

Stenographic Transcript
Before the

COMMITTEE ON
ARMED SERVICES

UNITED STATES SENATE

TO RECEIVE TESTIMONY ON REBUILDING AMERICAN
CRITICAL MINERALS SUPPLY CHAINS

Tuesday, February 24, 2026

Washington, D.C.

ALDERSON COURT REPORTING
1029 VERMONT AVE, NW
10TH FLOOR
WASHINGTON, DC 20005
(202) 289-2260

1 TO RECEIVE TESTIMONY ON REBUILDING AMERICAN CRITICAL
2 MINERALS SUPPLY CHAINS

3
4 Tuesday, February 24, 2026

5
6 U.S. Senate

7 Committee on Armed Services

8 Washington, D.C.
9

10 The committee met, pursuant to notice, at 9:31 a.m. in
11 Room SH-216, Hart Senate Office Building, Hon. Roger Wicker,
12 chairman of the committee, presiding.

13 Committee Members Present: Senators Wicker
14 [presiding], Ernst, Sullivan, Scott, Tuberville, Banks,
15 Reed, Shaheen, Blumenthal, Hirono, Kaine, Warren, and Kelly.
16
17
18
19
20
21
22
23
24

1 OPENING STATEMENT OF HON. ROGER WICKER, U.S. SENATOR
2 FROM MISSISSIPPI

3 Chairman Wicker: The committee meets today to discuss
4 the state of our country's critical mineral supply chains,
5 and what can be done to make them stronger and more
6 resilient. It's no exaggeration to say that America's
7 resilience on Chinese critical minerals represents one of
8 our greatest strategic vulnerabilities.

9 Twice last year, Chinese Communist Party Leader, Xi
10 Jinping, threatened to cut off exports of Chinese rare
11 earths. This would've brought American defense
12 manufacturing to its knees and deeply damaged the U.S.
13 economy. Our advanced weapon systems and key parts of our
14 civilian economy rely on critical minerals materials that
15 are largely imported from China. Specifically, America
16 imports over 70, 70 percent, of our rare earths from China.
17 These elements are the backbone of permanent magnets, and
18 perhaps the most important component for phones, cars, and
19 military systems. More than 60 percent of American antimony
20 comes from China. Antimony is a necessary ingredient for
21 many explosives, electronics, and batteries.

22 I could go on with other examples, but the simple point
23 is this: The scale of China's critical minerals domination
24 is wholly unprecedented. The situation is untenable for

1 America's national security and economic prosperity. The
2 good news is that the U.S. Government is forming a plan
3 which will simultaneously reestablish critical minerals as a
4 global free market, and significantly increase American
5 mining and production of these key elements. This effort
6 will take more than a decade. They will face setbacks. It
7 cannot be achieved without leaning on our allies and
8 partners, and it will be expensive, but it is a necessary
9 risk.

10 The Pentagon has been and will be at the center of
11 these efforts, given the centrality of critical minerals to
12 our weapons manufacturing, and that brings us to the
13 committee's interest in this matter. Joining us today are
14 two Pentagon officials, Mr. Mike Cadenazzi, assistant
15 secretary of defense for industrial base policy. And sir, I
16 hope I pronounced your name exactly correct.

17 Mr. Cadenazzi: You did. Absolutely, sir.

18 Chairman Wicker: Cadenazzi. Okay. Assistant
19 secretary of defense -- oh, and then Mr. Jeff Frankston,
20 acting deputy assistant secretary of defense for industrial
21 base resilience.

22 Both Mr. Cadenazzi, and Mr. Frankston, and the teams
23 they lead have done important work. They performed a deep
24 analysis of both our military's requirements for critical



1 minerals, and the state of industrial production from mining
2 to refining across the globe. That data-driven approach is
3 leading to new investments by the Industrial Base Fund, the
4 Defense Production Act, and the National Defense Stockpile.
5 It's also driving interagency investments from the
6 Development Finance Corporation, the Department of Commerce,
7 and others.

8 It is imperative that our investment strategy remain
9 closely tied to the areas of greatest military need.
10 Rebuilding America's critical mineral supply chains will
11 require additional investments. Last year's Defense
12 reconciliation bill included \$5 billion for the Industrial
13 Base Fund, \$2 billion for the National Defense Stockpile,
14 and a \$100 billion loan limit for the Office of Strategic
15 Capital.

16 Those appropriations have already paid dividends. Last
17 year, the Pentagon signed deals with MP Materials and a
18 consortium of Vulcan, ReElement, and Corning for magnet
19 production. Another investment went to ElementUSA, which
20 will be making progress on obtaining gallium and scandium
21 from a recycling process. We have brought Australia,
22 Brazil, and Saudi Arabia into deals where mining or refining
23 opportunities do not exist here in the United States.

24 The good news is that we do not need to outspend



1 Communist China on this effort. We can leverage our private
2 capital markets, one of our few remaining comparative
3 advantages against Beijing. Many of our allies and partners
4 have incredible mining and refining opportunities. Dozens
5 of countries are poised to ditch the predatory debt trap
6 diplomacy Beijing has foisted upon them in this area.

7 As to private capital markets, I appreciate the
8 Pentagon's use of innovative financial tools to power these
9 deals. In some cases, Congress has spoken clearly on these
10 tools. The committee created the Office of Strategic
11 Capital Loan Program 3 years ago during the Biden
12 administration. Since then, we have remained intimately
13 involved in amending its legislation. In other cases, such
14 as the use of equity-based investments, little law currently
15 exists.

16 I believe these equity-based investments make good
17 strategic sense in many cases, particularly where no free
18 market exists and where we've seen aggressive Chinese
19 economic warfare. However, opinions range wildly between
20 and within our two political parties. While not public,
21 Ranking Member Reed and I had a long series of discussions
22 with our House counterparts last year about legislation
23 regarding equity investments. I anticipate that
24 conversation will continue in earnest this year.



1 This legislation is both important and urgent because
2 rebuilding America's critical mineral supply chains will
3 take more than a decade. We must give the free markets
4 confidence that America's approach will stand the test of
5 time and succeed in unshackling the world from Beijing's
6 market domination. To do that, we need effective government
7 tools built on a solid foundation of law and bipartisan
8 support.

9 This year, the committee has much work to do in this
10 endeavor. We will discuss equity as an investment tool. We
11 will examine the need for continued multi-billion-dollar
12 investments in this area. We'll consider further
13 improvements to the National Defense Stockpile authorities,
14 and we will expect improvements in communication from
15 Pentagon leadership on our investment strategy. Congress
16 understands the need to execute quickly, but that cannot
17 excuse a lack of communication and partnership between the
18 Congress and the administration.

19 I hope today's hearing is the beginning of a historic
20 year in which this committee and the Trump administration
21 work together to rebuild America's supply chain. So, thank
22 you to our witnesses for being here today. It should be
23 very interesting, and I turn to my friend and colleague,
24 Ranking Member Reed.

1 STATEMENT OF HON. JACK REED, U.S. SENATOR FROM RHODE
2 ISLAND

3 Senator Reed: Well, thank you very much, Mr. Chairman.
4 Good morning to our witnesses. Thank you for appearing
5 today on a matter that is of great importance to this
6 country, and, indeed, the free world. Over the past several
7 decades, the United States has steadily lost its leadership
8 in critical minerals from World War II. Through the 1980s,
9 we led the way in critical mineral production and lithium-
10 ion battery manufacturing. But over time, American industry
11 shifted from that production overseas primarily to Asia in
12 pursuit of savings. The consequence of those decisions are
13 now very apparent.

14 Today, China dominates the processing and refining of
15 the materials that make our most advanced weapon systems
16 function from the rare earth elements, and radar, and
17 missile guidance systems, to the battery chemistry powering
18 the next generation of drones. The Department of Defense
19 accounts for less than 1 percent of total U.S. critical
20 mineral demand, but an enormous range of critical military
21 platforms depend on it.

22 Congress has worked to address this issue through
23 successive National Defense Authorization Acts. We have
24 increased resources for the National Defense Stockpile,



1 encouraged end-of-life recycling of weapon systems,
2 qualified domestic vendors, and restricted procurement from
3 unreliable foreign entities. And those efforts matter, but
4 what has been missing is a coherent, overarching national
5 strategy that aligns the Department of Defense, Commerce,
6 Energy, and Interior, as well as our allies around a common
7 framework. Without that, we risk patching holes rather than
8 building something durable.

9 I'd like to know how our witnesses regard such a
10 strategy and what efforts are currently underway. I do have
11 one major concern regarding the Defense Department's current
12 strategy, and that is the use of equity investments under
13 the Defense Production Act. In July of last year, the
14 Department announced that it acquired a 15 percent equity
15 stake in MP Materials, a rare earth mining company in
16 California, at a cost of \$400 million, making the U.S.
17 military one of that company's largest shareholders.

