



October 2014

# SPECIALTY METALS

## DOD Dissemination of National Security Waiver Information Could Enhance Awareness and Compliance with Restrictions

## Why GAO Did This Study

Specialty metals—such as titanium, certain steel alloys, and samarium-cobalt alloy magnets—are essential to DOD weapon systems due to their unique properties, such as being highly durable. Federal statute requires specialty metals used in weapon systems to be procured from domestic sources or qualifying countries. However, the law allows DOD to waive this requirement in the interest of national security. GAO was mandated by a House report accompanying a bill for the National Defense Authorization Act (NDAA) for Fiscal Year 2014 to review DOD's compliance with specialty metals requirements.

This report assesses (1) how DOD meets its needs for specialty metals parts and ensures compliance with restrictions, and (2) DOD's process for providing national security waivers for specialty metal procurements and the extent to which it disseminates waiver information throughout the department. GAO reviewed contracts, laws, regulations and DOD guidance, and analyzed a non-generalizable sample of five weapon systems as case studies based on their total 2013 acquisition costs, among other things. GAO also reviewed national security waivers DOD granted since 2009 and interviewed DOD and contractor officials.

## What GAO Recommends

GAO recommends that DOD disseminate non-sensitive information within the department and its supplier-base on the waivers it has granted for specialty metals. DOD concurred with the recommendation and plans to publish non-sensitive information.

View [GAO-15-133](#). For more information, contact Marie A. Mak at (202) 512-4841 or [makm@gao.gov](mailto:makm@gao.gov).

## SPECIALTY METALS

### DOD Dissemination of National Security Waiver Information Could Enhance Awareness and Compliance with Restrictions

## What GAO Found

The Department of Defense (DOD) typically relies on its prime contractors to plan for the procurement of specialty metals and ensure compliance with specialty metals' restrictions for the five weapon systems programs that GAO reviewed. For these programs, GAO found that DOD plays a limited role—primarily monitoring the availability of specialty metals and conducting periodic reviews of prime contractor quality assurance processes. GAO also reviewed contracts for these five programs and found they contained clauses that require prime contractors to procure specialty metals in compliance with domestic source restrictions, ensure that delivered items meet contract requirements as part of quality assurance, and maintain processes for future material needs. In turn, these prime contractors told GAO that they pass down the contract requirements—including those pertaining to specialty metals—to their subcontractors and defense suppliers, and require them to follow industry standards for quality management. These standards include, among other things, testing subcontractor processes to determine if they meet contractual specifications; reviewing required supplier certifications for items delivered under the contract to confirm compliance with all identified requirements; and rating subcontractors using performance metrics. Prime contractors for these programs also told GAO they use a risk-based approach to oversee subcontractors, including those suppliers at lower tiers.

DOD recently improved its national security waiver process; but its dissemination of information contained in those waivers is limited. Since 2009—when specialty metals restrictions were changed and the exception for national security was added—DOD has granted six national security waivers to five different weapon system programs known to have procured noncompliant specialty metals. Five of the six waivers were for samarium-cobalt magnets, which were noncompliant largely due to a change in a previously allowed exception for these magnets. During its review, GAO identified weaknesses in DOD's waiver process such as not having defined procedures for requesting waivers; and in June 2014, DOD developed written guidance for program offices to follow when requesting these waivers. However, GAO also found that DOD does not have a mechanism to share information on national security waivers granted for noncompliant specialty metals. *Standards for Internal Control in the Federal Government* call for information to be recorded and communicated to management and others, including external parties who need it, such as program offices and suppliers, to help the agency achieve its goals. Disseminating non-sensitive information—including the names of programs that received waivers, sources of the noncompliant specialty metals, and corrective actions—to key stakeholders, such as DOD weapon system program offices and their defense suppliers, could help raise awareness of and compliance with the specialty metals restrictions. Moreover, greater awareness of supplier-base problems and broader dissemination of national security waiver information could assist DOD in better discovering potential vulnerabilities, such as systemic supply chain risks that could impact national security objectives.

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# Contents

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Letter		1
	Background	4
	DOD Primarily Relies on Contractors to Determine Needs for Specialty Metals and Verify Compliance with Restrictions	7
	DOD Has Defined Procedures for Requesting Specialty Metals Waivers, but Dissemination of Its Waiver Information is Limited	13
	Conclusions	21
	Recommendation for Executive Action	22
	Agency Comments and Our Evaluation	22
<hr/>		
Appendix I	Objectives, Scope, and Methodology	25
<hr/>		
Appendix II	Exceptions to the Specialty Metals Restriction Requirements and Qualifying Country Exception	28
<hr/>		
Appendix III	Comments from the Department of Defense	30
<hr/>		
Appendix IV	GAO Contact and Staff Acknowledgments	32
<hr/>		
Tables		
	Table 1: Federal Regulations and DOD Guidance for Planning, Compliance, and Domestic Source Restrictions for Procuring Specialty Metals for Major Weapon Systems	5
	Table 2: Specialty Metals Availability Issues and Planning Activities Reported by Selected Prime Contractors	9
	Table 3: National Security Waivers Granted by DOD for Specialty Metals Noncompliance Since 2009	14
	Table 4: Status of Corrective Action Plans and DOD's Investigations and Determinations for Programs that Received National Security Waivers	19
	Table 5: Qualifying Countries	29

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## Abbreviations

DCMA	Defense Contract Management Agency
DFARS	Department of Defense Federal Acquisition Regulation Supplement
DOD	Department of Defense
FAR	Federal Acquisition Regulation
G/ATOR	Ground/Air Task Oriented Radar
USD AT&L	Under Secretary of Defense for Acquisition, Technology and Logistics

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October 16, 2014

### Congressional Committees

Specialty metals are essential to the manufacture and performance capabilities of certain Department of Defense (DOD) weapon system parts, due to their unique properties, such as being highly magnetic, lightweight, corrosion resistant, or having high durability. Among these metals are samarium-cobalt alloy magnets used to make radar systems, as well as titanium and certain steel alloys used to make aircraft, submarines, and tactical ground vehicles. There are few, if any, substitutes for some of these metals. Specialty metals domestic source restrictions have been established to ensure that the United States has a vigorous domestic metals supply chain capable of meeting defense needs.<sup>1</sup> These restrictions require that such metals for DOD weapon systems and certain items or components be procured from domestic sources or certain qualifying countries unless an exception applies. Exceptions include those for domestic nonavailability, and in situations where acceptance of an end item is necessary to national security. For example, if a weapon program is using noncompliant specialty metals, the Secretary of Defense may issue a waiver for that program, if the Secretary determines that the acceptance of end items made with noncompliant metals are in the interest of national security.

Recent instances of DOD's noncompliance with specialty metals restrictions and the number of requests for national security waivers have raised questions about DOD's oversight of its weapon systems contractors. GAO was mandated by a committee report accompanying a bill for the National Defense Authorization Act (NDAA) for Fiscal Year 2014 to review DOD's compliance with specialty metals' requirements and its use of waivers for national security interests (national security waivers).<sup>2</sup> In this report, we assessed: (1) how DOD meets its needs for

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<sup>1</sup>The specialty metals restrictions, 10 U.S.C. § 2533b, contain numerous possible exceptions to the domestic source restrictions, such as exceptions for national security and commercial derivative military items. This report primarily focuses on the exception for national security interests. Throughout this report, we refer to this exception as the national security waiver.

<sup>2</sup>House of Representatives Report 113-102, accompanying H.R. 1960, 113th Cong. (1st Sess. (2013)). H.R. 3304 was enacted as the NDAA for Fiscal Year 2014, Pub. L. No. 113-66 (2013).

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specialty metals parts and ensures compliance with the specialty metals restrictions, and (2) DOD's process for providing national security waivers for specialty metal procurements and the extent to which it disseminates waiver information throughout the department.

