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Report No: {PAD2130}

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT PAPER

ON A

PROPOSED ADDITIONAL CREDIT

IN THE AMOUNT OF 6.93 SDR MILLION
(US$9.5 MILLION EQUIVALENT)

AND A PROPOSED ADDITIONAL GRANT

IN THE AMOUNT OF 3.33 SDR MILLION (US$4.6 MILLION EQUIVALENT)

TO THE

REPUBLIC OF VANUATU

AND THE

PROJECT RESTRUCTURING

FOR THE

VANUATU AVIATION INVESTMENT PROJECT

December 16, 2016

Transport & ICT Global Practice
EAST ASIA AND PACIFIC REGION

CURRENCY EQUIVALENTS

(Exchange Rate Effective October 31, 2016)

Currency Unit	=	Vanuatu Vatu
VUV 109.34	=	US$1
US$1.373850	=	SDR 1

FISCAL YEAR

January 1 – December 31

ABBREVIATIONS AND ACRONYMS

ADS/B	Automatic Dependent Surveillance Broadcast
ARFF	Aircraft Rescue and Fire Fighting
AVL	Airports Vanuatu Ltd.
CAAV	Civil Aviation Authority of Vanuatu
DA	Designated Account
EA	Environmental Assessment
EIRR	Economic Internal Rate of Return
ESMF	Environmental and Social Management Framework
FM	Financial Management
FS	Financial Statements
GBV	Gender Based Violence
GDP	Gross Domestic Product
GoV	Government of Vanuatu
GRM	Grievance Response Mechanism
GRS	Grievance Redress Service
IA	Implementing Agency
ICAO	International Civil Aviation Organization
IDA	International Development Association
IFR	Interim Financial Report
MFEM	Ministry of Finance and Economic Management
MIPU	Ministry of Infrastructure and Public Utilities
NPF	New Procurement Framework
PAIP	Pacific Aviation Investment Program
PESMP	Project Environmental and Social Management Plan
PICs	Pacific Islands Countries
PDO	Project Development Objective
RPF	Resettlement Policy Framework
SEST	Surface Enrichment Spray Treatment
SON	Whitegrass International Airport
SSL	Safety and Security Levy
TAH	Pekoa International Airport
TFSU	Technical and Fiduciary Services Unit
USOAP	Universal Safety Oversight Audit Program
VAIP	Vanuatu Aviation Investment Project

VLI	Bauerfield International Airport
VPMU	Vanuatu Project Management Unit
VSAT	Very Small Aperture Terminal
VUV	Vanuatu Vatu
WB	World Bank
WTTC	World Travel and Tourism Council

Vice President:	Victoria Kwakwa
Country Director:	Michel Kerf
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Practice Manager:	Almud Weitz
Task Team Leader:	Christopher Bennett

VANUATU
Vanuatu Aviation Investment Project (P161454)

CONTENTS

ADDITIONAL FINANCING DATA SHEET

Vanuatu

Vanuatu Aviation Investment Project Additional Financing (P161454)

EAST ASIA AND PACIFIC

GTI02

Basic Information – Parent			
Parent Project ID:	P154149	Original EA Category:	B - Partial Assessment
Current Closing Date:	31-Dec-2019		

Basic Information – Additional Financing (AF)			
Project ID:	P161454	Additional Financing Type (from AUS):	Scale Up
Regional Vice President:	Victoria Kwakwa	Proposed EA Category:	B
Country Director:	Michel Kerf	Expected Effectiveness Date:	31-Mar-2017
Senior Global Practice Director (Acting):	Jose Luis Irigoyen	Expected Closing Date:	31-Dec-2019
Practice Manager/Manager:	Almud Weitz	Report No:	PAD2130
Team Leader(s):	Christopher R. Bennett		

Borrower				
Organization Name	Contact	Title	Telephone	Email
Ministry of Finance & Economic Management	Tony Sewen	Director General	+678 23 032	

Project Financing Data - Parent (Vanuatu Aviation Investment Project-P154149) (in USD Million)

Key Dates

Project	Ln/Cr/TF	Status	Approval Date	Signing Date	Effectiveness Date	Original Closing Date	Revised Closing Date
P154149	IDA-56320	Effective	08-May-2015	03-Jun-2015	09-Jul-2015	31-Dec-2019	31-Dec-2019
P154149	TF-A0607	Effective	08-May-2015	03-Jun-2015	03-Jun-2015	31-Dec-2019	31-Dec-2019

Disbursements

Project	Ln/Cr/TF	Status	Currency	Original	Revised	Cancelled	Disbursed	Undisbursed	% Disbursed

P154149	IDA-56320	Effective	USD	59.50	59.50	0.00	3.14	54.96	5.27
P154149	TF-A0607	Effective	USD	0.30	0.30	0.00	0.07	0.23	24.31

Project Financing Data - Additional Financing Vanuatu Aviation Investment Project Additional Financing (P161454)(in USD Million)

[ ] Loan [ ] Grant [X] IDA Grant
[X] Credit [ ] Guarantee [ ] Other

Total Project Cost:	14.1	Total Bank Financing:	14.1
Financing Gap:	0.00		

Financing Source – Additional Financing (AF)	**Amount**
International Development Association (IDA)	9.5
IDA Grant	4.6
Total	14.1

Policy Waivers

Does the project depart from the CAS in content or in other significant respects?	No
Explanation	
Does the project require any policy waiver(s)?	No
Explanation	

Team Composition

Bank Staff

Name	**Role**	**Title**	**Specialization**	**Unit**
Christopher R. Bennett	Team Leader (ADM Responsible)	Lead Transport Specialist	TTL	GTI02
Christopher J. De Serio	Team Member	Transport Specialist	Co-TTL	GTI02
Nora Weisskopf	Team Member	Transport Analyst	Aviation Transport	GTI02
Loren Jayne Atkins	Counsel	Associate Counsel	Counsel	LEGES
Cristiano Costa e Silva Nunes	Procurement Specialist (ADM Responsible)	Senior Procurement Specialist	Procurement	GGO02

David Bruce Whitehead	Financial Management Specialist	Financial Management Specialist	FM	GGO02
Chanin Manopiniwes	Team Member	Infrastructure Economist	Economic	GTI02
Chau-Ching Shen	Team Member	Senior Finance Officer	WFALN	WFALN
Duangrat Laohapakakul	Counsel	Senior Counsel	Legal	LEGES
Kanya Hilary Baratha Raj	Team Member	Team Assistant	ACS	EACNF
Oliver George Whalley	Team Member	Transport Analyst	Engineer	GTI02
Penelope Ruth Ferguson	Safeguards Specialist	Consultant	Environment	GEE06
Ross James Butler	Safeguards Specialist	Senior Social Development Specialist	Social	GSU02
Subha Latchmi Ram	Team Member	Team Assistant	ACS	EACNF

Extended Team

Name	Title	Location
Asif Faiz	Consultant	Washington, DC

Locations

Country	First Administrative Division	Location	Planned	Actual	Comments
Vanuatu	Tafea	Tafea Province	X	X	Whitegrass
Vanuatu	Shefa	Port-Vila	X	X	Bauerfield Airport
Vanuatu	Sanma	Luganville	X	X	Pekoa Airport

Institutional Data

Parent (Vanuatu Aviation Investment Project-P154149)

Practice Area (Lead)

Transport & ICT

Contributing Practice Areas

Additional Financing Vanuatu Aviation Investment Project Additional Financing (P161454)

Practice Area (Lead)

Transport & ICT
Contributing Practice Areas
Consultants (Will be disclosed in the Monthly Operational Summary)
Consultants Required ? Consulting services will be required.

I. Introduction

1. This Project Paper seeks the approval of the Executive Directors to provide Additional Financing in a total amount of 10.26 SDR million (US$14.1 million equivalent comprised of US$4.6 national IDA grant, US$1.76 national IDA credit and a US$7.74 million regional IDA credit [1]) to scale up the Vanuatu Aviation Investment Project (VAIP) (IDA-5632-VU, TF0A0004, P154149). Along with the Additional Financing, the project will be restructured to amend the project description in the Financing Agreement, update the results framework and disbursement projections, as well as add a two-part effectiveness condition and revise the legal covenant "Safety and Security Levy" (SSL).

2. The proposed Additional Financing will be used for additional activities in two components:

(i) **Component A: International Airport Infrastructure Investments (US$13.75 million)**:**)** An expanded scope of works is required at Bauerfield (VLI), Whitegrass (SON) and Pekoa (TAH) International Airports to: (i) address the increased pavement deterioration at Bauerfield, Whitegrass and Pekoa international airports; (ii) increase the operational capacity of Bauerfield to accommodate larger aircraft and thus ensure the country is prepared for future disasters; and, (iii) repair and/or expand the existing apron or relocate the apron..

(ii) **Component E: Project implementation support (US$0.35 million):** A technical advisor to the Vanuatu Project Management Unit (VPMU) will be financed to support the implementation of the project. This is required due to the complexity and intensified urgency of the project resulting from recent delays.

3. The expanded scope will not detract from VAIP's current activities, no additional safeguards will be triggered, and there will be no change to the current (Category B) safeguards rating. There will be no changes to the project development objective (PDO), implementation arrangements, procurement or financial management.

