rocky mountain export council

June 27, 2013

To: U.S. Department of Commerce: Bureau of Industry and Security

Docket No. 130110030-3030-01

RIN 0694-AF87

Export Administration Regulations (EAR): Control of Spacecraft Systems and Related Items the President Determines No Longer Warrant Control Under the United States Munitions List (USML)

Good Day:

The Rocky Mountain District Export Council, per its mission, convened a Space Industry Forum on Monday June 24, 2013 to discuss the above proposed rule and then to take, record and transcribe official comments from space industry executives and leaders in Colorado's economic development community. Because of the dominant presence of military and civilian space activity, this proposed rule is of great interest within the State of Colorado.

The RMDEC is pleased to submit the attached transcribed comments for the record as well as written comments that were brought to the Forum.

If there are questions, please fell free to contact myself or Mr. Kip Cheroutes, RMDEC's Legislative Chair, at 303.382.4054.

Thank you for the opportunity to submit these comments.

Sincerely,

Kristy Schloss

Kristy Schloss, Chair
Rocky Mountain District Export Council

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6 US EXPORT ASSISTANCE CENTER'S

7 ROCKY MOUNTAIN DISTRICT EXPORT COUNCIL

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9 Monday, June 24, 2013

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11 IN THE MATTER OF THE

12 COLORADO SPACE INDUSTRY OPEN COMMENT FORUM

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22 The above-entitled matter came on for an Open Comment
23 Forum on June 24, 2013, at 10:10 AM at South Metro Chamber of Commerce, 2154 East Commons Avenue, Suite 342, Centennial,
24 Colorado, before Martha Loomis, Certified Shorthand Reporter and Colorado Notary Public, 5418 South Foresthill Street, Littleton,
25 Colorado.

1 DISTRICT EXPORT COUNCIL:

2 Kristy Schloss
Louis X. (Kip) Cheroutes
3 Frank Schuchat
John Anderson
4 Monisha Merchant

5 ATTENDEES:

6 Paul Bergman
Danielle Blakely
7 William Bolton
John Brackney
8 Paul Deadrick
Stephanie Dybsky
9 Brian Emmet
Jonathan Goff
10 Ryan Kelly
Christi Lee
11 Stanley Kennedy
Albert Lepore, Jr.
12 Maureen O'Brien
Joe Rice
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2 Whereupon the following proceedings were had:

3 MS. SCHLOSS: Good morning. I'm Kristy Schloss, Chair

4 of the US Department of Commerce Rocky Mountain District Export

5 Council. The District Export Council, an advisory group under

6 the International Trade Administration, is convened on this

7 date, Monday, June 24, 2013, for open comment for us to tape

8 record, transcribe, and submit comments made pursuant to the
9 following proposed rules: US Department State Amendment to the
10 International Traffic and Arms Regulations, Revision of the US
11 Munitions List Category XV and Definition of "Defense Service,"
12 and US Department of Commerce Export Administration Regulations,
13 Control of Spacecraft Systems and Related Items the President
14 Determines No Longer Warrant Control Under the United States
15 Munitions List.
16 Because the new law and proposed rules have potential
17 beneficial impact on Colorado's strong space-based economy, the
18 Rocky Mountain District Export Council, following the lead of
19 the President's National Export Initiative, invited space
20 executives and economic development leaders to comment for the
21 record. The following comments come in from them.
22 Our first speaker today will be Frank Schuchat, who is
23 going to represent the Colorado Space Coalition.
24 MR. SCHUCHAT: Thank you, Kristy. I'm here reading a
25 statement on behalf of the Colorado Space Coalition. I

1 participate in that group. This was drafted by the Coalition

2 staff, in particular Vicky Lea.

3 The Colorado Space Coalition thanks the US Export

4 Assistance Center's Rocky Mountain District Export Council for

5 the opportunity to submit comments on the Proposed Rules for the

6 International Traffic in Arms Regulations and Export

7 Administration Regulations

8 By way of background, the Colorado Space Coalition

9 membership represents more than 40 aerospace and defense

10 companies. Together with the Coalition's small and midsize

11 company members, these partners represent the full supply chain

12 in the military, civil, and commercial space markets. Other

13 Colorado Space Coalition partners include higher education

14 institutions, the Colorado Space Business Roundtable, and

15 several regional chambers of commerce and economic development

16 agencies. Our goal is to further grow Colorado as a center for

17 excellence for space, and the best place for aerospace companies

18 to locate and thrive.

