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The Past, Present and Future of the Federal Helium Program  
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## **Introduction**

Thank you Chairman Hastings and Ranking Member Markey for the opportunity to be here today. Corning appreciates your leadership and bipartisan cooperation on the important issue of the Federal Helium Reserve.

I am Brad Boersen, the director of Business Strategy for Corning's Optical Fiber and Cable business. My responsibilities include global strategic planning, market analysis and forecasting, and business development.

Corning Incorporated (Corning) is a world leader in specialty glass and ceramics. We have been in business as an American manufacturer for over 160 years. We were founded in 1851 by Amory Houghton, the great-grandfather of Amo Houghton, Jr., who served with many of you in the House for 18 years.

We research, develop, and manufacture a wide range of intermediate products including optical components for telecom networks, mirror blanks for space telescopes, and Corning Gorilla® Glass, a product which is now on more than one billion consumer electronic devices. Corning has a long history of technology innovation and is a four-time recipient of the President's National Medal of Technology and Innovation. One of those four medals was awarded to Corning for its invention of optical fiber. We remain a global leader in optical fiber manufacturing and technology. We continue to operate the world's largest and most advanced optical fiber manufacturing facility here in the United States.

## **End-User Coalition**

While I am here representing Corning, I wanted to acknowledge that Corning also is part of an informal coalition of end-users representing a number of important industries, including medical imaging, semiconductors, fiber optics, chemicals, aerospace, and others that depend on helium for essential applications. In addition, helium is an important gas for the scientific and research community. As a whole, these users of helium play a major role in the U.S. economy, national security, and scientific advancement.

The Coalition's main priority is to ensure a secure and sufficient supply of reasonably priced helium. This will not be possible without expeditious passage of legislation to allow BLM to continue to extract helium from the reserve. The Coalition developed a set of principles to guide our deliberations and discussions with the Committee. This coalition appreciates the work of the Committee and its subcommittee staff, both majority and minority, to address our key principles.

The principles are:

1. Establish a framework for secure, continuous supplies of helium that can be implemented through long-term contracts with suppliers
2. Ensure transparency
3. Provide for mechanisms to prevent market speculation or manipulation
4. Transition period to assure continuity in supplies
5. Promote increased supplies of helium in the future

I will discuss the principles in more detail later in my statement.

### **Optical Fiber Manufacturing**

Corning is the world's largest producer of optical fiber and the only U.S.-owned company making optical fiber. We compete with optical fiber manufacturers in Japan, China, India, and Europe. We employ about 1,600 people in the United States in our optical fiber business.

Optical fiber changed the way the world communicates. About 1.8 billion kilometers of optical fiber are deployed worldwide, connecting people, business communities, countries and continents. We continue to innovate for new applications and markets.

The fiber making process begins by creating a glass rod or "preform", with the deposition of the materials controlled so precisely that impurities are measured in parts per billion. The preform is heated close to its melting point and drawn into fiber before being coated with an acrylate protective layer (or "coating"). The fiber is the diameter of a human hair, with dimensional precision at the one-micron level. It is tested for strength at 100,000 pounds per square inch.

As the National Academy of Sciences reported, helium is used to manufacture the preform. Helium is the only gas that prevents bubbles from forming in the preform manufacturing step, which would render the fiber unusable. There is presently no substitute for helium in this process. It is also commonly used to cool the fiber as it is drawn.

We require helium in sufficient quantities and at prices that enable us to maintain our global cost competitiveness. Given the unique qualities of helium, it is difficult to store on site for more than 10 days. For this reason, and the global nature of our demand, we have established strategic supplier relationships and long-term supply agreements.

Corning has been concerned about the depletion of the Bureau of Land Management (BLM) reserve since 2007, when we first experienced helium shortages that required suppliers to enforce allocation restriction on end-users. This event drove Corning to evaluate the on-going security and long-term availability of supply. Based on this evaluation, we projected from BLM and USGS data, that BLM will reach the depletion limit of 3 billion cubic feet by about 2018, if not sooner.

This realization led Corning to pursue more aggressive conservation measures such as reuse and recycling. Corning recognized the significance of helium reuse/recycling early on and have engaged in this practice for over 17 years. We have invested over \$10 million in R&D since 2007 to reduce consumption. We will continue to invest millions in R&D to further identify ways to reduce helium use or find an acceptable substitute.

Unlike the 2007 allocation experience which was brief, the 2012 supply allocation that was imposed by suppliers in the spring remains in effect and is expected to continue given market conditions.

### **The Responsible Helium Administration and Stewardship Act (H.R. 527)**

The Committee has worked hard to ensure the broad range of concerns and interests of all parties affected are addressed and we believe that H.R. 527 represents significant progress. As mentioned above, the coalition principles have provided a foundation to guide our assessment of the legislation. Corning would like to focus on three of the principles: transition, transparency and supply.

First, we appreciate the inclusion of a one-year **transition** period. This transition period will allow BLM to establish the auction process and procedures. Further, the transition will allow refiners, distributors and end-users time to evaluate the impact on existing contracts and determine how best to operate under the auction system. This provision is significant.

Second, we strongly support the **transparency** provisions in Section 16 of the legislation. Because the BLM represents a significant share of the global helium supply, its actions have a major impact on helium supplies to federal, industrial, medical and other commercial users. The provisions will provide manufacturers critical information necessary to adjust in a timely manner to planned and unplanned disruptions of the reserve. We believe if these provisions had been in place last spring, Corning would not have incurred significant increased costs as a result of allocation measures imposed on us with limited notice. The provisions bring transparency at the production level that will improve supply chain responses and efficiencies.

Third, we are pleased that the committee reduced the frequency of auction from quarterly to twice annually. We believe fewer auctions **minimize uncertainty of supply**. While we would prefer a more gradual adjustment to the auction process, we understand the Committee's goal to establish a more market-driven pricing mechanism and, therefore, maximize the taxpayer revenue.

Manufacturers' value chains are a global web of suppliers and customers that must be coordinated to ensure responsive delivery, often within 24 hours. Managing these relationships and meeting the demands of our customers, require careful planning, precision processes and carefully negotiated contracts to ensure maximum certainty and security of supply.

H.R. 527 establishes an auction system, which represents a change from existing practices. Our focus, in this process, has been to ensure that any new process adequately addresses end-users concerns about reliable supply, as the system contemplated may prevent end-users from knowing which refiners have available supply. Under existing practices, end-users have established supply chains and legally binding long-term supply agreements. These are important, because Corning, like most manufacturers, requires refined helium.

### **Conclusion**

For Corning, like most end-users, our top priority is ensuring that Congress expeditiously passes legislation allowing BLM to maintain operations of the helium reserve.

So let me summarize the three key principles driving Corning's focus on helium legislation:

1. Supply, supply, supply. In the constrained helium market, maintaining BLM's operation of the helium reserve is critical.
2. Transition. Business thrives on certainty and part of ensuring adequate supply is having an adequate transition period to shift from the existing system to an auction process. And to have the flexibility in that process to minimize supply disruptions.
3. Transparency. In a constrained market where every molecule of helium is needed, the more information the better. Providing data regarding BLM's operations, maintenance schedules and other factors affecting supply will allow end-users to react sooner and take more effective action to adjust and plan for disruptions.

In conclusion, we commend the Committee for its leadership and decisive action. We look forward to continuing our work with you to maintain the operation of the BLM helium reserve.

Thank you.

Appendix: Estimate of BLM Helium Stockpile Depletion

