 and adopt final targets by September 30, 2010.

For further information please visit http://www.arb.ca.gov/cc/cc.htm or contact Mr. Greg Hauser at (760) 744-9611 x106. √

Tracer ES&T Anniversaries

Some of the Tracer ES&T staff have been together through several name changes: Tracer Technologies, Team Environmental Services, and now, Tracer ES&T. Our staff is the foundation for this company and we appreciate their effort and dedication.

26 Years	**Tom Rappolt**	**(03/03/83)**
26 Years	**Lynn Teuscher**	**(03/03/83)**
26 Years	**Steve Kerrin**	**(03/03/83)**
9 Years	**Adrienne Tober**	**(04/17/00)**
6 Years	**Alicia Froke**	**(04/21/03)**

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International Institute of Ammonia Refrigeration

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STRENGTH THROUGH INDUSTRY & TECHNOLOGY

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EDUCATION • EFFICIENCY • DEVELOPMENT

RETA LA Chapter 2 Safety Day is:

Thursday
April 17, 2009

Stay tuned for details or contact:

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RETA Inland Empire Chapter's

next meeting is March 10, 2009 at
Inland Cold Storage
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