19 Colorado is a leading aerospace state, ranking first

20 in terms of private aerospace employees per capita, and is home

21 to the second largest number of private aerospace employees in

22 the nation. Colorado has seen space employment grow by

23 19 percent in the past decade, and close to

24 167,000 space-related jobs currently bring in nearly $3 billion

25 in annual payroll to the state.

1 ITAR continues to challenge the ability of Colorado

2 space companies to compete in the global marketplace, and the

3 reduction of unnecessary licensing and export restrictions for

4 the aerospace industry has long been a top recommended

5 legislative priority for the Colorado Space Coalition.

6 Colorado is a national hub for the satellite industry,

7 and the Colorado Space Coalition therefore views the recent

8 passage of satellite export control reform legislation, and the

9 subsequent proposed rules for the ITAR and EAR, as an extremely

10 positive development, with significant economic benefits to the

11 region development with significant economic benefits to the

12 region.

13 Colorado's satellite manufacturing industry directly

14 employs approximately 860 workers in nearly 20 companies, with

15 an average wage of just over $104,000, and a total annual

16 payroll of approximately $85.7 million. These companies are at

17 the forefront of developing next generation satellite systems,

18 and have a deep technical expertise and an inherent global
19 competitive edge. The Proposed Rules for the ITAR and EAR will
20 enable our companies to capitalize on their expertise to become
21 more competitive internationally, and increase high skilled jobs
22 and economic impact here in Colorado.
23 Individual Colorado Space Coalition members will
24 submit separate comments on the Proposed Rules reflecting their
25 respective business and technical needs. In the meantime, the

1 Colorado Space Coalition would like to take this opportunity to
2 provide the following comments on the way in which the Proposed
3 Rules impact Colorado's university-based space research.
4 While the Proposed Rules are a welcome step toward
5 much needed export control reform, their focus is on commercial
6 aspects, and they remain restrictive for space research
7 conducted by universities, where class attendance may include
8 non US citizens.
9 Research institutions such as CU Boulder's Laboratory
10 for Atmospheric and Space Physics are increasingly working on
11 hosted payloads. If the Department of Defense funds a hosted

12 payload, it remains subject to the ITAR, even if the payload is
13 completely unclassified.
14 Infrared sensing remains under ITAR control. Manned
15 Earth observation science missions use shortwave infrared,
16 midwave infrared, and longwave infrared technology, and so will
17 remain subject to ITAR restrictions.
18 Spacecraft that track ground, airborne, missile, or
19 space objects using imaging, infrared, radar, or laser systems
20 remain ITAR controlled. Much of the same technology is utilized
21 for spacecraft that perform climate and weather science.
22 Our universities play a critical role in advancing
23 cutting edge space research, training the next generation of
24 aerospace workers, and ensuring the United States' leadership in
25 space. The Colorado Space Coalition acknowledges the necessity

1 of balancing the needs of space-based research institutions with
2 national security interests, and suggests further consideration
3 be given to ways in which the Proposed Rules can provide a less
4 restrictive environment for space-related research, particularly
5 with regard to the issues described above.

6 On behalf of its members, the Colorado Space Coalition
7 wishes to thank you for the opportunity to comment on these
8 important Proposed Rules. Please do not hesitate to contact us
9 if you have any questions about those comments.
10 MS. SCHLOSS: Thank you, Frank.
11 Our next speaker will be Stanley Kennedy with Oakman
12 Aerospace.
13 MR. KENNEDY: I would like to start by thanking the US
14 Export Assistance Center's Rocky Mountain District Export
15 Council and the South Metro Chamber of Commerce, the Metro
16 Denver Economic Development Corporation, Senator Michael Bennet
17 and Staff, and Congressman Mike Coffman and Staff for the
18 invitation to be included in the discussion of new federal law
19 and proposed regulations regarding spacecraft systems and
20 related articles.
21 I personally have spent over 28 years in the
22 aerospace/defense sector and have had the opportunity to work
23 for large, midsize, and small aerospace companies providing
24 products and services to both commercial and government
25 customers. I am currently serving as the President of Oakman

