

**Jose D. Leon Guerrero
Commercial Port of Guam**



**ARRA-USDA Port Improvement Project
Financial Feasibility Report**

September 18, 2009

**Prepared By
Parsons Brinckerhoff**



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This report was prepared based on based on historical, audited financial statements and financial data compiled by PB and the Port Authority of Guam in conjunction with cargo forecasts and financial model analyses described in the report titled Master Plan Update 2007, Financial Feasibility Report dated August 2008 updated to support the ARRA-USDA Port Improvement Project

Introduction

Preparer

This Financial Feasibility Report was prepared by Parsons Brinckerhoff (PB), a multi-discipline consulting firm based in New York with over 120 years of experience in project development. PB's services include institutional advisory services; project & program development advisory services; analysis, evaluation and forecasting services; due diligence services; and financial advisory services.

PB and the individuals responsible for this report have prepared dozens of forecasting, due diligence, and economic and financial feasibility analyses on port projects and other transportation projects in the United States and around the world. Recent representative projects completed by the project team members include management and financial consulting for the Panama Canal Authority regarding development of the third navigation lock; buy-side due diligence analysis on the Busan New Port Phase 2-3 container terminal acquisition; analysis of operations and finances at the Port of Sacramento, including a reorganization of its operating finances by business line; reviews of the Port of Anchorage finances and tariff, including recommended tariff adjustments; and cargo and revenue forecasts for an Initial Public Offering of the Port of Ningbo (China) container and bulk cargo terminal.

The report was prepared by, Donald Grigg, Nira Ratnathicam and Paul Sorensen, with review by Dr. Ira Hirschman and others. Additional information about the preparer is available in Appendix A.

Background

The Financial Feasibility Report is submitted in support of the Port Authority of Guam's August 2009 USDA loan applications. The report will address the existing facilities; the proposed facility, including a description of the construction and the need for the facility; the financial assumptions and analysis employed; and a five-year projection of PAG's financial statements, including the balance sheet, income statement, cash flow, and comparative data with like facilities in PAG's service area.

This Financial Feasibility Report is based on PAG's historical, audited financial statements and prior analysis of the cargo forecast, development requirements, operations and financial performance of the Port including the following reports prepared by PB:

- The Master Plan Update 2007 Report completed in February 2008 – This was a study effort addressing economic conditions, cargo forecasts, facility conditions, cargo capacities, modernization alternatives and development costs for improvement of the Port.
- The Financial Feasibility Study Report, completed in August 2008 – This was an analysis and forecast of PAG's future financial performance and borrowing



capacity under alternative scenarios using a financial analysis model tailored to PAG's operations.

A Purpose & Need for the Facility

The Jose D. Leon Guerrero Commercial Cargo Port facilities were designed and put into service in 1969, and have not undergone major capital improvements since that time. The Port serves the needs of not only Guam but also the entire Micronesian Region for which it is a transshipment hub. Over 90% of the day-to-day goods and supplies consumed by the population in the region pass through the Port. The Jose D. Leon Guerrero Commercial Port Master Plan Update 2007 (Master Plan) analysis showed that, due to organic growth in Guam and the Micronesian Region, the commercial port facilities are near capacity and in a deteriorated condition.

In addition, on February 17, 2009 an agreement was reaffirmed between the government of Japan and the government of the United States for relocation of Marine Expeditionary Force personnel and their dependents from Okinawa, Japan to Guam. The upcoming military base move from Okinawa to Guam and other base expansion programs by the Air Force, Navy and the Army as a key part of the nation's Defense Posture Realignment Initiative (DPRI) is estimated to increase Guam's population by some 22% by the year 2014. This coupled with the demands for cargo movement during base construction and future organic growth in the region served by the Port is expected to put considerable demands on the Port which it cannot support in its current condition and configuration.

The Port will be one of the first critical and immediate infrastructural components in Guam that will experience tremendous impacts from the impending surge in cargo demand driven by the military buildup. The modernization of the berths, wharves and upland areas upon completion of the engineering and environmental studies would provide the critical and immediate infrastructure improvements necessary to handle the increased cargo demands and improve cargo handling operations and efficiency. The proposed modernized port will generate revenue for the Port and the island economy as a whole. It is imperative that the Port immediately begin the facility modernization and improvements needed to meet these projected demands in an environmentally acceptable manner.

B Existing Facilities

The Port's commercial cargo facilities are largely in industrial zones with no urban encroachment and with suitable waterfront access for cargo terminal operations and expansion. The Master Plan review showed that the commercial cargo facilities are aging and in need of substantial renovation and modernization.

B-1 Commercial Port Areas

The commercial port facilities cover 62 acres at berths F3 to F6 as shown in Table 1. This includes 26.5 net acres used currently for container yard storage space, along with maintenance and repair facilities encompassing approximately 54,000 square feet, and two warehouses providing approximately 110,000 square feet of floor

space. The storage yard provides space for containers, automobiles, and general cargo. The container yard also includes 95 stalls equipped with plug-ins to serve refrigerated containers. An additional 39 acres of vacant land is available adjacent to the exiting cargo terminal facilities for expansion.

Table 1 - Existing Commercial Port Areas

Commercial Port Areas	Acres	Berths	Use
Cargo Terminal	62	F-3 to F-6	Commercial Cargo Terminal
Terminal Expansion Area	39	N/A	Vacant Land designated for terminal use
Marine Industrial Facilities	50	F-1, F-2	Liquid Fuel, Fishing and Marine Industrial Use
Glass Breakwater Area Facilities	N/A	Family Beach Dog Leg Pier Hotel Wharf Golf Pier Seaplane Ramp	Mix of Liquid Fuel, Fishing and Recreational Use

B-2 Overview of Berths

The Port has a number of commercial berths to support vessel service for the various types of cargo and civilian marine-industrial activities in Guam. The following table provides an overview of the metrics and description of the various berths.

Table 2 - Berth Overview & Metrics

Berths	Length Ft	Current Depth Ft	Location	Current Use
F-2	670	26	Marine Industrial Facilities Area	Fishing Fleet Repair. Leased to CASAMAR
F-3	750	26	Cargo Terminal	General Cargo, Passenger Vessels, Fishing Vessels
F-4	660	34	Cargo Terminal	Container and General Cargo.
F-5	660	34	Cargo Terminal	Container and General Cargo.
F-6	660	34	Cargo Terminal	Container and General Cargo.
F-1	550	54	Marine Industrial Facilities Area	Liquid Bulk, LP Gas. Operated by Shell Oil, Guam.
Cement	N/A	24	Marine Industrial Facilities Area	Floating barge for cement unloading
Hotel	500	26	Glass Breakwater	Fishing vessels and dinner cruises
Golf Pier	370*	40	Glass Breakwater	Liquid Bulk Tankers. Operated by Mobil Oil, Guam (* bulkhead)

Source: Master Plan Update 2007

Berths F-4 to F-6 accommodate containerships, break-bulk (general cargo) vessels, and passenger ships. Each of these four berths can service container vessels with a maximum beam of 107 feet.

B-3 Overview of Existing Building Structures

Most of the building structures in the Port were built and put into service in the late 1960s. They seem to have been designed in the style of military buildings to withstand the extremely high wind conditions caused by typhoons. The majority are constructed of 3,000psi (pounds/square inch) concrete and 20,000psi reinforcement steel. For modern break-bulk cargo operations, these buildings are not optimally located on the terminal and they do not provide sufficient door clearances or interior clearances between posts for efficient cargo operations. They are not used for container cargo handling operations.

