

Project Data Summary Sheet²³⁹

Project Number	JP 2008 Phase 5A
Project Name	INDIAN OCEAN REGION UHF SATCOM
First Year Reported in the MPR	2010-11
Capability Type	Upgrade
Acquisition Type	MOTS
Service	Joint Services
Government 1st Pass Approval	Mar 09
Government 2nd Pass Approval	Mar 09 and Mar 10
Total Approved Budget (Current)	\$420.4m
2014–15 Budget	\$5.2m
Project Stage	Detailed Design Review
Complexity	ACAT II



Section 1 – Project Summary

1.1 Project Description

This project will provide the Australian Defence Force (ADF) with twenty 25kHz UHF SATCOM channels on a hosted payload on a commercial Intelsat Satellite (IS-22), to provide coverage of the Indian Ocean Region, and associated ground infrastructure to provide network control.

1.2 Current Status

Cost Performance

In-year

This year the underspend of **\$3.9m** is due to delays with the **three remaining** prime contract milestones; **'Test Readiness Review', 'Spares, Support and Test Equipment', and 'System Acceptance'**. **This delay was advised by the Prime Contractor in February 2015. As a result these milestones have slipped out to Financial Year 2016-17.**

Project Financial Assurance Statement

As at 30 June 2015, project JP 2008 Phase 5A has reviewed the approved scope and budget for those elements required to be delivered by the project. Having reviewed the current financial and contractual obligations of the project, current known risks and estimated future expenditure, Defence considers, as at the reporting date, there is sufficient budget remaining for the project to complete against the agreed scope.

Contingency Statement

The project has not applied contingency in the financial year.

Schedule Performance

The IS-22 satellite was successfully launched on 25 March 2012. Materiel Release (MR) for the Indian

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Future dates and Sections: 1.3 (Major Risks and Issues), 4.1 (Measures of Materiel Capability Delivery Performance), 5.1 (Major Project Risks) and 5.2 (Major Project Issues) are out of scope for the ANAO's review of this Project Data Summary Sheet. Information on the scope of the review is provided in the *Independent Review Report by the Auditor-General* in **Part 3** of this report.

Ocean Region was achieved on 21 December 2012. In May 2012, additional Network Control System (NCS) design review and test and evaluation milestones were added to the project. In December 2013 a Contract Change Proposal was signed moving Final Materiel Release (FMR) for the NCS to September 2014. Further to that contract change, the NCS is experiencing software development delays resulting in a further slip of **36 months** to FMR (NCS). FMR (NCS) is now forecast to be achieved in **July 2018 (52 months behind schedule)**.

Materiel Capability Delivery Performance

The IS-22 satellite is currently meeting all performance measures, including:

- the hosted payload; and
- the Communications System Monitor (CSM).

The NCS contract was executed on 16 May 2012, factoring United States (US) requirements of Defense Information Systems Agency and Space and Naval Warfare System Command. The implementation strategy was reported to Government. The Integrated Waveform (IW) NCS is the largest remaining scope to be delivered. An issue with the modification of Commercial Off The Shelf (COTS) software has caused delay. **While the COTS software that is being modified is currently used in other defence departments around the world, it is now considered developmental for this project.**

Note

The capability assessments and forecasts by the project are not subject to the ANAO's assurance review.

1.3 Project Context

Background

The JP 2008 Phase 5 project was created to provide capability originally planned for under the JP 2008 Phase 4 Next Generation SATCOM Capability project (a result of Phase 4 of the project being re-scoped to provide access to the Wideband Global Satellite (WGS) capability).

UHF SATCOM provides critical tactical radio coverage over the Middle East Area of Operations. Coverage was provided by leases on two commercial satellites and channels loaned by the US Government on an availability basis, which proved to be significantly less than the capability needed by the ADF. This project was also formed on the basis that LEASAT 5 would reach end of life in 2011.

A market survey was conducted in September 2008 to inform cost and capability options for JP 2008 Phase 5A. It revealed an opportunity for Defence to host a payload on an Intelsat commercial satellite over the region in mid 2012. A Restricted Request For Tender was subsequently let to ten companies for the capability in November 2008 and Intelsat was selected as the preferred tenderer.

Combined first and second pass Government Approval was given in March 2009 and a contract was signed with Intelsat for eight 25 kHz channels and 15 years support in April 2009.

First pass Government approval was given for the project to pursue a Memorandum Of Understanding with the US to provide global UHF SATCOM coverage using US satellites in return for access to ten 25 kHz channels on IS-22.

A subsequent second pass approval was given in March 2010 which allowed the project to procure the full payload on IS-22.

