Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Air Force

Date: February 2019

Appropriation/Budget Activity

R-1 Program Element (Number/Name)

3600: Research, Development, Test & Evaluation, Air Force I BA 7:

PE 0301112F I Nuclear Planning and Execution System (NPES)

Operational Systems Development

, ,												
COST (\$ in Millions)	Prior			FY 2020	FY 2020	FY 2020					Cost To	Total
COST (\$ III MIIIIOIIS)	Years	FY 2018	FY 2019	Base	oco	Total	FY 2021	FY 2022	FY 2023	FY 2024	Complete	Cost
Total Program Element	0.000	5.056	29.620	44.190	0.000	44.190	35.088	15.404	25.632	4.179	Continuing	Continuing
673768: Nuclear Planning and Execution System (NPES)	0.000	5.056	29.620	35.010	0.000	35.010	31.978	14.344	25.632	4.179	Continuing	Continuing
674212: NLCC Decision Support System	0.000	0.000	0.000	9.180	0.000	9.180	3.110	1.060	0.000	0.000	0.000	13.350

A. Mission Description and Budget Item Justification

United States Strategic Command (USSTRATCOM) conducts global operations in partnership with other combatant commands, services and U.S. government agencies to deter and detect strategic attacks against the United States. USSTRATCOM is responsible for command of U.S. nuclear capabilities, space operations, global surveillance and reconnaissance, intelligence, communications, computers, global missile defense and combatting weapons of mass destruction. To enable completion of these missions, it is recapitalizing the Nuclear Planning and Execution System (NPES). NPES is a Chairman, Joint Chiefs of Staff system for nuclear operations and fulfillment of Nuclear Command and Control (NC2) responsibilities. NPES supports national strategic deterrence by providing a host of NC2 execution activities as well as contingency and crisis action planning capabilities to selected joint and combatant command staffs. NPES is operated by USSTRATCOM and other specified users performing missions to deter and dissuade threats, and, when directed, defeat adversaries.

The NPES system has evolved from several single-purpose command and control systems over the past 30 years and has reached a point where it requires recapitalization to meet national and strategic objectives and to comply with future concepts of operation. Additionally, recapitalization is needed to improve cybersecurity, system effectiveness, and supportability. Recapitalization will also seek to lower the total cost of ownership and sustainment. The recapitalization program will use proven/mature software engineering, technologies, and design tenets to provide a modern, secure, interoperable and reliable Nuclear Command and Control (NC2) software capability.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver NPES weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605826F, 0605827F, 0605828F, 0605829F, 0605830F, 0605831F,0605832F, and 0605898F.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Air Force Date: February 2019

Appropriation/Budget Activity

3600: Research, Development, Test & Evaluation, Air Force I BA 7:

Operational Systems Development

R-1 Program Element (Number/Name)

PE 0301112F I Nuclear Planning and Execution System (NPES)

B. Program Change Summary (\$ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Previous President's Budget	4.371	29.620	35.010	0.000	35.010
Current President's Budget	5.056	29.620	44.190	0.000	44.190
Total Adjustments	0.685	0.000	9.180	0.000	9.180
 Congressional General Reductions 	0.000	0.000			
 Congressional Directed Reductions 	0.000	0.000			
 Congressional Rescissions 	0.000	0.000			
 Congressional Adds 	0.000	0.000			
 Congressional Directed Transfers 	0.000	0.000			
Reprogrammings	0.807	0.000			
SBIR/STTR Transfer	-0.122	0.000			
Other Adjustments	0.000	0.000	9.180	0.000	9.180

Exhibit R-2A, RDT&E Project Ju	stification:	PB 2020 A	ir Force							Date: Febr	uary 2019			
Appropriation/Budget Activity 3600 / 7					R-1 Progra PE 030111 Execution		ar Planning	Number/Name) Nuclear Planning and Execution NPES)						
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost		
673768: Nuclear Planning and Execution System (NPES)	0.000	5.056	29.620	35.010	0.000	35.010	31.978	14.344	25.632	4.179	Continuing	Continuing		
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-				

