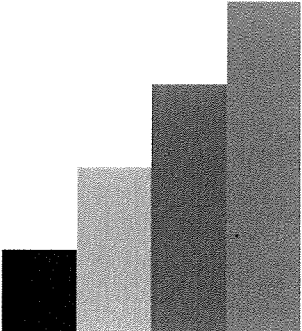


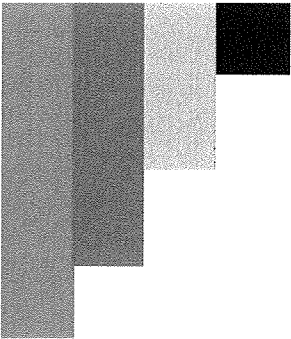
July 8, 2019

Altitude Control Technologies, LLC
Larry Kutt, CEO
210 Edwards Village Boulevard
Suite #C103
Edwards, CO. 81632

Dear Larry Kutt,

After a review of Altitude Control Technologies information, I am satisfied to offer the following comments:

- Altitude Control Technologies (ACT) is a scientific instrument company that manufactures a room-oxygenation system to mitigate the effects of altitude sickness in high altitude areas. This system is used internationally in medical schools, and research institutions to study altitude and oxygen effects.
 - I am not aware of any residential or commercial fire code applicable to ACT's room-oxygenation systems. Therefore, I concur with citing the National Fire Protection Association's (NFPA) standard *NFPA 99B Standard for Hypobaric Facilities (2018)*, section 3.3.3.3. (Hypobaric = Pressure less than one atmosphere (14.7 psia, 760 mmHg)).
 - Increasing oxygen levels in an enclosed space could potentially increase fire risk if not compliant with the National Fire Protection Association's (NFPA) standard *NFPA 99B Standard for Hypobaric Facilities (2018)*, section 3.3.3.3., for oxygenating rooms. This standard establishes safe oxygen levels, i.e., an amount equal to or less than 23.45% divided by the square root of the atmospheric pressure. Oxygen levels below this amount may be considered safe and to pose no risk of increased fire danger compared to environments without the ACT system.
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- It is not possible to assure that an oxygenation system meets this standard without 1) oxygen sensors 2) a barometric pressure sensor and 3) a controller with algorithms that control the level of oxygen within the NFPA 99B Standard. ACT's system incorporates the necessary sensors and algorithms to meet this Standard. ACT's system continuously measures barometric pressure and adjusts oxygen delivery every six seconds to remain within recommended limits. I have reviewed the logic of ACT's control system and agree that it maintains an oxygen percentage at or below the recommendations defined in NFPA 99B, section 3.3.3.3.
 - As safety systems are only as reliable as their sensors, it is reassuring that ACT's controller includes two independent oxygen sensors that continually compare their readings to detect if one sensor is drifting out of calibration, or is expiring.

My comments are based on my experience working with oxygen systems and by a review of ACT's information. I am not speaking on behalf of any group, organization, board, or committee.

Sincerely,



Richard C. Barry, MS, STS, CHT-A
rcbsafety@gmail.com
(904) 654-8916

Enclosure: Curriculum Vitae



RICHARD C. BARRY, MS, STS, CHT-ADMIN

rcbsafety@gmail.com (Personal) / Richard.barry@healogics.com (Business)

EDUCATION

Student – Ph.D. in Safety Sciences, Dissertation defense scheduled for early 2020, Indiana University of Pennsylvania

Master of Safety Science, Indiana University of Pennsylvania

Bachelor of Business Administration-Health Care Management, American Intercontinental University

PROFESSIONAL DEVELOPMENT

Certifications:

- Safety Trained Supervisor – Certified (STS-16677), Board of Certified Safety Professionals; March 2018 to Present
- Certified Hyperbaric Technologist – ADMIN (0951), National Board of Diving and Hyperbaric Medical Technology; May 2013 to Present
- Certified Hyperbaric Technologist – Regular (0951), National Board of Diving and Hyperbaric Medical Technology; May 1997-2011
- Certified Diver Medic – Basic, National Board of Diving and Hyperbaric Medical Technology; August 1997-1999, inactive
- Diver First Class, Naval Diving and Salvage Training Center USN; July 1995
- Emergency Medical Technician – Basic, National Registry of Emergency Medical Technicians, Inc.; April 1994, inactive