To do our work, we examined laws and regulations regarding domestic source restrictions, including the Defense Federal Acquisition Regulation Supplement (DFARS), as well as reviewed DOD guidance relating to planning for and compliance with specialty metals and related requirements of the Federal Acquisition Regulation (FAR). We also selected a non-generalizable sample of five weapon systems as case studies on the basis of their total acquisition cost, and phase in the acquisition process as of November 2013; as well as to include representation of at least one program from each of the military services: the Joint Strike Fighter, KC-46 Tanker, DDG-51 *Arleigh Burke* Class Destroyer, *Virginia* Class Submarine, and Family of Medium Tactical Vehicles.<sup>3</sup> We reviewed contracts for these programs to see if they included the specialty metals restrictions and documentation provided by contractor and DOD quality assurance staff on specialty metals planning efforts and parts management planning to understand how contractors ensure parts availability and mitigate risk. We identified the extent to which DOD depends on contractors to perform these activities. Our findings from these five programs cannot be generalized to all programs, but they provide useful insights into how DOD officials and contractors work to address requirements associated with specialty metal restrictions. We also interviewed officials from DOD, including the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics (USD AT&L), the Defense Contract Management Agency (DCMA), and selected weapon system programs, as well as their prime contractors, two selected subcontractors, and specialty metals company representatives. We ascertained their roles in determining the needs for specialty metals parts and monitoring compliance with specialty metals restrictions and related requirements of the FAR and the DFARS. We also reviewed DOD's process for providing waivers for national security interests for

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<sup>3</sup>The programs represent the following four acquisition lifecycle phases: (1) between development start and production start (e.g., the U.S. Air Force's KC-46 Tanker); (2) between production start and initial capability (e.g. DOD's Joint Strike Fighter); (3) in production and passed initial capability (e.g., the U.S. Navy's DDG-51 Destroyer and *Virginia* Class Submarine); and (4) nearing the end of production (e.g., the U.S. Army's Family of Medium Tactical Vehicles).

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weapon programs that procured noncompliant specialty metals, and assessed the extent to which DOD disseminates information on national security waivers it has granted against criteria in *Standards for Internal Control in the Federal Government*.<sup>4</sup> We identified and reviewed the national security waivers for specialty metal procurements granted by DOD since 2009, when specialty metals restrictions were changed and the exception for national security was added.<sup>5</sup> For instances where noncompliance was reported and a national security waiver was requested, we reviewed corresponding DOD determinations of whether the contractor's or subcontractor's noncompliance was knowing or willful. We also reviewed legislative history for DOD's authority to grant waivers. We interviewed officials representing USD AT&L to identify other relevant background, rationale, or circumstances not stated in the waiver documentation. We did not assess whether other exceptions were available under the facts and circumstances present for these waivers. Appendix I provides a more detailed description of our scope and methodology.

We performed our review from December 2013 to October 2014 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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<sup>4</sup>GAO: *Standards for Internal Control in the Federal Government*, [GAO/AIMD-00-21.3.1](#), Washington, D.C.; Nov. 1999.

<sup>5</sup>In January 2008, the National Defense Authorization Act for Fiscal Year 2008 amended 10 U.S.C. § 2533b to eliminate the use of an exception that allowed procurement of electronic components containing de minimis specialty metals from non-domestic sources, which was interpreted to permit procurement of electronic components containing high performance magnets with specialty metals from non-domestic sources. It also added the exception for national security waivers. Pub. L. No. 110-181 § 804. DOD revised the Defense Federal Acquisition Regulation Supplement in 2009 to reflect these changes. 74 Fed. Reg. 37,626 (July 29, 2009).

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## Background

In 1941, Congress enacted the Berry Amendment, which required that certain items procured for defense purposes be grown or produced in the United States.<sup>6</sup> Specialty metals were added to the Berry Amendment in the early 1970s. The term “specialty metals” is defined to mean any of the following:

- Steel with a maximum alloy content exceeding one or more of the following limits: manganese, 1.65 percent; silicon, 0.60 percent; or copper, 0.60 percent; or containing more than 0.25 percent of any of the following elements: aluminum, chromium, cobalt, columbium, molybdenum, nickel, titanium, tungsten, or vanadium.
- Metal alloys consisting of nickel, iron-nickel, and cobalt base alloys containing a total of other alloying metals (except iron) in excess of 10 percent.
- Titanium and titanium alloys.
- Zirconium and zirconium base alloys.

Specialty metals and their potential applications in DOD weapon systems include: steel alloys such as those used for ship hulls; metal alloys consisting of nickel and iron-nickel; certain cobalt base alloys such as samarium-cobalt alloy magnets used in radars; titanium and titanium alloy used in aircraft engine parts; and zirconium and zirconium base alloys used in gas turbine engines. In 2006, Congress passed the Fiscal Year 2007 NDAA which established specialty metals restrictions separate from the Berry Amendment. The provision generally requires DOD and its contractors to procure specialty metals produced or melted in the United

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<sup>6</sup>This domestic source restriction, which became known as the Berry Amendment, initially was enacted as part of the Fifth Supplemental National Defense Appropriation Act, 1941, Pub. L. No. 77-29, 55 Stat. 123, 125 (1941). Subsequently, it was included in various defense appropriation acts and was codified in the National Defense Authorization Act for Fiscal Year 2002 at 10 U.S.C. § 2533a, Pub. L. No. 107-107 § 832 (2001).

States unless an exception applies which then permits the specialty metals to be obtained from foreign countries.<sup>7</sup>

Table 1 shows the federal regulations and DOD guidance that govern the elements of planning, compliance, and domestic source restrictions when procuring specialty metals for major weapon systems.

**Table 1: Federal Regulations and DOD Guidance for Planning, Compliance, and Domestic Source Restrictions for Procuring Specialty Metals for Major Weapon Systems**

Elements	Description of regulation or DOD guidance
Planning	<p>The Defense Federal Acquisition Regulation Supplement (DFARS) provision and clause on Material Management and Accounting Systems (DFARS § 242.7202 and clause 252.242-7004) require contractors to have a material management and accounting system that, among other things, reasonably forecasts material requirements. This would also include specialty metals.</p> <p>DOD has a parts management standard practice (MIL-STD-3018) and guide (SD-19), which call for contractors to consider how parts will be selected as they design systems early in a program’s acquisition process. The guidance also calls for contractors to create parts management plans, which can help ensure that compliant specialty metals are available for future production and sustainment of the weapon system. DOD encourages program offices to use these standards in weapon system contracts.</p>
Compliance (Quality Assurance)	<p>The Federal Acquisition Regulation (FAR) contains policies and procedures to ensure that supplies and services acquired under Government contract conform to quality and quantity requirements. The FAR requires contracts to include inspection and other quality requirements to protect the government’s interest, and specifies that nonconforming supplies or services may be rejected by the government (FAR § 46.102). This would include compliance with the specialty metals domestic source restrictions.</p>
Domestic Source Restrictions	<p>The specialty metals clause (DFARS 252.225-7009) requires that specialty metals procured for DOD articles must be melted or produced in the United States, its outlying areas, or in a qualifying country, unless an exception applies. Exceptions include those for domestic nonavailability and purchases of electronic components. Domestic nonavailability includes the U.S., outlying areas, or a qualifying country. DFARS 252.225-7009(b)(5).</p>

Source: FAR, DFARS, and DOD guidance on parts management. | GAO-15-133

DOD also has other exceptions available under the specialty metals restrictions, but they were beyond the scope of our review. As mandated, our review focused on national security waivers. Appendix II provides a

<sup>7</sup>The specialty metals provision of the Berry Amendment was enacted in the Department of Defense Appropriation Act, 1973, Pub. L. No. 92-570, § 724 (1972). Although the statute did not specifically define “specialty metals,” DOD defined the term consistent with the pertinent report of the House Committee on Appropriations to include four categories of metals. DOD Secretary of Defense Memorandum, “Section 724 of the Department of Defense Appropriation Act, 1973” (Nov. 20, 1972). In 2006, the specialty metals provision was codified at 10 U.S.C. § 2533b. John Warner National Defense Authorization Act for Fiscal Year 2007, Pub. L. No. 109-364, § 842 (2006).