With the signature of the NCS contract with ViaSat Inc in May 2012, additional design review and test and evaluation milestones were added to the project. These milestones relate to the development and procurement of the UHF Channel Control System.

Uniqueness

The contract with Intelsat is based on the standard ASDEFCON template; however, it required significant tailoring based on input from specialist space lawyers. There are also a number of unique aspects to a contract for a satellite, including the unusual risk profile of the Launch and the corresponding high degree of schedule uncertainty which is typical of a satellite program where product quality requires a high priority.

A UHF Channel Control system was designed and developed to meet the requirements of Australian and US forces.

Major Risks and Issues

The major risks for the project are surrounding the redevelopment of the NCS design. There is a risk that delays to Contract Change Proposal 2 (CCP2) will inhibit the Commonwealth's ability to implement greater systems engineering controls in order to reduce the risk of failure, given this component is no longer a COTS solution and is now deemed developmental software. There is also risk that Defence's lack of presence at reviews and meetings will hinder the success of the redevelopment of the NCS design.

The constrained ability of the project to attend previous critical reviews and meetings has contributed to the failure of the original NCS design. The project has learned from their limited oversight of the original NCS design by a subcontractor and is determined to ensure there is more face to face communication with the redevelopment of the NCS design. Scope has also been adjusted between the contractor and subcontractor to reduce risk.

Other Current Sub-Projects

JP 2008 Phase 3E Advanced SATCOM Terrestrial Infrastructure System: This project provides the supporting ground infrastructure for Satellite Communications including UHF, X and Ka band communication services.

JP 2008 Phase 3F ADF SATCOM Terrestrial Enhancements: This project will provide the mature Australian Western Seaboard anchoring capability for the WGS constellation.

JP 2008 Phase 4 Next Generation SATCOM Capability: Provision of WGS.

JP 2008 Phase 5B1 Transportable Land Terminals: This project will deliver a family of WGS Certified Transportable Land Terminals with advanced waveform capability.

Section 2 – Financial Performance

2.1 Project Budget (out-turned) and Expenditure History

Date	Description	\$m	Notes
	Project Budget		
Feb 09	Original Approved	4.0	
Apr 09	Government Initial Second Pass Approval	269.1	
Apr 10	Government Subsequent Second Pass Approval	187.8	1
Jun 14	Real Variation – Real Cost Decrease	(18.0)	2
		438.9	
Jul 10	Price Indexation	18.0	3
Jun 15	Exchange Variation	(40.5)	
Jun 15	Total Budget	420.4	
	Project Expenditure		
Prior to Jul 14	Contract Expenditure – Intelsat Prime	(294.4)	
	Contract Expenditure – ViaSat Prime	(23.8)	4
	Other Contract Payments / Internal Expenses	(18.4)	
		(336.6)	
FY to Jun 15	Other Contract Payments / Internal Expenses	(1.3)	5
		(1.3)	
Jun 15	Total Expenditure	(337.9)	
	Remaining Budget	82.5	

Notes	
1	The Initial Second Pass Approval was for eight channels and the Subsequent Second Pass Approval was for the remaining channels of the hosted payload.
2	Real Cost Decrease was a result of Project Office negotiating insurance for payload launch into the contract. Separate launch insurance is no longer needed.
3	Up until July 2010, indexation was applied to project budgets on a periodic basis. The cumulative impact of this approach was \$16.5m. In addition to this amount, the impact on the project budget as a result of out-turning was a further (\$19.6m) having been applied to the remaining life of the project. For this project, that process was incorrectly executed but corrected in January 2012 by returning \$30.9m to the budget; \$21.1m and \$9.9m for impacts of price and exchange variations respectively.
4	This contract has been in Stop Payment since July 2014.
5	Other Contract Payments / Internal Expenses of \$1.3m comprise of other Capital and Operating Expenditure related to contractor support services provided by Nova Defence.

2.2A In-year Budget Estimate Variance

Estimate PBS \$m	Estimate PAES \$m	Estimate Final Plan \$m	Explanation of Material Movements
10.7	5.0	5.2	The associated NCS has experienced delays associated with deficiencies experienced during software development.
Variance \$m	(5.7)	0.2	Total Variance (\$m): (5.5)
Variance %	(53.3)	4.0	Total Variance (%): (51.4)