18 Since then, the Department has made equity investments
19 in a number of critical mineral companies. I have questions
20 about the legal basis, financial terms, and strategic
21 rationale for these transactions. The legal basis in
22 particular appears questionable. The Department has argued
23 that the Defense Production Act provides the authority for
24 these investments.



1 However, while the Defense Production Act does
2 authorize the purchase of industrial resources for
3 government use, it does not mention equity investments at
4 all. The fact that the Trump administration's Office of
5 Management and Budget has subsequently requested a
6 legislative proposal to explicitly authorize equity
7 investment, suggests that the administration itself
8 recognizes the current authority is uncertain, and that
9 should give us pause.

10 Further, the Department committed to purchasing magnets
11 from MP Materials at \$110 per kilogram for 10 years
12 beginning in 2028, the committee has not received an
13 explanation of how that price was determined or why that
14 duration was appropriate. We have also heard from other
15 domestic producers that this arrangement affects their
16 ability to compete, which raises broader questions about
17 market effects and unintended consequences of government
18 intervention.

19 Finally, I understand that a small team was dispatched
20 to evaluate the MP Materials' transaction, including outside
21 consultants, but this committee has had very limited
22 visibility into that review. I have concerns about
23 potential conflicts of interest given the financial interest
24 that certain stakeholders appear to have in this



1 transaction.

2 The committee's interest is straightforward. We want
3 to understand whether this transaction, and the equity
4 investment model, and use of price floors more broadly
5 represent the most effective and legally sound way to
6 rebuild domestic critical minerals capacity, and I look
7 forward to a substantive discussion with our witness today.
8 And thank you very much, Mr. Chairman.

9 Chairman Wicker: Thank you very much, Mr. Ranking
10 Member. And now, Secretary Cadenazzi, we will begin with
11 you.

12

13

14

15

16

17

18

19

20

21

22

23

24



1 STATEMENT OF HONORABLE MICHAEL P. CADENAZZI, JR.,
2 ASSISTANT SECRETARY OF DEFENSE FOR INDUSTRIAL BASE POLICY

3 Mr. Cadenazzi: Chairman Wicker, Ranking Member Reed,
4 distinguished members of the committee, thank you for the
5 opportunity to appear before you today to discuss the
6 Department of War Strategy and actions to secure resilience
7 supply chain for critical minerals. This issue is
8 fundamental to our national security, and the technological
9 superiority of our military.

10 I'm joined here today by Mr. Jeff Frankston, our acting
11 deputy assistant secretary of war for industrial base
12 resilience. A career member of the Senior Executive
13 Service, Jeff is my technical expert on supply chain
14 resilience, the Defense Production Act, and the Industrial
15 Base Fund. We are thankful for the talents and selfless
16 patriotic service of Jeff and our entire civilian workforce.
17 Thank you, Jeff.

18 As the assistant secretary of war for industrial base
19 policy, I'm responsible for guiding the Department's efforts
20 to cultivate and sustain industries that meet America's
21 needs, and the growing demand for us capabilities from our
22 allies and partners around the world.

23 The strength of the United States Armed Forces built
24 upon a foundation of advanced technology, our fifth-

1 generation aircraft, precision-guided munitions, satellite
2 constellations, and next-generation naval vessels, all
3 depend on a reliable supply of rare earth element, and
4 minerals including; gallium, antimony, germanium, and dozens
5 of others. For decades, we have outsourced offshore mining
6 and processing, creating a strategic vulnerability of the
7 highest order.

8 Today, our primary strategic competitor, China,
9 controls the global supply chain for numerous critical
10 minerals. On heavy rare earths alone, China controls 95
11 percent of global output, with the United States importing
12 almost 100 percent of what we use, 90 percent of that coming
13 from China. This control provides Beijing with the ability
14 to weaponize these supply chains, threatening to disrupt our
15 Defense Industrial Base, and compromise military readiness
16 in a crisis. This is not a theoretical risk; it is a clear
17 and present danger to our national security.

18 The Department of War considers the reclamation of our
19 critical mineral independence a strategic imperative, and
20 calls it out as such, and the Acquisition Transformation
21 Strategy, published this past November, Congress also
22 clearly recognizes the need as the 2026 National Defense
23 Authorization Act, classified critical minerals as strategic
24 assets vital for national defense and economic security.



1 Since the beginning of the administration, the Office
2 of Industrial Base Policy has been at the very center of
3 these initiatives. The team is working night and day to
4 rebuild American critical mineral supply chains. In this
5 time, we have invested \$975 million in minerals through
6 Title III of the Defense Production Act and the Industrial
7 Based Fund.

8 The Department of War has developed a comprehensive
9 multi-year strategy to address this vulnerability head on.
10 Our approach is founded on four key pillars designed to
11 create a secure, resilient, and sustainable supply chain
12 ecosystem. Pillar one, is our commitment to reshore and
13 onshore the production of critical minerals. We continue to
14 map Defense industry to independent -- or dependence on
15 China, and are focused on removing those dependencies from
16 our supply chains. Congress providing \$5 billion in the One
17 Big Beautiful Bill Act, specifically for critical minerals,
18 is a significant investment and one we very much appreciate.

19 We are also leveraging authorities granted by Congress,
20 particularly under Title III of the DPA and the Industrial
21 Base Fund, to catalyze investment in domestic exploration,
22 mining, and processing. We partner with our colleagues in
23 the Office of Strategic Capital to offer loans, loan
24 guarantees, and debt financing options. This expands our



1 collaboration and cooperation with the interagency and
2 international partners on bringing mineral supply chains to
3 friendly shores.

4 Through these tools, we're sending a clear and
5 sustained demand signal to the industrial base. We are
6 working across the entire value chain, from mine to
7 frontline, to build our resilience. For example, the MP
8 Materials deal helps secure a domestic source of rare earth
9 elements, and the Department continues to take action in
10 concert with our interagency partners to decisively secure
11 the U.S. rare earth supply chain. The Korea zinc effort
12 will build a smelter in the U.S. to produce 13 different
13 non-ferrous metals, including; germanium, gallium, and
14 antimony metals used in space, power generation, advanced
15 optics, and munitions, among other uses. Additionally, \$184
16 million in prior investments will provide high performance
17 magnets, germanium, crystal, and other critical mineral
18 derivatives and capabilities.

19 Next, while we prioritize domestic production, we
20 recognize that no single nation can achieve complete self-
21 sufficiency. Therefore, our second pillar focuses on
22 building robust, transparent, and reliable supply chains
23 with our closest allies and partners. This friend-sharing
24 approach diversifies our sourcing away from high-risk



1 geopolitical areas and compliments our pillar one efforts to
2 build new end-to-end sources of supply, foster secure, and
3 reliable transport and logistics networks, and transform the
4 global market into one that is secure, diversified, and
5 resilient. We are actively working with partners to jointly
6 invest in secure supply from responsible mining and
7 processing operations across the globe.

8 For our third pillar, the Department is aggressively
9 investing in research and development to mitigate demand for
10 the most heavily contested minerals. Our scientists at
11 DARPA and other service research labs are pioneering the
12 pioneering the development of next generation materials and
13 novel manufacturing techniques that can reduce or eliminate
14 the need for certain rare earth and other critical inputs.

15 Simultaneously, we are funding the development of
16 advanced recycling technologies. For example, we invested
17 \$29.9 million in ElementUSA to recover gallium and scandium
18 from waste residue left over from alumina refining. By
19 creating a robust circular economy, we can reclaim valuable
20 materials from our own waste streams, from spent batteries,
21 to decommissioned electronics, turning our liability into a
22 strategic asset and a secure domestic source of supply.

23 As our final pillar, we are modernizing the National
24 Defense Stockpile to ensure it serves as an effective buffer



1 against near-term supply chain shocks. We are conducting a
2 rigorous data-driven analysis of our strategic requirements
3 for a 21st century contested environment, and are taking
4 action to acquire materials that face the most acute supply
5 chain risks. Congress stepped up to help us with this
6 effort, providing \$2 billion in the One Big Beautiful Bill
7 Act. This modernized stockpile will provide the insurance
8 we need as we execute our long-term strategy of rebuilding
9 the domestic industrial base.

10 The committee asked for an update on recent and planned
11 deals, and I am pleased to report significant progress. I
12 will highlight two recent examples. We have finalized a
13 landmark agreement with a Canadian partner to secure a long-
14 term supply of gallium derived from new non-traditional
15 mining techniques, reducing reliance on Chinese sources for
16 this critical semiconductor material. The Department also
17 recently entered into a joint R&D agreement with Australia
18 to co-fund the development of substitutes for dysprosium,
19 and terbium, and high-performance magnets.

20 In closing, I want to emphasize that establishing
21 secure and resilient critical mineral supply chains is a
22 generational challenge, but it is a challenge we must and
23 will meet. The era of complacency is over. The Department
24 of War, in concert with industry, or allies, and partners,

1 and with the vital support of this committee, is committed
2 to executing this strategy with urgency and resolve.
3 Securing these supply chains is not merely an economic
4 issue, it is a foundational element of our national defense.