B-4 Overview of Existing Equipment

Cargo is currently handled by equipment that includes:

- One rail-mounted container crane (40-ton) owned by the Port Authority of Guam (PAG) for ship service
- One rail-mounted container crane (40-ton) owned by Matson Navigation Company (Matson) for ship service
- Three rail-mounted gantry cranes (40-ton) for ship service owned by Matson and Horizon Lines, Inc (Horizon) and placed at the Port under a five-year agreement

- One mobile harbor crane (104-ton) for break-bulk ship service and general yard service
- Two rubber-tired gantry cranes (40-ton) for grounded (or stacked) container yard service
- One toplifter, four sideloaders and 24 tractor-trailers for container yard service
- Two 20-ton heavy lift forklifts and a fleet of forklifts of various load capacities for break-bulk ship and yard service

With the exception of the rail mounted gantry cranes and mobile harbor crane, the equipment is generally old and in relatively poor condition.

B-5 Demand vs. Capacity

The 2007 Master Plan found that the port is currently operating near its capacity based on existing local and DOD cargo volumes. Based on the current condition of the Port, in terms of below-industry production rates, the limited remaining life of the cargo-handling equipment, and the absence of modernized terminal and gate operating systems, the existing facilities and systems will not be able to support the cargo forecasts. With the DOD buildup, cargo volumes will clearly exceed capacity.

As illustrated by the extract below from the Master Plan Report the peak demand year needs compared to generalized capacity estimates for container and break-bulk cargo indicate there will be very significant shortfalls in capacity over the next several years:

Containers

■ Highest Throughput Yr 2007	103,000 Lifts	175,000 TEU
■ Estimated Capacity	120,000 Lifts	204,000 TEU
■ Peak Future Demand	<u>190,000 Lifts</u>	323,000 TEU (in 2015)
Shortfall in Peak Year	70,000 Lifts	

Break-bulk

■ Highest Throughput Yr 2006	155,000 Tons
■ Estimated Capacity	Close to Capacity
■ Peak Future Demand	<u>316,000 Tons</u> (during DOD construction)
Shortfall in Peak Year	161,000 Tons

It is clear that major capacity improvements must be implemented in order to address the future demands for the commercial cargo terminal.

C Proposed Facility

C-1 Description of Construction

The Master Plan recommended a program of port improvements designed to raise port capacity to handle 200,000 containers and 350,000 tons of break-bulk cargo

per year in order to meet the demands of the DOD buildup and provide for Guam's long-term needs. The ARRA-USDA Project for execution of the Master Plan for improvements needed to support cargo over a 20-year horizon at the Port is depicted in Appendix B.

Toward this end, PAG's ARRA/USDA Port Improvement Project consists of a \$104.2 million (2010\$) development program to be constructed in 2010 and 2011. This work covers a 70-acre area, which is depicted in Appendix C. The work includes an eastward extension and modernization of the upland port facilities, equipment, utilities and systems necessary to increase the operating efficiency and capacity at the terminal. This will better assure that the terminal capacities in critical bottlenecks are brought on line in time to meet the demands of the DOD build-up. Local and NEPA environmental clearances, anticipated to be based on a Categorical Exclusion, will also be obtained as a part of the project.

Specifically, the project includes the following construction components:

- Mobilization
- Demolition
 - Equipment Maintenance & Transit Shed #2
 - Tie-in Admin Building Extension
 - Site Demolition
- Buildings
 - Extension to Port Administration Building
 - Transit Shed #1 Refurbishment
 - Equipment Maintenance Shed Minor Refurbishment
 - New Gate & Terminal Offices
- Site work & Paving
 - Terminal Yard Paving & Eastward Extension
- Power, Lighting & Electrical
 - Switchgear, Transformers & Generators
 - Terminal Lighting & Distribution
- Site Utilities
 - Water, Sewers, Storm & Fire Systems
- Security
 - Security Infrastructure
- Cargo Handling Equipment & Systems
 - Top-Picks
 - Side-Picks, Yard Tractors/Chassis, Break-bulk Equip.
 - Terminal Operating System
 - Gate Systems

C-2 Need for the Facility

Service Area

The Port serves the needs of not only Guam but also the entire Micronesian Region for which it is a transshipment hub. Virtually all cargo arrives by water to Guam and neighboring islands. Guam has the largest population base in this region and the most cargo, and hence, is a natural trans-shipment hub to the neighboring islands. Over 90% of the day-to-day goods and supplies consumed by the population in the region pass through the Port.

North of Guam lays the Commonwealth of the Northern Mariana Islands (CNMI), including Saipan, Tinian and Rota, among other smaller islands. The containerized and break-bulk cargo to/from the CNMI has long been moved via Guam by trans-shipment services. Most of the trans-shipment to the Federated States of Micronesia, Republic of Palau and the Republic of the Marshall Islands is via Guam. Hawaii was previously the origin of transshipment to the Eastern Caroline Islands (Marshall Islands and Kosrae, Pohnpei and Chuuk in the FSM) but this recently switched to Guam.

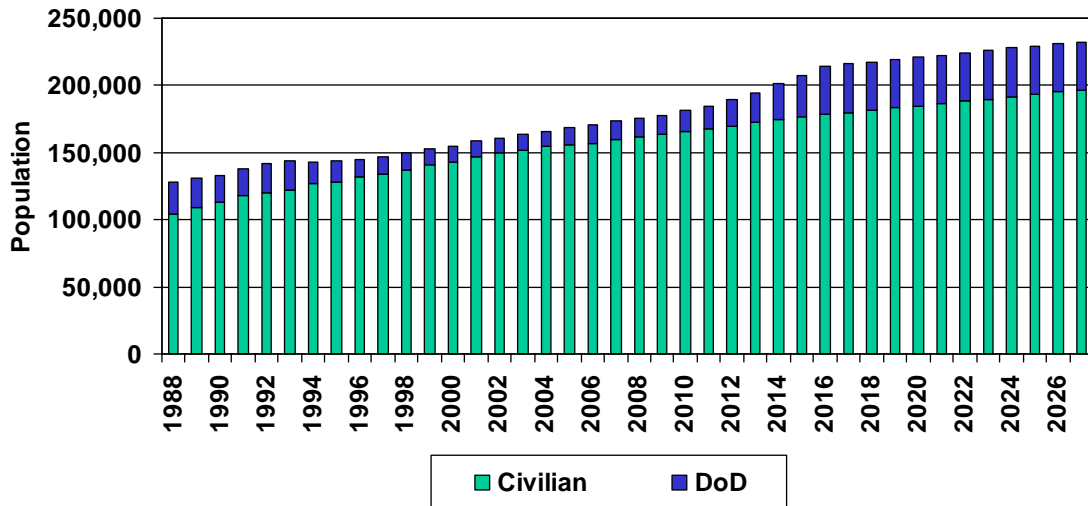
Population Trends

Guam Civilian Population (Without Proposed Military Buildup)

Guam's population stood at 173,456 persons in 2007¹. The population has grown at an annual rate of 1.6 percent per year since 1988. The population grew relatively fast between 1988 and 1992 (2.8 percent per year) then slowed through 1998 (0.8 percent per year). The growth rate during the seven years from 2000 to 2007 mirrors the rate from 1988 (at 1.6 percent per year). The US Census Bureau expects slower growth in the future (excludes growth due to military buildup); averaging 1.3 percent per year until 2015 then slowing to 0.9 percent for the longer term (after 2015). In 2018, the civilian population on Guam was expected to approach 182,000 persons (excludes growth due to military buildup).

