

Committee to consult with industry representatives that produce, process, or consume the materials contained in the stockpile.

In Attachment 1, the Defense National Stockpile Center (DNSC) lists the proposed quantities that are enumerated in the stockpile inventory for the FY 2011 Annual Materials Plan. The Committee is seeking public comments on the potential market impact of the sale of these materials. Public comments are an important element of the Committee's market impact review process.

The quantities listed in Attachment 1 are not disposal or sales target quantities, but rather a statement of the proposed maximum disposal quantity of each listed material that may be sold in a particular fiscal year by the DNSC. The quantity of each material that will actually be offered for sale will depend on the market for the material at the time of the offering as well as on the quantity of each material approved for disposal by Congress.

#### Submission of Comments

The Committee requests that interested parties provide written comments, supporting data and documentation, and any other relevant information on the potential market impact of the sale of these commodities. All comments must be submitted to the address indicated in this notice. All comments submitted through e-mail must include the phrase "Market Impact Committee Notice of Inquiry" in the subject line.

The Committee encourages interested persons who wish to comment to do so at the earliest possible time. The period for submission of comments will close on October 5, 2009. The Committee will consider all comments received before the close of the comment period. Comments received after the end of the comment period will be considered, if possible, but their consideration cannot be assured.

All comments submitted in response to this notice will be made a matter of public record and will be available for public inspection and copying. Anyone

submitting business confidential information should clearly identify the business confidential portion of the submission and also provide a non-confidential submission that can be placed in the public record. The Committee will seek to protect such information to the extent permitted by law.

The Office of Administration, Bureau of Industry and Security, U.S. Department of Commerce, displays public comments on the BIS Freedom of Information Act (FOIA) Web site at <http://www.bis.doc.gov/foia>. This office does not maintain a separate public inspection facility. If you have technical difficulties accessing this Web site, please call BIS's Office of Administration at (202) 482-1900 for assistance.

Dated: August 28, 2009.

**Matthew S. Borman,**

*Acting Assistant Secretary for Export Administration.*

**Attachment 1**

#### PROPOSED FY 2011 ANNUAL MATERIALS PLAN

| Material                             | Unit        | Quantity  | Footnote         |
|--------------------------------------|-------------|-----------|------------------|
| Beryl Ore .....                      | ST .....    | 1         | ( <sup>1</sup> ) |
| Beryllium Metal .....                | ST .....    | 60        |                  |
| Chromite, Refractory .....           | SDT .....   | 2,000     |                  |
| Chromium, Ferro .....                | ST .....    | 100,000   |                  |
| Chromium, Metal .....                | ST .....    | 500       |                  |
| Cobalt .....                         | LB Co ..... | 1,000,000 | ( <sup>1</sup> ) |
| Columbium Metal Ingots .....         | LB Cb ..... | 22,000    | ( <sup>1</sup> ) |
| Germanium .....                      | Kg .....    | 8,000     |                  |
| Manganese, Chemical Grade .....      | SDT .....   | 5,000     | ( <sup>1</sup> ) |
| Manganese, Ferro .....               | ST .....    | 100,000   |                  |
| Manganese, Metallurgical Grade ..... | SDT .....   | 100,000   | ( <sup>1</sup> ) |
| Platinum .....                       | Tr Oz ..... | 9,000     | ( <sup>1</sup> ) |
| Platinum—Iridium .....               | Tr Oz ..... | 1,000     | ( <sup>1</sup> ) |
| Talc .....                           | ST .....    | 1,000     | ( <sup>1</sup> ) |
| Tantalum Carbide Powder .....        | LB Ta ..... | 4,000     | ( <sup>1</sup> ) |
| Tin .....                            | MT .....    | 4,000     | ( <sup>1</sup> ) |
| Tungsten Metal Powder .....          | LB W .....  | 300,000   | ( <sup>1</sup> ) |
| Tungsten Ores & Concentrates .....   | LB W .....  | 8,000,000 |                  |
| Zinc .....                           | ST .....    | 8,500     | ( <sup>1</sup> ) |

<sup>1</sup> Actual quantity will be limited to remaining inventory.