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list of the allowable exceptions to the specialty metals restrictions. Some of these exceptions include:

- **National Security Waivers:** When the use of noncompliant specialty metals in a weapon system is identified after it has been fabricated, the Secretary of Defense may determine in writing that acceptance of such an end item is necessary to the national security interests of the United States. The Secretary is allowed by statute to delegate this authority to the USD AT&L. DOD generally must notify Congress in advance of making these written determinations except in the case of an urgent national security requirement.
- **Domestic Non-Availability:** A domestic non-availability exception may apply if USD AT&L or the Secretary of the military service determines that compliant specialty metal of satisfactory quality, sufficient quantity, and in the required form, cannot be procured when needed at a fair and reasonable price.
- **Qualifying Countries:** This exception waives the requirement for procuring specialty metals produced in the United States if the acquisition relates to certain agreements with foreign governments, known as “qualifying countries.” Under the qualifying country exception, manufacturers in these countries have greater flexibility when procuring specialty metals for DOD procurements than U.S. manufacturers. Specifically, they can procure specialty metals from any source—including non-qualifying countries—while a component manufacturer in the United States must procure specialty metals from a source in the United States or a qualifying country.

To implement the specialty metals restrictions, DOD established a clause in the DFARS. Generally DOD must include this clause in weapon system solicitations and contracts to require that contractors deliver items incorporating specialty metals in compliance with statute and regulation. Contractors are required to insert this clause, known as flow down, in their subcontracts that include items containing specialty metals, to the extent necessary to ensure compliance. In fiscal year 2009, changes were made to the specialty metals restrictions statute by the Fiscal Year 2008 NDAA, which eliminated an exception used to procure electronic components containing high performance magnets, with noncompliant metals from non-domestic sources. It also established a national security waiver exception—permitting the Secretary of Defense to accept delivery of an end item containing non-domestic specialty metals when the Secretary certifies that it is in the interests of national security.

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## DOD Primarily Relies on Contractors to Determine Needs for Specialty Metals and Verify Compliance with Restrictions

The Department of Defense (DOD) monitors the availability of specialty metals and conducts periodic quality assurance reviews; but played a limited role in planning for the procurement of specialty metals and ensuring compliance with specialty metals' restrictions for the five programs we reviewed. Officials representing the weapon system programs that we reviewed typically rely on their prime contractors to plan for the procurement of specialty metals and to ensure compliance with these restrictions. We reviewed selected prime contracts for these programs and found they contained clauses requiring prime contractors to procure specialty metals in compliance with domestic source restrictions, ensure that delivered items meet contract technical requirements as part of quality assurance, and maintain processes for meeting future material needs. In turn, these prime contractors told us that they flow down the contract requirements—including those pertaining to specialty metals—to their suppliers, and require them to follow industry standards for quality management. Further, prime contractors for these programs told us they use a risk-based approach to oversee subcontractors, including those at lower tiers. DOD quality assurance staff also conduct periodic quality assurance reviews, primarily at the prime contractor level.

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## DOD Relies on Weapon System Contractors and Subcontractors to Plan for Specialty Metal Needs

DOD played a limited role in planning for specialty metals' needs for the five programs we reviewed, and does so primarily through reports and assessments of availability of supply. Specifically, the Defense Logistics Agency conducts periodic assessments of strategic and critical materials for DOD, which help inform the department's decisions to undertake risk mitigations such as stockpiling materials subject to potential shortfalls.<sup>8</sup> In addition, the U.S. Geological Survey provides information to DOD on a variety of mineral commodities, which DOD uses in its analysis of materials availability; it also produces publicly available data on production and trends for some specialty metals and alloys used in specialty metals, including titanium. Specifically, the U.S. Geological Survey reported the price of titanium ingot increased by 250 percent between 2003 and 2006, before dropping to its average price range in the following 4 years.

Due in part to the limits of worldwide production capacity, some specialty metals require a long lead time to produce, and specific grades of

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<sup>8</sup>The Report to Congress on the National Defense Stockpile Requirements for strategic and critical materials is submitted to Congress by the Department of Defense pursuant to the Strategic and Critical Materials Stock Piling Act (50 U.S.C. § 98h-2).

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titanium procured for weapon system production may also require qualification and testing periods. Growing tensions in countries that the United States depends on for these metals, such as Russia, could potentially lead to additional availability risks. For example, a specialty metals industry official told us that samarium cobalt magnets are uniquely developed for DOD weapon systems and must undergo lengthy qualification and testing periods before their use in a weapon system. Further, in DOD's most recent annual assessment of industrial capabilities, it stated that the industrial base upon which DOD relies has steadily become more global and diverse, and DOD does not control the supply chain that supports production.<sup>9</sup>

DOD officials from the five weapon system programs we selected for our review reported that they task their contractors to determine their respective needs for specialty metals and to plan to procure these metals in accordance with the domestic source restrictions. Beyond requiring contractors to have a material management and accounting system that reasonably forecasts material requirements, such as specialty metals, DOD has a parts management standard practice and guide which call for contractors to consider how parts—including those with specialty metals—will be selected as they design systems early in a program's acquisition process.<sup>10</sup> Specifically, five of the six weapon system program prime contracts we selected for review require their prime contractors to have a material management and accounting system to forecast material requirements, which when cited, applies to all materials, including specialty metals.<sup>11</sup> While the current Family of Medium Tactical Vehicles prime contract does not contain a material management and accounting system requirement, the current prime contractor reported that it conducted parts management planning according to DOD's parts

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<sup>9</sup>U.S. Department of Defense, Office of the Deputy Assistant Secretary of Defense for Manufacturing and Industrial Base Policy, Annual Industrial Capabilities Report to Congress (October 2013).

<sup>10</sup>DOD MIL-STD-3018, Standard Practice for Parts Management (Oct. 27, 2011) and SD-19, Parts Management Guide (December 2013).

<sup>11</sup>DOD's policy is for contractors to have a material management and accounting system that conforms to certain standards for contracts exceeding the simplified acquisition threshold which are not for commercial items and are either cost-reimbursement contracts or fixed-price contracts with progress payments. This DOD policy does not apply to small businesses. DFARS §§ 242.7200, 242.7202 and 252.242-7004.

management guidance, and the prime contractor told us that this planning includes specialty metals.

While neither the material management contract requirement for the programs in our review or the Family of Medium Tactical Vehicles program's parts management contract requirement specifically discuss specialty metals, they both require contractors to do advance planning for the materials needed in future production, which would include specialty metals or parts containing them. The six prime contractors for the programs we reviewed reported that they conduct various activities to ensure future specialty metals parts for production will be available, including forecasts of specialty metals needed for future production and initiating advance purchasing agreements with specialty metals producers. Four of the prime contractors indicated they have had no difficulties in obtaining specialty metals needed for production from domestic sources or qualifying countries, but two reported encountering availability issues for some specialty metals, including titanium pipe, stainless steel, and some engine parts metals. Table 2 summarizes the six prime contractors' planning activities for procuring specialty metals and the extent to which they have incurred availability issues.

**Table 2: Specialty Metals Availability Issues and Planning Activities Reported by Selected Prime Contractors**

<b>Program</b>	<b>Availability</b>	<b>Prime contractor planning for specialty metals procurements</b>
<b>Virginia Class Submarine</b>	No availability issues identified by contractor	Prime contractor reports forecasting materials needed for submarines under contract. Prime contractor representatives stated that production forecasts cover the next five to six years. The contractor reports that it has an advance purchasing agreement for steel. The prime contract requires a material management and accounting system. While the contract does not require a parts management plan, the prime contractor told us they use such a plan and that it addresses all parts, including those with specialty metals.
<b>Joint Strike Fighter</b>	No availability issues identified by contractor	Prime contractor reports conducting periodic industry studies to determine the forecasted capacity and market conditions for titanium and reviews aerospace and metals industry trends to forecast future over and under capacity conditions. Industry suppliers provide periodic briefings. Titanium is forecast for the entire program schedule; five year forecasts are provided by aircraft. Stainless steel usage is not forecasted, but a rough basis of estimate is provided to suppliers for planning in the near term. Prime contract requires a material management and accounting system. The contractor has a contractual agreement with DCMA requiring a parts management plan; however this plan is used for managing standard parts, including fasteners and common hardware, and does not address specialty metals requirements. Specialty metals are instead addressed through the efforts listed above and through purchasing documents that cite the domestic source restriction as a requirement.