A. Mission Description and Budget Item Justification

United States Strategic Command (USSTRATCOM) conducts global operations in partnership with other combatant commands, services and U.S. government agencies to deter and detect strategic attacks against the United States. USSTRATCOM is responsible for command of U.S. nuclear capabilities, space operations, global surveillance and reconnaissance, intelligence, communications, computers, global missile defense and combatting weapons of mass destruction. To enable completion of these missions, it is recapitalizing the Nuclear Planning and Execution System (NPES). NPES is a Chairman, Joint Chiefs of Staff system for nuclear operations and fulfillment of Nuclear Command and Control (NC2) responsibilities. NPES supports national strategic deterrence by providing a host of NC2 execution activities as well as contingency and crisis action planning capabilities to selected joint and combatant command staffs. NPES is operated by USSTRATCOM and other specified users performing missions to deter and dissuade threats, and, when directed, defeat adversaries.

The NPES system has evolved from several single-purpose command and control systems over the past 30 years and has reached a point where it requires recapitalization to meet national and strategic objectives and to comply with future concepts of operation. Additionally, recapitalization is needed to improve cybersecurity, system effectiveness, and supportability. Recapitalization will also seek to lower the total cost of ownership and sustainment. The recapitalization program will use proven/mature software engineering, technologies, and design tenets to provide a modern, secure, interoperable and reliable Nuclear Command and Control (NC2) software capability. NPES will exploit AFLCMC/HBC software factory economies of scale to enable developers to build and integrate software at the Top Secret level vice paying to build duplicate capabilities at other government or contractor facilities.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver NPES weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605826F, 0605827F, 0605828F, 0605829F, 0605830F, 0605831F,0605832F, and 0605898F.

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2018	FY 2019	FY 2020
Title: Nuclear Planning and Execution System (NPES) Modernization	5.056	29.620	35.010
 Description: - The NPES program will use proven and mature software engineering, technologies, and design tenets to provide a modern, secure, interoperable and reliable Nuclear Command and Control (NC2) capability for USSTRATCOM and other users as appropriate. - It will update and/or replace existing system software and improve reliability and sustainability. - It will also seek to reduce total ownership cost. 			

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Air Force		Date:	ebruary 2019	9
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0301112F I Nuclear Planning and Execution System (NPES)	Project (Number) 673768 I Nuclear System (NPES)	,	Execution
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2018	FY 2019	FY 2020
FY 2019 Plans: FY19 will be the first year of Development and Fielding (D&F)The NPES recap developer will use Agile Software Developmen backlog of requirements prioritized by the user's representative a will produce Modular Open Systems Architecture (MOSA) softwa environment.	nd participation by the NPES user community. The development	oper		
FY 2020 Plans: -FY20 will be the second year of Development and FieldingThe NPES recap developer will use Agile Software Developmen evaluation in a production environmentFY20 the NPES recap developer will produce sufficient new soft operational testing & evaluation.				
FY 2019 to FY 2020 Increase/Decrease Statement:				

C. Other Program Funding Summary (\$ in Millions)

Funding increased due to acceleration of schedule.

			FY 2020	FY 2020	FY 2020					Cost To	
<u>Line Item</u>	FY 2018	FY 2019	Base	<u>000</u>	<u>Total</u>	FY 2021	FY 2022	FY 2023	FY 2024	Complete	Total Cost
 OPAF 03 Line Item 833140: 	2.330	2.278	2.317	-	2.317	2.359	2.401	2.444	2.488	Continuing	Continuing
04											

Strategic Command and Control

Remarks

In FY18, PE 0303255F, Service Support to STRATCOM-C4, Project 833140, partial funding was transferred to PE 0301112F, Nuclear Planning and Execution (NPES), for better transparency.

D. Acquisition Strategy

NPES will develop, test, and field a renewed Nuclear Command and Control (NC2) capability for combatant commanders using an evolutionary (Spirals) acquisition approach with development contracts that are negotiated and awarded in a competitive environment. Additionally, select government agencies will be used to conduct relevant analyses and provide other required support. NPES will exploit AFLCMC/HBC software factory economies of scale to enable developers to build and integrate software at the Top Secret level vice paying to build duplicate capabilities at other government or contractor facilities.