5 Thank you for your time, and I look forward to your
6 questions.

7 [The prepared statement of Mr. Cadenazzi follows:]

8 [COMMITTEE INSERT]

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24



1 Chairman Wicker: Thank you, Mr. Secretary. Mr.
2 Frankston, and you're recognized.

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24



1 STATEMENT OF MR. JEFFREY FRANKSTON, ACTING DEPUTY
2 ASSISTANT SECRETARY OF DEFENSE FOR INDUSTRIAL BASE
3 RESILIENCE

4 Mr. Frankston: Thank you, Mr. Chairman. In addition
5 to everything that Mr. Cadenazzi just mentioned, one of the
6 things that I want to emphasize is the full and unified
7 interagency cooperation on this effort. This is a subject
8 area that is not new, but has been turbocharged in the
9 collaboration and cooperation as we work together across
10 each of the interagency partners to identify the gaps, to
11 have common targets, common understanding of our both
12 domestic challenges, and then, in particular, from our
13 perspective, Department of War needs. And we work together
14 on a daily, if not hourly basis, across the interagency with
15 our international partners with industry to identify the
16 gaps and challenges here.

17 Our office oversees the policy for the National Defense
18 Stockpile, as Honorable Cadenazzi mentioned. This is a key
19 aspect that is a direct opportunity for our country to build
20 a resilient capability. The stockpile is one of the major
21 statutory pieces that we have taken the funding to implement
22 a direct challenge -- or to address a direct challenge on
23 how we're addressing critical minerals.

24 I look forward to answering the rest of the committee's

1 questions.

2 [The prepared statement of Mr. Frankston follows:]

3 [COMMITTEE INSERT]

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24



1 Chairman Wicker: Thank you very much. Well, Secretary
2 Cadenazzi, you say the era of complacency is over. Mr.
3 Frankston, you say that this issue is not new. I've been on
4 this committee since 2008. Maybe I should be ashamed of
5 myself. How is it that China, if they had persisted in
6 their threat to cut off exports, could've brought us to our
7 knees? How do we get to this point, Mr. Secretary?

8 Mr. Cadenazzi: Senator, we're engaged in a long-term
9 competition with our primary strategic competitor in China.
10 They've engaged in malign adversarial efforts to manipulate
11 markets to secure control, change supply, and to undermine
12 our own efforts to maintain a domestic market that's been
13 coupled with natural economic incentives to outsource to the
14 lowest supplier, the lowest cost provider, which China often
15 is as a result of their lack of compliance with
16 environmental and standard kind of work laws that we would
17 have in the West, particularly in the States.

18 And, therefore, they've demonstrated a willingness to
19 go ahead and create and invest these capabilities,
20 undercutting our ability to sustain this. We've taken
21 action in part, at times we've invested, but it's been
22 inadequate to the scale of the threat opposed by China in
23 this time. And therefore, I think the issue, the
24 opportunity we have before us today is to go ahead and take



1 a demonstrated committed effort, well-resourced and aligned
2 across both parties, with the support of this committee and
3 the Congress, to go ahead and fundamentally reshape those
4 markets. We believe our investments and efforts at this
5 front are our starting point.

6 Chairman Wicker: Well, I understand. We have no
7 question of and no choice, but to go forward as quickly as
8 we can. And I'm not pointing the finger at anybody in
9 particular, and I think I acknowledged that I'm a bit
10 nonplussed about this, but we've been hearing for several
11 administrations that China is our pacing threat. And it
12 just seems to me that collectively, we should have been
13 tackling this a long time ago.

14 Mr. Cadenazzi: Senator, I can't speak to the previous
15 efforts, but it's clear that the position we're in right now
16 is inadequate to the needs of the Nation with regards to
17 both our domestic economic performance and national
18 security.

19 Chairman Wicker: Okay. Now, you're going to be asked
20 about this new approach. Of course, we deal with the
21 industry a lot, but the idea of equity is something that
22 there are going to be questions about on both sides of the
23 dais. Why is it the way to go, in your judgment, on this
24 issue of critical minerals?



1 Mr. Cadenazzi: Senator, the issue of -- or the
2 opportunity that equity provides us is that it's a catalyst
3 for private investment and a more aggressive way of
4 reconciling what has been a failed market-based approach to
5 address this national security need. We have invested small
6 amounts of money. We provided grants, we've tried to
7 incentivize through tax incentives and things like that --

8 Chairman Wicker: How far back did we start trying
9 that?

10 Mr. Cadenazzi: How far back -- sorry, Senator?

11 Chairman Wicker: You say we've tried other approaches.

12 Mr. Cadenazzi: I believe we tried consistently for the
13 past 10 or 15 years, if you sort of read the press. I'm
14 sure there are more significant investments that I'm not
15 aware of, but it's pretty clear that the things that have
16 been done have been inadequate to the scale, and have not
17 resulted in the outcomes that we've wanted. And I think
18 that's the measure is on an outcome basis. As of last year,
19 and currently, our dependence on China for rare earth
20 remains significantly high, and so, the acquisitions in the
21 past have not met our needs. We think that the --

22 Chairman Wicker: But if conflict had broken out in the
23 last couple of year, last year, between the United States
24 and China, which of course we certainly hope we can avoid by



1 being strong enough, it would've brought us to our knees.
2 Well, could you help us understand -- well, do you agree
3 with my statement there?

4 Mr. Cadenazzi: Senator, it's very clear that the
5 willingness of China to turn off the spigot on rare earths
6 last year, represented a significant threat to national
7 security, and would've been debilitating to both domestic
8 industry and to the Defense Industrial Base.

9 Chairman Wicker: Specifically?

10 Mr. Cadenazzi: I think there are many systems which
11 are highly dependent upon rare earths and other elements,
12 which would've been struggled to get access to those outside
13 of the National Defense Stockpile, which thankfully, we have
14 a significant amount stored away that probably would've
15 carried us through for a period of time.

16 Presumably, we would've engaged in aggressive action to
17 unlock mining both domestically and with partners to
18 mitigate those gaps. We would've fundamentally shifted the
19 production curve in a way that would've prevented that for
20 the long haul, but in the short term, there definitely
21 would've been a crunch that would've impacted our ability to
22 produce the weapon systems we need.

23 Chairman Wicker: Thank you very much. Senator Reed.

24 Senator Reed: Well, thank you very much, Mr. Chairman.



1 Let me commend you in holding this hearing, because as
2 you've indicated, we have not paid the kind of attention in
3 the Congress that we should have, nor have the
4 administration, so thank you.

5 Mr. Cadenazzi, we've heard from various companies in
6 the minerals market that an equity stake and a 10-year price
7 floor for MP Materials, where the governor's literally
8 picking winners and losers puts other companies at a
9 competitive disadvantage. How can other domestic companies
10 remain competitive when DOD invests so heavily in one
11 company and provides that company a competitive advantage,
12 like a guaranteed price floor.

13 Mr. Cadenazzi: Senator, at the time, the MP Materials
14 deal, we felt was necessary to meet the needs of the moment,
15 that is to immediately stimulate rare earth's investment and
16 demand. The company, MP, has been invested in by the
17 government in the past for the past 15 years. We've, at
18 various times, attempted to move the needle on domestic rare
19 earth production using that particular firm and location.

20 At the time, we felt the need to go ahead and move
21 forward with a more aggressive model that would lock in the
22 equity stake, and create the offtake agreements and the
23 price floors. The price floors are determined by a set of
24 open-market analysis reflecting our best understanding of



1 what an open, Western market would look like, as opposed to
2 the manipulated Chinese price floor. As we've seen since
3 that time, prices domestically have actually increased to
4 the point where they're roughly, in some reports, around
5 \$110 per kilogram, which is where the price floor is at.

6 So, we think we've successfully created the mechanism
7 to generate more transparent and market-based pricing
8 mechanisms. That's to everyone's benefits. We've also
9 crowded in additional investments, we've seen additional
10 companies committed to spending in this space, and that all
11 is a beginning point for us to create a more liquid and
12 robust domestic market for rare earths.

13 Senator Reed: I've also been informed that MP Material
14 mines rely on in their production process on a heavy rare
15 earth element or elements from an unknown third-party
16 source. Can you tell us what that -- who that third party
17 is and what country it is located in?

18 Mr. Cadenazzi: Senator, we're in the process of
19 working through right now to go ahead and identify
20 additional sources for rares to improve their processing
21 capabilities. There's an optimal mix of light and heavy
22 rare earths, and I think I defer to Jeff on this that we
23 were working to go ahead and strike supply with. So, we've
24 struck additional gear deals with a Brazilian company, and



1 we're in discussions with a Saudi Arabian company to provide
2 access to additional raw materials.

