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INDUSTRIAL BASE ASSESSMENT: NASA Supply Chain Network



SCOPE OF ASSESSMENT

The U.S. Department of Commerce, Bureau of Industry and Security (BIS), Office of Technology Evaluation, in coordination with the National Aeronautics and Space Administration (NASA), Exploration Systems Mission Directorate (ESMD), is conducting an industrial base survey of NASA's supply chain network. The principal goal of this data collection is to analyze the health and competitiveness of this U.S. supplier segment. The data collected will also be used to measure the industrial base impacts attributed to the cancellation of both the Space Shuttle and Constellation programs.

RESPONSE TO THIS SURVEY IS REQUIRED BY LAW

A response to this survey is required by law (50 U.S.C. app. Sec. 2155). Failure to respond can result in a maximum fine of \$10,000, imprisonment of up to one year, or both. Information furnished herewith is deemed confidential and will not be published or disclosed except in accordance with Section 705 of the Defense Production Act of 1950, as amended (50 U.S.C App. Sec. 2155). Section 705 prohibits the publication or disclosure of this information unless the President determines that its withholding is contrary to the national defense. Information will not be shared with any non-government entity, other than in aggregate form. The information will be protected pursuant to the appropriate exemptions from disclosure under the Freedom of Information Act (FOIA), should it be the subject of a FOIA request.

Notwithstanding any other provision of law, no person is required to respond to, nor shall a person be subject to a penalty for failure to comply with, a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a currently valid OMB control number.

BURDEN ESTIMATE AND REQUEST FOR COMMENT

Public reporting burden for this collection of information is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information to BIS Information Collection Officer, Room 6883, Bureau of Industry and Security, U.S. Department of Commerce, Washington, D.C. 20230, and to the Office of Management and Budget, Paperwork Reduction Project (OMB Control No. 0694-0119), Washington, D.C. 20503.

	BUSINESS CONFIDENTIAL—Per Section 705(d) of the Defense Production Act								
Sect	ion I	WHO M	UST	RESPOND TO THIS SURVEY					
1.	_	•		rovided services, including integration, R	&D, c	or software, for the	Yes	No	
National Aeronautics and Space Administration (NASA) since January 2000.								$\overline{\checkmark}$	
2.	2. Has your company, directly or indirectly, performed any work for NASA since January 2007?								
	If you selected "Yes" to either of the above questions, place a 🗹 next to the corresponding programs your company has supported, if								
3.	_	vn, and continue completing this survey.			prog	rams your company has	supporte	au, II	
	V	Space Shuttle		International Space Station	V	Constellation			
	Science Mission Directorate (SMD) Aeronautics Research Directorate (ARD) Other NASA								
4.	If yo	u selected "No," complete "Exemption F	rom S	Survey" below					
4.	li yo	u selected No, complete Exemption F	10111 3						
			EX	EMPTION FROM SURVEY					
If you	r oper	ations have not involved any NASA bus	iness	since 2000, you may be exempt from co	mplet	ing this U.S. Governmen	survey.		
Pleas	e call	one of the BIS contacts listed in "General	al Inst	ructions" to verify your status. Then, cor	nplete	e steps 5-7 below.			
5.	Brie	fly explain the products and/or services ¡	orovid	ed by your organization in the space bel	ow:				
Expla	natior	1:							
6.	Pofo	are 2000, did your company do any work	for N	ASA? If "Yes," describe the products an	d/or c	orvices below	Yes	No	
0.	Deic	ne 2000, did your company do any work	101 11	ASA? II Tes, describe the products an	u/UI S	ervices below.	\checkmark	V	
Expla	natior	1:							
			· !! -	The section of the H	0 - 1	·			
7.		·		age. Then, return a signed copy of the " med your company's exemption by speal				smit	
				ess courier, E-mail, or FAX (202) 482-53	_	nur one or our stair. Flee	ise trains) i ii t	

Make sure to follow instructions 1-5 in completion of the Excel survey. BIS will only accept Excel versions of this survey that are downloaded and saved from http://www.bis.doc.gov/NASA_survey. Before making inputs make sure to save a copy of the Excel survey to your computer. 2. For your convenience and internal data collection/reference purposes only, a PDF version of the survey is made available on the least web link. Do not submit the PDF version. BIS will only accept the Excel version. Upon completion, review, and certification of the survey please transmit the Excel survey document by E-mail to the secure, U.S.
BIS will only accept Excel versions of this survey that are downloaded and saved from http://www.bis.doc.gov/NASA_survey . Before making inputs make sure to save a copy of the Excel survey to your computer. 2. For your convenience and internal data collection/reference purposes only, a PDF version of the survey is made available on the I web link. Do not submit the PDF version. BIS will only accept the Excel version.
 http://www.bis.doc.gov/NASA_survey. Before making inputs make sure to save a copy of the Excel survey to your computer. For your convenience and internal data collection/reference purposes only, a PDF version of the survey is made available on the I web link. Do not submit the PDF version. BIS will only accept the Excel version.
web link. Do not submit the PDF version. BIS will only accept the Excel version.
Upon completion, review, and certification of the survey please transmit the Excel survey document by E-mail to the secure. U.S.
Federal Government E-mail address at NASA_survey@bis.doc.gov.
For survey questions, E-mail NASA_survey@bis.doc.gov (preferred method of contact for survey questions) or contact Jason Bolton Trade and Industry Analyst, at (202) 482-5936, Anna Bruse, Trade and Industry Analyst, at (202) 482-3893.
For letter correspondence or program questions please write to: Brad Botwin, Director, Industrial Studies U.S. Department of Commerce Room 1093, Bureau of Industry and Security 1401 Constitution Avenue, Northwest, Washington, DC 20230 Please do not submit completed surveys to this address; all Excel surveys must be submitted electronically to NASA_survey@bis.doc.gov. Brad Botwin can also be reached at bbotwin@bis.doc.gov or (202) 482-4060.

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	BUSINESS CONFIDENTIAL—Per Section 705(d) of the Defense Production Act
Section V	NASA Supply Chain Network
Term	Definition
Applied Research	R&D research expenditure category dedicated to the application of findings from basic research toward discovering new scientific knowledge that has specific commercial objectives with respect to new product, services, processes, or methods. [National Science Foundation]
Authorizing Official	Executive officer of the company or business unit or other individual who has the authority to execute this survey on behalf of the firm.
Basic Research	R&D research expenditure category dedicated to the pursuit of new scientific knowledge or understanding that does not have specific immediate commercial objectives with respect to new products, services, processes, or methods. [National Science Foundation]
CAGE Code	Commercial and Government Entity (CAGE) Code identifies companies doing or wishing to do business with the U.S. Federal Government. The code is used to support mechanized government systems and provides for a standardized method of identifying a given facility at a specific location. The code may be used for a Facility Clearance, a Pre-Award survey, automated Bidders Lists, pay processes, source of supply, etc. In some cases, prime contractors may require their sub-contractors to have a CAGE Code.
Capacity Utilization	The extent to which an enterprise uses its total annual installed manufacturing capacity.
End-User	Entity responsible for the intended application or use of a particular product or service.
Full Time Equivalent (FTE) Employees	Employee in each labor type/function area based on a 40 hour work-week. NASA suppliers should allocate no less than 1/4 of a person to a particular function and also convert part-time employees into "full-time" equivalents, e.g. 10 part-time employees working 20 hours per week for a full 12 month period are the full-time equivalent of 5 full-time employees for that 12 month period.
NAICS Code	North American Industry Classification System (NAICS) codes identify the category of product(s) or service(s) provided by your company. Find NAICS codes at http://www.census.gov/epcd/www/naics.html .
Orbiter	Reusable manned spacecraft used in the Space Transportation System (STS), e.g. Atlantis, Challenger, Columbia, Discovery, and Endeavor. The orbiter, also known as the orbiter vehicle, contains both the astronauts and payload on STS/Space Shuttle missions.
Orion	Manned spacecraft formally known as the Crew Exploration Vehicle (CEV) and part of the Constellation program.
Process/Product Development	R&D development expenditure category dedicated to the systematic use of the knowledge or understanding gained from research or practical experience directed toward the production or significant improvement of useful products, services, processes, or methods, including the design and development of prototypes, materials, devices, and systems. [National Science Foundation]
Space-related	Refers to all product, service and technology categories enumerated in this survey's Product and Service Type List.
United States	The "United States" or "U.S." includes the 50 states, Puerto Rico, the District of Columbia, the island of Guam, the Trust Territories, and the U.S. Virgin Islands.
Space Transportation System (STS)	Includes the Space Shuttle and all NASA facility operations in support of Space Shuttle launch. NASA will have performed 134 STS missions from 1982-2010.
Utilization Rate	Percentage measure of production capacity use based on a 7-day-a-week, 3x8 hour shift production schedule.