4. The project description in the Financing Agreement will be amended to include the expanded works at Bauerfield airport including the potential relocation of the apron, pavement rehabilitation at Whitegrass and Pekoa airports, and removal of the domestic terminal reconstruction at Bauerfield. There will be two changes to the Results Framework to reflect: (i) a need for increased Aircraft Rescue and Fire Fighting (ARFF) capacity at Bauerfield airport; and, (ii) include the pavement works at Whitegrass and Pekoa airports. The disbursement estimates will be updated to reflect the expected timing of the Additional Financing.

5. The project's legal covenant "Safety and Security Levy" (Financing Agreement I.G.1 and I.G.2) is overdue. In light of significant progress made by the Recipient to fulfil the covenant's obligations the covenant will be revised and will become an effectiveness condition. The effectiveness condition contains the following two parts: (i) the Civil Aviation Authority of Vanuatu (CAAV) has commenced the collection of the SSL from departing international air

[1] 3.33 SDR national grant, 1.28 SDR national credit and 5.65 SDR regional credit.

passengers; and, (ii) CAAV and Airports Vanuatu Ltd. (AVL) have prepared and adopted the Disbursement Framework.

6. In addition, the responsible party for collection of the levy (I.G.1) will be revised to be CAAV rather than AVL. This is to ensure compliance with local legislation as stipulated in the Civil Aviation Act of Vanuatu. The responsibility for continued compliance with the disbursement framework and auditing requirements (I.G.2) will also be revised to include both AVL and CAAV.

II. Background and Rationale for Additional Financing

7. **Country Context**. The Republic of Vanuatu is a small nation located in the South Pacific about 2,000 km to the east of Australia. Comprised of about 80 islands, the country's land area is some 12,200 km^2. With an almost entirely Melanesian population of about 265,000, it is one of the more populated Pacific Island Countries (PICs). Efate Island is the location of the capital Port Vila, which is the gateway for most visitors to Vanuatu.

8. Vanuatu's per capita gross domestic product (GDP) in 2014 was US$3,075. The key pillars of Vanuatu's economy are the agriculture sector and the service industry. Tourism in particular plays a key role. According to the World Travel and Tourism Council (WTTC), the direct contribution of travel and tourism comprised nearly 19 percent of GDP in 2014. This contribution is expected to grow annually by 4.3 percent until 2024.

9. Vanuatu is highly susceptible to natural disasters. For example, the devastation caused by Cyclone Pam in March 2015 included deaths, widespread displacement of communities, destruction of houses and buildings, as well as damage to Vanuatu's three international airports, roads and wharves, communications systems, and other critical infrastructure. The relief effort was hampered by a lack of apron capacity at Bauerfield airport. Vanuatu's reliance on tourism, and its susceptibility to natural disasters, make air transportation a critical pillar in the country's economic and social development.

10. Governance challenges resulting from frequent changes in leadership and policy direction have hampered the air transport sector's development, with shifting priorities that saw the discontinuation of a potential public-private partnership transaction with the International Finance Corporation (2012), as well as the nullification of a concession agreement with Vanuatu Trade Development Pte. Ltd (VTDP) for the construction of a new greenfield airport on Efate (2014)[2]. Challenges in the management of AVL, the state owned enterprise responsible for the country's three international airports (Bauerfield, Pekoa and Whitegrass), has also had an impact on the country's ability to address its critical aviation infrastructure needs.

11. **Project Background**. In December 2011, IDA approved the Pacific Aviation Investment Program (PAIP), a regional, horizontal Adaptable Program Loan that consists of a series of projects designed to: (i) ensure that critical aviation infrastructure meets operational safety requirements; and, (ii) strengthen regulatory compliance of international air transport of participating countries in the region. Phase I included projects in Kiribati, Tonga and Tuvalu; Phase II included Samoa; and Phase III brought Vanuatu into the PAIP Program. Through PAIP, IDA also approved the Pacific

[2] Under this concession VTDP was to undertake the necessary maintenance repairs to Bauerfield runway and keep it fully operational until the new airport was completed

Aviation Safety Office (PASO) Reform Project in September 2013 in support of the PICs regulatory mandates.

12. The VAIP was approved on May 8, 2015 and became effective on 9 July 2015, with total project financing of US$59.8 million. The IDA funding of US$59.50 million was comprised of a US$5.86 million national IDA Credit and a US$53.64 million regional IDA Credit. The Pacific Region Infrastructure Facility (PRIF) contributed a US$300,000 grant for the direct engagement of PASO in regulatory advisory services. Table 1 shows the total financing, including this Additional Financing.

Table 1: VAIP Funding Sources

	Financing (US$ million) by Funding Source				
	IDA			**PRIF**	**Total**
	National Grant	**National Credit**	**Regional Credit**		
Original Project	$ -	$ 5.86	$ 53.64	$ 0.30	$ 59.80
Additional Financing	$ 4.6	$ 1.76	$ 7.74	$ -	$ 14.10
Total	**$ 4.6**	**$ 7.63**	**$ 61.39**	**$ 0.30**	**$ 73.90**

13. The PDO is "to improve operational safety and oversight of international air transport and associated infrastructure in Vanuatu". Project outcomes are being monitored through four indicators: (i) Regulatory certification of safety and security at Bauerfield International Airport; (ii) State requirements for safety measured by Universal Safety Oversight Audit Programme (USOAP) reaches global International Civil Aviation Organization (ICAO) average; (iii) modernization of air traffic management through installation of key equipment; and, (iv) implementation of a regional SSL for departing international passengers.

14. *Project Components*. VAIP has the following components:

- **Component A - International Airport Infrastructure Investments** *(total cost approximately US$50.77 million, including taxes and contingencies)*: This component invests in international aviation infrastructure to meet and maintain minimum ICAO safety and security standards at Vanuatu's three international airports: Bauerfield, Whitegrass and Pekoa Airports.
- **Component B - Aviation Sector Reform and Training** *(total cost approximately US$1.53 million, including taxes and contingencies)*: This component aims to strengthen the CAAV, Ministry of Infrastructure and Public Utilities (MIPU) and other line ministries' technical capacity through the development of an Aviation Sector Plan, targeted technical assistance to strengthen institutional capacity as well as dedicated training.
- **Component C - Strengthening Airport Operations and Management Capacity** *(total cost approximately US$1.14 million, including taxes and contingencies)*: This component's objective is to strengthen AVL's airport operations and management capacity through the development of an Airport Master Plan, targeted technical assistance and training.
- **Component D - Emergency Reconstruction after Cyclone Pam** *(total cost approximately US$3.88 million, including taxes and contingencies)*: This component

provides support to the Government of Vanuatu (GoV) with emergency reconstruction activities in the form of goods and works.

- **Component E - Project Support** *(total cost approximately US$2.48 million, including taxes and contingencies)***:** This component covers project management and operating costs, advisory and administrative support as well as subscriptions cost for 'Very Small Aperture Terminal' (VSAT) communications systems and financial audits.

15. *Project Progress*. The Project is in the second year of a five year implementation schedule. The progress towards achieving the PDO and project implementation progress have been rated *Satisfactory* and *Moderately Satisfactory*, respectively, since July 13, 2015.

16. Despite initial delays due to Cyclone Pam's recovery efforts, and two changes of government since Project effectiveness, implementation progress has been made as follows:

- **Component A - Airport Infrastructure Investments**: Airport infrastructure investments have progressed considerably:
    i. Emergency repair works for the Bauerfield runway pavement were completed in March-April 2016 and September 2016, allowing international jet operations to continue.[3] These works comprised Surface Enrichment Spray Treatment (SEST) of the selected pavement surface to eliminate foreign object debris incidents as the surface stone was very loose in some areas. In addition to this, cold mix asphalt patches were applied to selected areas to remove and replace weak pavement areas.
    ii. The Bauerfield airport detailed designs for the airside pavement works and airfield ground lighting on the runway, taxiway, repair and expansion of the existing apron have been completed, with bidding and contract award anticipated before the end of December 2016. This bid award will also include "design and build" repairs for Whitegrass and Pekoa runways.
    iii. Procurement of the Supervision Consultant for the pavement works and airfield ground lighting, navigational aids and air traffic control equipment is in progress with award expected by December 2017.
    iv. The contract for two Aircraft Rescue and Fire Fighting (ARFF) vehicles has been awarded. The vehicles will be delivered in 2017 and support ARFF compliance to achieve Category 8 outcomes. New fire safety uniforms and other equipment have been procured and are in use.
    v. Procurement of aeronautical communications (ADS-B ground stations) is completed and equipment will arrive in early 2017.
    vi. The site location and specifications of the regional point-to-point aeronautical communication network is commencing in December 2016, and its supply and installation are expected to be completed in 2017.
- **Component B – Aviation Sector Reform and Training:** The project has mobilized an aviation advisor to the CAAV to provide guidance on safety management and quality

[3] In January 2016, Air New Zealand suspended all flights due to safety concerns over the Bauerfield airport runway condition. The following week, both Qantas and Virgin Australia also suspended their code share agreement and flights, respectively. After emergency repairs were completed, Virgin Australia resumed flights in May 2016, but Air New Zealand did not, indicating that scheduled services would only resume after the full rehabilitation of the pavement.

management systems. A technical assistance contract for developing an Aviation Sector Strategy has been awarded with completion expected by June 2017. PRIF funding has also been used to facilitate PASO involvement in advising on regulatory matters.