3 Senator Reed: Who is providing the material to MP
4 Materials now? What country, what third-party country?

5 Mr. Cadenazzi: There's Serra Verde is the company in
6 Brazil, we've struck an agreement with. We're in the
7 process of negotiating that. And then, Modern, in Saudi
8 Arabia, is the other company.

9 Senator Reed: Thank you. As I requested yesterday on
10 a phone call with the chairman, could you provide us the
11 term sheets for the deal? We'd like to look in detail at
12 what has been transpired, and I think you indicated that it
13 is winding its way up through the process, but if you could
14 give it a little boost, I'd appreciate that.

15 [The information referred to follows:]

16 [COMMITTEE INSERT]

17

18

19

20

21

22

23

24



1 Mr. Cadenazzi: Ranking Member, absolutely. We've
2 submitted our request for it to be approved. It is in
3 review now.

4 Senator Reed: Now, China is going to try to
5 triangulate, circulate, get around this. With the price
6 level, could they simply reduce their prices and cause DOD
7 to commit significant dollars to MP Materials or in general,
8 how are they going to frustrate you?

9 Mr. Cadenazzi: Ranking Member Reed, I think part of
10 our approach is to create a more solid Western demand
11 signal, so that's where something like the preferential
12 trade zone, which is in a market zone willingly, voluntary
13 commitment by our allies and partners to all operate in a
14 way where we agree on price floors that essentially are set
15 in a collaborative manner by countries that are worried
16 about Chinese-maligned manipulation of markets, and that we
17 collectively can agree on establishing price floors that
18 will not allow them to manipulate it because we'll
19 voluntarily agree to pay initially a higher price, but as
20 demand decreases on their end and increases on ours, the
21 prices should level into what we hope is a more transparent
22 and reasonable global market pricing that will work to our
23 benefits in the long haul.

24 Senator Reed: Finally, the MP Materials deal relies on



1 future appropriations which calls into the question of does
2 it comply with the Anti-Deficiency Act? Have you analyzed
3 that and determine it won't?

4 Mr. Cadenazzi: Senator Reed, I've not personally
5 conducted analysis in this. We've relied upon the Office of
6 General Counsel and our legislative affairs teams to help us
7 in moving forward. From an industrial-based policy
8 standpoint, we've submitted requests for funds to go ahead
9 and pay the quarterly payments that we expect are necessary
10 to meet our offtake agreements. Going forward, we've
11 planned that through the fit up, and we expect that we'll
12 continue to barring any changes in policy.

13 Senator Reed: Thank you very much, Mr. Cadenazzi.

14 Mr. Cadenazzi: Thank you.

15 Chairman Wicker: Thank you, Mr. Ranking Member.
16 Senator Sullivan.

17 Senator Sullivan: Thank you, Mr. Chairman. Appreciate
18 you calling for this hearing.

19 Gentlemen, thank you for your testimony. Look, this
20 issue is infuriating for me because so much of the
21 challenges we face as a country are self-inflicted. And I
22 work in a bipartisan way on this committee a lot, but I will
23 tell you part of the answer is how did we become so reliant
24 on China and other adversaries of our critical minerals?



1 One reason is that there's a huge difference in this
2 town between Republicans and Democrats on who wants to
3 develop our minds and processing that is a fact. And my
4 colleagues on the other side of the isle, and they need to
5 look at -- they need to look at this issue straight in the
6 eye because so many of them are afraid of the far-left
7 environmental groups. They have prioritized shutting down
8 mining and not developing critical minerals in America, and
9 especially in my State.

10 Let me provide a few examples. My State is estimated
11 to have 56 out of the 60 critical minerals our country
12 needs. Let me repeat that. In Alaska, the U.S. Geological
13 Survey has said 56 out of the 60 critical minerals that we
14 need to compete for our industrial base, especially in the
15 military, reside in my State. But a core element of the far
16 left once they get into power, is to shut down Alaska.
17 That's a fact.

18 This is the Joe Biden 70 executive orders, what we call
19 the last frontier lockup. When he got into power, he issued
20 70 executive orders. Let me list them right here, okay. By
21 the way, 10 of were -- 10 of them were on his inauguration
22 day. So, this was a plan, 70, many of which dealt with
23 shutting down critical minerals. Crazy, crazy, okay?

24 And on this committee, my colleagues probably remember



1 the Ambler Mining District, the Road to the Ambler Mining
2 District, one of the biggest critical mineral deposits in
3 America. We debated it on this committee, and to my
4 colleague's credits, and I want to thank them on this
5 committee. We won that amendment, vote of mine, to have
6 access to the Ambler Mining District, which Joe Biden shut
7 down one of these. I think the vote was 21 to 6. Great
8 victory, in the NDAA, two years ago. What happened? Chuck
9 Schumer made it a priority, so did Hakeem Jeffries, and the
10 Biden administration, to strip that provision out in the
11 committee.

12 So, this is not rocket science. The far left on the
13 other side of the aisle has kept my State from producing
14 what the country needs. It's not rocket science, and it
15 still happens right now. So, let me ask and I appreciate
16 the focus of this committee, but this frustrates the heck
17 out of me because it's not just, of course, killing
18 thousands of jobs in Alaska, which nobody seems to care
19 about. It's empowering our adversaries. So, I appreciate
20 the Trump administration's focus.

21 By the way, the President, again, reversing Biden, who
22 reversed the President in his first term, did issue an order
23 on the Ambler Mining District. So, we're going to start
24 working on that. But let me ask you two gentlemen on



1 another topic that we're working on in the EPW Committee,
2 major permitting reform, NEPA reform, to make it more
3 efficient, timely, and certain to develop mines.

4 Isn't that also important? And by the way, it's
5 another issue that my colleagues on the other side of the
6 aisle blocked for decades. I've worked on that issue for
7 more than 10 years. Is that important, Mr. Secretary, and
8 how important would it be to get major NEPA permitting
9 reform done?

10 Mr. Cadenazzi: Senator Sullivan, absolutely.
11 Environmental restrictions have been a major point of
12 contention for mining development production. At every
13 turn, we've looked at opportunities to develop resources on
14 the industrial base, for example, on military land, which
15 offers some alternatives for how we could implement
16 environmental risk constraints. The Defense Production Act
17 does provide some remediation efforts for application of
18 environmental standards. We'd be keen to work with this
19 committee and the Congress on opportunities, where
20 appropriate, to go ahead and work on --

21 Senator Sullivan: Well, I think it's going --

22 Mr. Cadenazzi: -- new environment reforms.

23 Senator Sullivan: -- to be really important, even
24 though it's not directly in this committee, for you guys to



1 weigh in on the importance of the permitting reform. This
2 matters to energy, it matters to everybody. We're doing a
3 lot, and it's bipartisan so far. I'm going to submit for
4 the record some questions on some of the investments the
5 Department of War has made in Alaskan mining. I appreciate
6 that very much.

7 [The information referred to follows:]

8 [COMMITTEE INSERT]

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24



1 Senator Sullivan: Let me ask you, Mr. Secretary, one
2 final quick question. I appreciated the 8(a) meeting.
3 That's a very important issue for my constituents in terms
4 of lethality, flexibility, warfighting, keeping the IP that
5 the Pentagon gets to keep when they do those kinds of
6 programs. Limiting 8(a) opportunities, in my view, would be
7 a gift to the primes, the big primes. Can you give me an
8 update on how that's going? I appreciate the meeting, but
9 that's a really important one for me.

10 Mr. Cadenazzi: Thank you, Senator. 8(a) issues in the
11 audit associated with that continue to be a major priority
12 for the Office of Small Business Programs within industrial-
13 based policy. We continue to focus on issues associated
14 with fraud within the program primarily, and we're really
15 excited about finding new opportunities to bring new
16 entrants into the space, particularly through the 8(a)
17 programs in the future.

18 Senator Sullivan: Would you agree that a lot of them
19 is particularly as we talked about, my constituents bring a
20 focus on lethality, flexibility, and make the Pentagon more
21 lethal as I presented to you guys.

22 Mr. Cadenazzi: I agree, Senator Sullivan. Absolutely.

23 Senator Sullivan: Thank you. Thank you, Mr. Chairman.

24 Chairman Wicker: Senator Sullivan, we probably need to



1 put copies of those two posters in the record at this point.