2.2B In-year Budget/Expenditure Variance

Estimate Final Plan \$m	Actual \$m	Variance \$m	Variance Factor	Explanation
			FMS	This project has under achieved due to delays with the prime contract milestones, 'Test Readiness Review', 'Spares, Support and Test Equipment', which has additionally indirectly impacted Outsourced Service Providers to meet agreed milestone dates.
		(2.6)	Overseas Industry	
			Local Industry	
			Brought Forward	
			Cost Savings	
			FOREX Variation	
		(1.3)	Commonwealth Delays	
			Additional Government Approvals	
5.2	1.3	(3.9)	Total Variance	
		(75.0)	% Variance	

2.3 Details of Project Major Contracts

Contractor	Signature Date	Price at		Type (Price Basis)	Form of Contract	Notes
		Signature \$m	30 Jun 15 \$m			
Intelsat	Mar 09	202.5	363.8	Firm	ASDEFCON (COMPLEX)	1, 3
ViaSat	May 12	36.5	42.6	Firm	ASDEFCON (COMPLEX)	2, 3
Notes						
1	The projected Intelsat Contract Price at 30 June 2015 includes Acquisition lines totalling \$294.4m and Sustainment lines totalling \$69.3m . The increase in contract price is due to a Contract Change Proposal in 2010 which included 12 additional hosted UHF payload channels and a Communications System Monitor.					
2	The projected ViaSat Contract Price at 30 June 2015 includes Acquisition lines totalling \$37.8m and Sustainment lines totalling \$4.8m . CCP2, expected to be approved in October 2015, will be a nil cost CCP, related to the redevelopment of the NCS design.					

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3	Contract value as at 30 June 2015 is based on actual expenditure to 30 June 2015 and remaining commitment at current exchange rates, and includes adjustments for indexation (where applicable).			
Contractor	Quantities as at		Scope	Notes
	Signature	30 Jun 15		
Intelsat	8	20	25kHz UHF SATCOM channels on IS-22 Hosted Payload	
ViaSat	N/A	N/A	NCS comprising three channel control sites, and a Test and Training System for support.	
Major equipment received and quantities to 30 Jun 15				
All 20 channels were delivered successfully on 25 May 2012 and are now operational.				

Section 3 – Schedule Performance

3.1 Design Review Progress

Review	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Requirements	IS-22 Hosted Payload	Jun 09	N/A	Jun 09	0	
	NCS	Aug 12	N/A	Aug 12	0	
Preliminary Design	IS-22 Hosted Payload	Nov 09	N/A	Oct 09	(1)	
	CSM	Oct 10	N/A	Nov 10	1	1
Critical Design	IS-22 Hosted Payload	Sep 10	N/A	Sep 10	0	
	CSM	Mar 11	N/A	Mar 11	0	
	NCS	Mar 13	N/A	Mar 13	0	
Notes						
1	The review was conducted in October 2010 but approval by the Project Office did not occur until November 2010 due to a number of issues with requirements traceability that required rectification.					

3.2 Contractor Test and Evaluation Progress

Test and Evaluation	Major System / Platform Variant	Original Planned	Current Planned	Achieved /Forecast	Variance (Months)	Notes
System Integration	IS-22 Hosted Payload	Nov 10	N/A	Feb 11	3	1
	CSM	Sep 11	N/A	Oct 11	1	2
	NCS	Nov 13	Sep 14	Jul 17	44	3
Acceptance	IS-22 Hosted Payload	Jun 12	N/A	May 12	(1)	
	CSM	Jul 12	N/A	Jun 12	(1)	
	NCS	Mar 14	Sep 14	Apr 18	49	3
Notes						
1	Delay to commencement of integration was driven by a number of delays in sub system deliveries forming part of the hosted payload including C and Ku antennas (not forming part of this capability) and the UHF antenna.					
2	While installation commenced in September 2011, testing to confirm that the installation met requirements was completed in October 2011.					
3	In February 2014 ViaSat advised the Commonwealth of software design delays affecting the NCS schedule. In February 2015 ViaSat advised the Commonwealth of their decision to take on elements of work previously contracted to their sub-contractor and continue the software development in house.					