<b>Program</b>	<b>Availability</b>	<b>Prime contractor planning for specialty metals procurements</b>
<b>KC-46 Tanker</b>	No availability issues identified by contractor	Prime contractor reports creating a five year forecast for specialty metals that covers all prime contractor-produced aircraft currently under proposal or contract with the U.S. government. The forecasts cover prime contractor requirements and a percentage of supplier requirements. This forecast utilizes estimated weights of specialty metals for each U.S. Government aircraft model manufactured by the prime contractor, as well as the equivalent commercial model. Prime contract requires a material management and accounting system. The prime contract does not require a parts management plan and the contractor does not otherwise have such a plan related to specialty metals, but instead uses its raw material procurement process to ensure specialty metals requirements are addressed.
<b>Family of Medium Tactical Vehicles</b>	Availability issues (types of engine parts)	Prime contractor reports reviewing materials for any industry shortages and if one exists, prime contractor reports that it will work with engineering and supply chain staff to mitigate the risk through resourcing or through the use of alternative sources, if applicable. The prime contractor creates forecasts that typically do not exceed two years. Parts management is required by the prime contract, and the prime contractor states this plan is aligned with its purchasing procedures.
<b>DDG-51 Destroyer (the first of two prime contractors)</b>	Availability issues (small diameter titanium pipe and types of stainless steel )	Prime contractor reports having near-term agreements with mills and distributors, based on three year forecasts for some materials that contain specialty metals, such as steel plate, fasteners, stainless pipe and tube, and carbon steel shapes. Prime contract requires a material management and accounting system. The prime contractor reports it is not contractually required to do parts management planning, but does have a parts management plan and implements it by flowing down specialty metals requirements to suppliers in purchase order descriptions and quality assurance requirements.
<b>DDG-51 Destroyer (the second of two prime contractors)</b>	No availability issues identified by contractor	Prime contractor reports forecasting all of its requirements via its material requirements planning system and has long-term agreements for some materials, including alloy steel plate. According to the prime contractor, these agreements typically last five-to-ten years and cover over 95 percent of prime contractor's requirements, but do not include subcontractors' requirements; and subcontractors are responsible for their own specialty metals procurements. Prime contract requires a material management and accounting system. Although not required by the prime contract, the prime contractor reports that it conducts parts management planning, which includes flowing down material requirements to suppliers as part of long-term agreements with established lead-times.

Source: GAO presentation of information provided by DOD prime contractors. | GAO-15-133

Note: We did not assess the quality of contractor or subcontractor planning efforts or their compliance with contractual requirements or the DFARS.

## DOD Relies on Weapon System Contractors and Suppliers to Ensure Compliance with the Specialty Metals Restrictions, but Periodically Reviews Prime Contractor Quality Assurance Processes

DOD officials for the five weapon systems programs we selected for review reported that they contractually require their prime contractors to comply with the specialty metals restrictions. Five of the six prime contractors, in turn, reported that they rely on their subcontractors for compliance by including the specialty metals restrictions in their subcontracts and purchase orders to the extent necessary to ensure compliance of the end products delivered to the government. The other prime contractor, responsible for the development of the KC-46 Tanker, said it directly procures specialty metals for this military aircraft, rather than relying on subcontractors, largely based on the existing design for its commercially available aircraft.

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In addition, we found that the prime contracts for four of the five DOD weapon system programs we selected for review require the prime contractor to adopt and use industry standards for quality management. For the remaining contract, although it is not specifically stated in the contract, the prime contractor indicated to us that they interpret their contract to require them to adopt and use industry standards for quality management. These prime contractors indicated they also require their subcontractors and suppliers to use these industry standards.<sup>12</sup> These standards apply to the procurement of all parts, including specialty metals, and include: (1) evaluating potential subcontractors for inclusion on the contractor's approved suppliers list; (2) reviewing required independent certifications or subcontractor certificates of conformance for items delivered under contract;<sup>13</sup> (3) testing subcontractor parts and processes to determine if they meet contractual specifications; and (4) rating subcontractors on a routine basis using performance metrics such as product quality and on-time deliveries.<sup>14</sup>

Five of the six prime contractors that we spoke with reported that these industry standards for quality management were included in their contracts. For example, the prime contractor for the Family of Medium Tactical Vehicles reported that it performs systematic quality reviews of its subcontractors every 6 months to 2 years. As part of its review, it requires suppliers to provide certificates of conformance for parts procured and reviews material certifications from all first tier suppliers and some second tier suppliers to ensure industry quality standards are met. On the other hand, the prime contractor for the KC-46 Tanker reported that it directly handles procurement of specialty metals, rather than relying on subcontractors to ensure compliance, although it also requires its suppliers to adhere to industry quality standards. In addition, each of the six prime contractors in our review reported that they use a risk-based approach—based on factors such as product complexity and the

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<sup>12</sup>Industry quality management standards used by DOD weapon systems programs include the International Organization for Standardization's ISO 9001 standards and the Society of Automotive Engineers' AS9100 standard.

<sup>13</sup>A certificate of conformance is a certification, provided by a supplier confirming compliance with all identified requirements. FAR clause 52.246-15.

<sup>14</sup>GAO, *Defense Inventory: DOD and Prime Contractors Adhered to Requirements in Selected Contracts for Overseeing Spare Parts Quality*, [GAO-05-73](#) (Washington, D.C.: Dec. 20, 2004).

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subcontractor's past performance—to determine the extent to which they conduct subcontractor oversight.

DOD also oversees prime contractors' purchasing processes and quality assurance activities, which can include reviews of whether prime contractors are complying with the specialty metals restrictions. These oversight activities are carried out by staff from DCMA—for the Army and Air Force—and from the staff of the U.S. Navy Supervisors of Shipbuilding, Conversion, and Repair (Navy) organizations. The FAR requires DOD contracting officers to determine whether contractor purchasing system reviews are needed, and if so, to conduct a review with the objective of evaluating the efficiency and effectiveness with which the contractor spends government funds and compliance with government policy when subcontracting. The DFARS also requires contracting officers to evaluate whether the contractor's purchasing system is capable of ensuring that all applicable contractor purchase orders and subcontracts contain all terms, conditions, DFARS clauses—including the flow down of the specialty metals' restriction—and any other clauses needed to carry out the requirements of the prime contract.<sup>15</sup> This review provides a basis for granting, withholding, or withdrawing approval of the contractor's purchasing system. After an initial review, contracting officers are to determine, at least every 3 years, whether subsequent reviews are required.

According to DCMA guidance on supplier risk management, DCMA is to identify risk levels for DOD suppliers, and to use these ratings in developing government contract quality surveillance plans and allocating resources to perform them. This guidance also provides that government oversight of sub-tier suppliers may occur if warranted. DCMA receives its direction and expectations for contract oversight from the DOD program office, which can include access to subcontractor invoices at any tier, if the program deems this necessary. In addition, the FAR provides that, for major system acquisitions, the contracting officer may designate certain high risk or critical subsystems or components for special surveillance.<sup>16</sup>

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<sup>15</sup>FAR §§ 44.301, 44.302 and DFARS § 244.305-70 and clause 252.244-7001. Generally contractors are subject to these reviews when sales to the government are expected to exceed \$25 million in a 12-month period, although this excludes certain contract types, including those that are competitively awarded firm-fixed-price, fixed price with economic price adjustment and commercial item contracts.

<sup>16</sup>FAR §§ 42.202(e)(2) and (f).

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DOD and the prime contractor can also arrange for access in the event that noncompliance issues are identified to help ensure corrective actions are taken.

Moreover, the FAR allows contracting officers to accept a contractor's certification that the delivered items meet requirements rather than performing an inspection of these items.<sup>17</sup> However, if any delivered items are noncompliant, the FAR generally provides that any defect in items provided under a fixed-price contract is to be replaced, corrected, or repaired by the contractor, potentially at their own expense.<sup>18</sup> We reviewed the six prime contracts for the programs in our review and each contract contained clauses related to the correction of deficiencies in items delivered by the contractor.

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## DOD Has Defined Procedures for Requesting Specialty Metals Waivers, but Dissemination of Its Waiver Information is Limited

The specialty metals restrictions allow the Secretary of Defense or certain delegated officials to grant national security waivers, among other things, for the use of noncompliant specialty metals. Since 2009, we found DOD has granted six national security waivers permitting the use of noncompliant specialty metals on five different weapon system programs, including the Joint Strike Fighter. During our review and, in part, in response to our discussions with USD AT&L officials, DOD developed written guidance for program offices to follow when requesting national security waivers. However, DOD lacks a mechanism to share information contained in these waivers with key stakeholders, within the department and to its supplier-base, on national security waivers granted for noncompliance with the specialty metals restrictions. Without this information, DOD and its contractors and suppliers could be limited in their awareness of, and actions to mitigate, similar supply chain issues.