2 So --

3 Senator Sullivan: Gladly, Mr. Chairman,

4 Chairman Wicker: -- unless there's objection, that is
5 so ordered.

6 [The information referred to follows:]

7 [COMMITTEE INSERT]

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24



1 Chairman Wicker: Senator Shaheen.

2 Senator Shaheen: Thank you, Mr. Chairman. I don't
3 object to putting those in the record, but I do object,
4 Senator Sullivan, to your blanket attack on Democrats as
5 being the reason that critical minerals aren't --

6 Senator Sullivan: I said one of the reasons, one of
7 the reasons. It is.

8 Senator Shaheen: Wow.

9 Senator Sullivan: There's no doubt in my mind.

10 Chairman Wicker: Senator Shaheen is --

11 Senator Sullivan: I live it every day.

12 Chairman Wicker: Senator Shaheen is recognized. We'll
13 take a second round.

14 Senator Shaheen: Well, I think a better way to address
15 this issue would be forced to work together, and to not
16 name-call, and try and educate people on why this is so
17 critical, as you have been trying to do. So, I would hope
18 that you --

19 Senator Sullivan: I would welcome the chance to.

20 Senator Shaheen: -- wouldn't just decide because I
21 have a D after my name, I'm not going to be supportive of
22 critical minerals.

23 Senator Sullivan: I'm not saying everybody, and you've
24 been great on this, Senator Shaheen.



1 Senator Shaheen: All right. Thank you, gentlemen.
2 Thank you both for joining us. I want to go back to the
3 equity investment question that Senator Reed and Senator
4 Wicker both raised because it's not clear to me what the
5 criteria is that you're looking at and making an equity
6 investment. So, can you outline what that is, and then
7 explain whether you're focusing more on extraction or
8 processing in terms of those investments?

9 Mr. Cadenazzi: Thank you, Senator. There's no
10 criteria in such that we're looking for equity investments
11 as a deliberate approach. I think the way I would view it
12 and describe it, ma'am, is that what we want to do is
13 achieve the outcomes of improved investment performance and
14 production within the mining space particularly. And
15 therefore, we're talking to companies about what would make
16 them more successful over the long haul. In some cases,
17 we've taken equity associated with direct DOW investment
18 through the IBAS and DPA programs --

19 Senator Shaheen: I'm not being clear, I think. So,
20 what determines whether you think a particular company is a
21 good choice --

22 Mr. Cadenazzi: Oh.

23 Senator Shaheen: -- for that equity investment, and
24 how do you determine that criteria? And then, how do you



1 decide whether you've been successful or not?

2 Mr. Cadenazzi: Thank you, Senator. So, thank you for
3 clarifying that. So, we conduct a robust diligence process.
4 So, we actually have brought in -- we have an internal
5 effort through our global investment and economic security
6 team to do FOCI, and intelligence analysis, and
7 counterintelligence analysis. We couple that with external
8 market analysis to understand the production rates of this
9 particular mine or whatever it might be associated with
10 their place in the market. We then add in additional
11 experts from both internal to the government within Jeff's
12 team or within another, our partners with an OSC, and other
13 agencies to determine whether or not we think this mine can
14 meet the targets that we have. That is generally an
15 increase in production from one number to another. And then
16 -- ma'am, sorry.

17 Senator Shaheen: Did you have something else you
18 wanted add?

19 Mr. Cadenazzi: No, I just want to say, then we couple
20 that all together, and we make a reasonable business case
21 analysis, we hope is, that determines what the right mix of
22 direct investment and/or debt may be to meet those
23 requirements for the country.

24 Senator Shaheen: And then, can you answer the



1 extraction versus processing question?

2 Mr. Cadenazzi: We're not overly indexed on -- our goal
3 is to go ahead for every one of the critical minerals we've
4 identified, which is 20-plus critical minerals. We're
5 creating what we call a value chain, which goes from the
6 mine all the way through production, refining, to recycling.
7 The goal is to go ahead and provide an adequate number of
8 investments at each of those places, whether directly
9 through the DOW, through our partner agencies, or through
10 private capital to make sure that we're investing
11 appropriately in -- across each of those elements.

12 Senator Shaheen: And can you tell me, my understanding
13 is that the biggest issue here is not China's control of the
14 actual critical minerals themselves, it's the processing
15 that they do that nobody else is doing. So, why -- how are
16 we focusing on the processing in ways that allow us to build
17 that supply that we're going to need?

18 Mr. Cadenazzi: I actually -- I'll let Mr. Frankson
19 weigh in on that one.

20 Mr. Frankston: Thank you, sir. Senator for each
21 critical mineral that we look at, as Honorable Cadenazzi
22 pointed out, we build a supply chain map across the board
23 from the raw material to the finished product and look at
24 each stage with a domestic focus specifically on Department



1 of War requirements, but then building that into the broader
2 domestic requirement piece.

3 One of the key aspects is where does China or other
4 competitors' control over their particular critical mineral?
5 And so, it's a different story for each one, but each one we
6 target is how do we make this investment along the entire
7 supply chain so that we're not making an isolated investment
8 in one stage of the process, and that it has a feeding and
9 receiving mode in terms of the rest of the supply chain, so
10 that we build an integrated domestic and joint partner
11 capability.

12 Senator Shaheen: And so, are we investing in any
13 processing capability?

14 Mr. Frankston: Yes, ma'am.

15 Mr. Cadenazzi: Senator, absolutely. The goal is to go
16 ahead and work across the entire supply value chain, and
17 that requires having raw material inputs, processing, and
18 the ability to go ahead and move that further into the
19 supply chain.

20 Senator Shaheen: And can you tell us what companies
21 are doing that processing and the difference between what
22 they're doing versus what China's doing? Because again, my
23 understanding is one of the challenges is that China is able
24 to do the work without any requirements that affect their



1 workforce.

2 Mr. Cadenazzi: Senator, yesterday, we provided your
3 offices, the whole committee, a copy of an antimony value
4 chain, which breaks that down in detail as an example of the
5 type of analysis we're doing. It gets into the details of
6 companies and production rates. We'll be happy to go ahead
7 and provide additional insight into those value chains,
8 which gets into that, and we'll provide specific comments on
9 the companies that are performing that we're looking to
10 invest in those sectors going forward.

11 [The information referred to follows:]

12 [COMMITTEE INSERT]

13

14

15

16

17

18

19

20

21

22

23

24



1 Senator Shaheen: Thank you. Thank you, Mr. Chairman.

2 Chairman Wicker: Yes, Senator Kaine.

3 Senator Kaine: Thank you, Mr. Chairman. Thanks to our
4 witnesses.

5 I wish Senator Sullivan was still here. Just one
6 comment about his concluding remarks that Democrats have
7 been blocking permitting reform. For decades, I think
8 Democrats have been working hand in hand with Republicans on
9 permitting reform issues. My understanding from Democrats
10 on the relevant committees were that those issues were
11 closing, and there was a real possibility of finding a path
12 forward that was bipartisan.

13 But President Trump's decision to wage war on clean
14 energy, especially a concerted effort to wage war against
15 offshore wind projects, which have been repeatedly rebuffed
16 in courts, but that has not stopped the President from
17 attacking offshore wind, has caused the permitting reform
18 efforts to grind to a halt.

19 It seems to me in this area of critical minerals or
20 energy, self-sufficiency, if we're going to be all of the
21 above, we should be all of the above and not just all of the
22 below; oil, gas, and coal. My State has been affected
23 dramatically by President Trump's actions. We want
24 permitting reform, but we don't want permitting reform that



1 takes clean, American, domestic energy off the table.

2 To my witnesses, thank you so much for being here
3 today, and for your work, and for your testimony. I was in
4 Australia last week for a visit connected to AUKUS, and
5 appreciate some of the testimony earlier about AUKUS Pillar
6 1. Australia produces half, about half of the world's
7 lithium, but historically, has relied on China for refining.
8 What specific steps is the DOD taking to ensure Australia
9 refining and separation capacity scales fast enough to
10 reduce reliance on Chinese processing?

11 And this question builds upon a positive meeting that
12 the President and the Australian Prime Minister had in
13 October where they announced a bilateral partnership to
14 escalate Australian critical mineral production and
15 refining.

16 Mr. Cadenazzi: Thank you, Senator. We're excited to
17 be partnered with our Australian colleagues. We've invested
18 in Alcoa in a partnership with the Japanese as well in
19 Australia recently. Lithium is not something that we're
20 terribly focused on within the DOW. It is not on our
21 critical list there. There's too many problems, and so
22 we've decided that we need to make some choices. That is
23 something we believe we have adequate supply from global
24 sources, from domestic production, from our partners, and



1 allies, that for the moment, the DOW itself does not require
2 as much focus on it. So, we've prioritized other minerals;
3 vitrium, germanium, gallium within that.

4 Senator Kaine: Let me build on that. Appreciating the
5 comment you made about lithium, but the general issue of
6 refining capacity is an important one. It's not just where
7 the critical minerals, how can we extract them and get them
8 to market? China has sort of locked up a lot of the world's
9 refining capacity. So, in developing a critical mineral
10 strategy that we can rely on, with a supply chain that we
11 can rely on, what is the DOD doing to focus on the refining
12 issue as a component of those minerals that you're concerned
13 with?