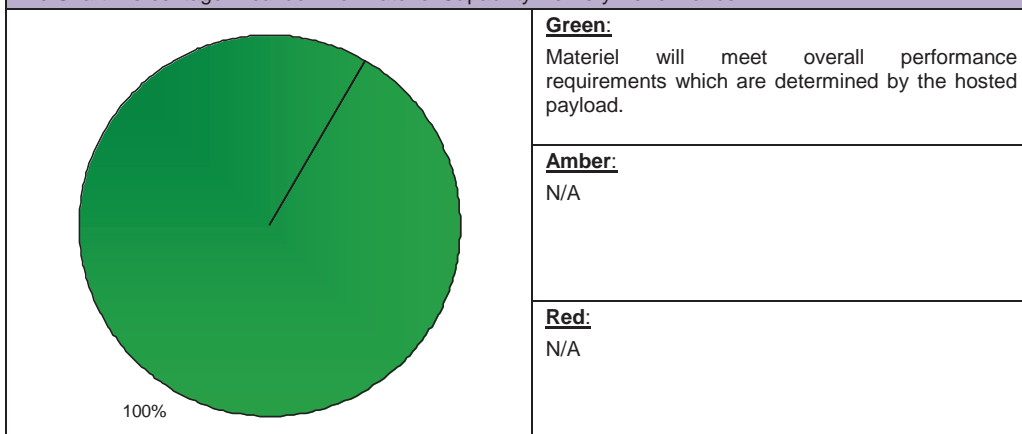
3.3 Progress Toward Materiel Release and Operational Capability Milestones

Item	Original Planned	Achieved /Forecast	Variance (Months)	Notes
Initial Materiel Release (IMR)	Jul 12	Jul 12	0	
Initial Operational Capability (IOC)	Jul 12	Jul 12	0	
Materiel Release (MR) # 1 (Indian Ocean)	Sep 12	Dec 12	3	1
Operational Capability (Indian Ocean)	Sep 12	Oct 18	73	2
Final Materiel Release (FMR) # 2 (Network Control System)	Mar 14	Jul 18	52	3
Final Operational Capability (FOC) (Pacific Ocean)	Jun 18	Jun 18	0	4
Notes				
1	MR was claimed on 28 September 2012. Chief Information Officer Group (CIOG) requested additional information which was supplied and MR was achieved on 21 December 2012.			
2	Operational Capability (Indian Ocean) is scheduled to be declared in October 2018, 3 months after FMR.			
3	In February 2014 ViaSat advised the Commonwealth of software design delays. In February 2015 ViaSat advised the Commonwealth of their decision to take on elements of work previously contracted to their sub-contractor and continue the software development in house. It is anticipated this will impact FOC however, the magnitude of the delay is yet to be determined.			
4	CIOG will be in a position to acquire agreed UHF capacity from the US as their capacity builds up in the region. A review of project submission documents to Government highlighted the omission of some key milestone dates in the PDSS.			
Schedule Status at 30 June 2015				
<p>The Gantt chart displays the schedule status for three different project scenarios from June 2008 to June 2019. The x-axis represents time in six-month intervals. The y-axis lists the scenarios: 'Schedule Plan at Government Approval', 'IMR/FMR introduced in FY 2010-11', and 'Schedule Plan at 30 June 2015'. A legend on the right identifies the milestones: Approval (grey), IMR (blue), IOC (green), FMR (orange), and FOC (red). In the 'Schedule Plan at 30 June 2015' scenario, IMR is completed by Jun-12, IOC by Jun-12, FMR by Jun-18, and FOC by Jun-18. In the 'IMR/FMR introduced in FY 2010-11' scenario, IMR is completed by Jun-12, FMR by Jun-14, and FOC by Jun-18. In the 'Schedule Plan at Government Approval' scenario, IMR is completed by Jun-12, IOC by Jun-12, FMR by Jun-18, and FOC by Jun-18.</p>				

Section 4 – Materiel Capability Delivery Performance

4.1 Measures of Materiel Capability Delivery Performance

Pie Chart: Percentage Breakdown of Materiel Capability Delivery Performance



Note

This Pie Chart does not necessarily represent capability achieved. The capability assessments and forecasts by the project are not subject to the ANAO's assurance review.

4.2 Constitution of Initial Materiel Release and Final Materiel Release

Item	Explanation	Achievement
Initial Materiel Release (IMR)	In Orbit Test of hosted payload.	Achieved
Final Materiel Release (FMR #1)	<ul style="list-style-type: none"> 20 channels on a UHF Hosted Payload, including Operational Support Services for life-of-type in place, telemetry feed operational and initial training for telemetry feed Upgrade of legacy NCS CSM and initial training for CSM 	Achieved
Final Materiel Release (FMR #2)	<ul style="list-style-type: none"> NCS comprising three channel control sites, and NCS/NCS Manager (IW) training package 	Not achieved

Section 5 – Major Risks and Issues

5.1 Major Project Risks

Identified Risks (risk identified by standard project risk management processes)	
Description	Remedial Action
There is a risk that the technical certification will not be achieved due to new Systems Program Office engineering processes resulting from the change from Navy Technical Regulation Framework to Army Technical Regulation Framework.	This risk has been retired following the engagement of the Design Approval Authority Representative and Chief Engineer. Since their introduction in June 2013, the Army Technical Regulatory processes have settled and have been embedded in the System Program Office.
There is a risk that CIOG Network Links will not be available in a timely manner to support system roll out.	This risk has been retired and a new risk surrounding the security precursors to the CIOG Network Links has been raised. The new risk is low due to delays to System Acceptance, giving the project more time to get security measures in place.