1 Aerospace, Inc., headquartered in Littleton, Colorado.

2 OAI is a veteran-owned small business focused on rapid

3 and responsive, modular open system architecture space vehicle

4 designs, components, and mission payloads. OAI is heavily

5 involved in both domestic and international space program

6 efforts that are directly impacted by the National Defense

7 Authorization Act for fiscal year 2013 and the proposed

8 regulation changes posted in the Federal Register from both the

9 US State Department and the US Commerce Department.

10 The first Federal Register notice has been issued by

11 the US Department of State Directorate of Defense Trade Controls

12 on May 2, 2013, and is entitled Amendment to the International

13 Traffic in Arms Regulations: Revision of the US Munitions List

14 Category XV and Definition of "Defense Services."

15 The second Federal Register notice, also issued on

16 May 24, 2013, by the US Department of Commerce's Bureau of

17 Industry and Security is entitled Export Administration

18 Regulations: Control of Spacecraft Systems and Related Items

19 the President Determines No Longer Warrant Control Under the

20 United States Munitions List.

21 Before I comment on the specifics of these proposed

22 rules and potential issues and concerns of the current language,

23 I would like to state for the record a few general observations

24 that I have developed over the last several years as the Export

25 Control Reform process has played out. These observations and

1 suggestions are not focused at the specific rules and

2 regulations, but rather are guideposts the government, industry,

3 and academia should consider as Export Control Reform moves into

4 implementation details.

5 First, any resulting rules that eventually are

6 implemented should address the need for the US to attract and

7 retain technology qualified foreign students studying Science,

8 Technology, Engineering, and Math, or STEM, that graduate from

9 US institutions. As the technical chair of the American

10 Institute of Aeronautics and Astronautics Utah State

11 University's Small Satellite Student Competition, I am

12 continually impressed by the caliber of students competing on

13 the international stage, and we should work diligently to

14 attract and retain these talents in the US to maximize our

15 global competitiveness.

16 Two, the proposed rules should allow small and medium

17 sized companies the ability to quickly support new startups and

18 ventures with companies residing in countries identified in EAR

19 Section 740.20(c)(1) and (c)(2) of the Department of Commerce,

20 Bureau of Industry and Security final ruling entitled Export

21 Control Reform Initiative and Strategic Trade Authorization

22 License Exception published via the Federal Register on June 16,

23 2011. This would encourage innovation, entrepreneurship, and

24 potential new ways of doing business.

25 Three, any new rule or regulation should bolster and

1 streamline international cooperation and collaboration through

2 the US State Department, US Commerce Department, and

3 military-to-military project agreements with approved, eligible

4 destinations.

5 Specific to the Department of State proposed rule, I

6 have the following comments. First, I believe USML Section

7 121.1 Category XV paragraph a(2) is overly broad, and will

8 disadvantage US companies working on international efforts

9 associated with rules of the road for safe and responsible uses

10 of outer space, as well as debris tracking and identification

11 efforts being worked in the United Nations Committee on the

12 Peaceful Uses of Outer Space, or COPUOS, working groups on the

13 long-term sustainability of outer space activities.

14 Next, I am concerned that 121.1 Category XV paragraph

15 e(2), limiting the largest lateral dimension for space qualified

16 optics greater than 0.35 meter from transfer to Commerce Control

17 is overly restrictive. There are many domestic and

18 international optics suppliers who provide. 0.50 meter and

19 larger products today. The technology for large optics will

20 quickly outpace the regulatory environment and potentially

21 continue to disadvantage US suppliers.

22 Finally, 121.1 Category XV paragraph e(17) states

23 secondary or hosted payloads or specially designed parts and

24 components that perform any of the functions described in

25 Section 121.1 Category XV paragraph (a) would remain on the

1 USML, even if developed commercially and on internal or venture

2 funding. This will significantly hamper innovation and

3 entrepreneurial ventures, and should be re-examined in light of
4 paragraph e(18), and national security implications and impacts.
5 With respect to the Department of Commerce proposed
6 rule, the following comments apply. One, the four new proposed
7 ECCN categories for spacecraft under 9x151 are broad, but
8 appropriate for commercial space activities.
9 Two, there is concern regarding the definitions of
10 "space qualified" and "specially designed." If a commercial off
11 the shelf (COTS) part is successfully tested to operate in
12 space, then it becomes space qualified. This could impact small
13 business trying to extend terrestrial and airborne parts and
14 components to the space domain.
15 Three, further clarification regarding eligibility,
16 use, and implementation of Strategic Trade Authorization (STA)
17 License Exceptions for items described in ECCNs 9x515 is
18 requested, specifically 9D515 and 9E515. Many small businesses
19 are working with foreign companies providing technical services
20 and support that would greatly benefit from these types of
21 exceptions.
22 Four, most companies will not avoid future DDTC
23 licensing fees because one or more products will remain on the
24 Category XV list while many may move to the new CCL 500 Series.