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PE 0301112F: Nuclear Planning and Execution System (N... Air Force

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Accomplishments/Planned Programs Subtotals

5.056

29.620

35.010

Exhibit R-2A, RDT&E Project Justification: PB 2020 Ai	ir Force	Date: February 2019
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0301112F I Nuclear Planning and Execution System (NPES)	Project (Number/Name) 673768 I Nuclear Planning and Execution System (NPES)
The Air Force Life Cycle Management Center at Hanscor provide necessary program management, contracts, lega	m AFB, (AFLCMC/HB) and the 55th CONS at Offutt AFB will be thal, and financial management support.	ne contracting authorities for NPES and
E. Performance Metrics		
Please refer to the Performance Base Budget Overview I Force performance goals and most importantly, how they	Book for information on how Air Force resources are applied and contribute to our mission.	how those resources are contributing to Air

PE 0301112F: *Nuclear Planning and Execution System (N...* Air Force

					UN	ICLA53	סורובט								
Exhibit R-3, RDT&E	Project C	ost Analysis: PB 2	2020 Air F	orce								Date:	February	2019	
Appropriation/Budg 3600 / 7	et Activity	1		PE 030	ogram Ele 1112F / N on Systen	(Number I Nuclear (NPES)		and Exe	cution						
Product Developme	nt (\$ in M	illions)		FY 2	018	FY 2	2019		2020 ise		2020 CO	FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To	Total Cost	Target Value of Contract
Pre Milestone B Risk Reduction	Various	NSWCDD : Offutt AFB, NE	0.000	1.976	Nov 2017	-		-		-		-	Continuing	Continuing	-
Primary Development	Various	NSWCDD : Offutt AFB, NE	0.000	-		22.002	Nov 2018	30.384	Nov 2019	-		30.384	Continuing	Continuing	-
Development Suites & Infrastructure	C/TBD	NSWCDD : Offutt AFB, NE	0.000	0.205		1.537	Jun 2019	-		-		-	Continuing	Continuing	-
		Subtotal	0.000	2.181		23.539		30.384		-		30.384	Continuing	Continuing	N/A
Support (\$ in Million	ıs)			FY 2	018	FY 2	2019		2020 ise		2020 CO	FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To	Total Cost	Target Value of Contract
Technical Engineering Services	Various	Various : Offutt AFB, NE	0.000	1.889	Jan 2018	3.801	Nov 2018	2.284	Nov 2019	-		2.284	Continuing	Continuing	-
		Subtotal	0.000	1.889		3.801		2.284		-		2.284	Continuing	Continuing	N/A
Test and Evaluation	(\$ in Milli	ons)		FY 2	018	FY 2	2019		2020 ise		2020 CO	FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To	Total Cost	Target Value of Contract
T&E	Various	Various : Offutt AFB, NE	0.000	0.232	Jul 2018	0.402	Nov 2018	0.413	Nov 2019	-		0.413	Continuing	Continuing	-
		Subtotal	0.000	0.232		0.402		0.413		-		0.413	Continuing	Continuing	N/A
Management Servic	es (\$ in M	illions)		FY 2	018	FY 2	2019		2020 ise		2020 CO	FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To	Total Cost	Target Value of Contract
Program Management Administration	Various	Various : Offutt AFB, NE	0.000	0.754	Feb 2018	1.878	Feb 2019	1.929	Nov 2019	-		1.929	Continuing	Continuing	-
		Subtotal	0.000	0.754		1.878		1.929		-		1.929	Continuing	Continuing	N/A

PE 0301112F: *Nuclear Planning and Execution System (N...* Air Force

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2	2020 Air F	orce								Date:	February	2019	
Appropriation/Budget Activity 3600 / 7		PE 030	1112F /	lement (N Nuclear Pa em (NPES)	lanning a	Project (Number/Name) 673768 I Nuclear Planning and Execution System (NPES)							
	Prior Years	FY 2	018	FY 2	2019	FY 2	2020 ase	FY 2		FY 2020 Total	Cost To	Total Cost	Target Value of Contract
Project Cost Totals	0.000	5.056		29.620		35.010		-		35.010	Continuing	Continuing	N/A