- **Component C – Strengthening Airport Operations and Management Capacity**: A desktop review of proposed investments focused on Bauerfield pavement and navigational aids was completed in 2015. The Airport Master Plan contract has been awarded with completion expected by June 2017.
- **Component D – Emergency reconstruction after Cyclone Pam:** Emergency repairs of airport infrastructure in Pekoa and Whitegrass resulting from Cyclone Pam are currently under tender with award expected by early 2017.

17. *Closing Date*: Despite the aforementioned implementation delays, the project is still on track to conclude before the current closing date of December 31, 2019.

18. *Legal Covenants.* The project is in compliance with all covenants except the legal covenant regarding the SSL in Section I.G. of the Financing Agreement. The covenant has two components: (i) the collection of an AU$5 SSL for departing international passengers (I.G.1.) originally due on July 1, 2016; and, (ii) the adoption of the associated Disbursement Framework[4] requirements for the SSL (I.G.2) due on the March 31, 2016. The delays in fulfilling these dated covenants are primarily a result of the 2016 disruption to Parliament and subsequent change of Government. The GoV is currently working on finalizing the legislation to introduce the SSL, and GoV approval of the SSL is anticipated during the next sitting of Parliament. Collection is expected to begin in early 2017 once the legislation is enacted and the necessary arrangements are made to have the SSL added to the ticket price. The draft Disbursement Framework for the allocation of the SSL between CAAV and AVL, as well as how the funds may be used and audited, were discussed during the November 2016 appraisal mission and the principles agreed.

19. As the SSL's revenue is to be used for sustaining the project investments and capacity development, and these activities have only just commenced due to the aforementioned delays, the failure to introduce the levy on time has not materially affected the project to date. However, moving forward, to ensure all requirements for the collection and disbursement of sustainable financing for airport safety and security are in place, a two-part effectiveness condition will be required for the AF. The condition will require: (i) collection of the AUD$5 SSL by CAAV; and, (ii) preparation and adoption of the disbursement framework by AVL and CAAV. The legal covenant "Safety and Security Levy" (I.G.1 and I.G.2) will be revised to require the Recipient to collect the levy, use the levy in accordance with the disbursement framework and furnish to the Technical and Fiduciary Services Unit (TFSU) the annual audit reports throughout the project implementation period. The responsible party for collection of the levy (I.G.1) will be revised to be CAAV rather than AVL. This is to ensure compliance with local legislation as stipulated in the Civil Aviation Act of Vanuatu. The responsibility for continued compliance with the disbursement

[4] The adoption of a Disbursement Framework is critical to ensure that funds are hypothecated for expenditures for safety and security related purposes. The Disbursement Framework is required to be adopted by CAAV and AVL and outlines the mechanism by which funds are collected and deposited, defines eligible expenditures from the SSL revenue including requirements for annual forecasting of the activities to be financed, processes for auditing and the preparation of annual reports.

framework and auditing requirements (I.G.2) will also be revised to include both AVL and CAAV rather than only CAAV.

20. *Financial Management and Disbursements:* There are no outstanding audits. As of October 24, 2016, the disbursement rate for the original IDA Credit (US$59.5 million) was five percent (approximately US$2.95 million). The associated PRIF Grant (TF-A0607) of US$300,000 has disbursed 24.3 percent. The disbursement rates of both the original IDA Credit and proposed Additional Financing are expected to accelerate significantly in 2017, as the civil works for the runways at the three project airports, with an estimated cost of US$40.3 million, are currently under bidding with civil works anticipated to commence in April 2017. The estimated US$ 7 million for navigation aids and runway lighting supply and installation are also anticipated to commence by mid-2017.

21. The GoV uses a central treasury account. A separate General Ledger code will be created in the Smartstream accounts for this Additional Financing, including the IDA credit and IDA grant respectively, to record funds receipts and disbursements, while funds physically sit in the one central treasury account, which leads to the case of a 'pooled' designated account for all government and donor funds, managed by the Ministry of Finance and Economic Management (MFEM). General ledger sub codes are used in the accounting system to identify and control each project within the single treasury account.

22. Retroactive financing up to $1 million will be provided for eligible expenditures to be incurred from September 1, 2016, provided that Bank's relevant procurement guidelines are followed. This has been done so as to support the GoV's preference to use the donor grant funding for technical assistance activities rather than credit funds.

23. *Procurement framework.* In July 2016 the World Bank adopted new procurement framework to be used for all new projects, including Additional Financing. The project has received approval from the Chief Procurement Office (CPO) to use the prior Procurement Guidelines for this Additional Financing for the following reasons:

(i) VAIP is part of the PAIP program, which includes Kiribati, Samoa, Tonga, Tuvalu and Vanuatu. PAIP draws upon regional implementation arrangements that offer sectoral, procurement and project management expertise through the PAIP TFSU. The continuation of the application of the Procurement Guidelines would allow the continuation of the seamless procurement arrangements for PAIP;

(ii) PAIP is undertaking both national and regional procurements. It would be problematic for regional procurements when the program has four countries using the Procurement Guidelines and one with the New Procurement Framework (NPF);

(iii) the single major procurement for VAIP is for the pavement and runway repairs to Bauerfield, Whitegrass and Pekoa airports, with an estimated total cost of US$46.7 million. The bidding is underway and should be completed before this Additional Financing is processed. The remaining procurements will be of much smaller value and benefit less from the NPF; and,

(iv) adoption of the NPF at this stage would require preparation of a Project Procurement Strategy for Development and re-drafting the bidding documents, which could cause significant implementation delays. It would also demand considerable time to train the implementation units on the NPF.

24. **Rationale for Additional Financing**. The Additional Financing of US$14.10 million is necessary in order to meet the scaled up project's total funding requirements and to fund a technical advisor to the VPMU. As noted earlier, financing is required to: (i) expand the scope of works necessary to address the increased pavement deterioration at Bauerfield, Whitegrass and Pekoa international airports; (ii) increase the operational capacity of Bauerfield to facilitate larger aircraft and thereby help ensure the country is prepared for future disasters; (iii) repair and/or expand existing apron or relocate the apron; and, (iv) address need for additional technical assistance for project implementation. Despite the low disbursement rate to date, the timing of the AF scale-up is determined by the fact that all airfield pavement works, including the expanded scope of works, are being procured through a single tender, the bid closing date for which is scheduled for December 19, 2016. The original project was prepared rapidly over three months under emergency procedures and now that detailed engineering investigations have been completed additional funding for works and technical assistance is required due to:

- *Pavement Needs*.
    - **Bauerfield**: When the project was originally appraised, it was estimated that 600 m of the Bauerfield runway would require full rehabilitation. Detailed pavement investigations have since found that 2000 m require rehabilitation, resulting in an increase to the estimated cost for the runway civil works. Additional drainage requirements were also identified in 2015 after Cyclone Pam.
    - **Whitegrass**: The Whitegrass runway has been found to be in need of an overlay to ensure continued jet operations.
    - **Pekoa**: Pekoa runway requires a SEST surface rejuvenation treatment which will address the oxidative damages and extend the surface life.

- *Operational Capacity at Bauerfield*. The original project design for Bauerfield met the requirements for smaller Code C type aircraft.[5]. However, a review of AVL's 2011 draft Master Plan financed by the project in late 2015 indicated potential scope to accommodate larger Code E aircraft at Bauerfield, with appropriate modifications to pavement strength and geometry. The proposed upgrade will help 'future proof' the investments and also allow the airport to cater for potential long-haul charter operations from Asia, which have been identified as important to support tourism growth.

- *Repairs and Expansion to Existing Apron or Relocation of Apron*. The GoV has indicated interest in the development of a new terminal at Bauerfield airport, most likely to be located on the other side of the runway. Funding for the new terminal has not been confirmed, nor has its timeline. The parent project is currently undertaking an Airport Master Plan study that will identify the exact location and scope of the new apron if the new terminal were to be built. The Airport Master Plan should be completed in the first half of 2017. To address the uncertainties with regard to a potential new terminal building the project is planning to approach this as follows:

[5] Classification of aircraft type is based on airplane wingspan and outer main gear wheel span in accordance with ICAO Annex 14 Aerodromes.

- **Repairs to the existing apron**: The current apron pavement will receive a maintenance treatment under the project to address the surface condition. This is required as the construction of any new terminal is a medium-term proposition.
- **Expansion of the existing apron:** If the GoV decides not to pursue the construction of a new terminal in the medium term, the project will expand the existing apron. The expansion would enable Bauerfield to accommodate more and larger aircraft, including types used for higher-capacity emergency relief operations[6].
- **Construct new apron:** If the GoV confirms funding for and construction of a new terminal in the medium term and the location and scope is confirmed by the Master Plan, the project may construct a new apron (and associated taxiway) at a new location as identified in the Master Plan. The existing apron would be used for general aviation purposes once the new apron is open.

- *Technical Advisor to the VPMU.* Due to the complexity and urgency of the project, intensified by the recent delays, the VPMU has requested additional support with the overall management of the project.

25. *Climate resilience measures*. A screening of the proposed project for short and long term climate change and disaster risks was undertaken using the World Bank Climate and Disaster Risk Screening Tool. The key risks are those related to the volcanic activities in the region, the associated earthquake exposure, the potential for increased number of tsunamis with higher intensity, as well as extreme precipitation and flooding. The latter was a major issue during Cyclone Pam in 2015.

26. All technical designs include climate resiliency measures to address extreme precipitation and flooding risks. The project undertook detailed studies to assess drainage at Bauerfield and considered these in the pavement designs. These measures will include the construction of swales to manage water run-off from the airport, additional storm water pits and rock riprap protections to avoid erosion.