25 This is a minor point that should not diminish the potential

1 upside of these significant ITAR/ECR efforts.

2 In summary, building a successful and sustainable

3 ITAR/ECR implementation strategy is critical to National

4 Security, economic growth and job creation, and to maintain US

5 competitiveness in the global aerospace and defense sector.

6 Forums like these enable small business inputs and allow issues

7 and concerns to be addressed early in the process.

8 Again, I would like to thank the hosts for the

9 opportunity to discuss these important issues, and I look

10 forward to continued dialog on this most important subject.

11 Thank you.

12 MS. SCHLOSS: Thank you, Stanley.

13 Our next speaker will be Brian Emmet, Lockheed Martin.

14 MR. EMMET: Good morning. My name is Brian Emmet.

15 I'm the manager for the International Trade Compliance Office

16 for Lockheed Martin Space Systems Company in Colorado.

17 Lockheed Martin has been a strong supporter of the

18 ongoing comprehensive export control reform initiative. We

19 applaud the Administration's efforts to create a new system that

20 makes controlled trade more effective, efficient, and

21 predictable.

22 We welcomed the publication on May 24 of the draft

23 rules that, once finalized, will reform export controls for

24 commercial satellites and related items. As a general matter,

25 the content of the draft regulations, which closely mirror the

1 content included in the 2012 Department of Defense and State

2 1248 report, is a positive step forward.

3 In particular, I'd like to commend the Departments of

4 State, Commerce, and Defense for their outstanding work drafting

5 these regulations.

6 I'd also like to recognize the members of the Colorado

7 Congressional delegation, some of whom are with us here today,

8 whose efforts made these reforms possible. I'd like to

9 particularly recognize Senator Bennet and Congressman Coffman,

10 and Senator Bennet's senior business advisor Monisha Merchant,

11 who is here today.

12 Without the satellite export control provisions

13 contained in the FY 2013 National Defense Authorization Act
14 passed by Congress in December 2012 and signed by President
15 Obama in January 2013, we would not be here today having this
16 conversation. Thanks also go to Governor Hickenlooper and the
17 Office of Economic Development and International Trade for their
18 support and attention.
19 Combined, the new law and regulations will help to
20 strengthen the US satellite industry, restore US competitiveness
21 abroad and create new jobs here in the United States.
22 Before we get into the substance of the proposed
23 controls, I should mention that Lockheed Martin, in close
24 consultation with our suppliers, is still in the process of
25 renewing the specific provisions of the proposed rules. As you

1 know, public comments are due before July 8, 2013.
2 Accordingly, my comments here today should be
3 considered preliminary, and the Lockheed Martin public comments
4 submitted to the Departments of State and Commerce will provide
5 the final position on these matters.
6 On International Opportunities and Jobs, Lockheed

7 Martin Space Systems designs, develops, tests, manufactures, and
8 operates a full spectrum of advanced technology space systems
9 for national security, civil and commercial customers. We work
10 with thousands of suppliers and component manufacturers to build
11 our systems.
12 Export sales are more important than ever to the
13 success of US commercial satellite manufacturers and to the
14 overall health of the US space industrial base, which provides
15 thousands of high quality jobs in research and development,
16 engineering, and manufacturing throughout the United States and
17 here in Colorado.
18 The more we can do to streamline export controls on
19 commercial satellites and related programs the more competitive
20 we can be in the international marketplace.
21 To take advantage of the proposed rule changes,
22 Lockheed Martin Space Systems is investing in new commercial
23 communications satellite technologies and systems for our long
24 legacy of the A2100 satellite bus.
25 On remote sensing, we are pleased that the draft rules

1 include proposed changes to controls on commercial remote
2 sensing satellites. This is an exciting and growing
3 international commercial opportunity for Lockheed Martin and the
4 US commercial space industry.
5 We are still in the process of determining whether the
6 specific control parameters proposed in the draft rule reflect
7 the current global market for commercial systems. For example,
8 we know that there are currently electro-optical visible, and
9 near infrared systems with an aperture greater than 0.35 meters
10 available in the foreign marketplace.
11 In order for US companies to be competitive, it is
12 important that the US export controls reflect these commercial
13 market realities.
14 It is also important to remember that controlling
15 these capabilities as commercial item is not decontrolling the
16 technologies; regardless of whether an items is controlled as a
17 munitions or commercial item, Lockheed Martin will remain deeply
18 committed to working with the US government to prevent the
19 unauthorized release of sensitive capabilities and technologies.
20 On space exploration, LMSS has designed, assembled,
21 and tested the Orion human spacecraft here in Colorado, and we

22 control several interplanetary missions from our mission control

23 center again here in Colorado, for example, MRO currently

24 operating in Mars orbit, and Juno, which is sailing out for a

25 2016 rendezvous with Jupiter.