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#### DEPARTMENT OF COMMERCE

##### National Institute of Standards and Technology

##### Technology Innovation Program (TIP) Seeks White Papers

**AGENCY:** National Institute of Standards and Technology (NIST), Department of Commerce.

**ACTION:** Notice.

**SUMMARY:** The National Institute of Standards and Technology's (NIST) Technology Innovation Program (TIP) announces that it is seeking white papers from any interested party, including academia; federal, state, and local governments; industry; national laboratories; and professional organizations/societies. White papers will be used to identify and select areas of critical national need and the associated technical challenges to be addressed in future TIP competitions.

**DATES:** The suggested dates for submission of white papers are November 9, 2009, February 15, 2010, May 10, 2010, and July 12, 2010. However, TIP will accept white papers at any time during the period November 9, 2009 through September 30, 2010.

**ADDRESSES:** White papers must be submitted to TIP as follows:

*Electronic (e-mail) submission:*  
[tipwhitepaper@nist.gov](mailto:tipwhitepaper@nist.gov).

**FOR FURTHER INFORMATION CONTACT:** Thomas Wiggins at 301-975-5416 or by e-mail at [thomas.wiggins@nist.gov](mailto:thomas.wiggins@nist.gov).

**SUPPLEMENTARY INFORMATION:**

**Background Information:** The Technology Innovation Program (TIP) at the National Institute of Standards and Technology (NIST) was established for the purpose of assisting U.S. businesses and institutions of higher education or other organizations, such as national laboratories and nonprofit research institutions, to support, promote, and accelerate innovation in the United States through high-risk, high-reward research in areas of Critical National Need. The TIP statutory authority is Section 3012 of the America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science (COMPETES) Act, Public Law 110-69 (August 9, 2007), 15 U.S.C.A. § 278n (2008). The TIP implementing regulations are published at 15 CFR Part 296 (73 FR 35,913 (June 25, 2008)).

TIP holds competitions for funding based on addressing areas of critical national need. TIP identifies and selects topics for areas of critical national need based on input from within NIST, the TIP Advisory Board, the science and technology communities, and from the public. TIP is interested in receiving input on the identification and definition of problems that are sufficiently large in magnitude that they have the potential to inhibit the growth and well-being of our nation today. This announcement explains the requirements and process for submitting white papers to TIP by interested parties. White papers from experts in other federal agencies are valued and welcome, and will enable TIP to complement the efforts of other mission agencies and avoid duplication of their efforts, thereby leveraging resources to benefit the nation.

The key concepts, enumerated below, are the foundation of TIP and should form the basis of an effective white paper:

a. An *area of critical national need* means an area that justifies government attention because the magnitude of the problem is large and the associated societal challenges that need to be overcome are not being addressed, but could be addressed through high-risk, high-reward research.

b. A *societal challenge* is a problem or issue confronted by society that when not addressed could negatively affect the overall function and quality of life of the Nation, and as such, justifies government action. A societal challenge is associated with barriers preventing the successful development of solutions to the area of critical national need. TIP's mission is to tackle the technical issues that can be addressed through high-risk, high-reward research. The

results of the high-risk, high-reward research should have the potential for transformational results.

c. A *transformational result* is a potential project outcome that enables disruptive changes over and above current methods and strategies. Transformational results have the potential to radically improve our understanding of systems and technologies, challenging the status quo of research approaches and applications.

The white papers are expected to contain: A description of an area of critical national need and the associated societal challenge(s) (what is the problem, why is it a problem, and why is it challenging); why government support is needed, and what could happen if that support is not provided in the proposed time frame; and a high level discussion of potential scientific advancements and/or technologies that are needed to address the societal challenges; and an indication of the types of entities or groups who might be interested in developing proposal submissions to fund these scientific and/or technology approaches. Do not include ideas for specific proposals in the white paper (*i.e.*, your specific solution to the problem).