¹ Much of the data in this section are extracted from the Master Plan, which was conducted in 2007 and published in February 2008. Consequently some data regarding population, sales, trade, employment and other economic indicators may not be the most currently now available.

Figure 1 - Guam Civilian & Military Population Trends & Forecasts



The largest ethnic group on Guam is identified in official classifications as the indigenous Chamorro people, who account for about 37% of the population. The next largest group consists of Filipinos, representing 26% of the population. Caucasians comprise about 7%, and the remainder includes a variety of ethnic groups (Koreans, Japanese, Chinese, and other Pacific Islanders).

Guam Military Population

Based on information provided by DOD, Guam’s military population (including active duty personnel and their dependents) stood at approximately 14,110 persons in 2007. This includes 6,420 active duty personnel (4,350 in the US Navy, 1,930 in the US Air Force, and 140 in the US Coast Guard) and 7,690 dependents (5,230 with the US Navy, 2,280 with the US Air Force, and 140 with the US Coast Guard).

The DOD is projecting a future deployment on Guam of 38,070 active duty and dependents. This includes 18,930 active duty personnel (5,600 in the US Navy, 4,560 in the US Air Force, 10,000 in the US Marines, 630 in the US Army and 140 in the US Coast Guard) and 19,140 dependents (5,280 with the US Navy, 3,730 with the US Air Force, 9,000 with the US Marines, 950 with the US Army and 180 with the US Coast Guard). This represents an increase of 23,960 persons over 2007 levels, including 12,510 active duty personnel and 11,450 dependents.

In the late 1980s, the military population exceeded 20,000 in Guam and represented approximately 18 percent of the civilian population. The military presence shrank to around 11,000 in the period 2000 to 2004 before increasing to its current level of 14,110, which equals 8.1 percent of the civilian population. The proposed growth in military personnel and dependents will increase the military presence to around 18 percent of the civilian population base.

Total Guam Population

The total population on Guam increased from 127,545 persons in 1988 to 173,456 persons in 2007, with average annual growth at 1.6%. Prior to the decision to expand the military bases, the population was expected to reach around 232,000 in 2027 with annual growth averaging 1.5%. See Table 3.

Table 3 - Population Trends & Forecasts

Year	Civilian Population		Military & Dependents		Total Population		Military Percent of Civilian Population	
	Actual	Forecast	Actual	Forecast	Actual	Forecast	Actual	Forecast
1988	104,330		23,215		127,545		18.2%	
1989	109,295		21,652		130,947		16.5%	
1990	113,542		19,610		133,152		14.7%	
1991	118,082		20,077		138,159		14.5%	
1992	120,148		22,178		142,326		15.6%	
1993	121,748		22,077		143,825		15.3%	
1994	127,292		15,865		143,157		11.1%	
1995	128,430		15,760		144,190		10.9%	
1996	131,532		13,792		145,324		9.5%	
1997	133,797		13,002		146,799		8.9%	
1998	136,985		12,739		149,724		8.5%	
1999	140,431		12,159		152,590		8.0%	
2000	143,181		11,624		154,805		7.5%	
2001	147,177		11,153		158,330		7.0%	
2002	149,810		11,247		161,057		7.0%	
2003	151,761		11,832		163,593		7.2%	
2004	154,331		11,759		166,090		7.1%	
2005	155,863		12,701		168,564		7.5%	
2006	156,909		14,110		171,019		8.3%	
2007	159,346		14,110		173,456		8.1%	
2008		161,414		14,110		175,524		8.0%
2009		163,508		14,110		177,618		7.9%
2010		165,630		15,439		181,069		8.5%
2011		167,779		16,768		184,547		9.1%
2012		169,956		19,425		189,382		10.3%
2013		172,162		22,083		194,245		11.4%
2014		174,396		26,513		200,908		13.2%
2015		176,659		30,942		207,601		14.9%
2016		178,249		36,257		214,506		16.9%
2017		179,853		36,257		216,111		16.8%
2018		181,472		36,257		217,729		16.7%
2019		183,105		36,257		219,362		16.5%
2020		184,753		36,257		221,010		16.4%
2021		186,416		36,257		222,673		16.3%
2022		188,094		36,257		224,351		16.2%
2023		189,786		36,257		226,044		16.0%
2024		191,494		36,257		227,752		15.9%
2025		193,218		36,257		229,475		15.8%
2026		194,957		36,257		231,214		15.7%
2027		195,975		36,257		232,233		15.6%
Compound Annual Growth Rates								
1988-2007	2.3%		-2.6%		1.6%			
2000-2007	1.5%		2.8%		1.6%			
2008-2027		1.0%		5.1%		1.5%		

Source: Government of Guam Bureau of Statistics, US Department of Defense, US Census Bureau

Population on Neighboring Islands

The population base in the trans-shipment areas could increase at approximately 0.9% per year between 2007 and 2025. This is down from the annual growth of 1.5% experienced between 1995 and 2007.

Table 4 - Population Trends & Forecasts on Neighboring Islands

Population	1995	2007	2025	Growth Rates	
				95-07	07-25
CNMI	57,229	84,546	116,270	3.3%	1.8%
Rep of Palau	17,037	20,842	24,320	1.7%	0.9%
Rep of Marshall Islands	49,639	61,815	83,203	1.8%	1.7%
Fed States of Micronesia	105,988	107,862	98,879	0.1%	-0.5%
Total	229,893	275,065	322,672	1.5%	0.9%

Source: United Nations

Economy in the Service Area

Overall Economic Activity

The civilian economy generated approximately \$4.6 billion in sales in 2002, according to the most recent census data available at the time of the Master Plan. Local residents accounted for 38.8% of sales followed by visiting tourists (27.5%), businesses and non-military government agencies (17.5%), retailers/wholesalers (12.3%) and construction firms (3.7%).

Table 5 - Sales by Class of Customer (\$1,000s) in 2002

Source	Sales (\$1,000S)	Percent
Local residents	1,781,629	38.8%
Visiting tourists	1,262,753	27.5%
Retailers or wholesalers	564,795	12.3%
Institutional, industrial, commercial, professional, government, and farm users	803,570	17.5%
Construction firms	169,898	3.7%
Other	9,184	0.2%
Total	4,591,828	100.0%

Source: Census 2002 for Guam, US Census Bureau

In 2002, the military spent \$532 million in Guam, including \$282 million on construction projects and \$250 million on payroll (\$194 million for military personnel and \$56 million on civilian personnel). Military expenditures, which are not included in the Census estimates, amounted to 11.6% of sales in the civilian economy.

Foreign Trade

According to statistics from the Government of Guam, imports have increased from \$503 million in 2004 to \$583 million in 2007. These data include items intended

for resale in Guam and excludes the military, government, promotional and personal items. They also exclude imports of petroleum products. Most of Guam's imports consist of consumer goods (particularly food, beverages and apparel), motor vehicles and parts and construction materials.