1 With the heritage of these exciting programs, we

2 support increased international cooperation in interplanetary

3 and human space exploration.

4 To further these goals, we will be providing some high

5 level feedback on how the proposed rules might be enhanced to

6 further accelerate these goals.

7 We would like to see all interplanetary spacecraft

8 moved to the EAR regardless of the other technologies or system

9 capabilities onboard the spacecraft. We understand the national

10 security implications, and would, if necessary, prefer to see

11 specific sensitive technologies and instruments controlled

12 rather than the entire interplanetary spacecraft.

13 We would also like to see human spaceflight services

14 to low Earth orbit and beyond into the solar system clearly

15 identified as EAR controlled instead of an ITAR defense service.

16 This will ensure that America once again becomes the world

17 leader in human spaceflight operations.

18 Those are my prepared comments. I thank you very much

19 for the opportunity to present them here today.

20 MS. SCHLOSS: Thank you, Brian.

21 Our next speaker will be Kip Cheroutes with LXC

22 Strategies.

23 MR. CHEROUTES: Thank you, Kristy.

24 My name is Kip Cheroutes. I am President of LXC

25 Strategies, a corporation licensed in the state of Colorado.

1 I wish to focus my comments on specifically the

2 Department of Commerce notice found on page 12, the paragraph

3 relating to the new ECCN 9E515 and to passenger participation in

4 space travel such as suborbital, orbital, lunar, interplanetary,

5 or habitat, for space tourism, research for scientific

6 endeavors, for transportation from one point to another for

7 commercial purposes.

8 I applaud this provision, and I applaud the conclusion

9 that the Department of Defense and the Department of State have

10 made that no proposed inclusion of such technology as a general

11 matter in either the proposed USML Category XV or the proposed

12 ECCN 9E515.

13 Despite my applause for the inclusion of this

14 paragraph, I wish to make the three following comments. The

15 reason I make these comments is because the State of Colorado is

16 actively vying for Spaceport, a Federal Aviation Administration

17 endeavor to promote and advance the commercial passenger space

18 business.

19 Colorado is keenly eager to advance and promote and

20 develop this new space related technology and the jobs that are

21 created by this technology.

22 Front Range Airport in the state of Colorado in the

23 county of Adams County, Colorado, is the designated spaceport

24 location for the State to operate commercial passenger space

25 travel.

1 The three comments I have would be this. No. 1, more

2 precisely define the technologies not per se now subject to the

3 USML Category XV. No. 2, when in doubt, err on the side of

4 keeping such technologies off the UML list unless the Department
5 of State can make a compelling national security case. And
6 No. 3, communicate with the Federal Aviation Administration
7 Office of Commercial Space Transportation for ongoing
8 concurrence of the definitions of the technologies to keep off
9 the USML list.
10 Thank you for the opportunity to submit comment.
11 MS. SCHLOSS: Thank you, Kip.
12 Our next speaker will be Jonathan Goff with Altius
13 Space Machines.
14 MR. GOFF: Thank you.
15 I'm Jonathan Goff, President and CEO of Altius Space
16 Machines.
17 I do not have prepared comments, but I did want to
18 submit some oral comments about the notice of proposed
19 rulemaking for the Category XV of the US Munitions List.
20 First off I'd like to echo the comments made. Altius
21 sees this as a very positive step forward compared to the
22 current status quo in export control.
23 We did have a few comments on specific items that are
24 explicitly left on the US Munitions List that we did not feel
25 fit well as defense articles or defense services. Some of these

1 have already been mentioned in the other comments.

2 Specifically I would like to mention three of them.

3 One of them in Category XV (a)(11) refers to man rated

4 suborbital, orbital, lunar, interplanetary or habitats.