Development Courses & Conferences:

- Introductory Laser Vein Procedure and Laser Safety Training Course; Angiodynamics, June 2019
- Medical Laser Safety Officer Training; Laser Institute of America (Live Course), June 2019
- Medical Laser Safety Officer Training; Laser Institute of America (Online Course), April 2019
- 14th International Symposium on Flammability and Sensitivity of Materials in Oxygen-Enriched Atmospheres; ASTM International, April 2016
- OSHA-30 General Industry; National Seminars Training, February 2016
- OSHA-10 General Industry; 360training.com, March 2015
- American Society of Safety Engineers (ASSE) Professional Development Conference, June 2014
- Committee Leadership Conference; National Fire Protection Association, June 2014
- OSHA Compliance & Training for Medical & Dental; Cross Country Education, December 2013
- Hyperbaric Oxygen Safety: Technical and Clinical Considerations; Pre-course to annual Undersea & Hyperbaric Medical Society meeting, June 2013
- Cal/OSHA vs. Federal OSHA: The Key Differences Multistate Employers Must Be Aware Of; The Safety Training Center, April 2013
- Multiplace Hyperbaric Facility Preventive Maintenance Training Course; Hyperbaric Support Services, Inc., February 2013
- LeanSigma – Fundamentals for Healthcare; Guidon Performance Solutions, August 2011
- Responsible Management I; The Christie Company, June 2011
- Safety Management Institute I & II; Liberty Mutual, October 2009

- Crisis Management and Emergency Preparedness; Liberty Mutual Webinar, June 2009
- Fire Protection During Construction; Liberty Mutual Webinar, June 2009
- Establishing Supervisor Accountability; Liberty Mutual Webinar, February 2009
- Inspection, Maintenance, and Documentation of Hyperbaric Chamber Acrylics; International ATMO, August 2007
- Introduction to Hyperbaric Medicine; Diversified Clinical Services, December 2006
- 11th International Symposium on Flammability and Sensitivity of Materials in Oxygen-Enriched Atmospheres; ASTM International, October 2006
- NFPA 99 Health Care Facilities Seminar; National Fire Protection Association, June 2006
- Legal Aspects of Wound Care & Hyperbaric Medicine; International ATMO, September 2005
- Applying the Life Safety Code to the JCAHO Statement of Conditions; National Fire Protection Association, March 2005
- Fire Hazards in Oxygen Systems; Technical & Professional Training ASTM International, November 2004
- Hyperbaric Safety Director Training Course; International ATMO, October 2002
- Hyperbaric Medicine Team Training; The University of Texas Medical Branch, September 1999
- Fundamentals of Total Quality Leadership; Department of the Navy, September 1994

Undersea & Hyperbaric Medical Society

- UHMS Annual Scientific Meeting; June 2017
- Northeast Chapter Annual Scientific Meeting; September 2016
- Canadian Undersea and Hyperbaric Medical Association Annual Scientific Meeting; September 2016
- Northeast Chapter Annual Scientific Meeting; October 2015
- UHMS Annual Scientific Meeting; June 2015
- Northeast Chapter Annual Scientific Meeting; October 2014
- Gulf Coast Chapter Annual Scientific Meeting; September 2014
- Northeast Chapter Annual Scientific Meeting; October 2013
- UHMS Annual Scientific Meeting; June 2013
- Northeast Chapter Annual Scientific Meeting; September 2012
- UHMS Annual Scientific Meeting; June 2012
- Gulf Coast Chapter Annual Scientific Meeting; August 2011
- UHMS Annual Scientific Meeting; June 2010
- UHMS Annual Scientific Meeting; June 2009
- UHMS Annual Scientific Meeting; June 2008
- Gulf Coast Chapter Annual Scientific Meeting; September 2007
- UHMS Annual Scientific Meeting; June 2006
- Gulf Coast Chapter Annual Scientific Meeting; September 2005
- Gulf Coast Chapter Annual Scientific Meeting; October 2003