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## DOD Has Granted National Security Waivers Since 2009 and Recently Defined Procedures for Requesting Waivers

The specialty metals' restrictions provide authority to the Secretary of Defense or certain delegated officials, including USD AT&L, to waive compliance with the specialty metals restrictions. To do so, the Secretary or delegated official must determine, in writing, that acceptance of noncompliant specialty metals is necessary to the national security interests of the United States. Waivers in the interest of national security

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<sup>17</sup>FAR § 46.504.

<sup>18</sup>FAR § 46.407(a) and clause 52.246-2(f).

can be only be granted after noncompliance issues are identified, and only allow the department to accept the delivery of noncompliant end items that have already been procured, rather than in advance of their procurement.<sup>19</sup>

Since 2009, DOD granted six national security waivers for the use of noncompliant specialty metals on five different weapon system programs—five of which were granted after contractor disclosure that noncompliant specialty metals were, in some cases, contained in the end items delivered to DOD. The remaining waiver (for the Standard Missile-3 Block II-A program) was granted as a result of an international agreement that did not address specialty metal restrictions. Table 3 shows the six national security waivers approved for five weapon system programs since 2009 when the DFARS was revised to remove a previous exemption for high performing magnets, as provided by the National Defense Authorization Act for Fiscal Year 2008.

**Table 3: National Security Waivers Granted by DOD for Specialty Metals Noncompliance Since 2009**

<b>DOD program and part involved</b>	<b>Specialty metal/material</b>	<b>Waiver date</b>	<b>Discovery of noncompliance</b>	<b>Cause of noncompliance</b>
Standard Missile-3 Block II-A All Up Rounds	Titanium and other unspecified metals	August 2012	Identification not stated in waiver.	International agreement did not address specialty metals restrictions. As a result, noncompliant specialty metals were inadvertently obtained.
Joint Strike Fighter (radar)	Samarium-cobalt magnets	November 2012	Identification by subcontractor and notified prime contractor. (August 2012)	Subcontractor purchase orders did not cite the current Defense Federal Acquisition Regulation Supplement (DFARS) specialty metals clause.
F-16 Block 52 Aircraft (radar)	Samarium-cobalt magnets	March 2013	Identification of noncompliant specialty metals in Joint Strike Fighter radar led subcontractor to check other related radar programs. (December 2012)	Subcontractor purchase orders did not cite the current DFARS specialty metals clause.

<sup>19</sup>In certain cases, such as where an end item has not yet been delivered, DOD has other exceptions available under the specialty metals restrictions, but these were not in the scope of our review.

DOD program and part involved	Specialty metal/material	Waiver date	Discovery of noncompliance	Cause of noncompliance
B-1 Bomber Reliability and Maintainability Improvement Program (radar)	Samarium-cobalt magnets	May 2013	Identification of noncompliant specialty metals in Joint Strike Fighter radar led subcontractor to check other related radar programs. (December 2012)	Subcontractor purchase orders did not cite the current DFARS specialty metals clause.
Joint Strike Fighter target assemblies (parts for positioning external doors, nose and main landing gear)	Samarium-cobalt magnets	April 2013	Identification by prime contractor through quality assurance review of subcontractor. (February 2013)	Prime and subcontractor purchase orders did not cite the current DFARS specialty metals clause.
Ground/Air Task Oriented Radar (G/ATOR) Program (radar) <sup>a</sup>	Samarium-cobalt magnets	March 2014	Identification of noncompliant specialty metals in Joint Strike Fighter radar led contractor to check other related radar programs. (May 2013)	Government development contract did not cite the current DFARS specialty metals clause.

Source: GAO presentation of DOD information. | GAO-15-133

<sup>a</sup>The G/ATOR program office requested a national security waiver in anticipation of the contractor not being able to deliver compliant radar components which would have led to their noncompliance with specialty metals restrictions. However, delays in the program's schedule allowed the contractor to provide compliant components before the government accepted delivery. The contractor has since requested that this national security waiver request be withdrawn.

Specifically, in 2009, DOD eliminated an exception in the DFARS that allowed electronic components containing noncompliant high performance (samarium-cobalt) magnets to be procured from non-domestic sources.<sup>20</sup> However, the companies we spoke with that were involved in requesting the national security waivers indicated they had not updated their purchasing processes to reflect this DFARS change, resulting in noncompliance with specialty metals restrictions. As a result, five of the six national security waivers were granted due to noncompliant samarium-cobalt magnets procured by three companies. For each of the five programs that procured noncompliant samarium-cobalt magnets, their national security waivers stated that these magnets met the

<sup>20</sup>In January 2008, the 2008 National Defense Authorization Act for Fiscal Year 2008 amended 10 U.S.C. § 2533b, to eliminate the use of an exception that allowed procurement of electronic components containing de minimis specialty metals from non-domestic sources, which was interpreted to permit procurement of electronic components containing high performance magnets with specialty metals from non-domestic sources. It also added the exception for national security waivers. Pub. L. No. 110-181 § 804. DOD revised the Defense Federal Acquisition Regulation Supplement in 2009 to reflect these changes. 74 Fed. Reg. 37,626 (July 29, 2009).

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necessary performance capability requirements for the weapon systems for which they were procured. The time frame for the contractor's discovery of noncompliant specialty metals to when the waiver was approved by DOD, ranged from two months for the Joint Strike Fighter parts for positioning external doors and nose and main landing gear, to 10 months for the Ground/Air Task Oriented Radar program. According to the specialty metal statute, weapon system contractors and subcontractors that are noncompliant with the specialty metals restrictions and receive a national security waiver must develop and implement an effective plan to ensure future compliance, also known as a corrective action plan. The prime contractor for the Joint Strike Fighter program told us that it has, as well as its subcontractors, submitted corrective action plans. In addition, the prime contractors for the F-16 Block 52 aircraft and the B-1 Bomber Reliability and Maintainability Improvement Program have also submitted a corrective action plan. There is no plan for the Ground/Air Task Oriented Radar, as a result of the prime contractor correcting the noncompliance before the program accepted delivery of the radar systems regarding the need for the waiver. DOD did not also require a corrective action plan for the Standard Missile-3 Block II-A, because the noncompliant components were provided under the terms of a bilateral agreement and were not procured by a U.S. prime contractor. The waiver stated that the specialty metals restrictions still apply because the specialty metals' components are to be integrated with U.S.-acquired missile components.

In addition, in our review of national security waivers approved by DOD, we found that these waivers contained the elements required by the specialty metals restrictions. Specifically, these included (1) written determinations stating that accepting delivery of an end item containing noncompliant materials is necessary to U.S. national security interests; (2) approval by the USD AT&L or a higher-ranking official; and (3) statement indicating the quantity of end items and the time period to which the waiver applies. However, we found that DOD's process for granting national security waivers for specialty metals had some weaknesses. For example, a DOD program office that was in the final steps of submitting a national security waiver told us they had difficulty in determining what documentation to include with their waiver request. We also found that the DFARS guidance at the time that the existing waivers were submitted did not specify the types of documents required from the requesting program office to support a waiver request. In June 2014, USD AT&L developed written guidance for program offices to include how and when the noncompliance was discovered, a complete description of all of the items or systems containing noncompliant specialty metals, the

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manufacturer and country of origin of the noncompliant material—if known, and estimated cost and schedule estimates to replace the noncompliant parts if a national security waiver is not granted. This DOD guidance also requires the disclosure of whether the specialty metals DFARS clause was flowed down to subcontractors and whether safety and operational implications exist.<sup>21</sup> In addition, to prevent misinterpretation of the current flow down requirement, DOD recently proposed amending the specialty metals DFARS clause to clarify the current requirement that the specialty metals restrictions be flowed down in subcontracts.<sup>22</sup> The comment date for this proposed change to the DFARS ended in August 2014, and if finalized, the clause would apply to DOD contractors.