27. *Rationale for use of Regional IDA.* The PAIP Program countries have drawn on significant resources from regional IDA with some 76% of the total PAIP Program funded by regional IDA (see Table 2). Regional IDA funds provide access to supplemental capital for the financing of investments in international airport infrastructure, the costs of which are otherwise beyond (or significantly absorb) the resources available from national IDA allocations. PAIP qualified for regional IDA because: (i) the investments generate significant cross-boundary benefits and network effects (when activities were only of national benefit, national IDA is used); (ii) there is clear evidence of regional commitment through PASO; (iii) there is active support from regional donors (Asian Development Bank, Australia, New Zealand, and PRIF); and, (iv) PAIP provides a platform for harmonization of regional aviation policy and standards, as well as harmonization and implementation of important regional safety and security infrastructure. The primary justification for utilizing Regional IDA resources in VAIP is the recognition that the cross country benefits of regional connectivity can only accrue after the investments in improved airport infrastructure meet operational requirements, thereby enabling air service providers to assess intra-regional passenger and air freight opportunities.

[6] The exact location of the apron will be confirmed through the ongoing Master Plan assignment.

Table 2: PAIP Regional IDA Funding by Recipient

Recipient	National IDA (%)	Regional IDA (%)	Total WB Financing ($ million)
Kiribati	27	73	30.01
Tonga	30	70	34.46
Tuvalu	50	50	20.79
Samoa	16	84	41.62
Vanuatu (Original)	10	90	59.50
Vanuatu (Additional Financing)	17	83	73.60
PASO		100	2.15
Program (with Additional Financing)			**202.63**

28. **Alternatives to Additional Financing Considered.** There are no viable alternatives to the scaling up of works proposed under Component A and technical assistance under Component E. In the absence of a safe aviation operating environment at Vanuatu's international airports (particularly Bauerfield) there is the risk that aircraft operations may see further international jet cancellations, with significant implications for Vanuatu's tourism and economy[7]. The project team investigated whether it would be possible to finance the necessary investments from within the existing envelope by reallocating funds but this was not possible because:

- It has been necessary to reallocate upwards of US$2 million to finance temporary emergency runway repairs at Bauerfield to address cancellations of some international jet operations;
- As noted earlier, both Whitegrass and Pekoa airports are experiencing accelerated runway deterioration, thus require repairs, thereby placing additional demands on project funds; and,
- Even with the deferral/cancellation of the maximum number of activities there would still be a funding gap of over US$7 million, which would in turn undermine the achievement of the PDO.

III. Proposed Changes

Summary of Proposed Changes

Additional Financing in a total amount of US$14.10 million is sought to increase the scope of civil works for runway rehabilitation at Bauerfield, Whitegrass and Pekoa international airport, improved pavement geometry at Bauerfield airport, repairs and possible extension of the existing apron or construction of a new apron and to finance a technical advisor for the VPMU. There will be no changes to implementation arrangements, procurement and financial management. There will also be no change to the current Environmental Category B classification.

[7] The financial impact on the Vanuatu economy resulting from flight cancellations was estimated at $US 260,000 per day. This estimate is based on tourism arrivals by air statistics from the Vanuatu Statistics office and a recent report commission by the NZ Tourism Research Institute financed by IFC (https://tourism.gov.vu/assets/docs/reports/IVS/VanuatuInternationalVisitorSurvey2014_2015AnnualReportNZTRIFinal.pdf).

There will be changes to:

- **Activities and Cost**: There are two changes to the activities and cost:
  - *Component A:* There will be an expanded scope of works for the pavement rehabilitation and improvement activities under Component A with a component cost increase of US$13.75 million. The expanded scope of works includes: (i) improvement to runways at Bauerfield, Pekoa and Whitegrass; (ii) geometric improvements (widening of existing taxiways and expansion of turning bays) at Bauerfield airport to allow for larger aircraft to operate at the airport; and, (iii) improvements to the existing apron, or potentially a new apron at Bauerfield airport. The relocation of the Bauerfield domestic terminal building will be cancelled and funds will be reallocated to pavement rehabilitation works at Pekoa and Whitegrass Airports as these require urgent treatments to ensure flights are not interrupted. Cancellation of the proposed improvements to the domestic terminal at Bauerfield and the potential construction of a new apron reflect the medium term objective of the GoV to build a new terminal.
  - *Component E:* There will be a component cost increase of US$0.35 million allocated to component E "Project Support" to finance a technical advisor for the VPMU.
- **Results Framework**: Two intermediate level indicators will be modified as follows: (i) the end target of the "Fire Standards at VLI achieved" indicator will be elevated from ARFF Category 7 to Category 8 to reflect capability of handling larger jet aircraft; and, (ii) the inclusion of Whitegrass and Pekoa airports, together with Bauerfield, to reflect the pavement repairs at all three international airports.
- **Disbursement:** The disbursement estimates will be updated to reflect the Additional Financing of US$14.10 million.
- **Effectiveness conditions:** The project will have two effectiveness condition: (i) the collection of the AUD$5 dollar SSL by CAAV; and, (ii) the preparation and adoption of a Disbursement Framework for the levy by AVL.
- **Legal Covenant**: The dated legal covenant "Safety and Security levy" (I.G.1 and I.G.2) is revised to remove the dates and make the legal covenant an undated covenant to be met throughout project implementation. This revision is appropriate in light of the inclusion of the effectiveness condition for the AF. The responsible party for the collection of the levy (I.G.1) will be revised to be CAAV, rather than AVL, to comply with the Civil Aviation Act of Vanuatu. The responsibility for continued compliance with the disbursement framework and auditing requirements (I.G.2) will also be revised to include both AVL and CAAV.

Change in Implementing Agency		Yes [ ] No [X]
Change in Project's Development Objectives		Yes [ ] No [X]
Change in Results Framework		Yes [X] No [ ]
Change in Safeguard Policies Triggered		Yes [ ] No [X]
Change of EA category		Yes [ ] No [X]
Other Changes to Safeguards		Yes [ ] No [X]
Change in Legal Covenants		Yes [X] No [ ]
Change in Loan Closing Date(s)		Yes [ ] No [X]

Cancellations Proposed		Yes [ ] No [X]
Change in Disbursement Arrangements		Yes [ ] No [X]
Reallocation between Disbursement Categories		Yes [ ] No [X]
Change in Disbursement Estimates		Yes [X] No [ ]
Change to Components and Cost		Yes [X] No [ ]
Change in Institutional Arrangements		Yes [ ] No [X]
Change in Financial Management		Yes [ ] No [X]
Change in Procurement		Yes [ ] No [X]
Change in Implementation Schedule		Yes [ ] No [X]
Other Change(s)		Yes [ ] No [X]

Development Objective/Results

Project's Development Objectives

Original PDO

The project development objective is to improve operational safety and oversight of international air transport and associated infrastructure in Vanuatu.

Change in Results Framework

Explanation:

- The upgrading of Bauerfield airport to cater for Category E aircraft will require a higher category of ARFF capability. The results framework will reflect this by revising the end target for the intermediate indicator "Fire Standards at VLI Achieved" from Category 7 to Category 8.
- The project is now also financing pavement repairs to Whitegrass and Pekoa airports so the intermediate indicator, which was previously only for Bauerfield, is revised to "Repairs to Bauerfield, Whitegrass and Pekoa Airport pavements in line with implementation schedule."

Compliance

Covenants - Additional Financing (Vanuatu Aviation Investment Project Additional Financing - P161454)

Source of Funds	Finance Agreement Reference	Description of Covenants	Date Due	Recurrent	Frequency	Action
IDA	I.G.2	The Recipient shall, throughout the Project implementation period,		☐	Continuous	New

		ensure that CAAV and AVL: (i) use the Safety and Security Levy in accordance with the Disbursement Framework; and, (ii) furnish to the TFSU, by not later than March 31 of each year, annual audit reports prepared in accordance with the Disbursement Framework, for collation and distribution to the Association.				

Change in Legal Covenant

Compliance with the legal covenant "Safety and Security Levy", Section I.G. in the Financing Agreement is overdue. The covenant is composed of two components, the collection of an AU$5 SSL for departing international passengers (I.G.1.) originally due on July 1, 2016 and the adoption of the associated Disbursement Framework requirements for the SSL (I.G.2) originally due on the March 31, 2016.[8] The delay has resulted from a change in Government in 2015 that put the project on hold for almost a year. The new Government that was put in place in 2016 has a strong interest in the success of the project and there is full commitment towards introducing the SSL. The GoV is currently working on finalizing the legislation for the SSL and has recently engaged legal services for guidance. The draft Disbursement Framework was discussed during the November 2016 appraisal mission and has been agreed in principle. As the SSL's revenue is to be used for sustaining the project investments and capacity development, and these activities have only just commenced due to the aforementioned delays, the failure to introduce the SSL on time has not materially impacted the project. There is also broad recognition of the financial benefits provided by the SSL among all stakeholders, so there is renewed interest in getting this in place at the earliest. To ensure sustainable financing

[8] Although reflected in the Financing Agreement, part I.G.2 was accidentally omitted in the Portal. The legal covenant was therefore added as "new" in the Portal although already being in place as part of the Financing Agreement of the parent project. The wording has been revised to reflect the effectiveness condition and the joint responsibility of AVL and CAAV for the covenant.

for airport safety and security and eligibility of the Project for Additional Financing, the following two requirements are effectiveness conditions for the AF: (i) collection of the levy by CAAV; and, (ii) preparation and adoption of the disbursement framework by CAAV and AVL. The existing dated legal covenants are amended to require the Recipient to collect the levy, use the levy in accordance with the Disbursement Framework and furnish to the TFSU the annual audit reports throughout the project implementation period. In addition, the responsible party for the collection of the levy (I.G.1) has been revised to be CAAV instead of AVL. This is required to comply with the Civil Aviation Act of Vanuatu. The responsibility for continued compliance with the disbursement framework and auditing requirements (I.G.2) has also be revised to include both AVL and CAAV.