Canadian Undersea & Hyperbaric Medical Association

- Canadian Undersea and Hyperbaric Medical Association Annual Scientific Meeting; September 2016

PROFESSIONAL EXPERIENCE

Healogics, Inc. (f/k/a Diversified Clinical Services, Inc.), Jacksonville, Florida:

- Vice President of Hyperbaric Services for the Department of Safety & Technical (January 2010 - Present)
 - Corporate Office
 - Oversee the ordering and purchasing of medical equipment to include, but not limited to: hyperbaric chambers, exam chairs, Tcom units, and other Center support items
 - Manage the Department of Safety & Technical (hyperbaric), to include 5 Regional Directors of Safety
 - Course Director for HBO Tech Track—Introduction to Hyperbaric Medicine and Safety
 - Manage technical aspects of field locations
 - Greater than 1,200 hyperbaric chambers
 - Includes chamber installations, removals, swaps, relocations, and maintenance
- Vice President of Facility Implementation and Hyperbaric Services (February 2009 – December 2010)
 - Corporate Office
 - Oversee the ordering and purchasing of hyperbaric chambers, exam chairs, Tcom units, and other Center support items
 - Oversee office facility needs
 - Manage the Department of Safety (hyperbaric), to include 3 Regional Directors of Safety
 - Manage and instruct HBO Tech Track—Introduction to Hyperbaric Medicine and Safety
 - Manage the Department of Technical, to include two chamber mechanics
 - Includes chamber installations, removals, and relocations
 - Manage the Facility Implementation Team, to include 2 Project Managers
- Director of Safety and Technical (November 2005—January 2009)
 - Corporate Office
 - Oversee the ordering and purchasing of hyperbaric chambers, exam chairs, Tcom units, and other Center support items
 - Assist with management office facility needs
 - Manage the Department of Safety (hyperbaric), to include 2 Regional Directors of Safety
 - Instruct HBO Tech Track—Introduction to Hyperbaric Medicine and Safety
 - Manage the Department of Technical, to include two chamber mechanics
 - Includes chamber installations, removals, and relocations
 - Assist with management of the Facility Implementation Team, to include two Project Managers
- Hyperbaric Service Manager/Program Director (February 2001—October 2005)
 - Boca Raton Community Hospital—a Diversified Clinical Services partner
 - Manage the Hyperbaric Department and assist the hospital with Wound Care management needs
- Hyperbaric Safety Director (August 1999—January 2001)
 - Boca Raton Community Hospital, FL.—a Diversified Clinical Services partner; and
 - Wellington Regional Hospital, FL.—a Diversified Clinical Services partner.
 - Hyperbaric chamber operations

PROFESSIONAL COURSES TAUGHT

“Introductory Course in Hyperbaric Medicine – Provider Course,” per the American College of Hyperbaric Medicine standards; Jacksonville, Florida, ten courses in 2017 and 2018.

“Introductory Course in Hyperbaric Medicine – Tech Track,” per the National Board of Diving & Hyperbaric Medical Technology standards; Jacksonville, Florida, eleven courses in 2017 and 2018.

“Introductory Course in Hyperbaric Medicine – Tech Track,” per the National Board of Diving & Hyperbaric Medical Technology standards; Jacksonville, Florida, thirteen courses in 2015 and 2016.

“Introductory Course in Hyperbaric Medicine – Tech Track,” per the National Board of Diving & Hyperbaric Medical Technology standards; Jacksonville, Florida, twelve courses in 2014.

“Introductory Course in Hyperbaric Medicine – Tech Track,” per the National Board of Diving & Hyperbaric Medical Technology standards; Jacksonville, Florida, ten courses in 2013.

“Introductory Course in Hyperbaric Medicine – Tech Track,” per the National Board of Diving & Hyperbaric Medical Technology standards; Jacksonville, Florida, nine courses in 2012.