There is a risk any errors encountered during testing will require rework but schedule does not have much slack for rework.	Errors became of such significance that a change in software design approach, and the need for a revised schedule have been adopted. This risk has been retired.
There is a risk that the baseline used for development, draft military standard 188-185, may yet be further revised prior to formalisation.	The Project Office has reviewed the updated military standard and there is no substantial difference between the final release and the draft standard previously worked to. This risk has been retired.
There is a risk that Acceptance Test and Evaluation will not have radios available for Integrated Waveform.	The Project Office has funding approval for various radios and is in the process of purchasing them. This risk has been retired.
There is a risk that training will not be accepted as there is no approval regime in place.	A training manager has been identified within CIOG which reduced the likelihood of this risk. This risk has been downgraded to medium.
Emergent Risks (risk not previously identified but has emerged during 2014-15)	
Description	Remedial Action
There is a risk that the redevelopment of the NCS design will fail due to Defence's lack of presence at critical reviews and meetings.	Increased use of video conferences, teleconferences and face-to-face reviews.
There is a risk that delays to Contract Change Proposal 2 (CCP2) will inhibit the Commonwealth's ability to implement effective system engineering controls.	The Project Office is working to expedite the execution of the CCP.
There is a risk that previously deemed COTS software, which is now developmental software will result in increased engineering effort, causing schedule delay.	The Project Office will insert developmental engineering controls into CCP2. The engineering controls are necessary as this is now a developmental contract.
5.2 Major Project Issues	
Description	Remedial Action
Defence's lack of presence at critical reviews and meetings contributed to the Project's limited contractor oversight for the original NCS design.	The Project can learn from the previous lack of oversight leading to failure and ensure there is more face to face communication going forward.

Section 6 – Project Maturity

6.1 Project Maturity Score and Benchmark

Maturity Score		Attributes							Total
		Schedule	Cost	Requirement	Technical Understanding	Technical Difficulty	Commercial	Operations and Support	
Project Stage	Benchmark	7	7	7	8	7	7	7	50
Detailed Design Review	Project Status	6	8	8	7	6	6	7	48
	Explanation	<ul style="list-style-type: none"> • Schedule: The Commonwealth has received formal notification that the schedule for the NCS has slipped 3 years. • Cost: IS-22 and the NCS are on firm fixed price contracts. • Requirement: IS-22 has been launched and the NCS is expected to fulfil requirement. • Technical Understanding: A long term Through Life Support contract has not been put in place. • Technical Difficulty: Core software product previously under development has ceased. Software development has restarted with Prime Contractor. • Commercial: The Commonwealth has received formal notification from the contractor that contract milestones will be delayed 3 years. 							

Project Stage	2013-14 MPR Status	2014-15 MPR Status
Enter DCP	13	
Decide Viable Capability Options	16	
1st Pass Approval	21	
Industry Proposals / Offers	30	
2nd Pass Approval	35	
Contract Signature	42	
Preliminary Design Review(s)	45	
Detailed Design Review(s)	50	
Complete Sys. Integ. & Test		55
Complete Acceptance Testing		57
Initial Material Release (IMR)		60
Final Material Release (FMR)		63
Final Contract Acceptance		65
MAA Closure		66
Acceptance Into Service		67
Project Completion		70

Section 7 – Lessons Learned

7.1 Key Lessons Learned

Project Lesson	Categories of Systemic Lessons
N/A	N/A

Section 8 – Project Line Management

8.1 Project Line Management in 2014-15

Position	Name
General Manager	Ms Shireane McKinnie
Division Head	Mr Michael Aylward (to Nov 14) Mr Ivan Zlabur (Acting Dec 14) Mr Brad Flux (Acting Jan 15) Mr Ivan Zlabur (Acting Feb 15) Ms Myra Sefton (Acting Mar 15–May 15) Mr Brad Flux (Acting Jun 15–current)
Branch Head	Ms Myra Sefton (to Feb 15) Mr Michael Garrety (Acting Feb 15) Ms Lynsey Johnstone (Acting Mar 15) Ms Thea Huber (Acting Apr 15–May 15) Ms Myra Sefton (Jun 15–current)
Project Director	Mr Paul Davies
Project Manager	Mr David Dixon