	BUSINESS CONFIDENTIAL—Per Section 705(d) of the Defense Production Act								
Section 1		Company I	Information						
U.S. Address only									
Name of Company		Street A	ddress		City		State	Zip	
Internet Home Page				Pho	ne Number	Number FAX		nber	
http://							FAX		
Business Identification	Informationmake sure	e to use the correspo	nding web link	ks if this info	ormation is not re	adily avail	able.		
Business Identification Informationmake sure to use the corresponding web links if this information is not readily available. Toom for 5								ce(s)	
Commercial and Government Entity (CAGE) code(s)	room for 5 So	NASA-related Harmonized Tariff chedule (HTS) (10-digit) code(s) ***	room for 5	http: *** H be for	//www.census.gov/e larmonized Tariff Sc ound at "HTS Online	d by your company. Find NAICS oww.census.gov/epcd/www/naics.hmonized Tariff Schedule (HTS) cood at "HTS Online Reference Tool" rch Tools" at http://www.usitc.gov/			
Primary Point of Conta	ct Regarding Survey Co	ompletion							
Name(s)	Phor			State		E-mail Ad	ldress		
				dro	p-down	down			
Business Description	•								
From the drop-down selection business lines next to each	ch selected category. If	your company has m						nding	
1 st -3 rd ranked focus3 dı		ss Lines version; 3 correspon	nding blank des	scription bo	oxes A	Additional [Description	า	
Distribution		Professional Services							
Inspection and Quality Control		R&D							
Integration		Raw Materials							
Maintenance/Aftermarket		Reseller							
Manufacturing		Retail							
Manufacturing Systems Develop	-	Service	lia.a						
Material Finishing (Machining, Co		Testing/Evaluation/Validat	LIOIT						
Material Preparation (Casting, Formatter) Product and Design Engineering		Other Other							
Product and Design Engineering	(Tooling, New Processes, etc.)	Other							

BUSINESS CONFIDENTIAL—Per Section 705(d) of the Defense Production Act n Act									
Section 1 Company Inform	Section 1 Company Information continued								
Certifications	Certifications								
	✓ AMS specify here								
ace a ☑ next to the certifications that your company currently has. ANSI/ASQC Z1.4						$\overline{\mathbf{V}}$	J-STD-001DS		
	V	ANS	I/ESD S2	0.20		$\overline{\mathbf{V}}$	MIL-Q-9858		
* AMS (Aerospace Material Specifications)		ANS	I/ISO/IEC	17025		$\overline{\mathbf{V}}$	MIL-STD-45662	Α	
* ANSI (American National Standards Institute) * ASQ (American Society for Quality)		DoD	5000			\checkmark	NADCAP	pecify here	
* ISO (International Organization for Standards)			9000			$\overline{\mathbf{V}}$		pecify here	
* NADCAP (National Aerospace and Defense Contractors Accreditation Program)	V		9001				SAE AS9003		
* NCLS (National Clinical Lab Specialist)			10012-1			V	SAE AS9100		
* SAE (SAE International, formerly the Society of Automotive Engineers)		ISO	14000			\checkmark	Other	pecify here	
						\overline{V}	Direct to NASA	to NASA	
Llevy de ce very company cell ite mys directs on comisses to NIACAA. Place	. 🗆		الممالا المما	ر اممی		\checkmark	Indirectly/via 3 rd	party	
How does your company sell its products or services to NASA? Place	a 🖭	пехі	to all that	appiy.		\checkmark	Both direct and i	ndirect	
						$\overline{\checkmark}$	Not sure		
Company Ownership									
My company is headquartered in:							Country	/ drop-down	
I am the parent company:							Yes/No	drop-down	
I am a U.S. subsidiary of a non-U.S. parent company:							Yes/N	drop-down	
I am a business unit or division of a U.S. parent company or organizat	on:						Yes/No	drop-down	
Parent Company Name, if applicable			City		State		Country		
				į	drop-do	own	drop-de	own	

BUSINESS CONFIDENTIAL—Per Section 705(d) of the Defense Production Act

Section 2 PRODUCT AND SERVICE TYPE LISTING

Place a \square next to the NASA Space Shuttle, International Space Station (ISS), or Constellation program elements in which your company has participated. \square = Yes/No drop-down in Excel version

$\overline{\square}$	·	Space Shuttle, International Space Station (ISS), or Constellation program element										
\checkmark	HSFPE1	Ares	$\overline{\mathbf{V}}$	HSFPE9	ISS-International Space Station							
\checkmark	HSFPE2	Altair Lunar Lander	V	HSFPE10	Launch Abort System							
\checkmark	HSFPE3	Ares Upper Stage	V	HSFPE11	Orbiter							
\checkmark	HSFPE4	Ares Upper Stage Engines	\checkmark	HSFPE12	Orion							
\checkmark	HSFPE5	CaLV-Cargo Launch Vehicle (e.g. Ares V)	V	HSFPE13	RSRM-Reusable Solid Rocket Motor							
	HSFPE6	CLV-Crew Launch Vehicle (e.g. Ares 1)	$\overline{\mathbf{V}}$	HSFPE14	Service Module							
\checkmark	HSFPE7	ET-External Tank	V	HSFPE15	SRB-Solid Rocket Booster							
	HSFPE8	EVA-Extravehicular Activity	V	HSFPE16	SSME-Space Shuttle Main Engine							

Place a \square by the products and service type codes corresponding to your company's <u>current</u> business lines. For each product and service type selected, indicate whether the end-user is "NASA," "DoD," "Other," or "Not Sure." \square = Yes/No drop-down in Excel version

$\overline{\mathbf{V}}$	Α	Servio	ces	NASA	DoD	Other	Not Sure
$\overline{\checkmark}$	A1	Commercial Satellite Operation		√	V	√	√
$\overline{\checkmark}$	A1A	Broadcast		$\overline{\mathbf{V}}$	$\overline{\checkmark}$	√	\checkmark
\checkmark	A1B	Communication / Data		$\overline{\checkmark}$	$\overline{\checkmark}$	√	$\overline{\checkmark}$
\checkmark	A1C	Remote Sensing		$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	A2	Professional Services		$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	A2A	Spacecraft		$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	A2A1	Product Assurance, Quality Con	trol, Safety	$\overline{\mathbf{V}}$	$\overline{\checkmark}$	\checkmark	$\overline{\checkmark}$
\checkmark	A2A2	Assembly, Integration and Testir	ng	$\overline{\mathbf{V}}$	$\overline{\checkmark}$	\checkmark	$\overline{\checkmark}$
$\overline{\checkmark}$	A2A3	Systems Engineering		$\overline{\mathbf{V}}$	$\overline{\vee}$	<u> </u>	$\overline{\checkmark}$
$\overline{\checkmark}$	A2A4	Program Management		$\overline{\mathbf{V}}$	$\overline{\vee}$	<u> </u>	$\overline{\checkmark}$
$\overline{\checkmark}$	A2A5	Performance, Analysis and Simu	ılation	$\overline{\mathbf{V}}$	\checkmark	√	√
$\overline{\checkmark}$	A2A6	Architecture Design		$\overline{\mathbf{V}}$	\checkmark	√	√
$\overline{\checkmark}$	A2B	Launch		$\overline{\mathbf{V}}$	\checkmark	√	√
\checkmark	A2B1	Operations			$\overline{\mathbf{V}}$	√	√
\checkmark	A2B2	Product Assurance, Quality Con			$\overline{\mathbf{V}}$	√	√
\checkmark	A2B3	Assembly, Integration and Testir	ng		$\overline{\mathbf{V}}$	√	√
$\overline{\checkmark}$	A2C	Ground		$\overline{\mathbf{V}}$	\checkmark	√	√
$\overline{\checkmark}$	A2C1	Operations		$\overline{\mathbf{V}}$	$\overline{\vee}$	<u> </u>	$\overline{\checkmark}$
\checkmark	A2C2	Maintenance		$\overline{\mathbf{V}}$	$\overline{\checkmark}$	\checkmark	$\overline{\checkmark}$
$\overline{\checkmark}$	A3	Other	specify here	\checkmark	$\overline{\checkmark}$	$\overline{\checkmark}$	V

BUSINESS CONFIDENTIAL—Per Section 705(d) of the Defense Production Act

Section 2 PRODUCT AND SERVICE TYPE LISTING continued

Place a \square by the products and service type codes corresponding to your company's <u>current</u> business lines. For each product and service type selected, indicate whether the end-user is "NASA." "DoD." "Other." or "Not Sure." \square = Yes/No drop-down in Excel version

typ	e selected, indi	cate whether the end-user is "NASA," "DoD," "Other," or "Not Sure."	<u> </u>	es/No drop-d	own in Excel	version
	В	Spacecraft	NASA	DoD	Other	Not Sure
\checkmark	B1	Communications	✓	√	√	√
\checkmark	B1A	Antenna Technology		$\overline{\checkmark}$	$\overline{\checkmark}$	\checkmark
\checkmark	B1B	Microwave Technology		$\overline{\checkmark}$	$\overline{\checkmark}$	\checkmark
\checkmark	B1C	Digital Technology		$\overline{\checkmark}$	$\overline{\checkmark}$	\checkmark
\checkmark	B1D	Switching Equipment	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	B1E	Transponder	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	B1F	Laser Technology	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	B1G	Software	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	B2	Energy Generation	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	B2A	Solar Cell Technology	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	B2B	Solar Array Technology	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	B2C	Power Generators (excluding solar)		$\overline{\checkmark}$	$\overline{\checkmark}$	\checkmark
\checkmark	B3	Energy Storage		$\overline{\checkmark}$	$\overline{\checkmark}$	\checkmark
\checkmark	ВЗА	Batteries		$\overline{\checkmark}$	$\overline{\checkmark}$	\checkmark
\checkmark	B3B	Other Energy Storage Equipment		$\overline{\checkmark}$	$\overline{\checkmark}$	\checkmark
\checkmark	B3C	Power Conditioning		$\overline{\checkmark}$	$\overline{\checkmark}$	\checkmark
\checkmark	B4	Thermal Control	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	B4A	Blankets	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	B4B	Coatings	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	B4C	Cryogenics		$\overline{\checkmark}$	$\overline{\checkmark}$	\checkmark
\checkmark	B4D	Heaters	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	B4E	Radiators	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	B4F	Insulation	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	B4G	Heat Pipes	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	B5	Structural	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	B5A	Hydraulics, Valves, Actuators, Pneumatics	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	√
\checkmark	B5B	Mechanisms (Gimbals, Antennas, Arrays, Masts, etc.)	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	√
\checkmark	B5C	Safety, Destruction Technology; Pyrotechnics	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	√
\overline{V}	B5D	Metalworking	V		V	$\overline{\checkmark}$