Further, DOD has been directed by a House report accompanying H.R. 4435, the Howard P. “Buck” McKeon National Defense Authorization Act for Fiscal Year 2015, to report on the department’s use of national security waivers, including documentation for all of the waivers issued since 2008 and information regarding the procedures used to issue these waivers, by December 1, 2014.<sup>23</sup> This report directs the Secretary of Defense to report on DOD’s procedures to determine whether (1) to issue a national security waiver; (2) a supply deficiency is best addressed through the national security waiver or through the availability exception; (3) noncompliance by contractors and subcontractors is “knowing or willful,” and (4) further action by DOD is necessary to prevent the recurrence of the supply chain issue that led to noncompliance and the subsequent issuance of a national security waiver. The report also directed the Secretary of Defense to report on the procedures used by DOD to monitor contractor compliance. According to a senior USD AT&L official, DOD has begun work to fulfill this reporting requirement.

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<sup>21</sup>DFARS Procedures, Guidance, and Information 225.7003-3(d).

<sup>22</sup>79 Fed. Reg. 35,507 (June 23, 2014).

<sup>23</sup>H.R. Rep. No. 113-446 at 184-185 (2014) accompanying H.R.4435, Howard P. “Buck” McKeon National Defense Authorization Act for Fiscal Year 2015, 113th Cong. (2nd Sess.).

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## DOD Lacks a Mechanism to Disseminate Information on National Security Waivers Granted

In our review of the six national security waivers granted by DOD, we found that these waivers include details, such as the company's plan for procuring specialty metals that comply with the restrictions, the production units that will be compliant in the future, and estimated time frames to re-qualify suppliers and retest equipment. DOD may also require the prime contractor to pay associated costs for noncompliance with the specialty metals restrictions related to delivered items. When this occurs, the program office's contracting officer determines the amount that is appropriate to be paid based on the nature and scope of the noncompliance. Further, for the B-1 Bomber Reliability and Maintainability Improvement Program and the F-16 Block 52 Program, the waivers specify that all costs associated with non-compliance are unallowable, including any directly associated costs incurred by their contractors. Specifically, the waivers approved by USD AT&L required the contractors for these two programs to provide consideration to the Air Force for the costs that may include the design, testing, and installation of compliant components to remediate the noncompliant items and any additional costs incurred to obtain compliance for the aircraft radar systems affected. For the remaining waivers, USD AT&L's decision on whether to request contractor consideration is pending.

The specialty metals restrictions require that DOD make a determination of whether the noncompliance by the contractor or subcontractor was knowing or willful.<sup>24</sup> Specifically, DOD has ordered investigations of four of the six national security waivers to determine whether the noncompliance was knowing or willful, and the results of these investigations are pending. For the other two waivers, DOD did not conduct an investigation, but nonetheless determined that the noncompliance was not knowing or willful. According to officials at USD AT&L, it is in the Under Secretary's discretion to request an investigation to assist in making their determination, if the facts surrounding the noncompliance warrant it. Further, DOD can consider suspending or debarring a contractor or subcontractor whose noncompliance has been determined to be knowing or willful, until the issues that led to noncompliance have been effectively addressed. DOD has not taken this action for any of the contractors in our review. Table 4 summarizes the status of the programs' corrective action plans for their national security

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<sup>24</sup>10 U.S.C. §2533b(k)(3)(A); DFARS 225.7003-3(d)(2)(ii).

waivers and DOD's determination of whether the noncompliance with the specialty metals restrictions was knowing or willful.

**Table 4: Status of Corrective Action Plans and DOD's Investigations and Determinations for Programs that Received National Security Waivers**

DOD program with waiver	Corrective action plan	Investigation ordered	Determination of whether noncompliance was knowing or willful
Standard Missile-3 Block II-A All Up Rounds	Not required	No	Not knowing or willful
Joint Strike Fighter (radar)	Yes	No	Not knowing or willful
F-16 Block 52 Aircraft (radar)	Yes	Yes – results pending	Pending
B-1 Bomber Reliability and Maintainability Improvement Program (radar)	Yes	Yes – results pending	Pending
Joint Strike Fighter target assemblies (parts for positioning external doors, nose and main landing gear)	Yes	Yes – results pending	Pending
Ground/Air Task Oriented Radar (G/ATOR)Program (radar)	Not required	Yes – results pending	Pending

Source: GAO presentation of DOD information. | GAO-15-133

The specialty metals restrictions further require DOD to provide advance congressional notification in the form of a written determination to the defense committees before executing a national security waiver determination.<sup>25</sup> However, DOD did not notify Congress for one of the six waivers and provided little advance notice for another program. Specifically, we found that DOD did not notify Congress for the Standard Missile-3 Block II-A program waiver and the B-1 Bomber Reliability and

<sup>25</sup>10 U.S.C § 2533b(k)(2)(C); DFARS § 225.7003-3(d)(1)(iii).

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Maintainability Improvement Program notified Congress on the same day the waiver was signed.<sup>26</sup> According to USD AT&L officials, the delays in notifying Congress of the approved national security waivers, in these instances, were due to the lack of a central focal point for the waivers. As a result, USD AT&L has recently centralized the processing of all waiver requests within DOD.

*Standards for Internal Control in the Federal Government* call for information and communications to be recorded and communicated to others, such as stakeholders who need it, to help the agency achieve its goals.<sup>27</sup> However, we found that DOD lacks a mechanism to share information with key stakeholders, within the department and to its supplier base, on national security waivers granted for noncompliance with the specialty metals restrictions. Sharing information on specialty metal waivers with these key stakeholders could heighten the awareness of other programs and their suppliers who are not directly involved with the waiver of the risks as well as the consequences, and to look for similar issues in their own programs. Moreover, other program offices that work with the same supplier-base could benefit from this information. For example, in the case of the Joint Strike Fighter program's noncompliant samarium cobalt, DCMA created a notification report in February 2013. According to a deputy director within DCMA's Industrial Analysis Center, reports such as this were possibly disseminated throughout DCMA, and he stated DCMA staff may have shared these reports with the program offices to which they were assigned. In November 2013, DOD discontinued these reports. Continued disseminations of this type of information and sharing them among the DOD weapon system programs and their supplier-base could heighten awareness, potentially averting future noncompliance with the specialty metals' restriction. Further, GAO's prior work in October 2008 concluded that DOD often becomes aware of supplier base problems through informal channels, and greater visibility of supply chain issues or vulnerabilities could contribute to more

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<sup>26</sup>We recognize that neither the statute nor DFARS specifies how far in advance the notice to Congress is to be made. The statute states that the written waiver determination is to be provided to the congressional defense committees "prior to making such a determination." 10 U.S.C. § 2533b(k)(2)(C). DFARS provides that the written waiver determination is to be provided "to the Congressional defense committees before the determination is executed." DFARS § 225.7003-3(d)(1)(iii). Under both the statute and DFARS in the case of an urgent national security requirement, the determination may be provided to the congressional defense committees up to 7 days after it is executed.

<sup>27</sup>See [GAO/AIMD-00-21.3.1](#).

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formal mechanisms for addressing supply chain risks.<sup>28</sup> We recommended that DOD create and disseminate written requirements for reporting potential concerns about supplier-base gaps. DOD addressed this recommendation, and in its most recent instruction on Defense Industrial Base Assessments, dated July 2014, it states that if an industrial capability is identified as endangered, DOD components must, among other things, validate whether the industrial capability is relevant to a satisfaction of a national security requirement. This instruction also states that to facilitate efficient and effective sharing, a repository of reports, information, and data will be established by DOD and will contain a searchable index of reports. Moreover, DOD's 2014 Chief Freedom of Information Act Officer's Report to the Department of Justice states that the department continues to implement open government principles as defined by an Office of Management and Budget memorandum, which encourages greater transparency, participation and collaboration by publishing non-sensitive government information online for public review.<sup>29</sup> Establishing a mechanism to disseminate non-sensitive information—including the names of programs that received waivers, sources of the noncompliant specialty metals, and corrective actions—to key stakeholders, such as DOD weapon system program offices and their defense suppliers—could help raise awareness of and greater compliance with the specialty metals restrictions.

