

CryoGas International

Reporting on the business and technologies driving today's global industrial gas industry

FEATURE ARTICLES

| | |
|---|----|
| Lead News _____ | 3 |
| Airgas Creates Solid Strategies for the Long Term Air Products Invests in Europe | |
| The North American On-site and Pipeline Business: _____ Strategic Planning to Maximize Value By <i>Maura D. Garvey</i> | 24 |
| 2008 Gasification Technologies Conference Review: _____ A Special Report to <i>CryoGas International</i> By <i>Fred H. Siemer</i> | 30 |
| From Earth to Space _____ The Devil Is in the Details! By <i>Keith Hall</i> | 34 |
| Pacific Rim Business Update _____ A <i>CryoGas International</i> News Report | 38 |
| Wall Street Views _____ Fighting the Headwinds of a Worldwide Recession By <i>Fred H. Siemer</i> | 42 |
| Energy Initiatives: Compressed Natural Gas — A Bridge to Alternative Fuels _____ By <i>Christine E. Turley</i> | 50 |

DEPARTMENTS

| | | | |
|--------------------------------|----|-------------------------------|----|
| Editorial _____ | 1 | The Art of Selling _____ | 53 |
| Industry News _____ | 3 | Consultants Marketplace _____ | 54 |
| Green News _____ | 18 | Marketplace _____ | 55 |
| Product Technology Forum _____ | 52 | Advertisers' Index _____ | 56 |
| Calendar of Events _____ | 53 | | |

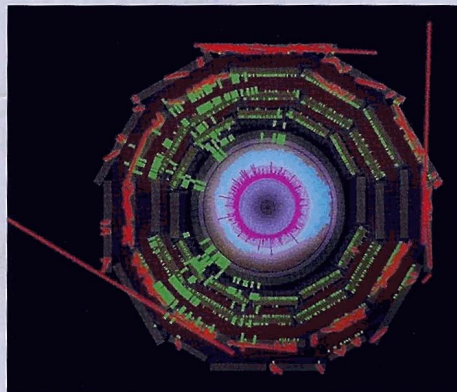
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Publication

AIRGAS EXTENDS CONTRACT WITH BOEING

Airgas, Inc. has received a two-year extension of its contract with the Boeing Company, representing \$16.5 million in revenue in the first year. Airgas Safety is the primary provider of safety and industrial hygiene products for Boeing. Earlier this year, Boeing awarded Airgas Safety its Gold Boeing Performance Excellence Award. Airgas Safety performed in the 99.99 percentile of Boeing's 8,000-plus MRO suppliers.

AIR LIQUIDE'S BIG FRIDGE

CERN (European Centre for Nuclear Research), the largest and most complex scientific instrument ever built, was officially inaugurated on October 21. CERN's Large Hadron Collider (LHC) was successfully started on September 10, emitting its first beam of protons. (See "Particles Complete First Circuit at CERN," *CryoGas International*, October 2008, p. 3)



A cross-section image of CMS showing debris (or "splash") of particles entering the detector when the LHC beam was steered into the collimator (tungsten block) at point 5, at around 9:50 am, on September 10, 2008. Photo courtesy of CERN

Air Liquide has contributed to this exceptional project since 1995, developing the "largest refrigerator in the world"—a complex and innovative system of liquid helium distribution and cooling. Placed in a tunnel 100 meters below ground, on the French-Swiss border, the cryogenic system designed and installed by Air Liquide distributes superfluid liquid helium in a ring measuring 27 km in circumference. Air Liquide also developed and supplied CERN with the liquefiers required to cool the helium. The Group's operation and maintenance teams provide cryogenics expertise to CERN on a daily basis.

François Darchis, member of the Air Liquide Executive Committee, in charge of Advanced Technologies, said, "The excep-

tional dimension of the LHC and the expected level of performance presented Air Liquide teams with a technological challenge that was met successfully. We are delighted with the first beam generations and continue to support CERN in order to open up the field of knowledge in fundamental physics. Air Liquide is proud to be contributing in this way to scientific projects that require total mastery of cryogenics at ultra low temperature."

RECYCLING ACETYLENE CYLINDERS

Massachusetts-based Cylinder Recyclers has introduced a new process whereby consumers and distributors of acetylene have a way to recycle spent steel acetylene gas cylinders produced both before and after 1985. Acetylene gas cylinders are commonly used for applications such as acetylene torches for welding and cutting.

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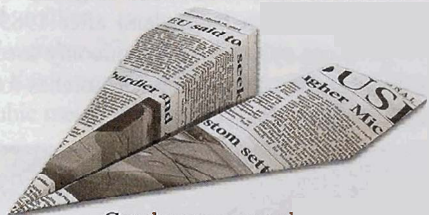
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Unlike other compressed gas containers, acetylene tanks contain as much as six gallons of acetone in a solid binding medium contained within the cylinder. Cylinders produced before 1985 also contain asbestos within the solid core. In the past, the only choice for acetylene consumers and distributors was to store spent tanks in piles on-site or send them to landfills — acetone and all. Both approaches created health, safety and environmental concerns as well as liability issues that can now be resolved via recycling.

With the new process, consumers have a safer and more sustainable alternative. Acetylene containers of any age can now be handled for recycling using Cylinder Recyclers' environmentally friendly process. For asbestos-free cylinders, the residual acetone is removed from the tank's core and recovered for recycling, as is the metal shell. For pre-1985 cylinders, the asbestos-contaminated core is also safely removed to a licensed subtitle D landfill, and the steel shell is then scrapped and recycled.

Cylinder Recyclers is the only company in the nation offering this kind of recycling and now serves some of the nation's most prominent gas distribution companies.

SUPERCONDUCTOR DISCOVERY BUILDS EXCITEMENT

According to the October 15, 2008 issue of the *American Chemical Society Press Package*, scientists have found a new type of superconductor — material that carries electricity more efficiently than copper and other metals. This discovery raises the possibility that even more types exist and that one type may in fact be able to conduct electricity at higher temperatures than those in use today.

The earliest superconductors needed to be cooled to such low temperatures that only helium could accomplish this. Then the modern high-temperature superconductors were discovered, which needed to be cooled only to a temperature that could be achieved with liquid nitrogen. Although less expensive than helium, nitrogen cooling was still expensive and impractical for large-scale energy use.

This recent discovery of superconductors made of iron and arsenic gives scientists hope that other materials will prove to be superconductors, yet may not need to be cooled at all. These developments can be found at: <http://pubs.acs.org/cen/coverstory/86/8642cover.html>. □

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