14 Mr. Cadenazzi: Absolutely, Senator. It's a major
15 priority for us. We're working across, again, the value
16 chain to make sure that for all of the critical elements
17 that the DOW has identified, that we are investing
18 adequately in each element to include mining, production,
19 refining, and recycling, and inadequately. And I'll turn it
20 over to Jeff for any specific comments on refining.

21 Mr. Frankston: Yes. Thank you, sir. Senator,
22 Australia is a fantastic partner ally on multiple fronts,
23 but especially when it comes to minerals, just given what
24 their country is blessed with and what is in the ground.

1 From a processing standpoint, we look for opportunities
2 with all partners and allies to build a domestic capability
3 through the Defense Production Act. Australia is actually
4 considered a domestic source, and so we are working on a
5 number of different fronts, as Honorable Cadenazzi
6 mentioned, on Alco of Australia, that is a trilateral
7 investment with Australia and Japan.

8 But we have other open opportunities. Just two weeks
9 ago, we held a Defense Industrial Base consortium call for
10 submissions of papers and proposals from industry across the
11 world that includes Australia, and it's at all stages of
12 production, and we welcome any participation, any
13 cooperation, any collaboration that directly aligns with the
14 President's agreement signed with Australia last year.

15 Senator Kaine: One last question back to Lithium. A
16 few weeks ago, the DOD announced that 25 vendors had been
17 invited to compete in phase 1 of a drone dominance program.
18 Lithium-ion batteries are a critical enabling technology for
19 drones, but China does control much of the upstream supply
20 chain for processing battery materials. What are the
21 requirements for the drone dominance vendors to source
22 battery or other materials from the U.S. or allied
23 suppliers?

24 Mr. Cadenazzi: Thank you, Senator. The batteries



1 issue is a critical one, not just for drones, but for the
2 entire supply chain for the Defense Department, Department
3 of War. So, minerals that go into those batteries are
4 available, we think, in for lithium, more or less.

5 There's challenges associated with some of the
6 alternatives. So, there are alternative chemistries for
7 batteries. We have a large team that works within
8 Industrial Base Policy on batteries issues. We convened a
9 whole-of-government effort two weeks ago, three weeks ago,
10 to go ahead and look at batteries opportunities and the
11 threat from China's control of markets on batteries.

12 So, we're working with our colleagues to go ahead and
13 identify alternative sources and chemistries, and then to
14 work with the teams that are driving drone adoption to
15 identify the right mix of controls on access to battery, raw
16 materials, and on technologies going forward.

17 Chairman Wicker: Senator Kelly.

18 Senator Kelly: Thank you, Mr. Chairman. Mr.
19 Cadenazzi? Did I get that right?

20 Mr. Cadenazzi: Yes, Senator.

21 Senator Kelly: And, Mr. Frankston, thank you both for
22 being here. I want to ask you about how we supply
23 semiconductors to the Defense Industrial Base. As you both
24 know, semiconductors doing a lot of stuff used by our



1 military and semiconductor technology advances rapidly
2 Moore's Laws says processing power doubles every 18 months.
3 The DODs procurement programs do not operate at that same
4 kind of speed, and the end result is some of our most
5 advanced weapon systems are relying on chips that are old
6 sometimes outdated, sometimes decades behind the state-of-
7 the-art technology. And, historically, DOD has relied on a
8 small number of trusted foundries which are fabs that not
9 only serve -- you know, they serve government customers.

10 So, would you both agree that this approach has not
11 succeeded at protecting DOD's access to the best chips in
12 the world for its most important programs?

13 Mr. Cadenazzi: Senator, we've parentally under
14 invested in the technology and the engineering necessary to
15 migrate our systems to go ahead and leverage the most
16 current state of the art chips. And as a result, we do have
17 a legacy infrastructure, which produces a large number of
18 the chips that meet our needs, which are essentially based
19 upon older technology. So, I concur entirely.

20 Senator Kelly: So, it sounds like an area where we
21 could put some focus on and try to fix.

22 Mr. Cadenazzi: Absolutely, Senator, it's a challenge.

23 Senator Kelly: So, and we've worked on this committee
24 for years to try to solve this issue by placing production



1 lines that meet DOD security requirements in commercial fab
2 facilities so DOD can get those leading chips without
3 compromising in any security. And these programs, there's a
4 couple of them, one is the Secure Enclave, the other is the
5 Microelectronics Commons, and these programs, they've been
6 stood up, and they're fully funded, and they're getting
7 ready to produce some chips.

8 There's just one problem here. Major DOD programs are
9 still choosing to have the old, outdated foundries produce
10 the chips, not the new ones. So, would you both agree that
11 there are meaningful strategic advantages to sourcing
12 leading edge chips for our major programs?

13 Mr. Cadenazzi: Senator, I concur in the need for us to
14 go and continuously improve the security of our chip
15 infrastructure and the chips themselves, and that the tools
16 that are in place under a Secure Enclave, et cetera provide
17 us new alternatives to deliver upon that in the future.

18 Senator Kelly: Why haven't we used those AL
19 alternatives?

20 Mr. Cadenazzi: So, there's price considerations and
21 engineering considerations with migrating from the current
22 chip infrastructure to new chips and new security models.
23 And I think inherently, it's a cost issue that programs have
24 been incentivized to sort of, you know, go short shrift on



1 this, and not pay the bill, and that we need to incentivize
2 them to pivot to actually investing in the infrastructure
3 change necessary to take full advantage of this for the
4 future.

5 Senator Kelly: Can you give it -- can you give an
6 example of like how much more does a chip coming out of the
7 Secure Enclave cost for like a weapon system, like
8 percentagewise?

9 Mr. Cadenazzi: Senator, I'm not sure I can comment
10 thoughtfully on the cost of chip. We can get back to you on
11 that. I think there's a bigger issue of the certification
12 cost for these new systems. When you change the chips, you
13 often have to requalify systems and their performance. It
14 becomes a cost driver for tests, for engineering. There's a
15 whole bunch of ancillary pieces that go into it, and the
16 bill gets pretty large, millions of dollars, into the tens
17 of millions of dollars to go ahead and make these changes,
18 unfortunately.

19 Senator Kelly: How about for new weapon systems?
20 Something that's brand-new?

21 Mr. Cadenazzi: The challenge we had is that, often,
22 the firms that deliver these weapons systems are
23 incentivized for ease of access and approval to leverage
24 infrastructure that's already approved and tools that are



1 already approved. So, therefore, to go ahead and launch a
2 new weapons platform with a brand-new security or IT
3 infrastructure, whatever that might be, or microelectronics
4 infrastructure, is often cost-prohibitive and not
5 incentivized by the programs themselves.

6 Senator Kelly: But we funded the Secure Enclave and
7 the Microelectronics Commons. Are they not approved?

8 Mr. Cadenazzi: Senator, I believe that they are, and
9 that we're in the process of migrating to that, those
10 requirements over the next 5 years or so. However, I do
11 think there's going to be a bit of a tail and a lag, and
12 particularly a bill associated with how we make that
13 migration work.

14 Senator Kelly: Well, we could -- what could we do to
15 make that migration happen more quickly?

16 Mr. Cadenazzi: Senator, I think we'd be keen to work
17 with you and the committee on authorities and changes to
18 policy that would help us drive those changes, and an
19 understanding of the costs associated with that to make it
20 work going forward.

21 Senator Kelly: All right. Thank you. Thank you, Mr.
22 Chairman. I yield back my 6 seconds.

23 Chairman Wicker: Quite generous of you. Senator
24 Hirono.



1 Senator Hirono: Thank you, Mr. Chairman.

2 Before I begin my questions, I would like to note that
3 we all acknowledge both the Democrats and the Republicans
4 acknowledge the importance of critical minerals and our over
5 reliance on China. At the same time, though, there are
6 environmental concerns with mining these resources, and I
7 just want to put on the record my opposition to this
8 regime's attempt to reverse a 20-year ban on mining near
9 Minnesota's boundary waters.

10 And while access to critical mine minerals supplies
11 domestically are important, we can't just toss out the kinds
12 of environmental concerns that have to do with contamination
13 of local lakes and rivers, as is the case in the Minnesota
14 situation. So, environmental requirements are important.
15 We don't just toss those things out because we want to mine
16 critical minerals.

17 Oh, I -- you've been asked, Mr. Secretary, a number of
18 questions relating to the \$400 million in equity that we
19 have with MP Materials, and I made a note that you said that
20 we pursued equity ownership to address failed marketplace
21 efforts. I don't know what that means, because you can
22 argue that there's failed market marketplace efforts to
23 justify equity shares, and I suppose any number of private
24 entities.



1 And it's really hard to -- for us to determine whether
2 that is an accurate depiction of the reasons for it or not,
3 but this is very unusual for the government to acquire
4 equity shares. And, you know, there are issues relating to
5 competition or the lack thereof when we get an equity share
6 in a private entity. So, I just want to raise my concerns.