Table 6 - Guam Import Data (Current Dollars)

Group	2004	2005	2007	% 2007
Food and Non-Alcoholic Beverages	\$210,887,031	\$163,587,900	\$189,848,060	33%
Alcoholic Beverages	\$20,445,918	\$22,752,348	\$18,916,221	3%
Transportation and Parts	\$82,110,117	\$111,165,444	\$130,698,026	22%
Home Appliances, Equipment and Others	\$11,731,590	\$9,413,220	\$10,355,204	2%
Construction Materials	\$28,334,139	\$19,734,012	\$30,347,915	5%
Men's and Women's Apparel	\$32,188,479	\$26,132,346	\$81,147,705	14%
Plastics, Leather and Paper	\$48,733,398	\$93,249,228	\$34,736,713	6%
Other Imports	\$68,952,768	\$86,652,573	\$87,495,925	15%
Grand Total	\$503,383,440	\$532,687,071	\$583,545,769	100%

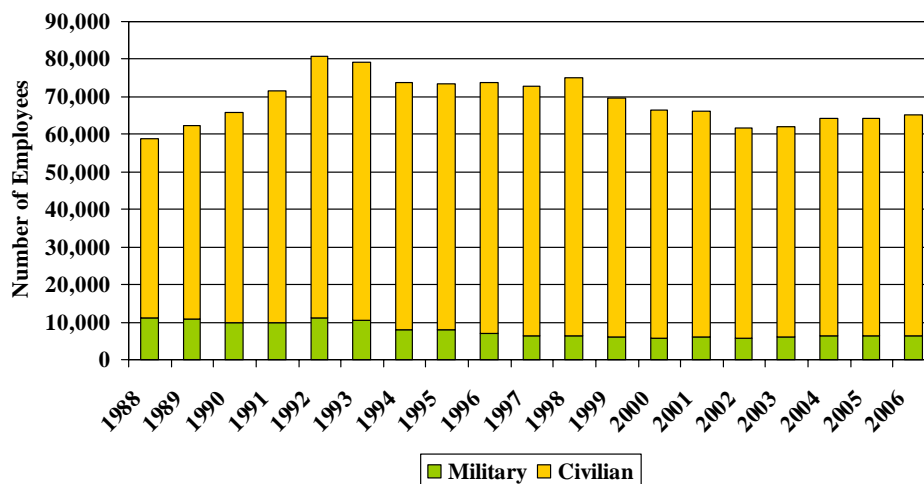
Source: Government of Guam, Bureau of Statistics and Plans

Guam exports totaled \$53.0 million in 2006 and an estimated \$63.2 million in 2007. Exports primarily consist of transportation products and food and beverages produced in Guam and/or trans-shipped from Guam to the US and foreign countries.

Employment Trends

The civilian employment base in Guam was 58,700 in 2006. This was up slightly from the prior years. However, it is significantly lower than the employment levels of the mid to late 1990s, when employment averaged around 65,000 persons.

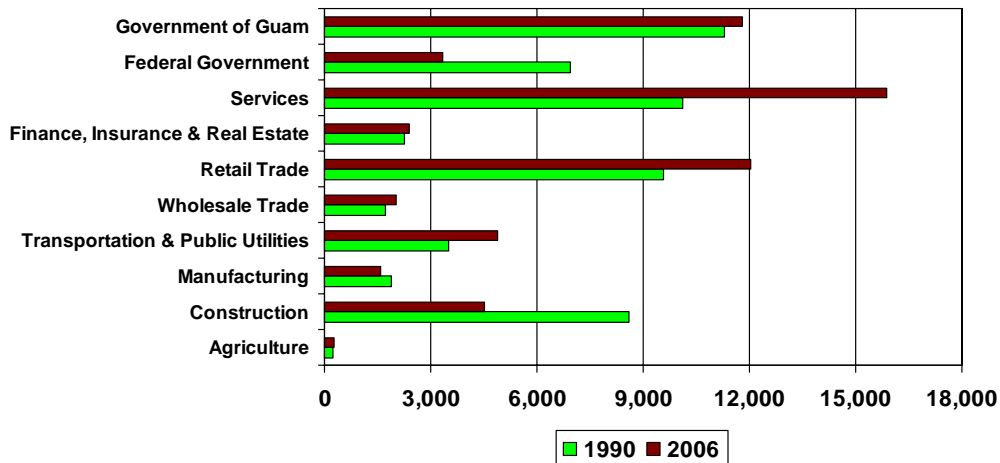
Figure 2 - Civilian & Military Employment Trends in Guam (number of employees)



Like much of the rest of the U.S., Guam's employment base has become more oriented toward retail trade and services (including accommodations and business services). Between 1990 and 2000, retail grew at 1.4 percent per year, services at

2.9 percent per year and transportation at 2.1 percent per year. During this time period, there was a loss of jobs in construction, federal government agencies (non-DOD) and to a lesser extent in manufacturing.

Figure 3 - Employment Trends



Similar Facilities in the Area

The Port of Guam is the only commercial cargo port in Guam and, consequently, no alternative port facilities exist on the island for import and export cargo handling. Shipment service for Guam local cargo is provided directly from the U.S. West Coast and Asia to the Port of Guam.

The only portion of the market served by Guam that is potentially subject to competition from other facilities is transshipment cargo to the neighboring islands. North of Guam lays the Commonwealth of the Northern Mariana Islands (CNMI), including Saipan, Tinian and Rota, among other smaller islands. The containerized and break-bulk cargo to and from CNMI has long been moved via Guam by transshipment services. Most of the transshipment to the Federated States of Micronesia, Republic of Palau and the Republic of the Marshall Islands is also via Guam. Hawaii was previously the origin of transshipment to the Eastern Caroline Islands (Marshall Islands and Kosrae, Pohnpei and Chuuk in the FSM) but this recently switched to Guam.

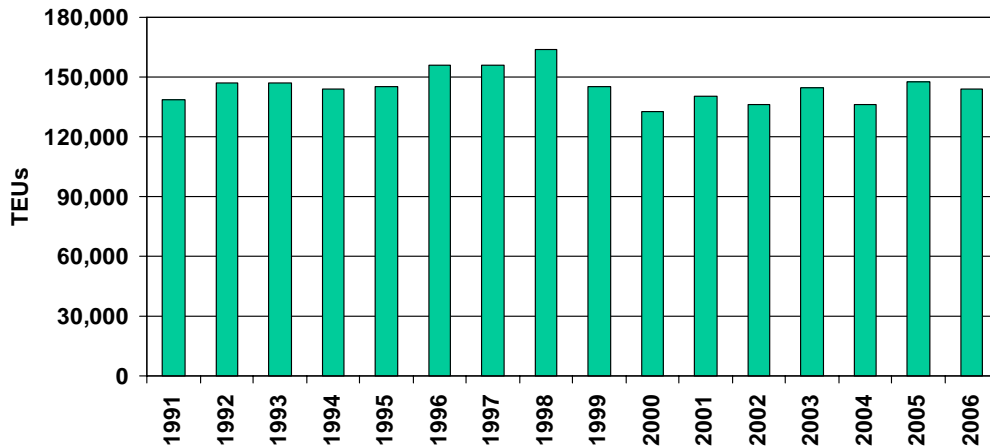
Guam has the largest population base, the greatest cargo volume and largest port facilities among the islands in the Micronesian region, and hence, is the natural transshipment hub to the neighboring islands. Provided that the Port maintains sufficient capacity, service levels and competitive tariff rates, Guam is expected to remain the transshipment hub for the region and other facilities in the service area are not expected to displace the Port’s transshipment role.