Remarks |

Exhibit R-4, RDT&E Schedule Profile: PB 2020	Air Fo	orce																				Dat	e: F	ebrı	Jary	20	19	
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0301112F I Nuclear Planning and Execution System (NPES)									Project (Number/Name) 673768 I Nuclear Planning and Exe System (NPES)					ecuti													
		FY 2	2018			FY 2	2019)		FY	2020)		FY	202	1		FY	2022	2		FY	2023	3		F	/ 202	4
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	1	2 3	4
NPES														'												,		
Section 804 Program Initiation Gate (PIG)																												
Alpha Phase - Rapid Prototyping																												
Beta Phase - Rapid Fielding																												
Delta Phase - Continuous Product Improvement																												

Exhibit R-4A, RDT&E Schedule Details: PB 2020 Air Force			Date: February 2019
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0301112F I Nuclear Planning and Execution System (NPES)	,	umber/Name) luclear Planning and Execution IPES)

Schedule Details

	Start		E	nd
Events by Sub Project	Quarter	Year	Quarter	Year
NPES				
Section 804 Program Initiation Gate (PIG)	4	2018	4	2018
Alpha Phase - Rapid Prototyping	4	2018	2	2021
Beta Phase - Rapid Fielding	2	2021	4	2022
Delta Phase - Continuous Product Improvement	4	2022	4	2023

Exhibit R-2A, RDT&E Project Ju	stification:	PB 2020 A	Air Force							Date: Febr	ruary 2019	
Appropriation/Budget Activity 3600 / 7					PE 030111		i t (Number / ar Planning PES)	•		umber/Nan ILCC Decis	ne) ion Support	System
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
674212: NLCC Decision Support System	0.000	0.000	0.000	9.180	0.000	9.180	3.110	1.060	0.000	0.000	0.000	13.350
Quantity of RDT&E Articles	-	-	-	-	-	_	-	-	-	-		

A. Mission Description and Budget Item Justification

Decision Support Service (DSS) directly supports the senior leader decision making calculus. Numerous studies, reviews and practical experience identified the need to create a decision making aid. These identified needs culminated in an Initial Capabilities Document (ICD) that was validated by the Joint Requirements Oversight Council (JROC). DSS will improve situational awareness, aggregate strategic-level information, provide a common visual display, be resilient, and mobile. Several attempts to provide a DSS-like capability has been attempted over the years. These ad hoc attempts failed due to the lack of community buy-in and a structured acquisition methodology. Today, DSS has complete community buy-in and folding it under AFLCMC ensure rigorous acquisition processes will be followed. The program will use the accelerated acquisition process known as Section 804. USSTRATCOM is the logical home for DSS. Additionally AFLCMC's Command and Control Division (HBC) has extensive expertise in developing software and visualization tools for over 30 years and is co-located with USSTRATCOM. DSS is supported by WHMO, OSD, NLCC, and CJCS. The Service provider is the United States Air Force and the Functional Manager is Air Force Global Strike Command (AFGSC).

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2018	FY 2019	FY 2020
Title: DSS Development	-	0.000	9.180
Description: Product Development			
FY 2019 Plans: New Start in FY20			
FY 2020 Plans: - Initial product development - Backend development and integration - IT infrastructure and security - Strategic Study			
FY 2019 to FY 2020 Increase/Decrease Statement: FY20 New Start			
Accomplishments/Planned Programs Subtot	ıls -	0.000	9.180

C. Other Program Funding Summary (\$ in Millions)

N/A

PE 0301112F: Nuclear Planning and Execution System (N... Air Force

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Air Force			Date: February 2019
3600 / 7	,	- 3 (umber/Name) ILCC Decision Support System

C. Other Program Funding Summary (\$ in Millions)

Remarks

D. Acquisition Strategy

DSS will develop, test, and field a decision support system capability for use from the combatant commander and above. DSS will use agile development to rapidly prototype, develop software, and field the solutions. DSS will use existing government contract vehicles when advantageous or create development contracts that are negotiated and awarded in a competitive environment. This program will be using the Section 804 acquisitions process to accelerate delivery of a finished product. Section 804 outlines authority granted to DoD in the FY2016 National Defense Acquisitions Act to rapidly prototype/field capabilities distinct from the traditional DoD 5000 acquisition system.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contribu	ting to Air
Force performance goals and most importantly, how they contribute to our mission	