Covenants - Parent (Vanuatu Aviation Investment Project - P154149)

Ln/Cr/TF	Finance Agreement Reference	Description of Covenants	Date Due	Status	Recurrent	Frequency	Action
IDA-56320		Financing Agreement: VPMU | Description: The VPMU shall be maintained throughout the Project implementation period with adequate resources and competent and qualified staff in adequate numbers required for the Project. |		Complied with	☐	Continuous	No Change
IDA-56320		Financing Agreement: Program Steering Committee | Description: The Recipient shall nominate the chairman of the VPMU Steering Committee (or their designated representative) as its member to the Program Steering Committee.		Complied with	☐	Continuous	No Change
IDA-56320		Financing Agreement: Regional Procurement Evaluation Committee | Description: The Recipient shall, in collaboration with the other Program Countries, ensure that the Regional Procurement Evaluation Committee is maintained		Complied with	☐	Continuous	No Change

		throughout the Project implementation period and comprised of representatives of the Program Countries, TAL (through TFSU) and PASO. | Frequency: CONTINUOUS					
IDA-56320		Financing Agreement: Safety and Security Levy | Description: The Recipient shall take all measures required on its part to ensure that AVL shall, from not later than July 1, 2016, and thereafter throughout the Project implementation period, collect from departing international passengers a levy in a minimum amount equivalent to five Australian Dollars (AU$5) to recover aviation safety and security expenditures incurred by the Recipient.		Delayed	☐	Continuous	Revised
IDA-56320	Safety and Security Levy	Unless otherwise agreed with the Association in writing, the Recipient shall take all measures required on its part to ensure that CAAV shall, throughout the Project implementation period, collect from departing international air passengers a levy in a minimum amount equivalent to five Australian Dollars (AU$5) to recover aviation safety and security expenditures incurred by the Recipient ("Safety and Security		Delayed	☐	Continuous	Proposed

		Levy").					

Conditions		
Source of Fund	**Name**	**Type**
IDA	Safety and Security Levy	Effectiveness
Description of the Condition		
CAAV has commenced the collection of the Safety and Security Levy from departing international air passengers.		
Source of Funds	**Name**	**Type**
IDA	Safety and Security Levy	Effectiveness
Description		
CAAV and AVL have prepared and adopted the Disbursement Framework		

Risk		
Risk Category		**Rating (H, S, M, L)**
1. Political and Governance		High
2. Macroeconomic		Substantial
3. Sector Strategies and Policies		High
4. Technical Design of Project or Program		Substantial
5. Institutional Capacity for Implementation and Sustainability		High
6. Fiduciary		Substantial
7. Environment and Social		Low
8. Stakeholders		High
9. Other		
OVERALL		High

Finance		
Loan Closing Date - Additional Financing (Vanuatu Aviation Investment Project Additional Financing - P161454)		
Source of Funds		**Proposed Additional Financing Loan Closing Date**
International Development Association (IDA)		31-Dec-2019
IDA Grant		31-Dec-2019
Change in Disbursement Estimates	**(including all sources of Financing)**	

Explanation:
The Additional Financing of US$ 14.10 will be reflected in the disbursement schedule.

Expected Disbursements (in USD Million)(including all Sources of Financing)

Fiscal Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Annual	0.80	31.00	26.00	15.70	0.40	0.00	0.00	0.00	0.00	0.00	0.00
Cumulative	0.80	31.80	57.80	73.50	73.90	0.00	0.00	0.00	0.00	0.00	0.00

Allocations - Additional Financing (Vanuatu Aviation Investment Project Additional Financing - P161454)

Source of Fund	Currency	Category of Expenditure	Allocation		Disbursement %(Type Total) (inclusive of taxes)
			Proposed		Proposed
IDA	USD	Goods, works, consulting/non-consultants services, Audit, Training, TFSU Costs & Project Operating Costs (other than under B.2)	9.5		100.00
		Total:	9.5		
IDA	USD	Goods, works, consulting/non-consultants services, Audit, Training, TFSU Costs & Project Operating Costs (other than under B.2)	4.6		100.00
		Total:	4.6		

Components

Change to Components and Cost

Explanation:
The Additional Financing (AF) is necessary to meet the total funding requirements for all identified project activities. The five original project components remain, but with the following changes:

Component A - International Airport Infrastructure Investments:

- An expanded scope of works for the pavement repairs at Bauerfield and civil works to address pavement issues for Whitegrass and Pekoa airports;

- Geometric improvements at Bauerfield airport (widening of taxiways and expansion of turning bays) to allow for larger aircraft to operate at the airport;
- Repair and possible expansion of the existing apron or potentially a new apron (and associated taxiway) at the other side of the runway;
- Cancellation of the current activity "Relocation of Bauerfield domestic terminal building" to reallocate funds towards pavement civil works at Whitegrass and Pekoa airports

Component E – Project Support

- A technical advisor will be financed to support the VPMU with project implementation.

Total Financing: The total financing is now US$73.90 million (see Table 1 for breakdown).

Current Component Name	Proposed Component Name	Current Cost (US$M)	Proposed Cost (US$M)		Action
Component A: International Airport Infrastructure Investments	Component A: International Airport Infrastructure Investments	50.77	64.52		Revised
Component B: Aviation Sector Reform and Training	Component B: Aviation Sector Reform and Training	1.53	1.53		No Change
Component C: Strengthening of Airport Operations and Management Capacity	Component C: Strengthening of Airport Operations and Management Capacity	1.14	1.14		No Change
Component D: Emergency Reconstruction	Component D: Emergency Reconstruction	3.88	3.88		No Change
Component E: Project Support	Component E: Project Support	2.48	2.83		Revised
	Total:	59.80	73.90		

Appraisal Summary

Economic and Financial Analysis

Explanation:

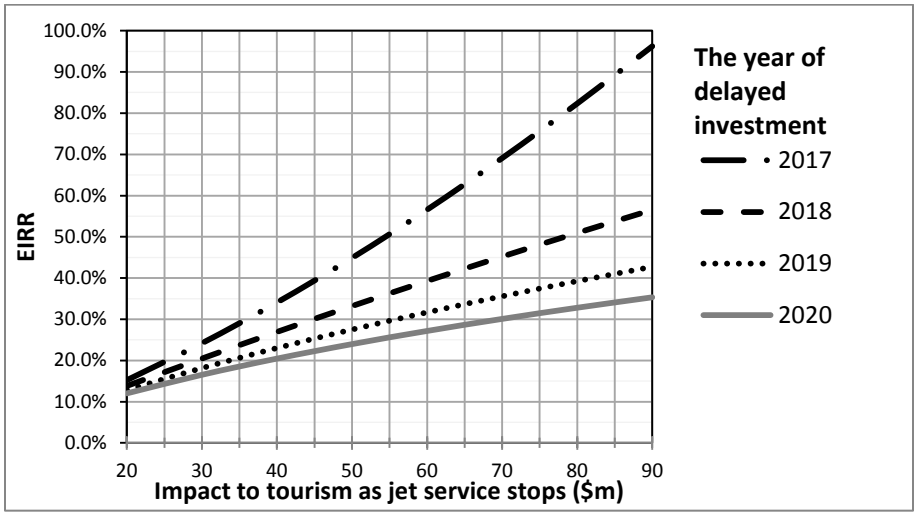
As with the original project, the cost benefit analysis is predicated on the assumption that any loss in tourism

GDP would entail a loss of economic welfare. In the case of the Additional Financing, the economic analysis has been adjusted to reflect the change in scope of works of the pavement rehabilitation, by adding an additional $14.1 million, the one-year implementation delay and the preparatory design works completed under the parent project to date. In the updated economic analysis, the original methodology has not been changed.

The updated economic analysis covers the ten year period from 2015 to 2025. In the "with-project" scenario, the additional investment of US$14.1 million was added to the original amount of US$59.8 million. The investments made through the project will allow jet services to continue normally with contributions to GDP according to the World Travel and Tourism Council's (WTTC) estimates. WTTC's analysis estimates the direct contribution of travel and tourism to GDP at US$156.8 million (which is about 19.2 percent of total GDP), with an expected growth rate of approximately 4.3 percent p.a. over the next 10 years.

In the "without-project" scenario, no actions would be taken until forced to do so, i.e., when jet services cease due to unsafe conditions. Emergency action to bring the runway and facilities back into safe and serviceable condition would require a series of activities assumed to take six months, taking into account preparatory design works completed under the parent project. Such activities would involve finalization of design works, securing of funding, a procurement process, and works completed. During the half year, it is assumed that the impact of fewer flights would be a loss of approximately US$41 million. This estimate is based on reported estimated annual loss of US$82.13 million, which is in line with the US$96.4 million estimation of annual tourism expenditures in 2015 based on numbers of tourism arrival by air (see footnote 5 presented earlier).