BUSINESS CONFIDENTIAL—Per Section 705(d) of the Defense Production Act

Section 2 PRODUCT AND SERVICE TYPE LISTING continued

Place a \square by the products and service type codes corresponding to your company's <u>current</u> business lines. For each product and service type selected, indicate whether the end-user is "NASA," "DoD," "Other," or "Not Sure." $\square = \text{Yes/No drop-down in Excel version}$

тур	e selectea, inal	icate whether the end-user is "NASA," "DoD," "Other," or "Not Sure."	✓ = Y	es/No drop-d	own in Excel	version
$\overline{\mathbf{Q}}$	В	Spacecraft continued	NASA	DoD	Other	Not Sure
$\overline{\checkmark}$	B6	Attitude Determination and Control	V	V	V	<u> </u>
\checkmark	B6A	Sensors	\checkmark	\checkmark	\checkmark	\checkmark
\checkmark	B6B	Stabilization Hardware	√	\checkmark	\checkmark	√
$\overline{\checkmark}$	B6C	Momentum Wheel	\checkmark	\checkmark	\checkmark	\checkmark
$\overline{\checkmark}$	B6D	Rendezvous and Docking	\checkmark	\checkmark	\checkmark	\checkmark
$\overline{\checkmark}$	B6D.i	Navigation Using Lunar Bearings	\checkmark	\checkmark	\checkmark	\checkmark
$\overline{\checkmark}$	B6E	Guidance, Navigation and Control	\checkmark	\checkmark	\checkmark	\checkmark
$\overline{\checkmark}$	B6E.i	Automation for all Mission Phases	\checkmark	\checkmark	\checkmark	\checkmark
$\overline{\checkmark}$	B6E.ii	Autonomous Landing	\checkmark	\checkmark	\checkmark	\checkmark
$\overline{\checkmark}$	B6E.iii	Hazard Detection and Avoidance	\checkmark	\checkmark	\checkmark	\checkmark
\checkmark	B6E.iv	Automated Rendezvous and Docking	$\overline{\checkmark}$	\checkmark	$\overline{\checkmark}$	\checkmark
\checkmark	B6E.v	Natural Feature Image Recognition	$\overline{\checkmark}$	\checkmark	$\overline{\checkmark}$	\checkmark
\checkmark	B6E.vi	LIDAR Feature Recognition	$\overline{\checkmark}$	\checkmark	$\overline{\checkmark}$	\checkmark
$\overline{\checkmark}$	B6E.vii	Lunar Surface Navigation	\checkmark	\checkmark	\checkmark	<u> </u>
$\overline{\checkmark}$	B6F	Software	\checkmark	\checkmark	\checkmark	<u> </u>
\checkmark	B7	Propulsion (spacecraft)	$\overline{\checkmark}$	\checkmark	$\overline{\checkmark}$	\checkmark
\checkmark	B7A	Chemical Propulsion Technology	$\overline{\checkmark}$	\checkmark	$\overline{\checkmark}$	\checkmark
\checkmark	B7B	Electric Propulsion Technology	$\overline{\checkmark}$	\checkmark	$\overline{\checkmark}$	\checkmark
\checkmark	B7C	Cold Gas Propulsion Systems	$\overline{\checkmark}$	\checkmark	$\overline{\checkmark}$	\checkmark
\checkmark	B7D	Non-Toxic Monopropellant	$\overline{\checkmark}$	\checkmark	$\overline{\checkmark}$	\checkmark
\checkmark	B7E	HTPB (Hydroxyl-Terminated Polybutadiene)	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	B7F	LOX/LH2 (Liquid Oxygen/Liquid Hydrogen Reaction Control System)	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	B7G	LO2/LCH4 (Liquid Oxygen/Liquid Methane Propulsion System)	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	B7H	Composite Nozzles	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	B8	Payload	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	B8A	Optical Components	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	B8B	Infrared Detectors	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	B8C	Visible Detectors	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	B8D	Nuclear Detectors	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
$\overline{\mathbf{V}}$	B8E	Hyper-Spectral Detectors	$\overline{\vee}$	$\overline{\mathbf{V}}$	$\overline{\vee}$	$\overline{\checkmark}$
$\overline{\mathbf{V}}$	B8F	Radar Components	$\overline{\vee}$	\overline{V}	$\overline{\vee}$	$\overline{\checkmark}$
\checkmark	B8G	Software	$\overline{\checkmark}$	\overline{V}	\overline{V}	$\overline{\checkmark}$
\checkmark	B8H	Atomic Clocks	$\overline{\checkmark}$	\overline{V}	\overline{V}	$\overline{\checkmark}$
\overline{V}	B9	Other specify here	$\overline{\checkmark}$	V	$\overline{\vee}$	$\overline{\checkmark}$

BUSINESS CONFIDENTIAL—Per Section 705(d) of the Defense Production Act

Section 2 PRODUCT AND SERVICE TYPE LISTING continued

Place a \square by the products and service type codes corresponding to your company's <u>current</u> business lines. For each product and service type selected, indicate whether the end-user is "NASA." "DoD." "Other." or "Not Sure." $\square = \text{Yes/No drop-down in Excel version}$

typ	e selected, inc	licate whether the end-user is "NASA," "DoD," "Other," or "Not Sure."	☑ = Y	es/No drop-c	lown in Excel	version
\square	С	Space Electronics	NASA	DoD	Other	Not Sure
$\overline{\mathbf{V}}$	C1	Data Handling & Storage	V	\checkmark	V	√
\checkmark	C2	Integrated Circuits/Semiconductors	✓	\checkmark	\checkmark	√
\checkmark	C3	Fiber Optics	✓	\checkmark	\checkmark	√
\overline{V}	C4	Traveling Wave Tubes		\checkmark	\checkmark	\checkmark
\checkmark	C5	Radiation-Hardened/Tolerant Electronics		\checkmark	$\overline{\checkmark}$	\checkmark
\checkmark	C5A	Field Programmable Gate Arrays	V	\checkmark	√	\checkmark
\checkmark	C5B	Non-Volatile Memory	<u> </u>	$\sqrt{}$	V	\checkmark
\checkmark	C6	Fault Tolerant Computing	V	\checkmark	√	√
$\sqrt{}$	C7	Memory		\checkmark	√	√
\checkmark	C7A	Microprocessors	<u> </u>	\checkmark	√	√
$\sqrt{}$	C8	Micro-Sized Data Acquisition, Processing and Storage	<u> </u>	$\overline{\checkmark}$	$\overline{\checkmark}$	✓
\checkmark	C9	Other specify here	<u> </u>	$\sqrt{}$	<u> </u>	\checkmark
$\overline{\mathbf{A}}$	D	Software	NASA	DoD	Other	Not Sure
$\overline{\checkmark}$	D1	Development Tools	V	\checkmark	\checkmark	V
\checkmark	D2	Verification and Validation	<u> </u>	\checkmark	\checkmark	\checkmark
\checkmark	D3	Design Level Re-Use	<u> </u>	\checkmark	\checkmark	\checkmark
\checkmark	D3A	Modeling and Analysis Tools of Physical Systems	<u> </u>	\checkmark	√	\checkmark
\checkmark	D3B	Modeling and Analysis Tools of Software systems	<u> </u>	\checkmark	√	\checkmark
\checkmark	D3C	Compliance and Model Checkers	V	\checkmark	\checkmark	\checkmark
	D4	Data Mining and Knowledge Management	<u> </u>	\checkmark	\checkmark	\checkmark
	D5	Training Support and Simulation	V	\checkmark	\checkmark	\checkmark
	D6	Mission Automation	V	\checkmark	\checkmark	\checkmark
$\sqrt{}$	D6A	Operations	V	\checkmark	\checkmark	\checkmark
\checkmark	D6B	Monitoring	V	\checkmark	√	\checkmark
\checkmark	D7	Integrated Systems Health Management	V	\checkmark	√	√
\checkmark	D7A	Prognostic/Diagnostic Tools	V	\checkmark	√	\checkmark
$\overline{\ }$	D7B	Solid Rocket Motor Health Management		\checkmark	\checkmark	\checkmark
\checkmark	D7C	On-Board Decision Support Tools	V	\checkmark	√	√
\checkmark	D7D	Fault Isolation and Root Cause Determination Tools		\checkmark	\checkmark	\checkmark
\checkmark	D8	Other specify here	$\overline{\checkmark}$	\checkmark	\checkmark	√

