

**HOLD UNTIL  
RELEASED BY THE  
HOUSE COMMITTEE  
ON ARMED SERVICES**

**STATEMENT BY**

**MR. RICHARD A. LOWDEN**

**SENIOR MATERIALS ANALYST**

**OFFICE OF THE DEPUTY UNDER SECRETARY OF DEFENSE**

**FOR INDUSTRIAL POLICY**

**BEFORE THE**

**SUBCOMMITTEE ON READINESS**

**HOUSE ARMED SERVICES COMMITTEE**

**DEPARTMENT OF DEFENSE**

**INDUSTRIAL POLICY**

**RECONFIGURATION OF THE NATIONAL DEFENSE STOCKPILE**

**JULY 23, 2009**

**HOLD UNTIL  
RELEASED BY THE  
HOUSE COMMITTEE  
ON ARMED SERVICES**

Good morning, Chairman Ortiz, Ranking Member Forbes and distinguished Members of the Subcommittee. I am Rick Lowden, a Senior Materials Analyst from the Office of the Deputy Under Secretary of Defense for Industrial Policy. Prior to arriving at my current position, I served as a materials engineer at the Oak Ridge National Laboratory. I appreciate the opportunity to appear today to describe Industrial Policy's role in the reconfiguration of the National Defense Stockpile and in the development of an overarching plan for managing strategic materials for the Department of Defense.

Industrial Policy's mission is to make certain the industrial base on which the Department of Defense depends is reliable, cost-effective, and sufficient. More specifically, Industrial Policy is responsible for ensuring DoD policies, procedures, and actions both stimulate and support vigorous competition and innovation in the defense industrial base and that these policies help establish and sustain cost-effective industrial and technological capabilities that assure military readiness and superiority. Industrial policy does so by monitoring the health and competitiveness of industry; by leveraging DoD decisions to promote innovation and competition; and by utilizing statutory processes.

Currently, strategic and critical materials are the subject of intense discussion within and outside the Department. Since 2003 and until the recent economic downturn, metal prices had risen sharply. The prices of both titanium and molybdenum, metals required for many important defense systems, increased from around \$5 per pound to a high of over \$30 per pound. The price of rhenium, a metal needed for high-temperature alloys used in jet engines, had at one point increased by over 1000%. In addition, the

availability of certain materials, such as the rare earths used in high-strength permanent magnets, has been the subject of many recent inquiries.

I believe it is important to discuss the definition of “strategic material.” The concept of materials being of significant importance to national security is not new. The scarcity of manganese, potash (potassium salts), tin, tungsten, and other minerals during World War I prompted the War Industries Board to ask the Assistant Secretary of War to prepare a list of strategic materials described as the “*raw materials essential to the prosecution of war, which cannot be procured in sufficient quantities from domestic sources and for which no domestic substitution has been found.*” In Stockpile legislation, strategic materials are defined as “*materials that (A) would be needed to supply the military, industrial, and essential civilian needs of the United States during a national emergency and (B) are not found or produced in the United States in sufficient quantities to meet such need.*” There are additional definitions for strategic material; however, all share two common elements: criticality of application - the material is needed, and vulnerability of supply – the material may not be available.

It would appear that the definition of strategic material is clear, and the implications obvious; however, many factors can complicate interpretation of this terminology. Recently, certain metals were given special consideration in Section 2533b of Title 10 of the United States Code, enacted under Section 842 of the John Warner National Defense Authorization Act for Fiscal Year 2007. This amendment provides a list of specialty metals that are “strategic materials critical to national security” which appears to have caused some confusion regarding the definition of “strategic material.” The specialty metals presented in the provision are clearly “strategic materials”; however,

the list of strategic materials is not limited to these metals. There are many additional metals and non-metallic materials that could also be considered strategic.

The John Warner National Defense Authorization Act for Fiscal Year 2007 also directed the Secretary of Defense to establish a Strategic Materials Protection Board to analyze the needs and risks associated with materials designated as “critical to national security” and to recommend strategies to ensure the availability of these materials. The Board is to be composed of representatives from the Office of the Secretary of Defense; the Under Secretary of Defense for Acquisition, Technology, and Logistics; the Under Secretary of Defense for Intelligence; and the Secretaries of the Army, Navy, and Air Force. The Secretary of Defense delegated responsibility to the Under Secretary of Defense for Acquisition, Technology, and Logistics to chair the Board who then delegated to the Deputy Under Secretary of Defense for Industrial Policy responsibility to act as the Board’s Executive Secretary. The delegation of this responsibility explains Industrial Policy’s connection to reconfiguration of the Stockpile and involvement in other matters concerning strategic and critical materials.

The statute that established the Board does not define “materials critical to national security,” therefore, in order to distinguish between terms, the Board developed definitions to be used for its purposes. The Board determined that for a material to be designated as strategic that material should meet certain technical criteria. First, the material should be essential for important defense systems and secondly, it must be unique in the function it performs - in other words, there are no viable alternatives. This definition is consistent with respect to earlier definitions in that it includes the aspect of criticality of application, but unlike earlier variants, it does not include a vulnerability of

supply factor. The Board's definition of strategic material is thus less restrictive and expands the list of materials that would be considered strategic. It must be noted that additional criteria such as vulnerability of supply would have to be considered in order to elevate a strategic material to a higher level of concern.

To ensure consistency for the various Department activities and complete Congressional reporting requirements related to strategic materials and the Stockpile, the Strategic Materials Protection Board's Executive Secretary established the Strategic and Critical Materials Working Group. The Working Group was chaired by the Deputy Under Secretary of Defense for Industrial Policy and conducted the requested analyses and prepared the report that was submitted to Congress in April. The Working Group was dissolved upon completion of the report.

The Working Group developed a new process by which the strategic and critical materials required for national defense can be identified, supply chain risks assessed, and mitigation strategies selected and applied. The Working Group employed a lengthy, deliberative process to collect material information from a wide variety of sources to construct an initial list of strategic materials (using the Board's technical definition). The initial list included a total of 128 different materials, which was a more comprehensive list than had been assembled previously. Security of supply criteria were then applied to this list to assess risks and vulnerabilities associated with the supply of these materials and determine which materials were of concern and would require application of risk mitigation strategies.

The Strategic Materials Protection Board played an important role in the development of the new process and will continue to participate in the implementation of

a strategic materials management system. The Board will support a new process by requiring that respective Military Services participate in the maintenance of the list of material needs and identification of possible risks and vulnerabilities associated with these materials. It will continue to review and validate material requirements, with the process linked to the Quadrennial Defense Review cycle.

Any new system for managing strategic materials must be dynamic and proactive. As the Department's requirements change, the list of materials essential to the strategic defense interests of the U.S. will also change, and thus the methods by which supply chain risks are monitored, measured, and mitigated must also change. In addition to traditional stockpiling, new and unique acquisition strategies such as buffer stocks, vendor-managed inventory, and strategic purchases, will be needed to ensure a reliable, cost-effective, and sufficient supply of materials. We must look beyond traditional stockpiling methods, and select and apply the most effective and efficient methods to manage the materials essential to national defense. This is our challenge and we look forward to working with Congress and this Subcommittee on this endeavor. I thank you for the opportunity to testify before the Subcommittee. I sincerely appreciate your time and your interest in this important matter. I would be happy to address any questions you may have for me.