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## Conclusions

DOD relies on its prime contractors and subcontractors to plan for and ensure that specialty metals procured for weapon systems meet the requirements of the specialty metal statutory provisions and contractor self-disclosure is the primary way that DOD becomes aware of noncompliance with this statutory provision. Some recent breaches of domestic source restrictions have led contractors to notify the government of noncompliance issues and since these instances occurred, DOD has granted national security waivers for the affected programs. DOD has recently defined procedures for requesting national security waivers for weapon systems programs. However, DOD's lack of a mechanism to disseminate information to its key stakeholders within the department's weapon system program offices and their supplier-base on national

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<sup>28</sup>GAO, *Department of Defense: A Departmentwide Framework to Identify and Report Gaps in the Defense Supplier Base Is Needed*, [GAO-09-5](#) (Washington, D.C.: Oct. 7, 2008).

<sup>29</sup>Office of Management and Budget, *Memorandum for Heads of Executive Departments and Agencies, Open Data Policy—Managing Information as an Asset* (May 9, 2013).

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security waivers granted makes it difficult for others not directly involved with the waiver request to have awareness of the risks as well as the consequences. Further, greater awareness of supplier-base problems and broader dissemination of information could assist DOD in better discovering vulnerabilities, such as systemic supply chain risks that affect national security objectives.

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## Recommendation for Executive Action

To provide greater awareness of and compliance with the specialty metal restrictions among DOD weapon system programs and their defense supplier-base, we recommend that the Secretary of Defense establish a mechanism for sharing and distributing non-sensitive information about national security waivers throughout the department and the defense supplier-base.

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## Agency Comments and Our Evaluation

DOD provided us with written comments on a draft of this report, which are reprinted in appendix III. In its comments, DOD concurred with our recommendation to provide greater awareness of and compliance with the specialty metal restrictions, stating that it will post non-sensitive specialty metals national security waiver information on the Defense Procurement and Acquisition Policy website. This publicly available information would include the number of national security waivers approved by DOD since 2009; the names of DOD weapon system programs receiving them; guidance on how to request a national security waiver, as well as guidance for applying specialty metals' restrictions to high performance samarium-cobalt magnets. We believe that this is a positive step towards enhancing the public transparency of future national security waivers for non-compliant specialty metals. DOD is considering resuming the issuance of notification reports when a specialty metals' noncompliance has occurred. We believe that disseminating this information across DOD could help officials working on other DOD programs assess whether similar non-compliance issues may affect them. We also received technical comments from the Department of the Interior and the DOD prime contractors included in our review, which we incorporated into this report as appropriate.

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We are sending copies of this report to the appropriate congressional committees, the Secretary of Defense, the Secretary of the Interior, and other interested parties.

If you or your staff have any questions about this report, please contact me at (202) 512-4841 or [makm@gao.gov](mailto:makm@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix IV.



Marie A. Mak  
Acting Director  
Acquisition and Sourcing Management

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*List of Committees*

The Honorable Carl Levin  
Chairman  
The Honorable James Inhofe  
Ranking Member  
Committee on Armed Services  
United States Senate

The Honorable Richard J. Durbin  
Chairman  
The Honorable Thad Cochran  
Ranking Member  
Subcommittee on Defense  
Committee on Appropriations  
United States Senate

The Honorable Howard P. "Buck" McKeon  
Chairman  
The Honorable Adam Smith  
Ranking Member  
Committee on Armed Services  
House of Representatives

The Honorable Rodney Frelinghuysen  
Chairman  
The Honorable Pete Visclosky  
Ranking Member  
Subcommittee on Defense  
Committee on Appropriations  
House of Representatives

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# Appendix I: Objectives, Scope, and Methodology

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This report focuses on planning, compliance, and national security waivers for specialty metals used in Department of Defense (DOD) weapon systems. Specifically, we assessed (1) how DOD meets its needs for specialty metals parts and ensures compliance with the specialty metals restrictions, and (2) DOD's process for providing national security waivers for specialty metal procurements and the extent to which it disseminates waiver information throughout the department.

To assess how DOD officials meet their needs for specialty metals used in DOD weapon systems and ensure compliance with specialty metals restrictions, we examined laws and regulations regarding specialty metals domestic source restrictions, including the Defense Federal Acquisition Regulation Supplement (DFARS) and DOD guidance relating to planning for and compliance with specialty metals and related requirements of the Federal Acquisition Regulation (FAR). We reviewed DOD guidance on planning for weapon systems procurements and manufacturing; guidance on purchasing system reviews and quality assurance from the Defense Contract Management Agency and U.S. Navy Supervisors of Shipbuilding, Conversion and Repair; Defense Logistics Agency's reports on strategic and critical materials that identified materials with projected availability risks; and U.S. Geological Survey's price information for titanium to identify historical fluctuations in pricing and availability for specialty metals. We also interviewed officials from DOD, including the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics (USD AT&L), the Defense Contract Management Agency (DCMA), and selected weapon system programs, as well as their prime contractors, two selected subcontractors, and specialty metals company representatives. We ascertained their roles in determining the needs for specialty metals parts and monitoring compliance with specialty metals restrictions and related requirements of the FAR and the DFARS. We also interviewed and obtained written responses to questions on specialty metals planning from six prime contractors responsible for five major DOD weapon systems programs. The programs we selected were: the F-35 Joint Strike Fighter (Joint Strike Fighter), KC-46 Tanker, DDG-51 Destroyer, *Virginia* Class Submarine, and Family of Medium Tactical Vehicles, to identify how these programs plan for specialty metals needs and ensure contract requirements are met. We selected a non-generalizable sample consisting of these five DOD weapon system programs, based on their greatest total acquisition cost estimates as of November 2013. Our selection process also ensured that at least one program was selected from among each of the military services and from the following four acquisition lifecycle phases: (1) between development

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start and production start (e.g., the U.S. Air Force's KC-46 Tanker); (2) between production start and initial capability (e.g., DOD's Joint Strike Fighter); (3) in production and passed initial capability (e.g., the U.S. Navy's DDG-51 Destroyer and *Virginia* Class Submarine); and (4) nearing the end of production (e.g., the U.S. Army's Family of Medium Tactical Vehicles). We interviewed and obtained written responses to questions and related contractor documents from these prime contractors regarding specialty metals availability, planning activities on these programs, and the methods they use to ensure quality assurance and oversee subcontractors and suppliers. Our findings from these five programs cannot be generalized to all programs, but they provide useful insights into how DOD officials and contractors work to address requirements associated with specialty metal restrictions.

In reviewing these programs, we also obtained answers to written questions regarding specialty metals planning and quality assurance from DOD quality assurance staff overseeing these programs, including the Defense Contract Management Agency (DCMA) and the Navy. We reviewed the results of DOD's purchasing system reviews for the six prime contractors in our review to determine whether specialty metals requirements were flowed down to subcontractors consistent with DFARS. We also reviewed written responses to questions regarding how these agencies oversee the prime contractors to help ensure compliance with their government contracts, including specialty metals domestic source restrictions. Further, we reviewed the contracts to determine what requirements related to specialty metals planning and quality assurance were included, as well as the exceptions to domestic source restrictions applicable to some of these programs, such as the KC-46 Tanker's commercial derivative military article exception. We obtained updated information regarding these methods from the prime contractors included in our review.

We reviewed and analyzed the six national security waivers that the USD AT&L approved from fiscal years 2009 through 2014. These six national security waivers included the B-1 Bomber Reliability and Maintainability Improvement Program, F-16 Block 52 Aircraft, Ground/Air Task Oriented Radar, Joint Strike Fighter radar and target assemblies parts for positioning external doors, nose and main landing gear, and Standard Missile-3 Block II-A All Up Rounds. We also assessed whether these waivers contained required elements, including whether Congress was provided advance notifications of the national security waiver determinations before they were executed as required in accordance with the statute and regulation. In addition, we obtained documents and

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interviewed officials from DOD's Defense Procurement and Acquisition Policy office to review their process for granting national security waivers, including how they make determinations to grant the six waivers for national security and the extent to which DOD disseminates this information throughout the department. We assessed the extent to which DOD disseminates information on national security waivers it has granted consistent with criteria in *Standards for Internal Control in the Federal Government*.<sup>1</sup> We reviewed prime contractor and subcontractor corrective action plans that were submitted to DCMA regarding noncompliant specialty metals and also examined the congressional notification letters relating to national security waivers that DOD provided to congressional defense committees. We met with officials at the C-130 program office at Wright-Patterson Air Force Base, in Dayton, Ohio to discuss possible plans to request a national security waiver and to discuss their experience in requesting a national security waiver. We did not assess whether other exceptions to the specialty metals restrictions were available under the facts and circumstances present for these waivers we reviewed.

