

ACUTE MEDICAL GAS SERVICES, INC.



MEDICAL GAS AND VACUUM SYSTEMS TRAINING & CONSULTING

Mr. Willard has worked in the medical gas and healthcare construction industry for about 20 years. Prior to founding his own company, he was the Vice President of Operations for a large mechanical contractor. He has been involved with some of the most significant and complex healthcare projects in the northeast. He holds numerous certifications and is one of only a handful of individuals that has earned all of the ASSE 6000 certifications. He is a principal member of the Technical Committee on Medical Gas and Vacuum Piping Systems (NFPA 99: Health Care Facilities Code) and a principal member of the Technical Committee on Industrial and Medical Gases (NFPA 55: Compressed Gases and Cryogenic Fluids Code). He holds a Credentialed Medical Gas Verifier (CMGV©) certification and currently serves on the Medical Gas Professional Healthcare Organization (MGPHO) Board of Directors. He is also Certified in Plumbing Design (CPD), a LEED AP (Accredited Professional), a certified Project Management Professional (PMP), and a Certified Healthcare Constructor (CHC) with a Master of Science degree in Business Education (MBE). He has published many articles on the subject of medical gases and has presented on compliance, emergency operations management, program development, and risk assessments to many of the healthcare engineering societies, trade groups, and other interested organizations.

MEDICAL GAS AND VACUUM SYSTEM CONSULTING AND TRAINING SERVICES

- CODE AND STANDARD COMPLIANCE REVIEWS AND RISK ASSESSMENTS
- MOCK SURVEYS
- COMPREHENSIVE OPERATION AND MANAGEMENT PROGRAM DEVELOPMENT
- MAINTENANCE, INSPECTION, AND TESTING BEST PRACTICES AND RECOMMENDATIONS
- EMERGENCY PREPAREDNESS EVALUATIONS
- DESIGN / PROJECT DOCUMENT REVIEW
- BULK GAS SYSTEM DESIGN AND CONTRACT NEGOTIATION
- COMMISSIONING / RETRO-COMMISSIONING



RECENT PROJECTS:

Portsmouth Regional Hospital – Portsmouth, NH

- Medical Gas Systems Commissioning
- Design & Project Documentation Review
- Shutdown Coordination
- System Back Feed Management
- Maintenance, Inspection, and Testing Best Practices and Recommendations

The hospital recently completed a \$70 Million expansion and renovation project including the renovation of the entire surgery suite and many other critical care areas while still in full operation. The facility had to plan for approximately 36 medical gas phases and shutdowns during the project.



The Nebraska Medical Center – Omaha, NE

- Conducted Equipment and Asset Inventory
- Conducted Compliance Review and Risk Assessment
- Conducted Emergency Preparedness and Hazard Vulnerability Analysis
- Developed Comprehensive Maintenance, Inspection, and Testing Program
- Developed Critical Policies and Procedures

The hospital is a private/public partnership between The University of Nebraska, Clarkson College, and The Nebraska Medical Center with 624 acute-care beds and more than 4,900 employees. The facility is responsible for the training and education of more than 1000 students on campus in a given year. This program has become a model for other Academic / Health Care Organization partnerships in the US.

PUBLICATIONS:

Gas Flow: Developing a Medical Gas Operation & Management Program – Health Facilities Management Magazine, an American Hospital Association publication (July, 2010 edition).

An article discussing the development of a code-compliant operation and management program for the medical gas and vacuum systems found in health care facilities. The article provides regulatory resources and a framework for conducting a survey and assessment of existing systems, scheduling activities for equipment maintenance, inspections, and testing, developing policies and procedures, and personnel training and continuing education programs all in order to ensure patient safety is continuously protected.

Reliable Delivery: Changes to medical gas and vacuum system requirements – Health Facilities Management Magazine, an American Hospital Association publication (March, 2012 edition).

An article discussing the important changes to the NFPA 99, Health Care Facilities Code, 2012 edition. The article provides an overview of the effects these modifications will have on the safe and proper installation, design, maintenance, and operation of medical gas and vacuum systems.

SELECTED CLIENTS AND REFERENCES:

ARAO Fellgroup – Gamberi ANA Hospital, Afghanistan
Children’s Hospital Boston – Multiple Locations
UMass Memorial Medical Center – Worcester, MA
Dana Farber Cancer Center – Multiple Locations
Department of Veteran’s Affairs – Multiple Locations
Beth Israel Deaconess Medical Center – Boston, MA
Kaleida Health Systems – Buffalo, NY
Kindred Healthcare – Multiple Locations
Elliot Hospital – Manchester, NH
Concord Hospital – Concord, NH
Native Alaskan Medical Center – Anchorage, AK
Cheshire Medical Center – Keene, NH
Crothall Services Group – Multiple Locations
Airgas East – Multiple Locations
Praxair Healthcare Services – Multiple Locations
New London Hospital – New London, NH
Dartmouth Hitchcock Medical Center – Lebanon, NH

MEDICAL GAS TRAINING AND CONSULTING SERVICES PROVIDED:

CODE / STANDARD COMPLIANCE REVIEWS AND RISK ASSESSMENTS

Compliance reviews are conducted to ensure design, installations, and management and operations of medical gas systems are compliant with current regulatory codes. Risk assessments are conducted to ensure patient safety is continuously protected through appropriate policies and procedures.

MOCK SURVEYS

Mock surveys are conducted to ensure compliance with various codes, standards, and regulatory environments with regard to system design, installation, and operation. We guarantee survey proof protocols.

COMPREHENSIVE OPERATION & MANAGEMENT PROGRAM DEVELOPMENT

Development of comprehensive medical gas and vacuum system operation and management programs including emergency operations and contingency planning, maintenance strategies, inspection and testing programs, personnel qualification standards, and personnel training programs.

MAINTENANCE, INSPECTION, & TESTING BEST PRACTICES & RECOMMENDATIONS

Regulatory requirements are minimum standards. We advise clients to go beyond them and develop pro-active measures to add fail-safe procedures, which contribute to patient safety. Most are relatively inexpensive to implement.

EMERGENCY PREPAREDNESS EVALUATIONS

Evaluation of existing emergency preparedness policies and procedures to ensure they are adequate and will work when you need them most – In an emergency situation, it is critical that procedures are implemented properly.

DESIGN / PROJECT DOCUMENT DEVELOPMENT AND REVIEW

Develop and review design documents to ensure compliance with current codes and standards. The most expensive changes on projects are a result of rework. We ensure compliance prior to the start of installation work, which reduces the cost associated with rework and contract changes.

BULK GAS SYSTEM DESIGN AND CONTRACT NEGOTIATION

We provide assistance with design and contract negotiations for bulk medical gas systems. We work with most national bulk gas suppliers on a routine basis.

COMMISSIONING / RETRO-COMMISSIONING

Most equipment and system failures in the first year are a result of poor and/or non-compliant design, installation, and testing. Our aim is to reduce the incidence of failures to as close to zero as possible.

ON-SITE PERSONNEL TRAINING PROGRAMS

Customized on-site personnel training programs for ALL personnel using, maintaining, testing, and working with medical gas and vacuum systems.