The benefits of ensuring the project's development objectives would include: (i) proposed spending on safety and security is not postponed to later date, which could result in avoided accidents; and, (ii) no tourism and travel GDP is lost. The base-case assumes that, without the project, airlines would cease service by 2017 and that about US$41 million of tourism GDP would be lost during that year. This yields an EIRR of 85.2 percent and the NPV of US$28.3 million using a discount rate of 10 percent, compared to an EIRR of 108 percent and NPV of US$29.9 million for the original project. If the airlines were to cease services later, the EIRR would be lower than for the base case. Yet, since the end of services by airlines cannot be forecasted with certainty, it is likewise not possible to ascertain when the airlines would cease to provide services without the project, and how much tourism GDP would be affected. The EIRR sensitivity analysis regarding these two factors is illustrated in the figure below. This analysis shows that the proposed investments are economically very robust.



Implicit in the economic analysis is the assumption that the pavements, navigation aids, communications equipment, etc. will be maintained into the future. The PAIP program is working to address this challenge from a regional perspective through the establishment of: (i) a regional airfield pavement management system which will facilitate planning; and, (ii) a long-term performance based maintenance contract for key infrastructure. The design of these two activities is underway at present and it is anticipated that they will be under way in 2017.

Technical Analysis

Explanation:

The Additional Financing will cover a project scale up to include an expanded scope of works under the existing Component A "International Airport Infrastructure Investment" (US$13.75 million) and a technical advisor to the VPMU under the existing Component E "Project Support" (US$0.35). The scale-up under Component A in will serve to: (i) address the increased pavement deterioration since appraisal of the original project; (ii) enable Bauerfield airport to accommodate larger aircraft to stimulate tourism and increase disaster response capacity; and, (iii) repair and/or expand existing apron or relocate the apron at Bauerfield airport.

The following additional works and services will be financed:

- For Bauerfield airport:
    - The VLI 11/29 Runway is 2.6 km in length and 45 m wide, the current surface is asphalt. Runway upgrade works were last completed in the late 1990's. The runway is past the end of its service life and has suffered severe structural failure. This has necessitated two sets of emergency repairs in 2016 to keep the airfield operational for jet aircraft. Damages are particularly critical within the heavy trafficked areas of the runway and with the commencement of the main works, some 2000 meters will undergo complete rehabilitation and the balance an overlay. The runway will be milled to a depth of at least 100mm along the pavement length. A heavy tack coat will be applied to the existing coral base asphalt and a new AC20 base layer will be laid up to 300m thick followed by the surface asphalt level of at least 50mm. The runway is also having new shoulder areas added along its length with a width of 7.5m on each side. The shoulders will have a 200mm base course and will be sealed with either asphalt or

SEST;
    - Enhanced runway drainage to be better prepared for future disasters and extreme weather events. Works will include increasing the capacity of the northern swale drain by widening and deepening the existing drain so as the grade it to the La Colle river channel some 150 meters from the western end of the runway and allow for drainage from this side of the runway. This option would reduce the pressure on the existing cross runway culverts, reduce the peak discharge across the runway to 2 m^3/s from 2.5 m^3/s, and reduce the instances and pooling and flooding of the runway. Opening the northern drain to allow drainage to the La Colle flood plain will also reduce the volume of runoff discharged through the southern drain and will more evenly distribute the water flow into the flood plain from the airfield helping to lessen any localized flooding outside the boundary fence;
    - Increased pavement strength (61/F/C/X/T) for an estimated two movements of Code E Aircraft per week over the design life;
    - Turning bays on both runway ends will be expanded for Code E aircraft and provided with appropriate lighting;
    - Taxiways will be widened minimally to accommodate Code E aircraft; and,
    - The project will either repair and/or expand the existing apron or construct a new apron within the existing boundary to support the potential development of a new terminal[9]. The decision whether to finance works on the existing apron or a new apron is dependent on the GoV's decision whether to construct a new terminal in the medium term as well as the outcome of the Airport Master Plan anticipated to be finalized in the first half of 2017.
- For Whitegrass airport the works are being tendered as a design build contract. The design and construction solution will consist of pavement resurfacing by the Contractor. The primary tasks to be undertaken are:
    - Removal and replacement of asphalt surfacing;
    - Painting of runway, taxiway and apron marking to be ICAO compliant; and,
    - Improvements to navigation aids and communications equipment.
- For Pekoa airport the works will also be tendered as a design build contract with the design and construction works including:
    - SEST surface treatment for the runway, apron and taxiway areas;
    - Painting of runway, taxiway and apron marking to be ICAO compliant; and,
    - Improvements to navigation aids and communications equipment.
- Technical Advisor to the VPMU: A Technical advisor will be financed to support the VPMU in the implementation of the project.

Social Analysis

Explanation:

Safeguard Policy OP/BP 4.12 on Involuntary Resettlement was triggered in the original project and remains triggered. No new risks or impacts from those identified during preparation have been identified, based on the detailed designs for pavement works. There is no involuntary resettlement in the project.

[9] In the event this new terminal is cancelled the project would instead extend the existing apron on eastern and western sides by an additional approximately 12,500 m^2.

The majority of the project's activities are on existing land within airport precincts. It is envisaged that two off-site activities may take place: (i) trenching for power cables; and, (ii) upgrading of a track to access navigation aids. To account for this, a Resettlement Policy Framework (RPF), based on the PAIP Environmental and Social Management Framework (ESMF), is included in the Project Environmental and Social Management Plan (PESMP) to cover these and any other eventualities. While the PESMP strongly discourages the opening of new quarries, it includes a "Code of Practice" which would cover the opening of a quarry should it be required, and this calls for the RPF to be applied as well as meeting environmental health and safety standards.

As described in Annex 2, the project is undertaking a number of enhancement and innovations to improve the social and environmental outcomes. These are reflected in the PESMP and the contract bid documents for major civil works. These include undertaking education programs for workers on HIV/AIDS, Gender Based Violence (GBV), and 'Child Protection', improved focus on worker occupational health and safety (OHS), and more.

The project will have a very positive social impact. The loss of international flights due to Bauerfield's poor pavement condition had a major negative impact on tourism, resulting in job losses in the sector, particularly amongst women. Efforts are under way to try and quantify this effect. The project will ensure that the airport will operate in a safe and efficient manner, as well as being able to handle demands from future emergencies.

In addition to the above, OP/BP 4.12 applies in accordance with Interim Guidelines on the Application of Safeguard Policies to Technical Assistance (TA) Activities in Bank-Financed Projects and Trust Funds Administered by the Bank (January 2014). This is because there is the potential that the Aviation Master Plan may lead to increases in noise disturbance, land acquisition and resettlement, which may arise from the recommendations and implementations of these technical assistance activities.

The proposed Airport Master Plan and Aviation Sector Strategy to be developed under the project will cover all international airports in Vanuatu: Bauerfield Airport, Whitegrass Airport on Tanna Island and Pekoa Airport on Espiritu Santo. The potential subprojects that may be identified through the master planning and strategy development process are unknown; however they may include activities with the potential for environmental and social impacts (e.g. runway lengthening, terminal expansion, runway rehabilitation etc.). The potential impacts associated with any downstream activities identified through the Master Plan were addressed in the Terms of Reference through the provision that: "The potential safeguard implications shall be incorporated within the master plan to ensure they are considered in the development of subprojects. Where the master plan process has the potential to impact on communities outside the airports, these communities, with representatives of both men and women groups, will be engaged in a meaningful way in the master plan process." The safeguard implications of any recommendations will be reviewed by the Bank prior to reports being finalized.

Furthermore any downstream subprojects proposed as a result of the Master Plan (either as part of this project, or as linked activities) will be screened for environmental and social risks and impacts. This process will determine the policies triggered, the classification of safeguard category and the specific instrument(s) that may be required. Safeguards instruments will be prepared prior to Bank clearance.

The WB's policy on indigenous peoples (OP/BP 4.10) is only triggered in the Pacific where all of the following four defining characteristics are present:

a) Self-identification as members of a distinct indigenous cultural group and recognition of this identity by

others.
b) Collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources therein.
c) Customary cultural, economic, social, or political institutions that are separate from those of the dominant society and culture.
d) An indigenous language, often different from the official language of the country or region.

Projects situated in Vanuatu do not usually trigger OP 4.10 as only characteristic (b) is relevant.

As noted earlier, a new terminal is potentially planned by the GoV. If the new terminal is not financed by the World Bank, it will be considered to be an "associated facility" and thus linked from a social safeguards perspective. This is because the proposed new terminal is: (i) directly and significantly related to the project; (ii) will likely be constructed contemporaneously with the current project (i.e. before 2019); and, (iii) impacts on the ability of the project to deliver the development outcome related to regulatory compliance of the entire aerodrome. The World Bank's safeguard policies will therefore apply. It is envisaged that the PESMP would be updated, consulted on and applied to the terminal construction.

Environmental Analysis

Explanation:

The project remains Category B under Safeguard Policy OP 4.01 Environmental Assessment. There will be no change to environmental risks or issues as a result of Additional Financing.

Project impacts primarily relate to the transport and construction impacts of runway, apron construction and/or expansion and pavement resurfacings. The impacts will be mitigated through the use of the PESMP, consistent with the PAIP ESMF. The PESMP was prepared and disclosed during preparation, and has been updated to reflect the detailed designs. Separate PESMPs were prepared for each airports. Major impacts will relate to construction processes and the transport of materials to the site.