This solicitation for white papers is neither a Request for Proposals (RFP) nor should it be viewed as a request for pre-proposals. Rather, it is a way to include ideas from the public to identify problems that justify government support and can be addressed by technological innovations that are not currently being sufficiently supported to meet the challenge.

White papers must not contain proprietary information. Submission of a white paper means that the author(s) agrees that all the information in the white paper can be made available to the public.

Information contained in these white papers will be considered and combined with information from other resources—including the vision of the Administration, NIST, other government agencies, technical communities, the TIP Advisory Board, and other stakeholders—to develop the scope of future competitions and to shape TIP's collaborative outreach. White papers are a valuable resource that adds to TIP's understanding of the significance and scope of critical national needs and associated societal challenges. The white papers submitted could be shared with the Administration, NIST, other government agencies, technical communities, the TIP Advisory Board, other stakeholders and the public as

part of the selection process for future competitions.

For detailed instructions on how to prepare and submit white papers, refer to "*A Guide for Preparing and Submitting White Papers on Areas of Critical National Need*." The Guide is available on the TIP Web site at [http://www.nist.gov/tip/guide\\_for\\_white\\_papers.pdf](http://www.nist.gov/tip/guide_for_white_papers.pdf).

In this call for white papers, TIP is seeking information in all areas of critical national need, but also seeks information to assist TIP in further defining several topic areas under development. White papers that address any of the following areas may further develop the definition and scope of the critical national need suggested by these topic areas, and should additionally identify and explain specific societal challenges within these critical national need areas that require a technical solution. White papers may discuss any critical national need area of interest to the submitter, or may address any of the following topic areas:

**Civil Infrastructure:** Civil infrastructure constitutes the basic fabric of the world in which we live and work. It is the combination of fundamental systems that support a community, region, or country. The civil infrastructure includes systems for transportation (airport facilities, roads, bridges, rail, waterway locks); and systems for water distribution and flood control (water distribution systems, storm and waste water collection, dams, and levees). New construction approaches and materials to improve the infrastructure and for mitigating the expense of repairing or replacing existing infrastructure appear to be areas with the potential for specific societal challenges within this area of critical national need.

**Examples could include challenges such as:** Advanced materials for repair and rehabilitation of existing infrastructure, advanced inspection and monitoring technologies that assist public safety officials in determining the condition of structures, or areas of sustainability of infrastructure construction.

**Complex networks and complex systems:** Society is increasingly dependent on complex networks like those used for energy delivery, telecommunication, transportation, and finance over which we have imperfect control. No single organization and no collection of organizations have the ability to effectively control these multi-scale, distributed, highly interactive networks. Complex network theory will also be important in modeling neural systems, molecular physiological

response to disease, and environmental systems. The current technical and mathematical methodologies that underpin our ability to simulate and model physical systems are unable to predict and control the behavior of complex systems. Stability and control of these networks can have far reaching consequences to our quality of life.

*Examples could include challenges such as:* Theoretical advances and/or proof-of-concept applications; or capabilities that can potentially address and advance the use of complex network analyses in the following areas—sustainable manufacturing models, resource management and environmental impacts (energy, water, agriculture), intelligent transportation systems, biological systems, communications networks, security systems, personalized healthcare, and others.

*Energy:* From agriculture to manufacturing, all endeavors require energy as input. Escalating energy demands throughout the world can lead to national security challenges, financially challenge national economies, and contribute to environmental alterations. Although heavily supported projects exist in energy research, there remain technical roadblocks that affect full deployment of new and emerging energy technologies.

*Examples could include challenges such as:* Technologies for improved manufacturing of critical components for alternative energy production; replacement of fossil-fuel derived fuels with non-food, renewably produced fuels; or improved technologies for stable connections of many power sources to the electrical grid.