BUSINESS CONFIDENTIAL—Per Section 705(d) of the Defense Production Act

Section 2 PRODUCT AND SERVICE TYPE LISTING continued

Place a ☑ by the products and service type codes corresponding to your company's <u>current</u> business lines. For each product and service type selected, indicate whether the end-user is "NASA." "DoD." "Other." or "Not Sure." ☑ = Yes/No drop-down in Excel version

the	end-user is "NASA	A," "DoD," "Other," or "Not Sure."				
	E	Propulsion Systems	NASA	DoD	Other	Not Sure
$\sqrt{}$	E1	Liquid Fuel Rocket	√	√	√	V
	E1A	Chamber	$\overline{\checkmark}$	$\overline{\checkmark}$	\checkmark	\checkmark
	E1B	Propellant	√	\checkmark	\checkmark	\checkmark
	E1C	Igniter	$\overline{\checkmark}$	$\overline{\checkmark}$	\checkmark	\checkmark
\checkmark	E1D	Nozzle	\checkmark	\checkmark	\checkmark	\checkmark
\checkmark	E2	Solid Fuel Rocket	√	\checkmark	\checkmark	\checkmark
\checkmark	E2A	Casing	√	\checkmark	\checkmark	\checkmark
\checkmark	E2B	Igniter	\checkmark	\checkmark	\checkmark	\checkmark
\checkmark	E2C	Propellant	√	\checkmark	\checkmark	\checkmark
\checkmark	E2D	Nozzle	√	\checkmark	\checkmark	\checkmark
\checkmark	E2E	Thrust Control	\checkmark	\checkmark	\checkmark	\checkmark
$\sqrt{}$	E3	Electrical Power	✓	\checkmark	\checkmark	\checkmark
$\overline{\checkmark}$	E3A	Generator	$\overline{\checkmark}$	$\overline{\checkmark}$	\checkmark	\checkmark
\checkmark	E3B	Battery	✓	$\overline{\checkmark}$	\checkmark	\checkmark
\checkmark	E3C	Harness	$\overline{\checkmark}$	$\overline{\checkmark}$	√	\checkmark
\checkmark	E4	Operating System	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	\checkmark
\checkmark	E4A	Hydraulic	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	E4B	Pneumatic	$\overline{\vee}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	E4C	Electro-Mechanical	$\overline{\checkmark}$	$\overline{\checkmark}$	\checkmark	$\overline{\checkmark}$
$\overline{\checkmark}$	E5	Guidance Systems	\checkmark	$\overline{\checkmark}$	\checkmark	\checkmark
$\overline{\checkmark}$	E5A	GPS	\checkmark	$\overline{\checkmark}$	\checkmark	\checkmark
$\overline{\checkmark}$	E5A.i	Receivers	\checkmark	$\overline{\checkmark}$	\checkmark	\checkmark
\checkmark	E5A.ii	Processor	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
$\overline{\checkmark}$	E5B	Inertial	\checkmark	$\overline{\checkmark}$	\checkmark	\checkmark
$\overline{\checkmark}$	E5B.i	Gyroscope	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	\checkmark
\checkmark	E5B.ii	Processor	$\overline{\checkmark}$	√	<u> </u>	<u> </u>
\checkmark	E5B.iii	Controls	$\overline{\vee}$	<u> </u>	<u> </u>	√
	E6	Safety System		√		V
\checkmark	E6A	Destruct Receiver	$\overline{\checkmark}$	√	<u> </u>	√
	E6B	Ordnance	√	√	V	<u> </u>
	E6C	Navigation Devices	√	√		V
$\overline{\checkmark}$	E7	Structural System	$\overline{\vee}$	√	<u> </u>	<u> </u>
$\overline{\mathbf{V}}$	E7A	Inter-stage	$\overline{\vee}$	$\overline{\vee}$	<u> </u>	V
$\overline{\mathbf{V}}$	E7B	Fairings	$\overline{\vee}$	$\overline{\vee}$	$\overline{\checkmark}$	V
\checkmark	E7C	Skirt	\checkmark	$\overline{\checkmark}$	\checkmark	$\overline{\checkmark}$

BUSINESS CONFIDENTIAL—Per Section 705(d) of the Defense Production Act **Section 2** PRODUCT AND SERVICE TYPE LISTING continued Place a 🗹 by the products and service type codes corresponding to your company's <u>current</u> business lines. For each product and service type selected, indicate whether the end-user is "NASA," "DoD," "Other," or "Not Sure." ☑ = Yes/No drop-down in Excel version $\overline{\mathbf{Q}}$ Ε **Propulsion Systems** continued NASA DoD Other **Not Sure** Launch Related Materials E8 $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ E8A **Ablatives** $\sqrt{}$ **Advanced Composites** $\sqrt{}$ E8B $\sqrt{}$ $\sqrt{}$ E8C **Fibers** $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ $\overline{\mathsf{V}}$ $\sqrt{}$ E9 **Rocket Engines and Motors** $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ $\overline{\mathsf{V}}$ $\sqrt{}$ E9A Solid $\sqrt{}$ \overline{V} $\sqrt{}$ $\overline{\mathsf{V}}$ $\sqrt{}$ E9B Liquid $\sqrt{}$ $\sqrt{}$ $\overline{\mathsf{V}}$ $\sqrt{}$ E10 Telemetry \checkmark $\overline{\mathsf{V}}$ $\sqrt{}$ $\overline{\mathsf{V}}$ $\sqrt{}$ E11 Software $\sqrt{}$ $\sqrt{}$ E12 Other specify here $\overline{\mathbf{Q}}$ F **Ground Systems** NASA DoD Other **Not Sure** $\sqrt{}$ F1 **Ground Antennas** $\sqrt{}$ F2 Telemetry, Tracking and Control Equipment $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ F3 Software $\sqrt{}$ Mission Data Processing Equipment $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ F4 $\sqrt{}$ $\sqrt{}$ Communications Equipment F5 $\sqrt{}$ F6 Other specify here $\overline{\mathbf{Q}}$ G **Specialty Materials NASA** DoD Other **Not Sure** G1 **Thermal Coatings** G2 **Optical Coatings** $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ G3 **Dust Resistant Coatings** $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ G4 **Protective Coatings** $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ G5 $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ Structures $\sqrt{}$ G6 $\sqrt{}$ $\sqrt{}$ Substrates $\sqrt{}$ G7 $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ Composites $\sqrt{}$ G8 Optics $\sqrt{}$ $\sqrt{}$ G9 $\sqrt{}$ Other specify here

BUSINESS CONFIDENTIAL—Per Section 705(d) of the Defense Production Act

Section 2 PRODUCT AND SERVICE TYPE LISTING continued Place a 🕅 by the products and service type codes corresponding to your company's current business lines. For each product are

Place a \square by the products and service type codes corresponding to your company's <u>current</u> business lines. For each product and service type selected, indicate whether the end-user is "NASA." "DoD." "Other." or "Not Sure." $\square = \text{Yes/No drop-down in Excel version}$

typ	e selected, ind	licate whether the end-user is "NASA	A," "DoD," "Other," or "Not Sure."	✓ = Y(es/No drop-d	lown in Excel	version
$\overline{\mathbf{V}}$	Н	Struc	tures	NASA	DoD	Other	Not Sure
√	H1	Friction Stir Welding and Spun Forme	d Dome	$\overline{\checkmark}$	\checkmark	<u> </u>	$\overline{\checkmark}$
\checkmark	H2	Composite Strut		\checkmark	\checkmark	$\overline{\checkmark}$	\checkmark
\checkmark	H3	Lunar Habitats		$\overline{\checkmark}$	\checkmark	$\overline{\checkmark}$	\checkmark
\checkmark	H4	Long Life, Low Temperature Mechanic	cal Systems	$\overline{\mathbf{V}}$	\checkmark	\checkmark	\checkmark
$\overline{\checkmark}$	H5	Lightweight High Strength Window Ma	uterials	$\overline{\mathbf{V}}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	H6	Radiation Shielding		$\overline{\mathbf{V}}$	\checkmark	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	H7	Tools to Determine Effect of Fields on	Structures	$\overline{\mathbf{V}}$	\checkmark	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	H8	Advanced Composites		$\overline{\mathbf{V}}$	$\overline{\checkmark}$	$\overline{\checkmark}$	\checkmark
\checkmark	H9	Habitation Structures		$\overline{\mathbf{V}}$	$\overline{\checkmark}$	$\overline{\checkmark}$	\checkmark
$\overline{\mathbf{V}}$	H10	Other	specify here	V	$\overline{\checkmark}$	<u> </u>	$\overline{\checkmark}$
	I	Protection	n Systems	NASA	DoD	Other	Not Sure
\checkmark	I1	Radiation Shielding Systems		\checkmark	\checkmark	$\overline{\checkmark}$	$\overline{\checkmark}$
\overline{V}	12	Heat Shields	$\overline{\mathbf{V}}$	\checkmark	$\overline{\vee}$	$\overline{\checkmark}$	
\checkmark	13	Bonding Systems	$\overline{\mathbf{V}}$	\checkmark	\checkmark	\checkmark	
\checkmark	14	Free Flying Damage Protection System	m	$\overline{\mathbf{V}}$	\checkmark	$\overline{\checkmark}$	$\overline{\checkmark}$
$\overline{\mathbf{V}}$	15	Analysis Tools		$\overline{\mathbf{V}}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	16	High Temperature Composites		\checkmark	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
V	17	Other	specify here	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
\square	J	Dust Mar	nagement	NASA	DoD	Other	Not Sure
V	J1	Dust Mitigation		$\overline{\mathbf{V}}$	\checkmark	V	√
\checkmark	J2	Dust Removal		\checkmark	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
\checkmark	J3	Lunar Regolith Stimulants Developme	nt and Production	\checkmark	\checkmark	\checkmark	\checkmark
$\overline{\mathbf{V}}$	J4	Dust Tolerant Connectors		$\overline{\checkmark}$	\checkmark	\checkmark	\checkmark
$\overline{\mathbf{V}}$	J5	Other	specify here	$\overline{\checkmark}$	\checkmark	\checkmark	$\overline{\checkmark}$
	K	Surface	Systems	NASA	DoD	Other	Not Sure
$\overline{\checkmark}$	K1	Energy Storage		$\overline{\mathbf{V}}$	\checkmark	\checkmark	\checkmark
V	K1A	Rechargeable Batteries	$\overline{\checkmark}$	\checkmark	\checkmark	$\overline{\checkmark}$	
V	K1B	Fuel Cells		$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$
$\overline{\mathbf{V}}$	K1B.i	PEM		√	\checkmark	$\overline{\checkmark}$	$\overline{\checkmark}$
$\overline{\mathbf{V}}$	K1B.ii	Regenerative		√	\checkmark	$\overline{\checkmark}$	$\overline{\checkmark}$
$\overline{\mathbf{V}}$	K2	Power Systems		$\overline{\checkmark}$	\checkmark	<u> </u>	<u> </u>
\checkmark	K2A	High Voltage Distribution		$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$