Usage Trends

Container Trends

As shown in Figure 4, Container volume at the Port of Guam has remained relatively steady over the past 15 years, averaging 145,000 TEUs² of containerized cargo per year between 1991 and 2006. Container volume was 168,000 TEUs in 2008.

Figure 4 - Port of Guam Container Trends (TEUs)



Break-bulk Cargo Trends

Break-bulk cargo includes a wide variety of commodity types that cannot fit into containers (steel plates, sheets and pipes, cement in super bags, asphalt in drums, and motor vehicles, among other cargoes). Most of the break-bulk cargo inbound to Guam is for the construction industry. Most of the outbound break-bulk is also construction materials (moving on trans-shipment routes) as well as scrap metal, automobiles and a variety of other cargoes. Break-bulk cargo volume has been relatively steady over the past 15 years, increasing from around 99,000 revenue tons in 2001 to 105,000 revenue tons in 2006. Break-bulk volume was 165,000 tons in 2007 and 171,000 in 2008. Approximately 76 percent of the break-bulk cargo is inbound, with 93 percent from foreign sources and 7 percent from U.S. domestic sources.

Community Support

Because over 90% of the day-to-day goods and supplies consumed by the population of Guam pass through the Port, it is the subject of widespread interest and support in the community. The project is supported by the users of the Port, most notably Matson Navigation and Horizon Lines, the two major U.S. flag carriers serving the Port. The Port has also asked for and is receiving support for the ARRA/USDA Port Improvement Project from the Government of Guam, the Guam Legislature, U.S. House of Representative Congresswoman Madeleine Z. Bordallo as

² Twenty-foot equivalent units. One forty-foot container equals two TEUs. Currently, a container equals approximately 1.7 TEUs in Guam.

well as the federal Office of Insular Affairs (OIA) and the DOD Joint Guam Program Office (JGPO).

Regulatory Agency Approval

On July 12, 2009 the Acting Governor of Guam signed Public Law 30-52 placing the Jose D. Leon Guerrero Commercial Port under the oversight of the Public Utilities Commission. Prior to this rate setting was directly under the control of the legislature. The Port's Board and Management worked successfully to change the law to place control of tariff reviews and rate adjustments under the auspices of the PUC in order to assure that these adjustments are made in a timely manner so that revenues keep pace with PAG's costs, including maintenance and replacement capital and loan payment coverage.

D Financial Information

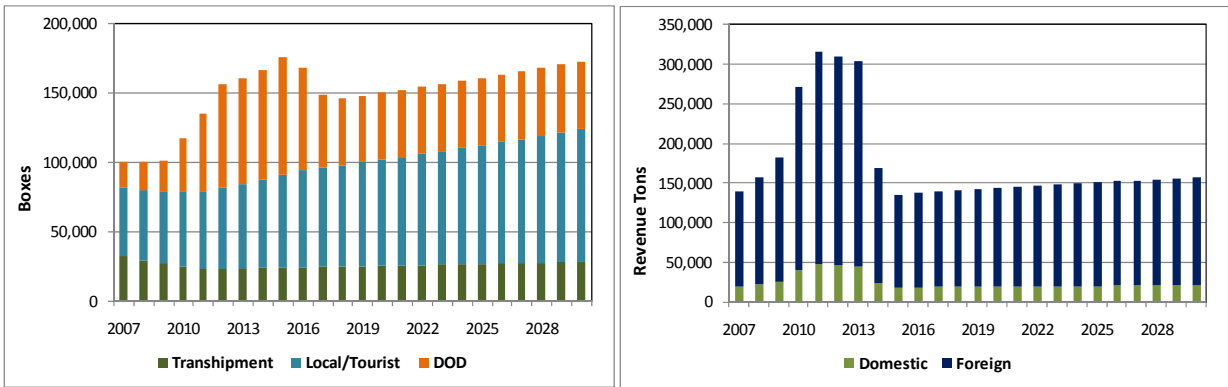
D-1 Financial Analysis Assumptions

Cargo Forecast

The Master Plan Report for PAG developed and presented a forecast of commercial cargo demand for Guam and the region for 30 years starting from 2008. This consisted of projections due to organic growth in the population and economy of Guam and the Micronesian Region and the projections provided by the U.S. Military to support its base relocation and expansion programs in Guam. While refinement and updating of the cargo projections for the military is a matter of continuing discussion with the DOD, the Financial Plan is based on the cargo forecast presented in the Master Plan.

Figure 5 presents the container and break-bulk cargo forecasts from the Master Plan Report. The projections are based on economic analysis with respect to local cargo volumes and data supplied by the naval Facilities Engineering Command (NAVFAC) with respect to DOD cargo volumes related to the military buildup in Guam.

Figure 5 – Container & Break-bulk Cargo Forecasts



Based on current discussions with the Joint Guam Program Office (JGPO) responsible for the Marine Base construction and relocation program, Container and break-bulk cargo are expected to increase in the 2012 timeframe as a result of the Marine Base buildup construction. Container volumes are expected to grow from 100,000 containers in 2007 to a peak of 175,000 in 2015. Container volume will then decline somewhat after the DOD construction buildup and continue growing at an average annual rate of about 1.5% to approximately 172,000 containers in 2030. Break-bulk cargo is projected to grow from 141,000 revenue tons in 2007 to a peak of 324,000 tons in 2012. It will then decline to pre-build-up levels and then continue growing at an average annual rate of about 1% through 2030 to approximately 156,000 tons.