UNCLASSIFIED PE 0301112F: Nuclear Planning and Execution System (N... Air Force

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Air Force			Date: February 2019
Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (N	umber/Name)
3600 / 7	PE 0301112F I Nuclear Planning and	674212 / N	ILCC Decision Support System
	Execution System (NPES)		

Product Developmen	ıt (\$ in Mi	illions)		FY 2	2018	FY 2	2019	FY 2 Ba		FY 2	2020 CO	FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	Various	TBD : TBD	0.000	-		-		4.180	Oct 2019	-		4.180	0.000	4.180	-
Backend Development and Integration	TBD	TBD : TBD	0.000	-		-		1.500	Nov 2019	-		1.500	0.000	1.500	-
IT Infrastructure and Security	TBD	TBD : TBD	0.000	-		-		1.500	Apr 2020	-		1.500	0.000	1.500	-
Strategic Study	TBD	TBD : TBD	0.000	-		-		0.500	Oct 2019	-		0.500	0.000	0.500	-
		Subtotal	0.000	-		-		7.680		-		7.680	0.000	7.680	N/A

Management Service	es (\$ in M	illions)		FY 2	2018	FY 2	2019	FY 2 Ba	2020 ise	FY 2	2020 CO	FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration	Various	Not specified. : TBD	0.000	-		-		1.500	Feb 2020	-		1.500	0.000	1.500	-
	_	Subtotal	0.000	-		-		1.500		-		1.500	0.000	1.500	N/A

											Target
	Prior				FY 2020) FY:	2020 FY	2020 C	ost To	Total	Value of
	Years	FY 2	.018 F	/ 2019	Base	0	CO To	otal Co	omplete	Cost	Contract
Project Cost Totals	0.000	-	0.00	0	9.180	-		9.180	0.000	9.180	N/A

Remarks

PE 0301112F: *Nuclear Planning and Execution System (N...* Air Force

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hibit R-4, RDT&E Schedule Profile: PB 20 propriation/Budget Activity 00 / 7	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	R-1 Program Element (Number/Name) PE 0301112F I Nuclear Planning and Execution System (NPES) Project (Number 674212 I NLCC II												am	e)			yste								
	FY 2018 FY 201				,	Y 20			20	121	F	Y 2	022			FY	2023			FY	202	 				
	1	2	3	4	1	_	_	_			3 4	1		3 4		2	3	4	1	_	_	4	1	2		_
DSS Development																										
DSS Strategic Study																										_
DSS Prototype UI/UX Delivery 1																										
DSS Prototype UI/UX Delivery 2														,												
DSS Prototype UI/UX Delivery 3																										
DSS Prototype UI/UX Delivery 4														,												
DSS Prototype UI/UX Delivery 5																										
DSS Software Delivery 1																										
DSS Software Delivery 2																										
DSS Software Delivery 3																										
DSS Software Delivery 4																										
DSS Software Delivery 5																										
DSS Software Delivery 6																										_
DSS Software Delivery 7																										•
DSS Software Delivery 8																										
DSS IT Infrastructure and Security																										_

Exhibit R-4A, RDT&E Schedule Details: PB 2020 Air Force			Date: February 2019
Appropriation/Budget Activity 3600 / 7	,	, ,	umber/Name) ILCC Decision Support System

Schedule Details

	Sta	art	Er	ıd
Events by Sub Project	Quarter	Year	Quarter	Year
DSS Development				
DSS Strategic Study	1	2020	2	2020
DSS Prototype UI/UX Delivery 1	2	2020	2	2020
DSS Prototype UI/UX Delivery 2	3	2020	3	2020
DSS Prototype UI/UX Delivery 3	4	2020	4	2020
DSS Prototype UI/UX Delivery 4	1	2021	1	2021
DSS Prototype UI/UX Delivery 5	2	2021	2	2021
DSS Software Delivery 1	3	2020	3	2020
DSS Software Delivery 2	4	2020	4	2020
DSS Software Delivery 3	1	2021	1	2021
DSS Software Delivery 4	2	2021	2	2021
DSS Software Delivery 5	3	2021	3	2021
DSS Software Delivery 6	4	2021	4	2021
DSS Software Delivery 7	1	2022	1	2022
DSS Software Delivery 8	2	2022	2	2022
DSS IT Infrastructure and Security	3	2020	4	2020