BUSINESS CONFIDENTIAL—Per Section 705(d) of the Defense Production Act Section 2 PRODUCT AND SERVICE TYPE LISTING continued Place a ☑ by the products and service type codes corresponding to your company's <u>current</u> business lines. For each product and service type selected, indicate whether the end-user is "NASA," "DoD," "Other," or "Not Sure." ☑ = Yes/No drop-down in Excel version Not $\overline{\mathbf{Q}}$ K **Surface Systems** continued NASA Other DoD Sure **Power Management** K2B $\sqrt{}$ $\overline{\mathsf{V}}$ K2C Lightweight Cabling $\sqrt{}$ Lightweight, High Strength Solar Arrays $\overline{\mathsf{V}}$ $\overline{\mathsf{V}}$ $\sqrt{}$ $\sqrt{}$ K2D $\sqrt{}$ $\overline{\mathsf{V}}$ $\overline{\mathsf{V}}$ $\sqrt{}$ $\sqrt{}$ K2E **Nuclear Fission** $\sqrt{}$ K3 Thermal Control $\overline{\mathsf{V}}$ $\sqrt{}$ $\sqrt{}$ Phase Change Material $\overline{\mathsf{V}}$ КЗА $\sqrt{}$ $\overline{\mathsf{V}}$ $\sqrt{}$ K3B Heat Rejection systems $\sqrt{}$ $\sqrt{}$ K3C $\sqrt{}$ $\sqrt{}$ Heat Sinks $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ K3D **Heat Exchangers** $\sqrt{}$ K3E Long Duration Fluids $\sqrt{}$ K3F Coldplate $\sqrt{}$ $\sqrt{}$ Supportability K4 $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ Detection, Repair, and Self-Repair K4A $\sqrt{}$ $\sqrt{}$ $\overline{\mathsf{V}}$ $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ K4B Non-Destructive Evaluation $\overline{\mathsf{V}}$ $\overline{\mathsf{V}}$ $\overline{\mathsf{V}}$ $\sqrt{}$ K4C Light Weight, Low Power Manufacturing $\overline{\mathsf{V}}$ $\overline{\mathsf{V}}$ $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ K4D Repair Tools and Techniques $\overline{\mathsf{V}}$ K5 Other specify here Not $\overline{\mathbf{Q}}$ **Extra-Vehicular Activity (EVA)** NASA Other DoD Sure L1 Space Suite $\sqrt{}$ $\sqrt{}$ L1A Packaging $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ L1B Ventilation $\sqrt{}$ L1C Oxygen Supply $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ \checkmark L1D Thermal Control $\sqrt{}$ $\sqrt{}$ L1E Communications, Avionics, and Informatics \checkmark $\overline{\mathsf{V}}$ $\sqrt{}$ L1F $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ **Dust Tolerant Fluid Connectors** $\sqrt{}$ $\sqrt{}$ L1G $\sqrt{}$ Materials and Pressure Garment Components $\sqrt{}$ L1H Rapid Recharge $\sqrt{}$ $\sqrt{}$ $\sqrt{}$

specify here

 $\sqrt{}$

 $\sqrt{}$

L2

L3

L4

CO2 and H2O Recovery

Other

Suitport / Suitlock / Airlock

 $\sqrt{}$

 $\sqrt{}$

 $\sqrt{}$

BUSINESS CONFIDENTIAL—Per Section 705(d) of the Defense Production Act Section 2 PRODUCT AND SERVICE TYPE LISTING continued Place a ☑ by the products and service type codes corresponding to your company's <u>current</u> business lines. For each product and service type selected, indicate whether the end-user is "NASA," "DoD," "Other," or "Not Sure." ☑ = Yes/No drop-down in Excel version $\overline{\mathbf{M}}$ M **Robotic Systems NASA** DoD Other **Not Sure** M1 Lunar Rover M1A Wheels $\sqrt{}$ \overline{V} $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ M1B **Automated Docking** $\sqrt{}$ $\sqrt{}$ M1C $\sqrt{}$ $\sqrt{}$ Drivetrain and Suspension System M1D **Active Suspension Control System** $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ M2 **Automated Payload Offloading** $\sqrt{}$ $\sqrt{}$ \checkmark **High Dexterity Manipulation Systems** М3 $\sqrt{}$ $\sqrt{}$ M4 **Element Mating Mechanism** $\overline{\mathbf{M}}$ Ν **Environmental Control and Life Support (ECLS)** NASA DoD Other **Not Sure** CO2 and Moisture Removal System N1 $\sqrt{}$ High Pressure Oxygen Supply $\sqrt{}$ $\sqrt{}$ V N2 $\sqrt{}$ N3 Wastewater Recovery $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ Oxygen Recovery from Carbon Dioxide N4 $\sqrt{}$ $\sqrt{}$ N5 Biocides $\sqrt{}$ N6 Hygiene and Waste Removal Systems \checkmark Post-fire Cleanup Device N7 $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ N8 $\sqrt{}$ Waste Treatment $\sqrt{}$ N9 Other specify here 团 0 **Environmental Monitoring and Control NASA** DoD Other **Not Sure** Atmospheric 01 O1A Particulate $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ O1B Microbial $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ O1C Fire $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ O₁D Gasses $\sqrt{}$ 02 $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ Water $\sqrt{}$ O2A Materials and Pressure Garment Components $\sqrt{}$ O2B Rapid Recharge $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ O3 CO2 and H2O Recovery $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ 04 Suitport / Suitlock / Airlock $\sqrt{}$ $\sqrt{}$ O5 Other

			ENTIAL—Per Section 705(d) of the D		Act					
Sect	ion 2	PRODUCT A	ND SERVICE TYPE LISTING $clpha$	ontinued						
Place	e a ☑ by the ¡	products and service type codes cor	responding to your company's <u>c</u>	urrent business li	ines. For eac	ch product an	nd service			
type	selected, indi	cate whether the end-user is "NASA	"," "DoD," "Other," or "Not Sure."	☑ = Y	es/No drop-d	lown in Excel	version			
Ø	Р	In-Situ Resou	rce Utilization	NASA	DoD	Other	Not Sure			
V	P1	Regolith Excavation and Handling	\checkmark	\checkmark	V	<u> </u>				
$\overline{\vee}$	P2	Oxygen and Water Extraction from F	Regolith	\checkmark	\checkmark	V	\checkmark			
$\overline{\vee}$	P3	Lunar Excavation	$\overline{\mathbf{V}}$	$\overline{\checkmark}$	\checkmark	$\overline{\checkmark}$				
$\overline{\vee}$	P4	Mineral Mapping	$\overline{\checkmark}$	$\overline{\checkmark}$	\checkmark	$\overline{\checkmark}$				
$\overline{\mathbf{V}}$	P5	Volatile (H, C, N, He) Extraction fror	√	\checkmark	\checkmark	√				
	P6	Other	specify here	\checkmark	$\overline{\checkmark}$	\checkmark	√			
	Q	Communications	s and Navigation	NASA	DoD	Other	Not Sure			
V	Q1	Lunar Wireless Network		√	\checkmark	V	√			
V	Q2	Delay Tolerant Networking		$\overline{\mathbf{V}}$	$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{\checkmark}$			
V	Q3	Atomic Clocks		$\overline{\checkmark}$		$\overline{\checkmark}$	<u> </u>			
	Q4	Routers		$\overline{\checkmark}$	$\overline{\checkmark}$	\checkmark	<u> </u>			
	Q5	IPSec		$\overline{\checkmark}$	$\overline{\checkmark}$	\checkmark	$\overline{\checkmark}$			
V	Q6	High Bandwidth Optical Communica	tions	$\overline{\checkmark}$	$\overline{\checkmark}$	\checkmark	\checkmark			
	Q7	Other	specify here	$\overline{\checkmark}$	$\overline{\checkmark}$	\checkmark	$\overline{\checkmark}$			
\square	R	End User I	Equipment	NASA	DoD	Other	Not Sure			
V	R1	Communication/Data		\checkmark	\checkmark	\checkmark	\checkmark			
\checkmark	R2	Navigation								
\checkmark	R3	Other								

BUSINESS CONFIDENTIAL—Per Section 705(d) of the Defense Production Act										
Section 3 Relationship	<u>s</u> —NASA Sur	ply Chain Net	work							
U.S. Mergers and Acquisitions	·	✓ In the second of the sec	ot applicable to your company							
	Identify your company's FIVE most significant U.S. mergers and acquisitions from 2007 to date. Record the merged/acquired company's name(s) and location, the year the merger/acquisition occurred, and the primary objective of the merger/acquisition.									
Name of Company	State	Year	Primary Objective							
1.	drop-down	drop-down								
2.										
3.										
4.										
5.										
Non-U.S. Mergers and Acquisitions		✓	ot applicable to your company							
Identify your company's FIVE most significant Non-U.S. mergers and acquisitions from 2007 to date. Record the merged/acquired company's name(s) and location, the year the merger/acquisition occurred, and the primary objective of the merger/acquisition.										
name(s) and location, the year the merger/acquisition occur	red, and the prin	nary objective of the	ne merger/acquisition.							
name(s) and location, the year the merger/acquisition occur Name of Company	red, and the prin	nary objective of the Year	ne merger/acquisition.							
name(s) and location, the year the merger/acquisition occur Name of Company 1.	red, and the prin	nary objective of the Year	ne merger/acquisition.							
name(s) and location, the year the merger/acquisition occur Name of Company 1. 2.	red, and the prin	nary objective of the Year	ne merger/acquisition.							
name(s) and location, the year the merger/acquisition occur Name of Company 1. 2. 3.	red, and the prin	nary objective of the Year	ne merger/acquisition.							