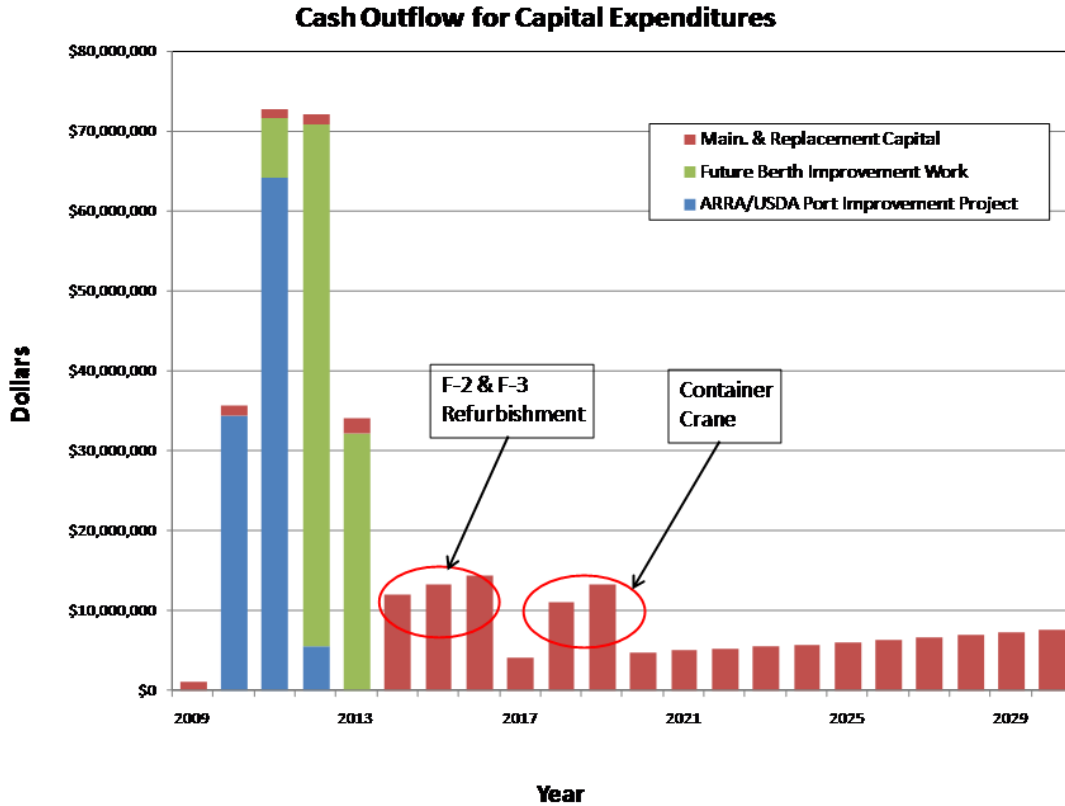
20-Year Capital Requirements

The ARRA/USDA Port Improvement Project is a stand-alone improvement, the operation and financial success of which is not dependent on future capital projects. The financial plan for the project, however, fully encompasses the Port’s total capital requirements over the next 20 years, including future capital projects and major maintenance requirements.

Figure 6 depicts the cash flow requirements for PAG’s long-term capital improvements including:

- The \$104.2 million ARRA/USDA Port Improvement Project in 2010 and 2011.
- Future Berth Improvement Work scheduled for 2011 to 2013 at a cost of \$104.8 million (2010\$). This includes refurbishment of Berths F4, F5 and F6 and associated dredging, refurbishment of the upland areas adjacent to these berths, and installation of new security systems.
- Downstream maintenance and replacement capital expenditures with a 2010 present value of \$65 million. This includes structural refurbishment of Berths F-2 and F-3, future replacement of the Subic crane, and annual general maintenance capital to maintain the Commercial Port facilities.

Figure 6 - 20-Year Capital Program Including ARRA/USDA Port Improvement Project



Financing & Funding Plan – ARRA/USDA Port Improvement Project

The financing and funding plan for the \$104.2 million ARRA/USDA Port Improvement Project includes two major components:

- USDA Direct Loan and Guaranteed Loans – \$54.5 million
- ARRA Grant – \$49.7 million

PAG’s borrowing from the USDA includes three separate loans through the Community Facility Direct and Guaranteed Loan Program totaling \$54.5 million. These include:

- A \$4.5 million guaranteed loan for terminal equipment, including container top loaders, container yard tractors and chassis, and break-bulk cargo equipment.
- A \$25 million direct loan for site work, building remodels, electrical and lighting improvements, and security infrastructure.
- A \$25 million guaranteed loan for site work, water supply and drainage improvements.

The proceeds from the \$49.7 million ARRA grant will focus on efficiency, productivity and capacity improvements including the new truck gate, equipment maintenance building, terminal equipment, terminal operating computer system, gate computer system and other site improvements.

Financing & Funding Plan – 20-Year Capital Requirements

Future Berth Improvement Work is scheduled primarily in 2012 and 2013 with a cost estimate of \$104.8 million. PAG will finance the Future Berth Improvement Work through a Capital Recovery Charge (CRC) paid by the military to compensate for the peak port capacities and efficiencies that will be put in place now to support the surge in military cargo demands on the Port.

An alternate source of funding for the Future Berth Improvement Work is additional grants or appropriations. In the past, PAG has secured grants from the Office of Insular Affairs, Economic Development Administration and Homeland Security. Based on past experience, these sources are considered to be strong candidates for funding.

Financing the entire Future Berth Improvement Work through a CRC assumes that the CRC rates are applied for a six to ten year period bracketing the DOD buildup. A short-term bridge loan at an interest rate of 4.95% (USDA guaranteed tax-exempt rate) and 1.25 coverage is assumed, resulting in CRC rates on military cargo in the range of \$250 to \$335 per container (loaded and empty return) and \$8.50 to \$11 per revenue ton for break-bulk cargo, depending on the number of years over which the CRC is applied. To the extent that grants or appropriations are available, these rates would be reduced proportionately.

Other maintenance and replacement capital requirements through 2030 will be internally funded from PAG's free-cash flow as discussed in the Financial Projection below.

Financial Feasibility Study

After completion of the Master Plan in 2008, PAG commissioned a Financial Feasibility Study with the following objectives:

- Project PAG's future operating finances to 2030 with the modernized port and increased DOD cargo volumes
- Estimate the portion of capital improvement budget that is driven by the need to be "Port Ready" to support the Military's expansion programs on Guam
- Estimate the Port's future revenues and O&M costs
- Identify the Port's future maintenance and replacement capital requirements
- Estimate the Port's future cash flow available for internal funding of maintenance and replacement capital

- Estimate the future cash flow available for debt service and coverage
- Estimate borrowing capacity
- Identify conditions and actions necessary to ensure the reliability of the Port's borrowing capacity
- Identify potential outside funding sources for the Master Plan implementation

The Financial Feasibility Study Report was completed in August 2008. That report and the financial model developed for it form the basis for the financial projections used in PAG's ARRA grant and USDA loan applications.

Financial Analysis Model

The Financial Feasibility Study developed a detailed financial analysis model to assist PAG in estimating its borrowing capacity for the Master Plan program. The overall goal of the financial model is to simulate PAG's financial performance at reasonable level of accuracy under existing conditions and project or estimate alternative future financial scenarios. This was to enable PAG managers and policy makers to evaluate policy options and decide on an optimal financing and funding strategy with confidence as to its feasibility and outcome.

The model integrates a range of factors affecting PAG's existing and future financial performance, including market, operating, pricing, management and policy issues. Specifically, it incorporates the ability to test alternatives based on a broad range of input variables affecting PAG's financial performance, and alternate financing and funding schemes, including:

- Cargo volumes
- Labor manning
- Crane productivity
- Tariff and non-tariff pricing escalation
- Special military capital recovery charge rates
- Labor cost, non-labor cost and capital cost escalation factors
- Future maintenance & replacement capital requirements
- Coverage ratio required for borrowing
- Interest rate on borrowing

Revenues are based on actual current tariff rates applied to detailed estimates of carrier volumes by container size, grounded vs. chassis, load vs. empty, inbound vs. outbound, local vs. transshipment, and break-bulk by cargo category.

The model includes a simulation of the critical variable costs associated with container and break-bulk cargo operations based on the volume per ship by carrier type, the number of cranes assigned to each ship by shift, estimated manning schedules for vessel, yard and gate operations, and existing and future crane productivity.

The financial model produces a complete statement of revenues and expenses (profit and loss) year by year through 2030 for PAG's cargo operations, non-cargo operations, and consolidated operations. The key bottom line measurements of operating/financial performance produced by the model are operating income, net income, and cash flow.

Financial Projection Assumptions

Certain key principles of financial management are incorporated into the financial modeling and assumptions. These include maintaining the port to generally accepted industry standards, maintenance of a positive cash flow after maintenance and replacement capital, controlling costs through productivity improvements and keeping up with inflation.