*Ensuring Future Water Supply:* The Nation's population and economic growth places greater demands on freshwater resources. At the same time, temporary or permanent drought conditions and water access rights affect regional freshwater availability. Water needs threaten to outstrip available freshwater, now and in the future. Water quality, both in terms of decontamination and disinfection of water supplies, is also being pressured by emerging contaminants that must either be removed from distributed water or converted to harmless forms of waste. Food contaminations are often traced back to water contaminations, either in the field or in processing. Municipal waste streams and irrigation runoff may waste resources that are not captured and/or recovered.

*Examples could include challenges such as:* Means to provide future fresh water supplies without undue consumption of energy resources; means

that determine and assure the safety of water and food from waterborne contamination; or means to economically recover resources from wastewater streams and lower the energy cost of producing freshwater and potable water from marginalized water resources.

*Healthcare:* Healthcare spending per capita in the United States is high and rising, and currently approved drugs work only in a fraction of the population. Doctors are unable to select optimal drug treatments and dosages based on the patient's unique genetics, physiology, and metabolic processes, resulting in a trial and error component to treatment. As a consequence, significant expenditures result in drugs that are ineffective on subsets of patients, and a clearer understanding of which patients may suffer side effects from prescribed medicine is lacking. The key to patient response lies in greater understanding of both genetic variability and environmental influences on disease mechanisms.

*Examples could include challenges such as:* Cost effective advanced tools and techniques for genomics and proteomics research that provide greater understanding of complex biological systems, biomarker identification, and targeted drug and vaccine delivery systems; improved and low cost diagnostic and therapeutic systems; or better methods of integration and analysis of biological data, especially when combined with environmental and patient history data.

*Manufacturing:* Manufacturing is a vital part of our nation's economy, which now is facing increasing global competitiveness challenges, regulations and controls over environmental and resource issues, and other economic pressures. Technical advances have at times been able to address productivity and other issues, but the recent pressures on the manufacturing community have hindered their ability to focus the necessary resources on longer term solutions that could lead to economic growth in this sector which the nation needs.

*Examples could include challenges such as:* Manufacturing systems that have shorter innovation cycles, more flexibility, and are rapidly reconfigurable; accelerating commodization of next generation, high-performance materials, such as nanomaterials, composites, and alloys to specification, in a consistent, efficient and effective manner; or life cycle assessment tools, an aid toward sustainable manufacturing; and better automation solutions.

*Nanomaterials/nanotechnology:* The unique properties of nanomaterials provide extraordinary promise. There is a need for greater understanding and solutions to overcome the barriers associated with manufacturing nanomaterials and their incorporation into products, while maintaining the unique functionality of the nanomaterial. Although many processes are achievable in the laboratory, the scale-up to industrial production without compromising the quality of the produced material can be highly problematic.

*Examples could include challenges such as:* Methods required for manufacturing nanomaterials with pre-specified functionality and morphology; methods for inspection and real-time monitoring the processing of nanomaterials; or methods for incorporation of nanomaterial into products without compromising the material's required properties.

*Sustainability:* "Sustainability," as defined by a widely used definition is "meeting the needs of the present generation without compromising the ability of future generations to meet their needs." Clearly, sustainability is an attractive and desirable concept for the nation. TIP is interested in technologies that reduce or eliminate the environmental "footprint" of industrial processes and public waste streams. Sustainability is a complex and highly-interdisciplinary endeavor with economic, environmental, and societal dimensions. In this context, the white papers should address elements such as cost effectiveness, energy efficiency, recyclability, safety, resource use, life-cycle analysis, and ecosystem health.

*Examples could include challenges such as:* Technologies to develop feedstocks from renewable sources; technologies to recover resources (minerals, materials, energy, water) from industry and other/public waste streams; low-cost, low-energy separation technologies; and replacement of hazardous/toxic materials with safer, more cost effective materials and/or process technology.

Dated: September 1, 2009.

**Patrick Gallagher,**  
Deputy Director.

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