7 And there's also an issue whether or not the Defense
8 Production Act even gives the authority under the Act for
9 the U.S. to achieve equity shares. And there's a question
10 if that authority is deemed not existent, I don't know what
11 that does to the equity shares, \$400 million. Does that
12 mean that that deal has to be unwound? It reminds me very
13 much of the Supreme Court's decision on the
14 unconstitutionality of the tariffs and the billions of
15 dollars that are -- that there're going to be arguments
16 about returning all of that.

17 Let me turn to something that I think we -- I think it
18 is very positive on this issue of critical minerals, and
19 that has to do with recycling of critical minerals from end-
20 of-life equipment. So, I'm glad to see that in your
21 testimony, you refer to recycling as one of the ways that
22 we're going to address our need for critical minerals, and
23 especially, obtaining critical minerals from spent lithium-
24 ion batteries.

1 I wanted to ask you, what progress are you making in
2 this area of recycling, and are you preparing any
3 demonstration projects to scale these recycling technologies
4 up?

5 Mr. Frankston: Thank you, Senator. A great example of
6 our recycling capabilities is through the Defense Logistics
7 Agency through their germanium recycling program. They have
8 taken night vision optics that have been decommissioned
9 after periods of use, and have been able to harvest back the
10 materials. So, they have a ready supply of ready material
11 for the warfighter, for the Defense Industrial Base as a
12 reserve into our --

13 Senator Hirono: So, I'm sorry, I am running out of
14 time, but I want to make sure that you are -- both of you
15 are very committed to shoring up the recycling aspects of
16 critical minerals, and that you are spending the kind of
17 money that we need in R&D for this purpose. Are you, one,
18 committed to recycling, and, two, do you have -- I had a
19 question as to whether or not you have any demonstration
20 projects to show us your progress in this area.

21 Mr. Cadenazzi: Senator, we're absolutely committed.
22 We recognize that recycling would be a critical source of
23 supply for us for the long haul, and there are multiple
24 demonstration projects underway within the R&E portfolio,



1 research engineering portfolio. We'll go ahead and come
2 back to you on the report what those projects are.

3 [The information referred to follows:]

4 [COMMITTEE INSERT]

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24



1 Senator Hirono: And are you making it clear to the
2 private sector that they also can participate in the
3 developing the kind of recycling of critical minerals from
4 spent materials --

5 Mr. Cadenazzi: Absolutely --

6 Senator Hirono: -- so they can put their energies and
7 brain power to enabling us to recycle?

8 Mr. Cadenazzi: Absolutely, Senator. We put out our
9 requirements often to the market and hope that we can bring
10 the best of breed capabilities back for us to leverage in
11 these decisions, in these analyses.

12 Senator Hirono: Mr. Chairman, can I just ask one short
13 question about a provision we put in last year's NDAA?

14 Chairman Wicker: Yes, ma'am.

15 Senator Hirono: So, Section 1412 of the fiscal year
16 2026 NDAA requires the Defense Logistics Agency to report to
17 SASC and HASC on best practices to expand the strategic
18 material recovery and reuse program by March 1, 2026, that
19 is right around the corner. Is that report on schedule?

20 Mr. Cadenazzi: Senator, the Defense Logistics Agency
21 is a separate agency, field agency within acquisition
22 sustainment. I'll bring that request back to Honorable
23 Duffy, who's the under secretary for ANS, and we will find
24 out



1 Senator Hirono: This is an issue, you know. I mean,
2 you recycling is a very important part of the testimony you
3 gave, and yet, you're not the one that's able to tell us
4 whether this report is going to be on time or not. But I
5 appreciate your conveying it to the appropriate entity and
6 DOD. Thank you.

7 Chairman Wicker: Thank you for agreeing to do that,
8 Mr. Cadenazzi. Senator Banks.

9 Senator Banks: Thank you, Mr. Chairman.

10 Mr. Cadenazzi, can you speak to the specific importance
11 of the Department of War's equity investments and how they
12 played a role in supporting the Department's critical
13 mineral supply chain security. And in other words, what is
14 uniquely helpful about equity stakes relative to other kinds
15 of support that we would use?

16 Mr. Cadenazzi: Thank you, Senator. We believe that
17 given the frailty of many of our minerals markets, that
18 equity is a necessary component to go ahead and drive
19 alignment of the companies, make a clear commitment from the
20 government that we're interested, and we're committed to not
21 just the market but the company in question, hence the
22 rigorous diligence that we conduct on that company and its
23 performance that we can then crowd in private capital, which
24 will allow us to go ahead and expand our operations, and



1 leverage less taxpayer money to go ahead and achieve our
2 ends, but also signal a real change in how we plan to
3 operate and the demand signal for that particular component
4 or mineral going forward.

5 It's been vital. It's been very successful thus far.
6 It forges a true partnership with the company in question,
7 and allows us to plan for the long haul. Again, our goal in
8 this is not equity outcomes for ROI for economic or
9 financial returns. Those funds would return to the
10 taxpayer. Our goal is to improve mineral production and the
11 availability of those minerals to the Department of War, and
12 more broadly, to the Nation.

13 Senator Banks: Has the Department ever used equity
14 investment tool before?

15 Mr. Cadenazzi: Prior to the current administration, I
16 believe we used tools like warrants during, say, the 2008
17 financial crisis.

18 Senator Banks: So, there is a precedent?

19 Mr. Cadenazzi: It has happened in the past. Different
20 format, but yes.

21 Senator Banks: Yeah. Can you talk about how we might
22 use it in the future?

23 Mr. Cadenazzi: Senator, we believe that where
24 opportunities exist for the government to supplement our



1 spending with external capital, that equity is a powerful
2 tool for us to incentivize the investment of our partners in
3 industry, private capital markets, and to accelerate the
4 pace at which we're able to go ahead and generate new
5 production capacity.

6 We'd anticipate using this as an alternative to other
7 financing mechanisms where we've tended to offer grants to
8 companies to facilitate, for example, where we might want to
9 go ahead and offer an incentive for them to self facilitate,
10 or alternatively, for us to take an equity stake going
11 forward.

12 Senator Banks: Are there additional authorities that
13 you need as we head into NDAA season that might help you
14 provide equity investments in other sectors, too?

15 Mr. Cadenazzi: We recognize that there was a robust
16 discussion last fall with regards to equity language in the
17 2026 appropriations, an authorization bill that did not
18 reach fulfillment. We're eager to continue those
19 discussions to make sure that we're all in alignment on the
20 appropriate use and controls on the application of equity.

21 Senator Banks: Can you walk us through consequences
22 for the Department when the Chinese first expanded their
23 rare earth export controls last October. What did that do
24 to us.



1 Mr. Cadenazzi: Senator, it was absolutely a crisis. I
2 came in after that, and so I think having discussed with the
3 team, the commitment to national security and the minerals
4 front has been very vigorous since. I didn't discuss
5 minerals at all with the committee when I was confirmed or
6 my committee discussions last fall, but this has become a
7 major topic.

8 We spend a substantial amount of time and the
9 Congress's money to go ahead and work on these minerals
10 issues, and we're really excited about the impact we're
11 having on the space. And we believe we're -- over the past
12 14 months, the administration has already started to bend
13 the needle substantially on availability, and we're looking
14 forward to more impact over the next few years.

15 Senator Banks: And what does it mean to America and to
16 the Department specifically to be reliant upon our biggest
17 adversary?

18 Mr. Cadenazzi: Well, it's unacceptable from a national
19 security standpoint that our primary strategic competitor
20 can go ahead and turn off the spigot on a mineral which we
21 absolutely require for the production of nearly every
22 weapons platform.

23 Senator Banks: Mr. Chairman, that's all I have. Thank
24 you. I yield back.



1 Mr. Cadenazzi: Thank you, Senator.

2 Chairman Wicker: Thank you very much. Senator Reed,
3 you're recognized.

4 Senator Reed: Thank you very much, Mr. Chairman.

5 Just two quick questions, if I may. Secretary
6 Cadenazzi, we've talked about equity. This is an issue
7 that's not going to go away but there are other tools that
8 are available, direct grants many other tools. So, why was
9 equity chosen above these other approaches?

10 Mr. Cadenazzi: Senator, we believe that, at this time,
11 to go ahead and incentivize enough private capital, provide
12 a clear signal to the market that the DOW itself is
13 interested in solving these problems, which are outsized
14 relative to our normal focus on it, that equity is a
15 necessary tool for us to make that commitment.

16 We also think it provides a tool to recoup our
17 investment over time. That is, the taxpayer will be repaid
18 through a successful investment if the market works out as
19 we believe it will, which is we invest in a company, we
20 solve our national security problem with access to that
21 particular mineral, that our equity stake will actually pay
22 back the taxpayer for that return.