Based on these principles and other considerations the following assumptions were used in the financial projections for the Port's cargo operations, non-cargo operations and non-operating income:

Cargo - Operating Revenues

- The official DOD buildup schedule is assumed.
- The likely/median cargo volume forecast from the Master Plan is assumed. As discussed in Section D-1 and shown in detail in Appendix D.
- Cargo revenues are based on the Port's actual tariff rates.
- The existing mix of grounded and wheeled container operations is assumed.
- Tariff increases sufficient to maintain required cash flows are assumed. These are estimated to average 2.6% annually between 2010 and 2030 (3.4% in 2010, 2.8% annually from 2011 to 2020, and 2.4% annually from 2021 to 2030).
- Transshipment tariffs are assumed to escalate at the lower rate of 1.25% annually in order to maintain Guam's competitive position.

Cargo - Direct Operating Expenses

- The operation is assumed to be managed by a private terminal operator starting in 2011, based on Guam's Performance Management Contract (PMC) provisions. A management fee starting at \$1.3 million per year is assumed based on a fixed amount plus efficiency incentives.
- Labor costs are assumed to rise at 4.1% annually through 2018 based on PAG's new Certified Technical Professional salary scale, and 3.0% thereafter.
- Future cost escalation rates are based on those used by Moody's Investors Service for a recent Guam Power Authority Bond issue. A weighted average 4.8% inflation rate is assumed through 2030 for non-labor expenses.

- The demand for operating labor will vary with variations in the demand for cargo throughput. It was assumed that the labor hours needed to handle the cargo will vary with these cargo volume fluctuations.
- Container crane production after implementation of the Master Plan CIP is assumed to increase by up to 43% from current levels, depending on the carrier group.
- Breakbulk cargo productivity is assumed to remain at current levels.
- A one-time reduction/reassignment of equipment maintenance labor of 10 positions (20%) is assumed to occur in 2012, based on the acquisition of all new equipment and management by the PMC contractor.
- Equipment maintenance costs are also assumed to increase in direct proportion to volume, as a surrogate for machine hours.

Cargo - Indirect Operating Expenses

- Initial expenses for 2007 are assumed to be at the audited 2007 levels.
- Labor costs are assumed to rise at 4.1% annually through 2018 and 3.0% thereafter.
- A 4.8% inflation rate is assumed through 2030 for non-labor expenses and maintenance/replacement capital costs.

Non-Cargo - Operating Revenues

- The volumes used in projecting non-cargo operating revenues are assumed to remain at 2007 levels, except that GEDA lease revenues were doubled in 2009 per agreement between the two agencies.
- Property lease rates are assumed to escalate at an average annual rate of 1%.
- Tariff rates for commercial fishing, cruise vessels, marinas, harbor of refuge, port entry, utility sales and other miscellaneous non-cargo services are assumed to escalate at an average annual rate of 2.6%.

Non-Cargo - Direct Operating Expenses

- Initial expenses for 2007 are assumed to be at the audited 2007 levels.
- Labor costs are assumed to rise at 4.1% annually through 2018 and 3.0% thereafter.
- A 4.8% inflation rate is assumed through 2030 for non-labor expenses and maintenance/replacement capital costs.

- A one-time reduction/reassignment of facility maintenance labor of 6 positions (20%) is assumed to occur in 2012, based on the construction of all new upland facilities management by the PMC contractor.

Non-Cargo - Indirect Operating Expenses

- Initial expenses for 2007 are assumed to be at the audited 2007 levels.
- Labor costs are assumed to rise at 4.1% annually through 2018 and 3.0% thereafter.
- A 4.8% inflation rate is assumed through 2030 for non-labor expenses and maintenance/replacement capital costs.
- A one-time reduction/reassignment of billing/administrative labor of 8 positions (10%) is assumed to occur in 2012, based on the acquisition of the new terminal operating computer system, which will enable automation of the Port's billing function.

Non-Operating Income (Loss)

- COLA and supplemental annuity costs are projected to continue through 2030 at the estimated FY2008 level of \$1,800,000 per year.

Other Assumptions

- A rigorous program of equipment maintenance, equipment replacement and facility maintenance with emphasis on preventive maintenance rather than repairs is assumed, representing industry best practices for a modernized port. This includes refurbishment of Berths F2 and F3 in 2014-2016 at a cost of \$20.7 million and replacement of the Subic crane in 2018-2019 at a cost of \$9 million.
- Unfunded retirement costs are projected to continue through 2030 at the FY2007 level of \$807,229 per year. Although currently booked as non-cash expenses, these costs are assumed to be paid out and are subtracted before estimating cash flow.

D-2 Financial Outlook & Projection

General Financial Outlook

Based on the financial analysis model, assumptions and considerations presented in Section D-1 above, the following general outlook and dynamics are evident regarding PAG's future operating finances:

- As a result of the DOD buildup, volumes are projected to increase dramatically beginning in 2011 to 2016. Container volumes are projected to increase as much as 75% and break-bulk volumes are projected to increase as much as 125%. After the DOD construction buildup, container volumes will remain at least 50% higher compared with 2007.

- Consequently, revenues from cargo operations are projected to increase rapidly, especially during the DOD buildup. Because revenues are based directly on volumes, annual operating revenues are projected to almost double over 2007 in the peak year (2015) based on volume alone (without tariff increases).
- At the same time, because of the higher productivity and efficiencies created by the proposed new terminal, direct operating expenses for cargo operations are projected to increase at a slower rate – 35% over 2007 at the peak without labor and non-labor cost escalations, and 85% with annual cost escalations.
- The combined result is that cash flow available for maintenance/replacement capital and debt service is projected to more than triple during the buildup without the benefit of any tariff increases and after cost escalations. With relatively modest tariff increases, cash flow could quadruple at the peak and more than double in the out years.

Revenue Available for Operations & Maintenance

Based on the financial analysis model, assumptions and considerations presented in Section D-1 above, PAG's projected revenues through 2030 are shown in the 20-Year Income & Cash Flow Projection in Appendix E (the detailed model data for this projection is presented in Appendix F). Based on the Master Plan cargo forecast and the projected tariff escalations used in the model (3.4% in 2010, 2.8% annually from 2010 to 2020, and 2.4% annually from 2021 to 2030), consolidated revenues are projected increase rapidly from \$28.9 million in 2007 to approximately \$38 million in 2010, the first year of the DOD buildup, and \$60 million in 2015, the peak year of the buildup. Revenues are projected to decline somewhat after the buildup and then grow to approximately \$84 million in 2030 based on organic growth and tariff escalation.

Throughout the 20-year analysis period from 2010 to 2030, revenues are projected to exceed O&M expenses excluding depreciation and USDA debt service (Operating Income before Depreciation & USDA Debt Service) by 17% or more. During the buildup period, Operating Income before Depreciation & USDA Debt Service is projected to be \$8 to \$16 million per year, which is 27% to 50% of Operating Expenses. After the buildup period, Operating Income before Depreciation & USDA Debt Service is projected to be \$11 to \$12 million per year, or 17% to 27% of Operating Expenses.

Cash Flow Available for Maintenance & Replacement Capital Projects

The Port's Cash Flow is first used to internally fund maintenance and replacement capital projects. The remaining Cash Flow (or Net Income before Depreciation & USDA Debt Service) is then available for debt service and coverage.