We conducted this performance audit from December 2013 to October 2014 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings based on our audit objectives.

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<sup>1</sup>GAO: *Standards for Internal Control in the Federal Government*, [GAO/AIMD-00-21.3.1](#) (Washington, D.C.; Nov. 1999).

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# Appendix II: Exceptions to the Specialty Metals Restriction Requirements and Qualifying Country Exception

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The specialty metals domestic source restrictions (10 U.S.C. § 2533b), summarized below, provide exceptions for:

- Waiver for national security interests;
- Compliant specialty metals are not available in satisfactory quality and sufficient quantity, in the required form, and cannot be procured when needed;
- Acquisitions made outside of the United States in support of combat or contingency operations;
- The use of other than competitive procedures, in accordance with the Competition in Contracting Act (10 U.S.C. 2304(c)(2) for circumstances of unusual and compelling urgency of need;
- Compliance with agreements with foreign governments;
- Commissaries, exchanges, and other non-appropriated fund instrumentalities;
- Small purchases (below the simplified acquisition threshold);
- Electronic components;
- Acquisition of some commercial items;
- Acquisition of certain commercial-off-the-shelf items;
- Acquisition of components if there is less than 2 percent of noncompliant metal (called the “de minimis” exception);
- Acquisition of certain commercially derivative defense articles; and
- Acquisition of certain noncompliant materials if the Secretary of Defense certifies in writing that acceptance of such materials is required for reasons of national security, including certain conditions and requirements.

In addition, the specialty metals clause (DFARS 225.252.7009) requires that specialty metals procured for Department of Defense articles must be melted or produced in the United States, its outlying areas, or a qualifying country. There are 23 qualifying countries, as shown in the table below.

**Appendix II: Exceptions to the Specialty Metals  
Restriction Requirements and Qualifying  
Country Exception**

**Table 5: Qualifying Countries**

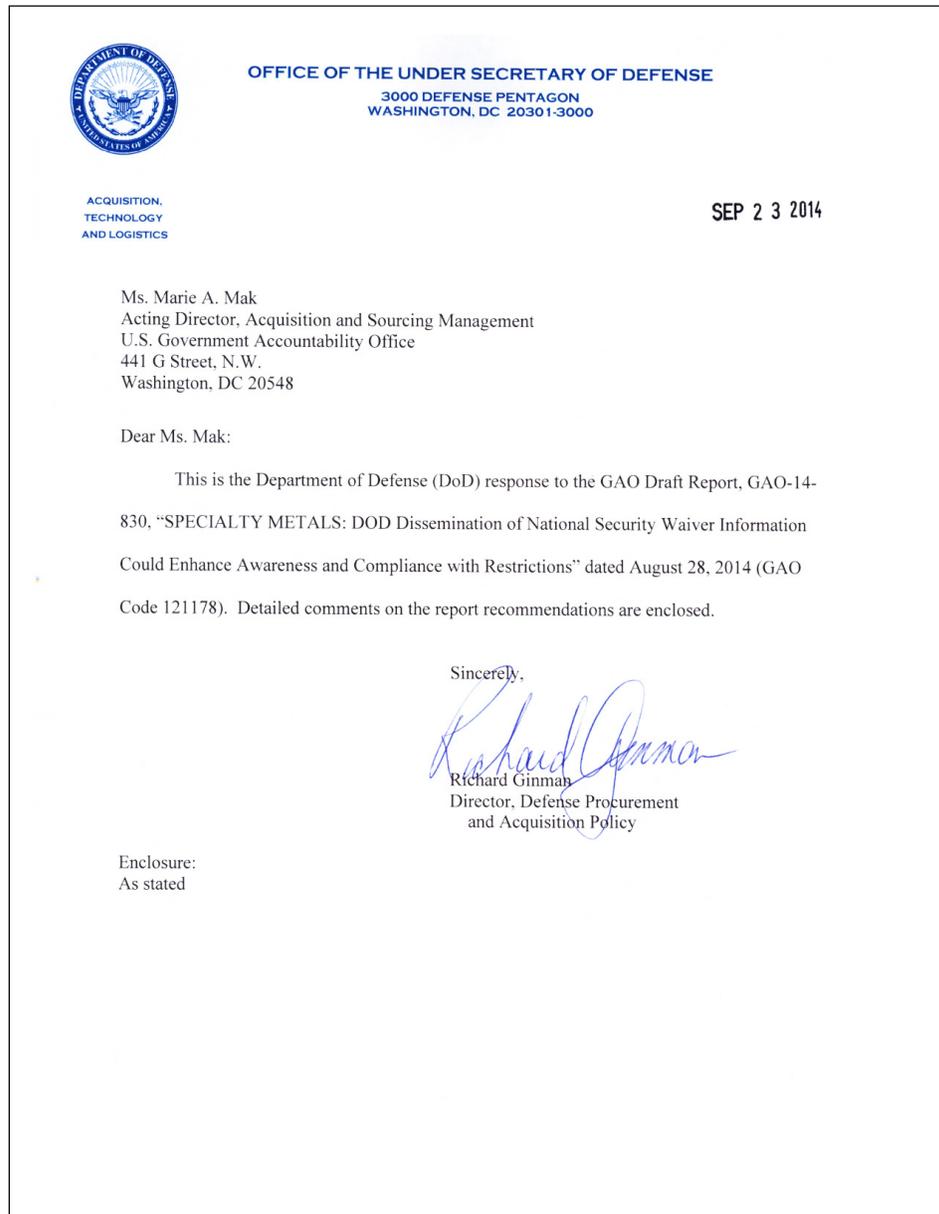
<b>Australia</b>	<b>France</b>	<b>Poland</b>
Austria	Germany	Portugal
Belgium	Greece	Spain
Canada	Israel	Sweden
Czech Republic	Italy	Switzerland
Denmark	Luxembourg	Turkey
Egypt	Netherlands	United Kingdom of Great Britain and Northern Ireland.
Finland	Norway	

Source: GAO presentation of Defense Federal Acquisition Regulation Supplement (DFARS) § 225.003(10). | GAO-15-133

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# Appendix III: Comments from the Department of Defense<sup>1</sup>

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<sup>1</sup>Subsequent to receiving DOD's comments, the report number GAO-14-830 was revised to [GAO-15-133](#)

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GAO Draft Report Dated AUGUST 28, 2014  
GAO-14-830 (GAO CODE 121178)

**“SPECIALTY METALS: DOD DISSEMINATION OF NATIONAL SECURITY  
WAIVER INFORMATION COULD ENHANCE AWARENESS AND COMPLIANCE  
WITH RESTRICTIONS”**

**DEPARTMENT OF DEFENSE COMMENTS  
TO THE GAO RECOMMENDATION**

**RECOMMENDATION 1:** To provide greater awareness of and compliance with the specialty metal restrictions among DoD weapon system programs and their defense supplier base, the Government Accountability Office (GAO) recommends that the Secretary of Defense establish a mechanism for sharing and distributing non-sensitive information about national security waivers throughout the Department and the defense supplier-base.

**DoD RESPONSE:** Concur, we will include the attached information regarding specialty metals national security waivers in the specialty metals section of the Defense Procurement and Acquisition Policy website that is accessible to the public. In addition, we have recommended that the Director, Defense Contract Management Agency resume notification reports when they have been notified that a specialty metals noncompliance has occurred.

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# Appendix IV: GAO Contact and Staff Acknowledgments

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## GAO Contact

Marie A. Mak, (202) 512-4841, or [makm@gao.gov](mailto:makm@gao.gov).

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## Staff Acknowledgments

In addition to the contact named above, Lisa Gardner, Assistant Director; Keith Hudson; Jean McSween; Sean Seales; Robert Swierczek; Marie Ahearn; Kenneth Patton; and Hai Tran made key contributions to this report.

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