23 We think that's a great deal for the taxpayer as it's
24 going to go ahead and meet both of our needs within the



1 Department and the country's needs for the future.

2 Senator Reed: Now, let me ask just another question.
3 This is all critical in terms of the legal basis for all of
4 these actions, and can we be assured that we will get,
5 promptly, the DOD legal opinion on these equity deals that
6 go through all the nuances we've spoken about this morning?

7 Mr. Cadenazzi: Senator, I believe that the
8 Department's OGC has worked on providing those legal
9 justifications to the Congress, and we'll go ahead and
10 submit that request back again.

11 Senator Reed: Thank you very much.

12 Chairman Wicker: Do you have any idea how much longer
13 that will take, Mr. Secretary?

14 Mr. Cadenazzi: Chairman Wicker, I do not. I'm not a
15 lawyer, and I'm not in OGC, but I will go ahead and ask the
16 team there to give us a timeline.

17 Chairman Wicker: Senator Reed.

18 Senator Reed: No, I -- you're just trying to claim the
19 veil of innocence by claiming you're not a lawyer. Okay, I
20 get it. The investments, the equity investments, are such
21 that raise issues that I hope we can see analyzed in these
22 legal opinions. For example, what obligation do you have as
23 a shareholder to the company and to -- versus what
24 obligation to have to the United States? That's a key



1 distinction. And I know the present investments in the
2 former preferred stock that's convertible into common stock,
3 but there's still that whole notion of distention between a
4 stockholder and a government agent, and that's something I
5 hope will be captured in these opinions. Have you seen that
6 discussion?

7 Mr. Cadenazzi: Senator, absolutely understand the
8 concern. We've established these deals to provide for
9 performance outcomes. Our goal is not economic returns.
10 We're not trying to excise long-term ownership of these
11 companies. The goal is not to have a stake forever. The
12 goal is to achieve our outcome, execute some sort of exit
13 strategy as appropriate to the moment, and then continue on
14 with the next set of problems for the DOW. Ideally, we
15 wouldn't be spending much time on minerals. We feel
16 compelled to do so as a result of the situation in the
17 market.

18 Senator Reed: Well, thank you very much, Mr. Secretary
19 and Mr. Frankston, for your very, very clear and --
20 testimony. I appreciate it very much.

21 Chairman Wicker: Do you have questions? Let me ask
22 you this Secretary Cadenazzi, are we expanding the -- your
23 workforce enough? We had understood that in your team they
24 were working some of the longest hours in the building. How



1 is that coming along?

2 Mr. Cadenazzi: In the One Big Beautiful Bill, Chairman
3 Wicker, we received several million dollars, \$20 million, I
4 believe, in funds for workforce expansion, specifically
5 within Jeff's team, in industrial base resilience. We've
6 worked incredibly hard to go ahead and fill those roles and
7 begin the expansion. It's been taking some time for the
8 money to flow in, but think I'll turn over to Jeff.

9 Chairman Wicker: Well, the money didn't arrive quite
10 as quickly as perhaps --

11 Mr. Cadenazzi: Not as much as I wanted Senator. Yes.

12 Chairman Wicker: Right.

13 Mr. Frankston: Thank you, sir. Thank you, Mr.
14 Chairman. Just in the last few weeks, we've brought on
15 about four or five people alone on my team to work across a
16 number of key sectors. So, the resourcing provided from
17 this committee, from yourself, from this team has been
18 phenomenal. We are building our capability to grow across
19 all sectors, but in particular, focus on critical minerals.

20 We just brought in a third expert to help us, and we're
21 going to be bringing in more to cover in some of these
22 smaller sectors and some of the underlying sub-tier and
23 enabling things like chemicals for leaching for critical
24 minerals, looking at recycling, looking across all these



1 areas. So, we are very much appreciative and looking
2 forward to bringing on more personnel.

3 Chairman Wicker: Well, I'm glad you're appreciative.
4 Sometimes, those ponies going from one side of the river to
5 the other are a little slow getting across the bridge.
6 Senator Warren.

7 Senator Warren: Thank you. Thank you, Mr. Chairman.

8 So, when you sign a contract, you expect to get what
9 you paid for at the price and on the date that was spelled
10 out in the contract. But not for DOD. When DOD signs
11 contracts to buy equipment for hundreds of billions of
12 dollars, giant Defense contractors often deliver late, years
13 late, and billions of dollars over budget.

14 So, recently, the GAO found that in fiscal year 2024,
15 DODs major weapons programs were 18 months behind schedule
16 and would cost \$50 billion more than budgeted just the year
17 before. \$50 billion in 1 year. That is not an oops. That
18 is two times what the Federal Government spent on childcare
19 that year. Now, General Dynamics oiler ship program, an
20 extra \$1 billion dollars, Raytheon's air and missile defense
21 radar, another \$6 billion, Northrop Grumman Sentinel
22 Program, \$36 billion over budget, and all are at least three
23 years behind schedule. And now, DOD is ramping up
24 investments in critical minerals, and you got to worry, are

1 we just going to see the same thing again?

2 So, Mr. Cadenazzi, you are the principal DOD advisor on
3 industrial base policy. Does it help or hurt our national
4 security when DOD signs a contract for the equipment it
5 needs, and it actually gets it years later and for billions
6 of dollars more?

7 Mr. Cadenazzi: Senator, it's absolutely brutal when
8 that happens. I think everyone in the Department agrees
9 that the performance of the industrial base and our
10 contractors that are delivering weapon systems has been
11 unsatisfactory overall for an extended period of time, hence
12 the aggressive effort we've been making to go ahead and
13 focus on manufacturing and the DIB, to make sure that we
14 start to go ahead and get the outcomes which are expected
15 for us to meet the requirements of the warfighter.

16 Senator Warren: Yeah. Well, I got to say
17 unsatisfactory might be the understatement of the day.
18 Look, if you bought something and then the company said pay
19 us more and we'll give it to you a year later, you'd report
20 them to the authorities. But Defense contractors are a year
21 late and over budget, and what happens? They break in
22 taxpayer dollars, and then they shell out billions of
23 dollars to their shareholders and to their executives.

24 So, in 2024, Raytheon, General Dynamics, and Northrop



1 Grumman each spent \$3 billion on stock buybacks and
2 dividends. Their executives, you'll be happy to know, did
3 just fine, too. Raytheon's, CEO earned \$18 million, General
4 Dynamic, CEO made \$23 million, and Northrop Grumman made \$24
5 million.

6 So, Mr. Cadenazzi, does it help or hurt our national
7 security when giant contractors spend billions of dollars on
8 stock buybacks and CEO payouts at the same time that they
9 are failing to deliver weapons on time and on budget?

10 Mr. Cadenazzi: Senator Warren, we agree that companies
11 investing in share buybacks, dividends, and oversized
12 executive compensation relative to their poor performance is
13 a concern. We are not happy with it, hence the EO that came
14 out regarding warfighter outcomes, hence our incredible
15 focus on trying to drive and improve outcomes from these
16 companies going forward, and making it clear that we think
17 that the misalignment of capital and the unwillingness to
18 invest first in warfighter performance and system
19 performance and delivery rates readiness is a more important
20 thing relative to these other financial incentives. We
21 recognize that they're have market expectations to meet,
22 their first expectation needs to be delivering for the
23 warfighter.

24 Senator Warren: Well, I appreciate this, but you know,



1 we're just really reaching a point where enough is enough.
2 A recent Trump administration executive order announced a
3 plan to prohibit buybacks, dividends, and excessive
4 compensation for companies that fail to deliver to our
5 warfighters. It's a good start, but Defense contractors are
6 already bragging to their shareholders that they're not
7 going to change. So, obviously, they're not very afraid of
8 you at this point.

9 When asked if Northrop Grumman would continue paying
10 dividends, the CEO said, "Yes, yes, 100 percent. Yes."
11 Raytheon, which the President called out as a problem, said
12 they, "remain committed to the dividend." So, let me just
13 ask, I'm out of time here so I can do this for the record,
14 but Mr. Cadenazzi, would DOD benefit from changes in the law
15 to give this executive order more teeth and show companies
16 that we're actually serious?

17 Mr. Cadenazzi: Yes, Senator.

18 Senator Warren: Good.

19 Mr. Cadenazzi: We appreciate the opportunity to work
20 with you and the committee on that issue.

21 Senator Warren: You know, I don't say this often, but
22 I think the Trump administration has hit the nail on the
23 head on the problem here, but Congress needs to codify these
24 tools to ensure that contractors prioritize delivering on



1 time and on budget, not just lining their own pockets. So,
2 thank you very much, Mr. Chairman.

3 Chairman Wicker: Thank you very much, and I agree,
4 Senator, with that sentiment. This concludes today's
5 hearing. Questions of the record will be due within 2
6 business days of the conclusion.

7 [The information referred to follows:]

8 [COMMITTEE INSERT]

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24



1 Chairman Wicker: We're adjourned.

2 [Whereupon, at 10:48 a.m., the hearing was adjourned.]

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