					efense Producti					
Section 3 Relation	<u> 1ships</u> —	NASA	Suppl	y Chain Ne	twork contin	ued				
Joint Venture Relationships Related to NAS	SA Busine	SS		✓ here	if not applicabl	e to your com	oany			
Identify your company's current NASA-related company/entity involved, indicating whether a licensing, co-production, product integration, a ISS, or Constellation programs.	U.S. or No	n-U.S. e	nterpris	e, and a desc	ription of the jo	oint venture's p	ourpose, e	.g. pat	ent	
Name and U.S./Non-U.	S.			Prima	ry Objective	of Relationsh	ip		Shuttle, ellation pi related?	rogram-
Name here	Ø	U.S.	Non		Descripti		Yes	No	Not Sure	
1.		√	$\overline{\checkmark}$		Descripti			√	$\overline{\checkmark}$	V
2.		\checkmark	\checkmark							
3. Room for 5 in Excel version		√	$\overline{\checkmark}$	R	oom for 5 in E	xcel version				
Competition		-								
Identify your company's leading U.S. and Non-Codes relating to the competition.	·U.S. comp	etitors.	Record	the name, lo	cation, and cor	responding Pr	oduct and	Servi	се Тур	е
Name and Location of FIVE U.S.	Competito	ors			Part/Com	ponent/Mater	ial/Servic	e		
U.S. Name	•	State				odes from Li				
1.	d	rop-dow	/n	drop-down	drop-down	drop-down	drop-do	wn	drop-c	down
2.										
3. Room for 5 in Excel version								<u> </u>		
Name and Location of FIVE Non-U.						ponent/Mater		е		
Non-U.S. Name		Country				codes from Li	1			
1.	d	rop-dow	/n	drop-down	drop-down	drop-down	drop-do	WN	drop-c	down
2.							1	<u> </u>		
3. Room for 5 in Excel version										
Section ? Comment:										

BUSINESS CONFIDENTIAL—Per Section 705(d) of the Defense Production Act **Section 3** Relationships—NASA Supply Chain Network continued U.S. and Non-U.S. Supplier Relationships Identify your company's TEN most significant U.S. and Non-U.S. supplier relationships that support NASA programs, directly or indirectly. Record the names and locations of the TEN supplier facilities. Do not include internal company suppliers. Then, select the codes corresponding to the part, component, material, or service supplied to your company by each supplier. Lastly, indicate if the supplied parts, components, materials, or services are used in Space Shuttle, ISS or Constellation programs. Space Shuttle, ISS, or Name and Location of TEN U.S. Suppliers Part/Component/Material/Service Constellation program-related? **U.S. Supplier Name Code from List** No State Yes Sure 3. 4. 5. Room for 10 in Excel version Space Shuttle, ISS, or Name and Location of TEN Non-U.S. Suppliers Part/Component/Material/Service Constellation program-related? Not **Code from List** Non-U.S. Supplier Name Country No Yes Sure $\overline{\mathsf{V}}$ $\overline{\mathsf{V}}$ drop-down drop-down drop-down drop-down 3. 4. 5. Room for 10 in Excel version

Section ? Comment:

BUSINESS CONFIDENTIAL—Per Section 705(d) of the Defense Production Act Relationships—NASA Supply Chain Network continued **Section 3 NASA Customers** Place a ☑ next to the NASA facilities/centers/laboratories your company has served in any production or service capacity since 2007, or indicate if "Yes" but you do not know which ones your company has served. ✓ here is applicable "Yes," but we do not know which ones have been served $\overline{\mathbf{Q}}$ $\overline{\mathbf{V}}$ **NASA Sites NASA Sites** Ames Research Center—Moffett Field, California 12. Michoud Assembly Facility—New Orleans, Louisiana 1. Dryden Flight Research Center—Edwards, California NASA Headquarters—Washington, DC 2. 13. 3. Glenn Research Center—Cleveland, Ohio 14. Plum Brook Station—Sandusky, Ohio Goddard Space Flight Center—Greenbelt, Maryland 15. Stennis Space Center—Mississippi 4. Goddard Institute of Space Studies—NY, New York 5. 16. Wallops Flight Facility—Virginia IV and V Facility—Fairmont, West Virginia White Sands Test Facility—Las Cruces, New Mexico 6. 17. 7. Jet Propulsion Laboratory—Pasadena, California Other specify here 18. 8. Johnson Space Center—Houston, Texas 19. Other specify here Other Kennedy Space Center—Cape Canaveral, Florida specify here 9. 20. Langley Research Center—Hampton, Virginia 10. Yes/No drop-downs for **I** in Excel version Marshall Space Flight Center—Huntsville, Alabama 11. Section ? Comment:

BUSINESS CONFIDENTIAL—Per Section 705(d) of the Defense Production Act Section 4. **Operations—NASA Supply Chain Network** continued **Production Capacity Utilization** Record your company's annual overall production capacity utilization for 2007-2009, and projected rate for 2010. Note: If you do not manufacture products but perform only services or R&D, place a ☑ here and proceed to the next question. ☑ here 2010 * 2007 2008 2009 drop-down % in Excel version % % % % Utilization Rate % * If data is not available for 2010, please provide estimates. **Supply Chain Management** From the list below select the supply chain management practices, methodologies, and systems that your company uses. Advanced Planning System (APS) Material Requirements Planning (MRP) 17. Bar Coding Outsourcing 2. 18. $\sqrt{}$ Close Partnership with Customers 19. Plan strategically Close Partnership with Suppliers Radio Frequency Identification (RFID) 20. 5. Customer Relationships Management (CRM) 21. Subcontracting Supplier Relationships Management (SRM) **Decision Support/Expert System** 22. E-business 23. Supply Chain Benchmarking 7. $\sqrt{}$ 8. Supply Chain Management (SCM) E-commerce 24. Electronic Data Interchange (EDI) Theory of Constraints (TOC) 25. Enterprise Resource Planning (ERP) Third Party Logistics (3PL) 10. 26. Use of External Consultants 11. E-procurement 27. 12. **Few Suppliers** 28. Vertical integration 13. Holding Safety Stock 29. Warehouse Management System (WMS) Just In Time (JIT) 30. Other 14. specify here Manufacturing Resources Planning (MRPII) Other 15. 31. specify here **Many Suppliers** Other 32. 16. specify here Explanation: Section ? Comment:

			BUSINESS (CONFIDENTIA	L—Per Secti	on 705(d) of th	e Defense Pr	oduction Act				
Sec	ction 4.		<u>O</u> r	<u>erations-</u>	-NASA S	Supply Cha	in Netwo	rk				
Mac	chinery, Tooling, F	acilities										
Doe	es your company ow	vn or lease :	any machine	rv toolina d	or facilities s	specifically fo	r NASA Sna	ce Shuttle	International	Snace	YES	NO
	tion (ISS), or Const		•		or racinties c	pecinically to	1 14/10/1 Opt	ice onattic,	memational	Σρασο	V	√
leas Inte mad	"Yes," record [1] all related machinery, tooling, and/or facilities; [2] the use/purpose of each item; [3] whether the item was purchased, eased, or government furnished equipment (GFE), or combination thereof; [4] whether the item currently supports Space Shuttle, aternational Space Station (ISS), Constellation program-related business lines, or a combination thereof; and [5] the current status of the eachine/tool/facility, e.g. idle, mothballed, in-use, re-tooled/re-built for non-NASA business lines, etc. ote: Indicate whether Business Unit/Division or Corporate/Whole Company-level data.											
		Reporting?		, oo portuin		Jnit/Division			Corporate/Wh	nole Compa	ลทง	
M	lachine/Tool/Facility	Use/ Purpose	Owned?	Leased?	GFE?	Combination?	Shuttle?	ISS?	Constellation?	Combination?		nt Status
1.		•										
2.												
3.								 				
4. 5.								<u> </u>				
6.				<u> </u>				 				
7.												
8.								1				
9.												
10.												
Provide the first and most recent year of your company's receipt of a Space Shuttle-related NASA production or service order. First Most Recent 1975-2010 drop-down 1975-2010 drop-down									n			
•	Space Shuttle-related NASA production or service order. 1975-2010 drop-down 1975-2010 drop-down * If data is not available for 2010, please provide estimates.											
Sec	tion ? Comment:											

BUSINESS CONFIDENTIAL—Per Section 705(d) of the Defense Production Act

Section 5

Financial Health—NASA Supply Chain Network

Sales Table

Provide your company's 2007-2010 sales information and projected 2011-2015 sales trend information.

	Source of Sales Data? drop-down	Business Unit/Division					Corporate/Whole Company						
	Reporting schedule? drop-down		Fisc	cal Year		Calendar Year							
	"U.S." means U.S., domestic sales;		Record in \$ Thousands, e.g. \$12,000.00 = survey input of \$12										
"N	"Non-U.S." means export sales from U.S.		07	_	08		09	2010 *		2011-2015 *			
	located facilities		Non-U.S.	U.S.	Non-U.S.	U.S.	Non-U.S.	U.S.	Non-U.S.	U.S.	Non-U.S.		
1.	Total Sales, all Customers	\$	\$	\$	\$	\$	\$	\$	\$	Increase Decrease No Change Not Sure	Increase Decrease No Change Not Sure		
2.	Total Non-Government Sales	% of 1.	% of 1.	% of 1.	% of 1.	% of 1.	% of 1.	% of 1.	% of 1.	Increase Decrease No Change Not Sure	Increase Decrease No Change Not Sure		
3.	Total Government Sales	% of 1.	% of 1.	% of 1.	% of 1.	% of 1.	% of 1.	% of 1.	% of 1.	Increase Decrease No Change Not Sure	Increase Decrease No Change Not Sure		
4.	Total NASA Sales, all Programs	\$\$\$		\$\$\$		\$\$\$		\$\$\$		Increase Decrease No Change Not Sure			
5.	Total Space Shuttle	% of 4		% of 4		% of 4		% of 4					
6.	Total ISS	% of 4		% of 4		% of 4		% of 4		Increase Decrease No Change Not Sure			
7.	Total Constellation Program	% of 4		% of 4		% of 4		% of 4					

^{*} If data is not available, please provide estimates.