Other investments in buildings (e.g. fire tender shelters), lighting, navigation aids, etc. are expected to have minor environmental impacts—all of which are readily managed.

As described in Annex 2, the project is implementing a number of improved safeguards measures and innovations to improve the social and environmental outcomes. These are reflected in the PESMP and the contract bid documents for major civil works. These address issues such as: (i) ensuring imported materials such as aggregate and equipment meet strict biosecurity precautions; (ii) requiring removal of hazardous and inorganic waste by the contractor to the country of origin; (iii) improved contractual remedies for non-compliance with PESMP; (iv) clear requirements for preparation of contractor's ESMP, its clearance and disclosure; and, (v) 'Codes of Practice' in the PESMP for quarrying, OHS, and establishment of worker's camps.

Greenhouse Gas (GHG) emissions accounting. The International Civil Aviation Organization (ICAO) carbon emissions calculator was used to estimate the project's potential impact on GHG emissions. The ICAO methodology uses a distance-based approach that draws on current and publicly available data on the fuel consumption of a range of aircraft types. The focus of this analysis is solely on international operations to Bauerfield airport and does not include any domestic operations as these are not expected to be materially influenced by the project. The project will enable larger, higher capacity aircraft to serve Bauerfield airport, which may result in a reduction in the number of flights assuming constant demand. This change in schedule is

estimated to results in a reduction of around 370 tons of CO2 per year. Additional savings in GHG emissions will be achieved by: (i) a reduction in taxiing time over the current operations; (ii) the adoption of low energy lighting; and, (iii) operational efficiencies that will arise from the availability of ADS/B and other improved navigation aids—none of which could be quantified for the GHG analysis. More details are given in Annex 3.

Risk

Explanation:

The overall risk rating of the project is High. The sector does not have a history of strong governance, and has not been seen to provide adequate fiscal resources for safety oversight, airport operations and management. The political and governance risk is high due to several changes of Government over a relatively short period, resulting in major policy changes. Over that period there have also been multiple changes of leadership at AVL which has led to a high risk with regard to institutional capacity for implementation and sustainability. The risk to the stakeholders is also high—as evidenced by the suspension of flights by some airlines, and the associated impact on the tourism industry. The macroeconomic risk is substantial, due to the impact of Cyclone Pam in 2015 on the economy. The technical risk is substantial as the scale and complexity of the civil works are major, and the works need to be completed in a timely manner without materially interrupting flights. The fiduciary risk is substantial as there is no recent experience with a World Bank financed project of similar magnitude.

V. World Bank Grievance Redress

29. Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit http://www.worldbank.org/GRS. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

30. The project has established a Grievance Response Mechanism (GRM) for monitoring and managing all grievances. Statistics from the GRM are publicly reported at www.vaip.vu and these are used as Results Indicators.

Annex 1: Results Framework

Project Name:	Vanuatu Aviation Investment Project Additional Financing (P161454)		Project Stage:	Additional Financing	Status: DRAFT
Team Leader(s):	Christopher R. Bennett	Requesting Unit:	EACNF	Created by:	Nora Weisskopf on 08-Sep-2016
Product Line:	IBRD/IDA	Responsible Unit:	GTI02	Modified by:	Nora Weisskopf on 15-Sep-2016
Country:	Vanuatu	Approval FY:	2017		
Region:	EAST ASIA AND PACIFIC	Lending Instrument:	Investment Project Financing		
Parent Project ID:	P154149	Parent Project Name:	Vanuatu Aviation Investment Project (P154149)		

Project Development Objectives

Original Project Development Objective - Parent:

The project development objective is to improve operational safety and oversight of international air transport and associated infrastructure in Vanuatu.

Results

Core sector indicators are considered: Yes

Results reporting level: Project Level

Project Development Objective Indicators

Status	Indicator Name	Core	Unit of Measure		Baseline	Actual(Current)	End Target
No Change	Regulatory certification of safety and security at Bauerfield (VLI) maintained	☐	Text	Value	VLI certified	VLI Certified	Re-validation of certification of VLI in accordance with CAR-Part 139.

				Date	05-Mar-2015	31-Aug-2016	30-Jun-2019
				Comment			
No Change	State requirements for safety measured by Universal Safety Oversight Audit Programme (USOAP) reaches global ICAO average	☐	Number	Value	47.51	47.51	41.38
				Date	05-Mar-2015	31-Aug-2016	30-Jun-2019
				Comment			
No Change	Modernization of air traffic management achieved	☐	Text	Value	No VSAT or ADS-B	ADS-B ground stations procured and due to arrive early 2017. VSAT design procurement underway.	VSAT or ADS-B operational
				Date	05-Mar-2015	31-Aug-2016	30-Jun-2018
				Comment			
No Change	Regional safety and security levy for departing international passengers implemented	☐	Text	Value	No levy	No levy.	AU$5 collected from each departing international passenger.
				Date	05-Mar-2015	31-Aug-2016	30-Jun-2016
				Comment		Legislation for implementation of levy currently underway.	

Intermediate Results Indicators

Status	Indicator Name	Core	Unit of Measure		Baseline	Actual(Current)	End Target
No Change	Navigation and safety aids in line with implementation	☐	Percentage	Value	0.00	0.00	100.00
				Date	05-Mar-2015	31-Aug-2016	30-Jun-2017

	schedule			Comment			
Revised	Repairs to Bauerfield, Whitegrass and Pekoa Airport pavements in line with implementation schedule	☐	Percentage	Value	0.00	0.00	100.00
				Date	05-Mar-2015	31-Aug-2016	30-Jun-2018
				Comment			
Revised	Fire Standards at VLI Achieved	☐	Text	Value	Category 6	Category 6	Category 8
				Date	05-Mar-2015	31-Aug-2016	30-Jun-2018
				Comment			
No Change	Airport Master Plan and Aviation Sector Strategy in line with implementation schedule	☐	Percentage	Value	0.00	0.00	100.00
				Date	05-Mar-2015	31-Aug-2016	30-Jun-2018
				Comment		Contracts for both assignments awarded.	
No Change	Successful implementation of agreed training plan	☐	Text	Value	No Training Plan	No training plan	Training Plan completed
				Date	05-Mar-2015	31-Aug-2016	31-Dec-2017
				Comment			
No Change	Grievance registered related to delivery of project benefits by gender that are actually addressed	☐	Percentage	Value	0.00	100.00	100.00
				Date	05-Mar-2015	31-Aug-2016	31-Dec-2017
				Comment		No grievances received to date.	
No Change	Grievances responded and/or resolved within the stipulated services standards for response times	☐	Percentage	Value	0.00	100	75.00
				Date	05-Mar-2015	31-Aug-2016	31-Dec-2017
				Comment		No grievances received to date.	
No Change	Project-supported	☐	Yes/No	Value	No	Yes	Yes

	organization(s) publishing periodic reports on GRM and how issues were resolved			Date	05-Mar-2015	31-Aug-2016	31-Dec-2017
				Comment		Statistics published on line but no grievances to date.	

Indicator Description

Project Development Objective Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Regulatory certification of safety and security at Bauerfield (VLI) maintained	Although Bauerfield airport is currently certified, the CAAV with the support of the PASO will undertake a detailed assessment of Bauerfield Aerodrome at the end of the project in accordance with Vanuatu Civil Aviation Rules (Part139), which conforms to both New Zealand Civil Aviation Rules 139 and applicable portions of ICAO Annex 14 (international standards for aerodrome design and operations). If compliance is achieved CAAV will re-issue certification of the aerodrome to AVL.	Aligned with PASO oversight schedule.	CAR-Part 139 as adopted by CAAV, which conforms to applicable portions of ICAO Annex 14.	CAAV/VMPU
State requirements for safety measured by Universal Safety Oversight Audit Programme (USOAP) reaches global ICAO average	USOAP audits focus on the State's capability for providing safety oversight by assessing whether critical elements of a safety oversight system have been implemented effectively. Audit teams also determine the State's level of implementation of safety-relevant ICAO Standards and Recommended Practices (SARPs), associated procedures, guidance material and practices. The audit protocol is a comprehensive checklist, covering all elements of the State's safety oversight program subject to the audit. These audit protocols are used as the primary tool for conducting the audit. The extent (in percentage) of lack of compliance is determined based on the findings of the audit. The most recent USOAP audit available was undertaken in 2006.	End of Project	ICAO Audit	CAAV/VPMU
Modernization of air traffic management achieved	The results indicator measures the completed and successful installation of ADS-B, a low-cost surveillance system, and a VSAT system, a dedicated communications network, neither of which is currently available.	Once	Project progress reports	AVL/CAAV/VMPU

Regional safety and security levy for departing international passengers implemented (Text)	The results indicator will measure the successful introduction, collection and expenditure accounting of the departing international passenger levy to cover costs associated with: (i) services from the PASO; (ii) maintenance of security and safety equipment; and, (iii) any expenditure to ensure effective safety oversight by the CAAV. The levy is collected as part of the ticket price and remitted to the MFEM who will disburse the funds in accordance with a framework cleared by the Bank.	Once	Project progress reports	MFEM/AVL/MIPU/ VPMU