“Introductory Course in Hyperbaric Medicine,” per the National Board of Diving & Hyperbaric Medical Technology standards; Jacksonville, Florida, ten courses in 2011.

“Introductory Course in Hyperbaric Medicine,” per the National Board of Diving & Hyperbaric Medical Technology standards; Chapel Hill, North Carolina, ten courses in 2009 and 2010.

“Hyperbaric Safety Director,” Diversified Clinical Services, Inc. Continual training course started in 2006.

PRESENTATIONS AND PUBLICATIONS

Presentations

Material Testing Advisory Committee Update. Presented at the Northeast Chapter of the Undersea & Hyperbaric Medical Society; October 2018

Test Results of Patient Products in Low-Pressure Oxygen-Enriched Atmospheres: The Beginning of a New Approach to Risk Assessments for Hyperbaric Clinical and Diving Operations. Presented at the ASTM G04 Committee Meeting as part of the Oxygen Safety Seminar Series; October 2017

Risk Assessment Through Interactive Case Discussion (Panel Member), Material Selection for Hyperbaric Use – The Present, Material Selection: Putting New Information Into Practice, and Panel Question and Answer Member and Moderator. Presented at the Safety Pre-Course to Undersea & Hyperbaric Medical Society Annual Scientific Meeting; June 2017

Material Testing Advisory Committee Update. Presented at the Northeast Chapter of the Undersea & Hyperbaric Medical Society; September 2016

Material Testing Advisory Committee Update. Presented at the Canadian Undersea & Hyperbaric Medical Association; September 2016

Autogenous Ignition Test Approach for Hyperbaric Oxygen (HBO₂) and Other Low-Pressure Oxygen Applications. Co-presented at the 14th International Symposium on Flammability and Sensitivity of Materials in Oxygen-Enriched Atmospheres; April 2016

Material Selection for the Hyperbaric Environment: The role/responsibility of the Physician and (HBO) Safety Director. Presented at the Northeast Chapter of the Undersea & Hyperbaric Medical Society; October 2015

UHMS Materials Testing Advisory Committee Update. Presented at the Safety Pre-Course to Undersea & Hyperbaric Medical Society Annual Scientific Meeting; June 2015

UHMS Materials Testing Advisory Committee Update. Presented at the Northeast Chapter of the Undersea & Hyperbaric Medical Society; October 2014

Safety Panel: Material Testing, Pressure Vessels for Human Occupancy, and IV Pumps. Presented at the Gulf Coast Chapter of the Undersea & Hyperbaric Medical Society; September 2014

Case Study: Delivery of Wrong Gas. Presented at the Northeast Chapter of the Undersea & Hyperbaric Medical Society; October 2013

UHMS Materials Testing Advisory Committee Update. Presented at the Northeast Chapter of the Undersea & Hyperbaric Medical Society; October 2013

Material Selection in the Oxygen Enriched Atmosphere and UHMS Materials Testing Advisory Committee Update. Presented at the Pre-Course to Undersea & Hyperbaric Medical Society; June 2013

Material Selection in the Oxygen Enriched Atmosphere and UHMS Materials Testing Advisory Committee Update. Presented at the Northeast Chapter of the Undersea & Hyperbaric Medical Society; September 2012

Hyperbaric Oxygen Therapy: History, Use, and Code Overview. Presented to Russell Phillips & Associates, LLC (New York, Connecticut, and California Offices) during the monthly in-service webinar; March 2012

Safety FAQs (hyperbarics). Presented at the Gulf Coast Chapter of the Undersea & Hyperbaric Medical Society; August 2011

How Do You Know if a Product is Safe for the Hyperbaric Chamber. Presented at the Gulf Coast Chapter of the Undersea & Hyperbaric Medical Society; August 2011

HBO₂ Facility Accreditation—Critical Updates to Survey Procedures, Cost and Training. Pre-course, presented at the Annual Scientific Meeting of the Undersea & Hyperbaric Medical Society; June 2009

Books and Journals

“Flammability and Sensitivity of Materials in Oxygen-Enriched Atmospheres: 14th Volume,” Technical Paper, *Autogenous Ignition Test Approach for Hyperbaric Oxygen (HBO₂) Low-Pressure Oxygen Applications*, Co-author. West Conshohocken, PA: ASTM International. doi: 10.152/STP159620150066. 2016.