Section ? Comment:

BUSINESS CONFIDENTIAL—Per Section 705(d) of the Defense Production Act

Section 5 Financial Health—NASA Supply Chain Network continued

Top 10 Customers

Identify your company's ten most significant <u>space-related</u> customers (e.g. government, commercial, other) by dollar amount for years 2007-2010. Record the individual customer names and the dollar amount corresponding to aggregate sales from 2007-2010. <u>Do not</u> include internal customers.

Note: Rank customers in order of aggregate dollar sales value, i.e. the customer with the most sales is recorded in line 1.

Source of Customer Data? drop-down	Business Unit/Division	Corporate/Whole Company				
Customer Information—Space-Related Only	Record in \$ Thousands, e.g. \$12,000.00 = survey input of \$12					
Customer Name	U.S. or Non-U.S. Customer?	2007-2010 * Aggregate Dollar Sales				
1.	drop-down	\$				
2.	drop-down	\$				
3.	drop-down	\$				
4.	drop-down	\$				
5.	drop-down	\$				
6.	drop-down	\$				
7.	drop-down	\$				
8.	drop-down	\$				
9.	drop-down	\$				
10.	drop-down	\$				

* If data is not available for 2010, please provide estimates.

Section ? Comment:

BUSINESS CONFIDENTIAL—Per Section 705(d) of the Defense Production Act									
Section 5 <u>Financial He</u>	<u>alth</u> —NAS	SA Supply Chain	Network	con	tinued				
Export Sales									
Record the country of destination for your company	y's <u>space-rel</u>	ated export sales in 2	2007-2010.						
If your company has not exported space-related pro	oducts or se	rvices since 2007 ☑	here						
Source of Export Sales Data? drop-down	Bus	siness Unit/Division			Corporate/Whole	Company			
Connetvice		Record in \$	Thousands	s, e.g	g. \$12,000.00 = survey i	input of \$12			
Countries		2007	2008	}	2009	2010	*		
1.									
2.									
3.									
4.						 			
5.						1			
6. 7.						 			
8.									
9.									
10.									
* If data is not available for 2010, please provide estimates.									
Have you decided to stop exporting space-related p	products or s	services because of a	oast experie	nces	s with U.S. export licens	se Yes	No		
denials, conditions or extended delays? Explain.	<u> </u>					V	V		
Explanation:									
Have you lost export sales opportunities of space-r	rolated produ	icts or sorvices to no	n IIS comi	notite	ore bocause of LLS	Yes	No		
export controls? If "Yes," select the total dollar amo						✓	V		
Explanation:									
☐ Less than \$100,000 ☐	Between \$	62-5 million		$\overline{\checkmark}$	Between \$20-50 millio	n			
 ✓ Between \$100-500,000 ✓ Between \$5-10 million ✓ Between \$50-100 million 									
☑ Between \$500,000-\$2 million ☑									
Section ? Comment:	Detween 4500,000 42 minor								

BUSINESS CONFIDENTIAL—Per Section 705(d) of the Defense Production Act

Section 5 Financial Health—NASA Supply Chain Network continued

Report select line items from your company's financial statement for years 2007-2010. From the drop-down indicate whether the reported income statement and balance sheet line items are Business Unit/Division or Corporate/Whole Company financials.

Note: Business Unit/Division financials are preferred.

Note: Business Unit/Division financials are preferred.									
	Source of financial line items? drop-down	Business I	Unit/Division	Corporate/WI	hole Company				
	Reporting schedule? drop-down	Fisca	al Year	Calendar Year					
		Desert in	t Thousands or th	2 000 00 – our ou inn	ut of ¢10				
	Income Statement (Select Line Items)	2007	1 \$ Thousands, e.g. \$12 2008	2,000.00 – Survey Iripi 2009	2010 *				
	Income Statement (Select Line Items)	2007	2008	2009	2010 "				
1. 2.	Net Sales (and other revenue) Cost of Goods Sold								
3.									
	Operating Income Other Income								
4. 5.									
	Interest Expense Provision for Income Taxes								
6. 7.									
7.	Net Income	December	φ. Tl	000.00	- (040				
	Dalama Obaat (Oalaattiaa Kana)		\$ Thousands, e.g. \$12,						
	Balance Sheet (Select Line Items)	2007	2008	2009	2010 *				
1.	Cash								
2.	Marketable Securities								
3.	Accounts Receivable								
4.	Inventories								
5.	Total Current Assets								
6.	Property, Plant, and Equipment								
7.	Total Non-Current Assets								
8.	Total Assets								
9.	Accounts Payable								
10.	Total Current Liabilities								
11.	Long-Term Debt (less current portion)								
12.	Total Non-Current Liabilities								
13.	Total Liabilities								
14.	Total Owner's Equity								
* If data	a is not available for 2010, please provide estimates.								

PUSINESS CONFIDENTIAL — Per Section 705(d) of the Defense Production Act										
Continu E	BUSINESS CONFIDENTIAL—Per Section 705(d) of the Defense Production Act									
Section 5										
Financial Statements continued										
Feel free to qualify with narrative any anomalies or transactions reflected in your financial statement line items, e.g. accounting restatement, merger and acquisition, chapter 11, SEC investigation, etc.										
1. 20	07									
2. 20	08									
3. 20	09									
4. 20	10									
Section ? Comment:										

BUSINESS CONFIDENTIAL—Per Section 705(d) of the Defense Production Act **Section 6** Employment—NASA Supply Chain Network **Personnel Numbers** Record the total number of full time equivalent (FTE) employees in your U.S./domestic operations by labor type for the 2007-2010 period. Note: "Total in U.S. Operations" should comprise all preceding labor categories. If not, please indicate why in the comment box. Source of Occupational Data? drop-down **Business Unit/Division** Corporate/Whole Company 2007 2010 * 2008 2009 **Professional Occupations** # # # Administrative Staff Production Managers/Supervisors/Executives 2. 3. Research and Development (R&D) Staff 4. Production Line Workers, Support Technicians 5. Quality Control, Test Operators 6. Sales and Marketing 7. Facility Operations, Maintenance 8. **IT/Network Engineers** 9. Other specify here 10. Other specify here 11 Total in U.S. Operations * If data is not available for 2010, please provide estimates. **Personnel Description** Constellation Space Estimate the percentage of your company's total personnel in U.S. operations who participate (at any level) in Shuttle Program Space Shuttle and Constellation program-related work?

Section ? Comment:

0-100%

0-100%

BUSINESS CONFIDENTIAL—Per Section 705(d) of the Defe	ense Product	ion Ac	ct		
Section 6 <u>Employment</u> —NASA Supply Chain Netwo					
From the drop-down list of professional occupations, indicate what categories of perso	onnel are	Di	fficult to Hire	Diff	icult to Retain
the most difficult to hire and retain. Explain.		dr	op-down list	dr	op-down list
Explanation:					
Identify your company's critical personnel skills and competencies, i.e. expertise that is	s critical to	1.	Example	3.	Example
your company's viability and long-term competitiveness.		2.	Example	4.	Example
From the above list, which does your company consider its unique skills and competer	ncies?	1.	Example	3.	Example
Explain.	2.	Example	4.	Example	
Explanation:					
From the above list, which will your company lose due to Space Shuttle and/or Conste	ellation	1.	Example	3.	Example
program termination? Explain.		2.	Example	4.	Example
Explanation:					
Does your company have production and/or inspection <u>personnel</u> that possess formal necessary for doing business with NASA, e.g. Non-Destructive Testing, Soldering Wo			rtifications		YES NO
1.	Example	4.	Example	7.	Example
Provide examples of such qualifications/certifications. 2.	Example	5.	Example	8.	Example
3.	Example	6.	Example	9.	Example
Does your company require its <u>suppliers</u> to maintain these qualifications/certifications?	?	Yes	No	Sometin	nes Note Sure
1.	Example	4.	Example	7.	Example
If "Yes," which qualifications/certifications?	Example	5.	Example	8.	Example
3.	Example	6.	Example	9.	Example
Section ? Comment:					

BUSINESS CONFIDENTIAL—Per Section 705(d) of the Defense Production Act

Section 7 Research and Development—NASA Supply Chain Network

R&D Expenditures and R&D Funding Sources

Record your company's total research and development (R&D) dollar expenditures and the percentage of total R&D expenditures relating to NASA business lines. Then, indicate both the type of R&D performed, by percent allocation, and your company's R&D funding sources, by percent of total R&D dollars sourced.

Note: If your company's annual Total R&D Expenditures and Total R&D Funding Sources do not match, explain the discrepancy in the space provided.