5 According to the ITAR regulations, my understanding of

6 them, in Section 120.3 it describes the policy on designating

7 and determining defense articles and services. The official

8 policy is that an article or service may be designated or

9 determined in the future to be defense article or defense

10 service if it, A, is specifically designed, developed,

11 configured, adapted, or modified for a military application and

12 i, does not have predominant civil applications, ii, does not

13 have performance capability to these articles or services for

14 civil applications or, B, is specifically designed, developed,

15 configured, adapted, or modified for a military application, and

16 has significant military or intelligence applicability such that

17 control under the subchapter is necessary.

18 In both of these examples, the policy states that the

19 US Munitions List is supposed to cover items that are

20 specifically designed for a military application. This does not

21 match the items listed in USML Category XV (a)(11), almost every

22 example of manned suborbital, orbital, lunar, interplanetary, or

23 habitats that were currently under development. None of them

24 fit under this description; none of them are being, or almost

25 none of them that I know of are being developed for the

1 military. Most of them are being developed commercially or for

2 civil agencies such as the National Aeronautic and Space

3 Administration. Additionally, they have predominantly civil

4 applications.

5 It's been many decades since the Defense Department

6 has been focused on human space flight applications as most

7 Earth observation and other applications are better served by

8 robotic satellites, not by manned spaceflight.

9 I feel keeping manned spacecraft on the USML does not

10 seem to fit with the officially stated policy on designated

11 services and determining defense articles and services.

12 There are two other items I'd also like to discuss

13 that are slightly grayer areas, but I still feel that would be

14 in the interest of US national security and US industry to

15 remove these items from control under the ITAR export control

16 regime to control under the Commerce control regime.

17 These two other items are currently explicitly left on

18 the US Munitions List under the proposed rule as USML Category

19 XV (a)(4) that says, Vehicles that provide space-based

20 logistics, assembly, or servicing of any spacecraft (e.g.

21 refueling) and USML Category XV (a)(2), spacecraft to track

22 ground, airborne, missile or space objects using imaging,

23 infrared, radar, or laser systems.

24 I will first address XV (a)(4).

25 For spacecraft servicing, this is an area that has

1 seen some military development. In fact, Altius is currently

2 participating in the DARPA Phoenix technology program that could

3 be described as an assembly or servicing of a spacecraft;

4 however, a significant fraction of the development work going on

5 today for this class of missions is being pursued by civil space

6 agencies or commercially.

7 I would like to cite two examples of space servicing

8 orbital life extension applications where a spacecraft

9 rendezvouses and captures an existing spacecraft, for instance a

10 communication satellite, and then takes over propulsion services

11 for it so that the fuel of the life extension satellite can

12 augment and extend the life of an existing satellite.

13 To date, the two of the three organizations that focus

14 on these applications were purely commercial endeavors. There

15 was the DARPA SUMO mission that was a government funded one;

16 however, there was Orbital Recovery Corporation that was run by

17 a friend of mine, Dennis Wingo.

18 Interestingly enough, although Dennis is a US citizen,

19 because of the ITAR regulations, he started the company in

20 Europe because of the interest in European manufacturers

21 participating in this, and the fact that they wanted an "ITAR

22 free" solution.

23 While that company was not commercially successful,

24 there is a current company, VisiStat, which is a joint venture

25 of ATK and US Space, LLC, that is actively seeking to develop

1 solutions in that same marketplace. Once again, I think that a

2 case of two out of three could be considered as "predominately

3 civil applications."

4 If you look at the other areas of robotic servicing,

5 including refueling, assembly, logistics, many of these are

6 being developed not by the military but by US civil agencies

7 such as NASA's Goddard Space Flight Center. The NASA Goddard

8 "Restore" mission is being developed with the goal of

9 demonstrating refueling of an unmodified satellite. The Goddard

10 Restore team did an experiment on the station recently where

11 they demonstrated the abilities to refuel. These were not

12 military funded. These were funded by NASA.

13 But more importantly, these technologies are also

14 being developed in other friendly countries like Canada, Japan,

15 and Germany, countries that for many technology areas there is

16 apparently this "STA 36" exception that allows you to more

17 easily share certain EAR controlled technology with those

18 countries.

19 But many of these countries are developing these

20 capabilities. In fact, MDA-Canada specifically had been

21 offering a service, and even signed a contract with Intel Sat

22 General to dock with and refuel satellites. They temporarily

23 suspended that because they saw the DARPA Phoenix mission and

24 other DARPA missions as competing with the commercial service

25 that they were trying to offer; however, I see this as clear

1 evidence that space based logistics, assembly, and servicing of

2 spacecraft is dual use; it's clearly something that is being

3 developed commercially, non militarily.

