



ISHE

INDIANA SOCIETY FOR
HEALTHCARE ENGINEERING

ISHE Issues

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Medical Gas Industry

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I am very pleased to report the successful attainment of a medical gas industry's, and a particular hospital's, vision that I reported in the Summer Issue of 2004. This is regarding the importance and availability of a third-party certification of facilities maintenance personnel.

In the issue I mentioned the "taken for granted" role of health care facilities maintenance personnel. I stressed that almost all industry concerns regarding piped medical gas systems centered on the proper installation, inspection and verification of piping systems newly installed by individuals certified to ASSE Standards 6010, 6020 or 6030.

I also stressed that, in reality, the credentialed installers, inspectors and verifiers are on the job for only a very short time. The health care facility's maintenance personnel must then assume the full responsibility of the entire patient-life-supporting piped medical gas system's performance, and patient safety-related outcomes, for the duration of its lifetime.

They must also guarantee that the facility will earn its extremely critical, basically triennial (the time of their week-long survey is unannounced), accreditation of the Joint Commission.

I also mentioned that unless they happened to be certified to the ASSE Standard 6010, no one really knew what the facility's maintenance personnel's knowledge of piped medical gas systems really was!

The concern back in 2004 was that although the ASSE Standard 6040, that would enable the certification of maintenance personnel, was developed, there was no vehicle available to assist them to obtain this certification.

I am pleased to report that this concern has been more than answered on the national level!

I am also very pleased to report that as of November 2007 my employer- Cleveland Clinic (www.clevelandclinic.org) has become the first major health care facility to have all in-house Facilities Engineering Department maintenance personnel, who work with its

piped medical gas systems, third party certified to ASSE Standard 6040!



This includes fifteen in-house plumbers who maintain all components of the actual piping system. Also, six "Power House" engineers, whose major medical gas role is the maintenance of mechanical source equipment (pumps and compressors), are also newly certified.

Nine of the plumbers were already certified to ASSE Standard 6010 and perform very minor maintenance pipeline work. All others trained had no previous formal medical gas training.

Regarding the coordination of maintenance activities, it was very important to have these individuals, all who are responsible for the same systems but many who had no previous formal training- along with differing responsibilities- certified to ASSE 6040. All are now on the same page regarding knowledge of the entire systems' (sources, piping systems and appurtenances, alarms, etc.) operations and maintenance requirements.

Perhaps more important, all now have a new-found realization of the importance that the hospital's various medical gas systems- and they themselves- play in influencing patient outcomes and patient safety.

The 6040 training was provided by the CHT Company (www.chtechllc.com) and the Life Medical Networks Company (www.lifemedicalnetworks.com).

Third party certification was provided by the ISO 9001:2000 ANSI accredited National Inspection Testing Certification Corporation (www.nationalitc.com).

Cleveland Clinic requires its outsourced maintenance contractors' personnel to also be ASSE 6040 certified.

All maintenance technicians of both the BeaconMedaes Company (www.beaconmedaes.com) and CHT who perform outsourced maintenance activities are ASSE 6040 certified.

All personnel of Cleveland Clinic's gases supplier, Praxair Company (www.praxair.com), who install or maintain our bulk oxygen installations (outside the building and inside the fence) upstream of the source valve are ASSE 6010- soon required to be ASSE 6015 (Bulk System Installers)- certified.

Of unique interest, Cleveland Clinic's two in-house mechanical engineers and the Chief Safety Standards Compliance Officer have recently become third party certified to the new ASSE 6005 Standard for Medical Gas Systems Specialists. This training was provided by CHT.

It must be emphasized that these certifications, based on ASSE Standard Series 6000, provide for continual improvement. This is because Standard Series 6000 requirements parallel the current NFPA 99 standard- which is revised, updated and improved triennially. All third party certifications mentioned are based on the most current edition of NFPA

ASSE Series 6000
Revised February, 2006

Standard 6000
Standard 6010
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American Society of Sanitary Engineering

Professional Qualifications Standard for
**Medical Gas Systems
Personnel**

- Medical Gas Systems Specialists
- Medical Gas Systems Installers
- Bulk Medical Gas Systems Installers
- Medical Gas Systems Inspectors
- Medical Gas Systems Verifiers
- Medical Gas Systems Maintenance Personnel
- Medical Gas Systems Instructors
- Bulk Medical Gas Systems Instructors

An American National Standard

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Medical Gas Industry

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99- which is 2005. Therefore, when NFPA 99 is updated (the first NFPA 99 revision committee meeting is in December 2007) all certifications must also be updated- which automatically results in the continual improvement of patient safety!

As reported in earlier editions of *Plumbing Standards*, Cleveland Clinic takes its responsibility of its piped medical gas distribution systems, and their influence on patient outcomes and safety, very seriously! Our piped medical gas systems provide life-supporting gases to 1,000- very soon to be 1,350- beds and countless special procedure, intensive care and surgery units!

To further enhance the performance of these newly certified technicians, Cleveland Clinic has made a major commitment in the recent installation and implementation of CHT Company's visionary CHx electronic database maintenance program (*Plumbing Standards* April-June 2006) that is based on NFPA 99 and ASSE Standard Series 6000-Annex D requirements.

I credit this exceptional commitment to the continual enhancement of our patients' safety at Cleveland Clinic, to the vision and buy-in of our Facilities Engineering Department and Operations Division management. This is the same management, along with countless exceptionally committed employ-

ees, that has helped propel Cleveland Clinic to a rating of the fourth best hospital (our Heart Center is rated #1) throughout the entire USA!

I truly believe that these actions by Cleveland Clinic have lifted the level of our piped medical gas distribution systems maintenance program to the next plateau that will cause it to be recognized as "The #1 Model of Excellence"- also throughout the entire USA!

I certainly hope that, to enhance their patients safety, all other hospitals throughout the USA take their responsibilities in these regards just as seriously! 🍷