	Source of R&D Data? drop-down	Business Unit/I	Division	Corporate/Whole Company						
	R&D reporting schedule? drop-down	Fiscal Ye	ar	Calendar Year						
	DOD Evenenditures & and 0/ recognises	Record	Record in \$ Thousands, e.g. \$12,000.00 = survey input of \$12							
	R&D Expenditures \$ and % responses	2007	2008	2009	2010 *					
1.	Total R&D Expenditu	res \$	\$	\$	\$					
2.	% of Total relating to NASA business li	nes % of 1.	% of 1.	% of 1.	% of 1.					
3.	Basic Resea	rch % of 1.	% of 1.	% of 1.	% of 1.					
4.	Applied Resea	rch % of 1.	% of 1.	% of 1.	% of 1.					
5.	Product/Process Developm	ent % of 1.	% of 1.	% of 1.	% of 1.					
6.	TOTAL (must equal 100	0%) % formula	% formula	% formula	% formula					

Dep Funding Courses & and 0/ reconcises		Record in \$ Thousands, e.g. \$12,000.00 = survey input of \$12							
K	&D Funding Sources \$ and % responses	2007	2008	2009	2010 *				
7.	Total R&D Funding Sources	\$	\$	\$	\$				
8.	Internal	% of 7.	% of 7.	% of 7.	% of 7.				
9.	Total Federal Government	% of 7.	% of 7.	% of 7.	% of 7.				
10.	Total State and Local Government	% of 7.	% of 7.	% of 7.	% of 7.				
11.	Universities (public and private)	% of 7.	% of 7.	% of 7.	% of 7.				
12.	U.S. industry, venture capital, non-profit	% of 7.	% of 7.	% of 7.	% of 7.				
13.	Non-U.S. Investors	% of 7.	% of 7.	% of 7.	% of 7.				
14.	Other specify here	% of 7.	% of 7.	% of 7.	% of 7.				

^{*} If data is not available for 2010, please provide estimates.

Section ? Comment:

	BUSINESS CONFIDENTIAL—Per Section 705(d) of the Defense Production Act										
	Section 8 <u>Investment</u> —NASA Supply Chain Network										
Cap	Capital Expenditures										
Rec	Record your company's capital expenditures corresponding to the select categories.										
	Source of Capital Expenditure Data? drop-down Business Unit/Division Corporate/Whole Company										
	Capita	al Expenditure reporting schedule? drop-down	Fiscal Y	/ear	Calendar Year						
		\$ and % respon			\$12,000.00 = survey inp						
			2007	2008	2009	2010 *					
1.		Total Capital Expendit	ures \$	\$	\$	\$					
2.	Machin	nery, Equipment, and Vehi	cles % of 1.	% of 1.	% of 1.	% of 1.					
3.		IT, Computers, Softv	vare % of 1.	% of 1.	% of 1.	% of 1.					
4.	Land, Buildings	and Leasehold Improvem	ents % of 1.	% of 1.	% of 1.	% of 1.					
5.	Other	specify here	% of 1.	% of 1.	% of 1.	% of 1.					
6.	Other	specify here	% of 1.	% of 1.	% of 1.	% of 1.					
7.	% of Total C	apital Expenditures relatir NASA business I		% of 1.	% of 1.	% of 1.					
* If da	ata is not available fo	r 2010, please provide estimate	es.								
Sect	Section ? Comment:										

BUSINESS CONFIDENTIAL—Per Section 705(d) of the Defense Production Act										
Sec	ction 9 <u>Future Outlook</u> —NASA Supply Chain Network									
			No	Not Sure						
1.	Is your company dependent on NASA-related business?	\checkmark	V							
2.	How will NASA's cancellation of the Space Shuttle and Constellation programs affect your business'	? Explain.								
Expl	lanation:									
	Does your company have a plan in place to preserve its current capabilities and workforce in the		No	Not Sure						
3.	post-Space Shuttle, post-Constellation program environment? Explain.	\checkmark	V	V						
Expl	lanation:									
_	4. Has your company <u>already modified</u> its business plan and/or product lines in response to cancellation of the Space Shuttle and/or Constellation programs? Explain.		No	Not Sure						
4.			V							
Expl	lanation:									
_	Does your company <u>plan to modify</u> its business plan and/or product lines in response to cancellation of the Space Shuttle and/or Constellation programs? Explain.		No	Not Sure						
5.			V	V						
Expl	lanation:									
		Yes	No	Not Sure						
6.	Does your company <u>currently</u> participate in commercial manned spaceflight programs? Explain.	V	V	V						
Expl	lanation:									
		Yes	No	Not Sure						
7.	In the future, will your company participate in commercial manned spaceflight programs? Explain	\checkmark	V							
Expl	lanation:									
Secti	on ? Comment:									

		BUSI	NESS C	ONFI	DENTIAL—Per Sectio	n 705	(d) of the Defense Pro	oducti	on Act				
Sec	etion 9				ok—NASA Supp								
	Will the loss of Space Shuttle or Constellation program business directly or indirectly affect your company's ability to maintain its business lines with other government customers? If "Yes," indicate							Yes		No	Not Sure		
1.	company's ability to maintain which government customer a room for 4 drop-down selection	and/o	r progra	ams a	and explain.			s," inc	dicate	V		\checkmark	V
V	U.S. Air Force (USAF)	V	Missile Defense National Oceanic and					V	Other	spe	cify here		
$\overline{\checkmark}$	Directorate for National Intelligence (DNI)	V	Nation Office		econnaissance O)	V	Unified Combatar Command (UCC)			✓ Other specify he			cify here
2. Record the degree of compatibility of your overall NASA-related product lines with non-NASA customers and applications.													
\checkmark	Near 100%	Near 100%				None							
\checkmark	More than 50%		☑ Less than 25% ☑ Not Su					ure					
	Have prime contractors affiliated with NA			SA pr	programs provided your company any guidance on how			Y	'es	No	Not Sure		
3.	to best respond to cancellation of the Space Shuttle and/or Constellation programs? Explain.							$\overline{\checkmark}$	$\overline{\checkmark}$	\checkmark			
Expl	anation:												
	Have NASA officials provided	vour	compa	anv a	ny guidance on hoy	v to b	est respond to can	cella	tion of	Y	es es	No	Not Sure
4.	the Space Shuttle and/or Con										\checkmark	\checkmark	\checkmark
Expl	anation:												
	Is your company willing to sur	nort	future I	NAS/	A manned snaceflio	ht pr	ograms after cance	llatio	n of	Υ	'es	No	Not Sure
5. Is your company willing to support future NASA manned spaceflight programs after cancellation of the Space Shuttle and Constellation programs? Explain.							$\overline{\checkmark}$	\checkmark					
Expl	anation:												
Sect	tion ? Comment:												·

BUSINESS CONFIDENTIAL—Per Section 705(d) of the Defense Production Act								
Section 9 <u>Future Outlook</u> —NASA Supply Chain Network continued								
1.	1. Identify what industry/market segments your company has served in the <u>last 5 years</u> ?							
A.	Example	C.	Example	E.	Example			
B.	Example	D.	Example	F.	Example			
2.	Identify what industry/market segments yo	ur con	npany will target in the <u>next 5-10 years?</u>					
A.	Example	C.	Example	E.	Example			
B.	Example	D.	Example	F.	Example			
3.	Describe the actions your company has tal	ken in	the <u>last five years</u> to improve its competiti	venes	S.			
Expla	nation:							
4.	4. Describe the actions your company plans to take to improve its competitiveness over the <u>next five years</u> .							
Expla	nation:							
5.	In addition to cancellation of both the Spac long-term viability of your company. Place					enges affecting the		
$\overline{\checkmark}$	Domestic Competition	$\overline{\checkmark}$	Government Regulations		Skills Retention			
$\overline{\checkmark}$	Environmental	$\overline{\checkmark}$	Health Care		Taxes			
$\overline{\checkmark}$	Export Controls	V	Imports	\checkmark	Variability of Demand			
$\overline{\checkmark}$	Foreign Competition	V	R&D Tax Credit	V	Other	specify here		
Expla	Explanation:							
Section	Section ? Comment:							

Sec	tion 9 <u>Future Outlook</u> —NASA Supply Chain Network continued							
1.	Identify what policy changes or regulatory reforms you recommend the U.S. Government implement to enhance your competitiveness.							
Ехр	lanation:							
2.	Have you worked with any regional, state, local, or non-profit economic development agencies or organizations to address the post-Space Shuttle, post-Constellation program environment? These might include Space Florida, the							
۷.	California Space Authority (CSA), public or private universities or the U.S. Chamber of Commerce.							
Explanation:								

BUSINESS CONFIDENTIAL—Per Section 705(d) of the Defense Production Act									
Section 10 <u>Certification</u> —NASA Supply Chain Network									
The undersigned certifies that the information herein supplied in response to this questionnaire is complete and correct to the best of his/her knowledge. It is a criminal offense to willfully make a false statement or representation to any department or agency of the United States Government as to any matter within its jurisdiction. [18 U.S.C.A. 1001 (1984 & SUPP. 1197)]									
Company or Organization Name	Company or Organization Name Website								
Name of Authorizing Official Title of Authorizing Official									
Name of Admonizing Official	The of Additionaling Official								
Phone Number	Phone Number Fax Number								
Point of Contact	pint of Contact Title								
Email Address	Phone Number	Extension							
Email / Ida 1035	Thore ramber	Extension							
How many hours did your company dedicate to the completio	on of this survey?		Number of Hou	ırs					
Thow many hours and your company dedicate to the completio	ar or und durvey.								
Place a ☑ here if you would like a copy of the completed NAS	SA Supply Chain Network indus	trial base assessment.		\checkmark					
<u></u>	omments (optional)								
Instructions: In the space below, provide any additional comments or any other information you wish to include regarding your participation in NASA Space Shuttle contracts or other related issues that impact your procurement, production, or supply-chain activities in the U.S.									
Section ? Comment:									