“Chronic Wound Care: The Essentials,” Chapter 22, *The Role of Oxygen and Hyperbaric Medicine*, Co-author. HMP Communications, LLC (ISBN 978-1-893446-09-0); 2014.

“Chronic Wound Care: A Clinical Source Book for Healthcare Professionals,” *The Role of Oxygen and Hyperbaric Medicine – 5th edition*, Vol. 1, Chapter 4.23, Co-Author. HMP Communications, LLC; 2012.

“Operational and Safety: Common Elements Shared by Hyperbaric Facilities,” *Hyperbaric Nursing and Wound Care*, Chapter 7. Best Publishing Company; 2010.

Abstracts – Peer Reviewed

“A Retrospective Analysis of Adverse Events in Hyperbaric Oxygen Therapy (2012-2015): Lessons Learned From 1.5 Million Treatments”. Co-author. *Advances in Skin & Wound Care*, March 2017, Vol. 30, Issue 3, P. 125-129.

“Analysis of Adverse Events Occurring in Patients Undergoing Adjunctive Hyperbaric Oxygen Treatment: 2009-2010”. Co-author. *Undersea and Hyperbaric Medicine Journal*, Vol. 38, No. 5, G155, P. 455, 2011.

PROFESSIONAL ORGANIZATIONS

American Society of Safety Professionals (ASSP)

- Member of the North Florida Chapter – 2015 – Present
- Member of Western Pennsylvania Chapter – Indiana University of PA, 2013 – 2015

ASTM International

- G04-Compatibility and Sensitivity of Materials in Oxygen-Enriched Atmospheres, Committee Member, 2005—Present
 - Classification: Voting Member

National Board of Diving and Hyperbaric Medical Technology (NBDHMT)

- Board Member, NBDHMT-Veterinary Medicine, 2010 – Present
- Board Member, NBDHMT, 2008 – Present
- Diving Medical Technician Exam Proctor, NBDHMT, Present
- Certified Hyperbaric Technologist Exam Proctor, Present
- Certified Hyperbaric Registered Nurse Exam Proctor, Present

National Fire Protection Association (NFPA)

- NFPA 99 – Health Care Facilities, Hyperbaric Facilities, Technical Committee Member
 - Committee Chair, April 2019 – Present

- Committee Member, April 2004 – April 2019
- Classification: Special Expert
- NFPA 99B – Standard for Hypobaric Facilities
 - Committee Chair, April 2019 – Present
 - Committee Member, April 2004 – April 2019
 - Classification: Special Expert
- NFPA 53 – Recommended Practice on Materials, Equipment, and Systems Used in Oxygen-Enriched Atmospheres
 - Committee Chair, March 2014 – Present
 - Committee Member, January 2008 – March 2014
 - Classification: User

Undersea and Hyperbaric Medical Society (UHMS)

- Chair of UHMS Ad Hoc Committee: Material Testing Advisory Committee, 2010 – Present
- Corporate Representative, Diversified Clinical Services, 2008 – 2010
- Accreditation Survey Team Member, 2003 – 2010
- Associate Member, 1997 – Present
- UHMS Safety Committee – Member, 2012 – Present

AWARDS AND RECOGNITIONS

Wilbur T. Workman Safety Award in Honor of a Lifetime Dedicated to Improving Safety and Technology in the Field of Undersea and Hyperbaric Medicine, Gulf Coast Chapter of the Undersea & Hyperbaric Medical Society, 2011

The Paul C. Baker Award for Outstanding Contributions to the Advancement of Hyperbaric Safety Worldwide, Undersea & Hyperbaric Medical Society, 2010