Intermediate Results Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Navigation and safety aids in line with implementation schedule	Supply and installation of navigation and safety aids leading to improved operational safety.	Annual through completion	Project progress reports	AVL/VPMU
Repairs to Bauerfield, Whitegrass and Pekoa Airport pavements in line with implementation schedule	Completed rehabilitation and repairs to all pavements at Bauerfield, Whitegrass and Pekoa Airports	Annual through completion	Project progress reports	AVL/VMPU
Fire Standards at VLI Achieved	Achievement of Category 8 ARFF operations capable of handling largest aircraft serving the Bauerfield. Current Category 6 requires vehicles that carry 11,800 litres of water; with discharge rate (foam/liters) of 4,000 per minute; Category 8 requires vehicles that carry 27,300 liters of water; with discharge rate (foam/liters) of 7,200 per minute	Once	Project progress reports	AVL/VMPU
Airport Master Plan and Aviation Sector Strategy in line with implementation schedule	Completion of both studies to guide long-term sustainable sector development	Annual through completion	Project progress reports	VMPU

Successful implementation of agreed training plan	Training for AVL and CAAV for capacity building.	End-of-Project	Project progress reports	CAAV/AVL/VMPU
Grievance registered related to delivery of project benefits by gender that are actually addressed	Citizen engagement indicator in accordance with the 2014 Results Framework and M&E Guidance Note. Modified to include gender.	Annual through completion	Grievance and Complaints Logging System	VPMU
Grievances responded and/or resolved within the stipulated services standards for response times	Citizen engagement indicator in accordance with the 2014 Results Framework and M&E Guidance Note.	Annual through completion	Grievance and Complaints Logging System	VPMU
Project-supported organization(s) publishing periodic reports on GRM and how issues were resolved	Citizen engagement indicator in accordance with the 2014 Results Framework and M&E Guidance Note. The project has established a website which displays the resolution rate for grievances and time to resolve.	Continual	Web site linked to Grievance and Complaints Logging System	VPMU

Annex 2: Improved Safeguard Measures and Innovations

1. In light of recent recommendations for the transport global practice to improve safeguards compliance, VAIP is being used to strengthen existing measures and pilot a number of innovations to elevate the ability to monitor effectiveness and achieve compliance with safeguard policies.

Supervision

- Requires quarterly inspections by Supervision Consultant's safeguards specialist to check on performance of Resident Engineer who is tasked with day-to-day safeguards oversight.

- Independent auditing will be done quarterly by the VPMU's safeguards specialist in conjunction with the resident engineer and the Consultant's safeguards specialist.

Contractor's Contract

Tightening of Contractual Requirements

- Major revisions to the particular conditions of contract to improve safeguards compliance:
    - Preparation, clearance by supervision engineer, and disclosure on client's web site of Contractor's Environment and Social Management Plan (CESMP) before commencing civil works.
    - Contractual remedies for non-compliance with CESMP.
    - Biosecurity requirements for imported materials.
    - Exporting of hazardous and inorganic waste materials.
    - Background checks on international staff and requirements to sign 'Code of Conduct' related to GBV and protecting children.
    - Occupational health and safety (see below).

Occupational Health and Safety (OHS)

- **Requirements:**

    - The PESMP contains a 'Code of Practice' with a detailed set of requirements for OHS covering all aspects including reporting and personal protective equipment.
    - Potential pilot test existing app for reporting on OHS issues.

- **Financing:** The bid documents for major civil works contain provisional sum (percentage of the engineer's estimate) to fund the costs of covering OHS activities, would only be payable on proof of record, e.g. time sheets, material invoices etc., for the following:

    - Provision of "Dedicated safety professionals" as a full time role.
    - Personal Protective Equipment for the Contractor's team.
    - Safety signage, safety literature etc.

- Labour costs for attending dedicated safety training such as working at heights, confined space training, first aid training etc.
- Participation on HIV/AIDs, GBV and Child Protection training
- Alcohol testing of staff

If the provisional sum is not spent, the unspent allowance remains with the Client. If it is over spent, then that is to the Contractor's account.

- **Qualifications:**

- To be qualified for bidding for major civil works, contractors will be required to meet the following:

'For the purposes of this project the employer is adopting a code of practice for occupational health and safety based on good international industry practice. To be qualified for bidding contractors will be required to have in place an occupational health and safety management system which is compliant with, or equivalent to, OHSAS 18000 (http://certificationeurope.com/ohsas-18000-health-safety-managment-standards/) and is acceptable to the client. The contractor shall specify which occupational health and safety standards are to be applicable to the project, and provide evidence of application of such standards on a project of similar size and complexity during the past 5 years. The standards to be adopted may include those of Australia, Canada, New Zealand, the EU and the US, which are referred to in the World Bank Group EHS Guidelines.

- With their bids, Contractors will be required to submit statistics for their workplace safety performance for the past 5 years on:

  - Number of fatal injuries
  - Number of notifiable injuries
  - Number of lost time injuries
  - Number of medical treatment injuries
  - Number of first aid injuries
  - Number of recordable strikes of services
  - Lost Time Injury Frequency Rate
  - Total Recorded Frequency Rate

- **Supervision:**

    - The supervision engineer is required to monitor OHS guidance during their regular duties. Also included is the requirement that there be monthly/bi-monthly independent OHS audits by a certified auditor as part of the consultant's supervision team.

    - The Contractor will be required to report monthly on their performance with the above indicators supplied during bidding, as well as:
        - Number of alcohol tests
        - Proportion of positive alcohol tests
        - Number of site health and safety audits conducted by contractor
        - Number of safety briefings
        - Number of near misses
        - Number of traffic management inspections
        - Number of sub-contractor reviews
        - Number of stop work actions
        - Number of positive reinforcements

Others

HIV/AIDS, Gender Based Violence and Child Protection

- Undertaking a structured HIV/AIDS education program using the 'Road to Good Health' toolkit (www.theroadtogoodhealth.org)
- Pilot testing the use of 'Codes of Conduct' and training to address GBV and protect children.

Quarrying

- No new quarries are anticipated but PESMP includes Code of Practice for Quarrying should they be necessary.

Workers Camps

- No workers camps are anticipated but the PESMP includes the requirement that they be established in accordance with the IFC-EBRD Guidelines.

Grievance and Reporting

- **System:** Have already established an online system for reporting on grievances (http://www.vaip.vu/) and publishing statistics to meet the IDA citizen engagement requirements.

Annex 3

Greenhouse Gas Accounting

1. **Methodology**. The International Civil Aviation Organization (ICAO) carbon emissions calculator[10] was used to estimate the project's potential impact on GHG emissions. The ICAO methodology uses a distance-based approach that draws on current and publicly available data on the fuel consumption of a range of aircraft types. The focus of this analysis is solely on international operations and does not include any domestic operations. The ICAO Carbon Emissions Calculator was used and combined with data from: (i) DiiO SRS analyzer, a database for airline schedules; (ii) Virgin Australia airline's website; and, (iii) ICAO engine emissions databank.

2. **Assumptions**. The GHG analysis for this project was completed based on the following assumptions:

- Baseline: The primary objective of this project is the rehabilitation of Bauerfield airport to avoid cancellation of jet operations, and now also to allow for the reinstatement of temporarily cancelled flights. The emissions resulting from these reinstated flights were therefore assumed to be part of the baseline rather than accounted for as additional GHG generated by the project.
- Passenger Load Factors: The calculations assume that all flights attain a 78 percent passenger load factor relative to the total number of seats available by aircraft type. This is based on the average load factors for each region provided in the Methodology of the ICAO Carbon Emissions calculator.
- Emissions generated from the project. The Additional Financing will enable operational enhancements that accommodate the potential for larger aircraft (Code E aircraft) to service Bauerfield airport. Based on an analysis of the existing carriers operating into Bauerfield, their current network and aircraft fleet mix, it was assumed that Virgin Australia would be the only existing airline that would potentially upgrade from the existing aircraft used, a B737-800, to a larger B787 Code E aircraft. Given the increased seat capacity of a 787, but limited additional passenger demand, it was also assumed that Virgin Australia would replace their current schedule of 12 monthly 737-800 aircraft movements with 8 monthly 787 aircraft movements. Since the Master Plan has not been completed it was not possible to consider additional generated traffic in the calculations.

3. **Results**. The analysis calculates an annual decrease of 370 tons carbon emission from this project. The reduction in emissions result from larger aircraft being able to serve the airport and consequent reduction in the frequency of aircraft movements (from 12 to 8). Additional reductions could be expected from:

- *Emission reductions from more efficient taxiing:* Specific runway areas, particularly close to the entrance to the taxiway located at the midpoint of the runway, have deteriorated significantly. To avoid further deterioration, jet aircraft are currently not allowed to apply heavy brakes in these areas. This forces aircraft to travel towards the end of the runway,

[10] http://www.icao.int/environmental-protection/CarbonOffset/Pages/default.aspx

turn, and return to the taxiway to reach the apron. This generates additional fuel burn and resultant emissions. Full details are on file.

- *ADS-B Surveillance:* Surveillance of aircraft may potentially allow for optimized routing of aircraft within the Pacific. Given the difficulty to assess these impacts, these are only mentioned here but have not been included in the analysis.
- *Apron enlargement:* The enlarged apron may allow for push-back and tow ground handling equipment. This infers that, rather than power-in and power-out maneuvering on the apron, aircraft would generate fewer emissions. Given the difficulty to assess these impacts, these are only mentioned here but have not been included in the analysis.
- *Low-energy lighting:* The implementation of low energy lighting will have a positive GHG impact, but it was not considered in the GHG analysis due to a lack of available data.