4 There are military versions, but there are

5 significant and even predominant, in many cases, non military

6 uses of these technologies, and therefore I feel it is a better

7 fit under the Commerce Control List than the USML.

8 The last item, Category XV (a)(2), spacecraft to track

9 ground, airborne, missile or space objects using imaging,

10 infrared, radar, or laser systems I can completely understand

11 the military sensitivity of space-based tracking. I do not have

12 perfectly clear examples of how to split military and civil uses

13 of space tracking apart. Obviously this technology is being

14 used by the military, for instance, for detecting launches of

15 missiles or other things like that which are clearly defense

16 related.

17 However, I feel that this item is a little too broad.

18 It's impossible to bring two objects together to rendezvous and

19 dock in space even for a completely commercial application

20 without having the ability to track space objects using some

21 form of imaging, infrared, or radar systems.

22 Once again, I should mention that if you look at the

23 commercial cargo vehicles that are delivering cargo to the space

24 station today, many of them use tracking systems such as these

25 that are not built in the United States.

1 The NepTech Corporation of Canada, for instance, that

2 developed their TriDAR system in cooperation with NASA, their

3 system is being used on the Orbital Sciences Cygnus spacecraft,

4 and I do believe they're also baselined for use on some of the

5 Commercial Crew vehicles under development.

6 This is a LIDAR system that's used for allowing one

7 spacecraft to detect the space facilities it's trying to dock

8 with, and provide the relative navigation information that would

9 allow it to maneuver to and dock with that object.

10 I think that some sort of more specific division needs

11 to be made for this category that separates out applications

12 needed for rendezvous and docking, which is clearly dual use

13 technology, and not explicitly or predominantly military

14 technology, and for things like detecting missile launches or

15 other things like that.

16 One possible suggestion on how to delineate that might

17 be setting a distance and a relative velocity capability for the

18 sensors, for instance stating that a capability to track these

19 objects at a distance of greater than, say, 100 kilometers and

20 at a relative velocity between the spacecraft and the target of

21 greater than, say, one kilometer per second or something like

22 that would I feel adequately separate out the defense specific

23 items that should be controlled under the US Munitions List, and

24 technologies that are generally civilian in applications for

25 things like rendezvous and docking.

1 I should state, as Brian Emmet stated earlier, that

2 these are preliminary comments. Altius still plans to submit

3 its own official final written comments at a later date. But we

4 wanted to include this in the record.

5 And I thank the DEC, Rocky Mountain DEC for setting up
6 this forum, and we're grateful to see that there is progress
7 happening in export control, and we wanted to provide our
8 additional comments.
9 Thank you.
10 MS. SCHLOSS: Thank you.
11 The next speaker will be John Brackney, South Metro
12 Denver Chamber.
13 MR. BRACKNEY: Thank you, Madam Chair. I'm John
14 Brackney, the CEO of the South Metro Denver Chamber. On behalf
15 of our Board of Directors, our 1,300 clients, our 132,000
16 employees, we deeply appreciate the US Export Assistance Center
17 and the Rocky Mountain District Export Council being here at the
18 South Metro Denver Chamber today for this testimony.
19 I have five simple points. First is to recognize
20 that you're even doing this noble work in this field. Thank you
21 to the Council, thank you to Paul Bergman of the US Commercial
22 Services here today, specifically to the Chair Kristy Schloss of
23 Schloss Engineering, our three subject matter experts, Kip
24 Cheroutes, Frank Schuchat, John Anderson, as well as Monisha
25 Merchant from Senator Bennet's office and Brandon Rattiner from

1 Senator Udall's office, who's here today.

2 I'd also like to recognize the expertise of one of our

3 major employers in Colorado, and that's Lockheed Martin Space

4 Systems. Please do not underestimate the importance of experts,

5 who have just spoken here earlier today, in reaching out to the

6 broader business community.

7 If you think about the history of space, much of it is

8 military background or military related items, and therefore

9 necessarily elements of confidential and national security

10 assets. And that difficulty of translating the importance of

11 things that can't be talked about to culture or to population,

12 and it just cannot be underestimated how important it is to have

13 taxpayers and citizens understanding the importance of aerospace

14 when they can't fully know the complete picture.

15 Lockheed Martin specifically has had dozens of experts

16 from their company at various political and economic development

17 meetings throughout the year. I encourage all of you, no matter

18 how small, medium, or large, if you can, to talk appropriately

19 about your industry and about your company so we can remain or

20 regain our excellence in space and our worldwide recognition.

21 Four other simple points. This area is the highest
22 economic development sector priority of our Board of Directors
23 of the Chamber. All businesses are important, whether you're a
24 small retailer or a restaurant or professional service, but
25 without primary jobs, people that actually manufacture,

1 companies that build something from nothing and sell it to
2 others outside of our own economy, none of the rest of the jobs
3 exist.
4 The primary employment of the aerospace industry is
5 one of the highest priorities of any society. And we must work
6 off our strengths. And in Colorado this is one of our
7 strengths, not only for our local economy but for our national
8 influence.
9 It also remains one of our top three public policy
10 priorities; therefore, when asked if we'd host this today, the
11 enthusiastic answer is, Yes. And we extend the invitation as
12 often as you or any of your colleagues would like to use this
13 facility. We built this facility to host events like this.
14 Please come back often.

15 I think it's important to note the speed of business.

16 We see it every day. There are tiny entrepreneurs that can

17 start a business and literally have dozens or hundreds of

18 employees in a matter of months.

19 Even in this sector, it's possible to have retired, or

20 folks that decide they want to be their own boss, to start a new

21 company. And if we wish to remain economically competitive, we

22 need to make sure that all our other cultural and political and

23 social norms follow how fast and easy it is to start a new

24 business. So in all your deliberations, keep in mind that it's

25 not just the tech companies that can start up overnight.

1 Other countries often don't have the burdensome

2 bureaucracy, and I say that in a kind way. When you build a

3 massive system such as the world's largest economy, it creates

4 processes and procedures that often aren't conducive to business

5 startups as other societies may not have that same burden.

6 Keep in mind that small and medium sized businesses

7 are likely the most important that we all can reach out to, and

8 we have to have our elected officials and our appointed

9 officials and our appropriate trade organizations have processes

10 like today's where a small company has an asset and a resource

11 to come and have a conduit of information for reviewing rules.

12 We heard discussion today how difficult it is to read

13 federal regulations and whether that really applies, and of

14 course with government affairs and lobbyists and lawyers you can

15 solve anything unless you're a small company trying to start up

16 your business.

17 We have to culturally understand that we need to work

18 together on this and streamline processes and communication

19 channels.

20 Finally, another one of our public policy issues that

21 has been essential is STEM. We've had a committee for five

22 years working on that with Lockheed Martin and the Gates

23 Corporation, et cetera. And to take from our earliest childhood

24 memories what inspired you, and usually it's something as simple

25 as a kite or an SS rocket or maybe watching a plane overhead, to

1 the time when you don't understand why you're taking the math

2 course in middle school, and then the difficulty in high school,

3 and then for some of you or many of you in this audience today,

4 actually starting to understand complex problem solving,

5 mathematical equations, for all of us to talk about the

6 importance of innovation and inspiration.

7 We usually, as humans, do what we talk about. And if

8 we don't talk about the importance of exploration and the

9 importance of future problem solving, and what else is out in

10 the great grand universe, we might just end up doing other stuff

11 not so noble as continuing our yearning as the human species to

12 explore.

13 So as you pursue these rules, it's hard to explore

14 without money. It's hard to explore without the resources of

15 having a job. And in this global economic competitive

16 environment we're in, we need to ensure that all our companies,

17 small, medium, and large, have all the tools and resources

18 available to inspire our youngest children and our middle aged

19 engineers and scientists to continue to reach the higher ground

20 not only for national security reasons, which we obviously want

21 to safeguard, but whenever possible, to sell our extraordinary

22 science to the appropriate entities that may wish to buy it.

23 Again, thank you for being here today.

24 MS. SCHLOSS: Thank you, John.

25 Is there anybody else who would like to speak on the

1 record? Seeing none, I hereby declare the proceedings closed.

2 Thank you.

3

4 (Whereupon the within proceedings adjourned at

5 10:54 AM.)

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1 C E R T I F I C A T I O N

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4 I, Martha Loomis, Certified Shorthand Reporter,

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6 certify that the proceedings was taken by me, then reduced to

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12 IN WITNESS WHEREOF, I have hereunto set my hand.

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