As shown in Appendix D, the projected Cash Flow for PAG is more than sufficient to fund the Port's maintenance and replacement capital needs. Cash Flow ranges from approximately \$7 million to almost \$17 million per year during the buildup period and \$10 to \$12 million per year thereafter. Maintenance and replacement capital

expenditures are projected to range from \$1 to \$4 million annually, with the exception of a few years when extraordinary maintenance capital projects are projected to occur. Cash outflows of about \$10 to 12 million per year are projected for refurbishment of Berths F2 and F3 in 2014 to 2015 and replacement of the Gantry Crane #3 (Subic crane) in 2018 to 2019.

With the exception of one year, Cash Flow is projected to exceed maintenance and replacement capital needs. In all other years Cash Flow exceeds maintenance and replacement capital by \$1 to \$16 million.

Cash Flow Available for Debt Service & Coverage

The projected tariff escalations assumed in this analysis have been specifically adjusted over the 20-year period so that there is sufficient Cash Flow after maintenance and replacement capital for debt service and a 1.6 coverage factor on the USDA loans. As shown in Appendix E:

- Projected Cash Flow available for debt service and coverage (after maintenance and replacement capital) typically exceeds \$3.5 million per year
- During the DOD buildup, it is projected to be as high as \$16 million
- During three years when major maintenance capital projects are underway, Cash Flow is projected to be below \$2.5 million; in one year (2019) it is projected to be negative \$352,000

While average cash flows projected over the 20 years are sufficient to meet debt service and coverage requirements, there are a few year-to-year variations in Cash Flow that will need to be managed. To the extent that actual Cash Flow after maintenance and replacement capital is insufficient in any given year, several remedies are available to PAG:

- The timing of major maintenance and replacement capital projects can be shifted or spread over more years to smooth out Cash Flow available for debt service and coverage
- The timing of other expenses can be adjusted to manage year-to-year Cash Flow
- A higher or accelerated tariff escalation can be applied to increase Cash Flow

PAG Borrowing Capacity

PAG's borrowing capacity is estimated to be approximately \$57.9 million under the following assumptions, including tariff rate escalations:

- Assumed USDA Loan Terms
 - Direct loan at 4.5% interest rate
 - Guaranteed loan at an estimated interest rate of 4.95% based on commercial bank bids

- 15-year term for the \$4.5 million equipment loan
- 20-year term for the \$25 million direct loan and \$25 million guaranteed loan
- Level loan payments of approximately \$3.9 million per year
- A required cash flow coverage factor of 1.25, however PAG plans to maintain a coverage ratio of about 1.6 to ensure an added safety margin for loan repayment
- Other assumptions
 - The new Certified Technical Professional (CTP) salary structure; the model now assumes salaries will be gradually increased to the 50th percentile level over an extended period of time
 - Labor cost escalation of 4.1% per year during the CTP implementation from 2008 to 2018 and 3.0% per year thereafter
 - Non-labor cost escalation of 4.8% annually
 - Operation by a PMC, including payment of a management fee and productivity incentives to the PMC by PAG
 - Increased efficiency and productivity due to the modernized port, most notably increased crane productivity of up to 43%, depending on the carrier
 - Required cost contributions to the PUC for initial management audit and its reviews of PAG tariff adjustments
 - Tariff increases of 3.4% in 2010, 2.8% annually from 2011 to 2020, and 2.4% annually from 2021 to 2030, for an average annual tariff escalation of 2.6% annually

D-3 Sensitivity Analysis

Reliability, Accuracy & Constraints

The model results were calibrated against PAG's actual FY 2007 audited financial results and 2010 budget projection as presented in USDA Form RD 442-7. As a result of the calibration, it is reasonable to conclude that the model produces operating results that are close to actual conditions. The net income and cash flow estimated by the model for the base year of 2007 were within 1% or less of actual results. Estimated operating revenues and expenses for 2010 are within 2% of PAG's current budget projection.

The factors that the Port's projected financial performance are most sensitive to include:

- DOD cargo volume – The projections are based on the Master Plan cargo forecast from 2007 which, in turn, was based on the official DOD buildup schedule and data supplied by NAVFAC with respect to DOD cargo volumes. Revenues are directly proportional to cargo volume so changes in the DOD cargo outlook could affect the financial projection. In the event that the DOD buildup takes place

more gradually or over a greater number of years, the yearly financial results during the first several years of operation could be lower than projected, but subsequent years would be higher. A recent 2009 higher cargo projection by NAVFAC for the military construction program has not been adopted for the financial projection in this report because it was not considered reliable and was anticipated to result in financially less conservative projections.

- Terminal efficiencies – Operating costs are based on efficiencies in ship, yard and gate operations and efficiencies in manning resulting from new terminal handling equipment, the new terminal operating and gate systems, new buildings and a more efficient terminal configuration. While achieving the projected financial results will require that PAG realize these efficiencies, the levels of efficiencies assumed is well within typical industry benchmarks. PAG also plans to contract with a private terminal operator to train staff and manage operations under Guam’s Performance Management Contract (PMC) law.
- Cost escalation – Future financial results were also found to be sensitive to the rate of labor, non-labor and capital cost escalation.
- Tariff escalation - Financial performance was found to be very sensitive to future tariff pricing escalations. Generating sufficient cash flows for debt service and coverage requires that tariff escalations be made on a regular basis. To ensure the reliability of its cash flow and borrowing capacity, a program of tariff reviews and rate adjustments will be undertaken periodically under the auspices of the Guam PUC. The Guam Legislature and governor recently enacted Public Law 30-52 to shift tariff oversight authority from the Guam Legislature to the PUC to ensure that any future tariff adjustments needed are evaluated on an objective, economic basis.
- Non-operating income (loss) – The projected financial results of the model are deemed accurate for operating revenues, expenses and income. Projections of non-operating income or loss are less accurate, however, because this category includes extraordinary and nonrecurring items that are not predictable, such as insurance settlements and grant funds. The model projection includes estimates of known recurring items such as interest income and COLA/supplemental annuity expenses. It is likely the model produces non-operating results that are conservative because many of the nonrecurring items are extraordinary revenues rather than expenses.

Volume Sensitivity

The main sensitivities associated with the 20-Year Income and Cash Flow Projection in Appendix E is the cargo volume, which is outside of the Port’s control, and tariff pricing. Most other key variables affecting future financial performance are, to some degree, controllable by the Port.

The volume sensitivity analysis addresses two alternate volume scenarios involving lower overall cargo volumes at the Port from 2011 to 2030: a sustained 10%

reduction in projected volumes of all cargoes from 2011 through 2030, and a sustained 20% reduction.

It is unlikely that cargo volumes for local consumption and use by the population of Guam would see such sustained reductions because the Guam population must rely on ocean shipping for 90% of the goods it consumes. There is no other alternative available on the island to supply the goods needed to support the local population and no other port is available to handle goods shipped in. It is possible, however, that military cargo volumes for the military base buildup and ongoing base population could be lower if the DOD decides in the future to alter its plans for military operations on Guam.

The two volume scenarios tested in the sensitivity analysis are as follows:

10% Volume Reduction Scenario

- A sustained 10% reduction in projected volumes of all cargoes (local and DOD) from 2011 through 2030.
- This level of reduction on all projected cargoes would be approximately equivalent to a 21% reduction in DOD cargo during the buildup (2011 to 2016) and a 33% reduction on DOD cargo in the out years.

20% Volume Reduction Scenario

- A sustained 20% reduction in projected volumes of all cargoes (local and DOD) from 2011 through 2030.
- This level of reduction on all projected cargoes would be approximately equivalent to a 42% reduction in DOD cargo during the buildup and a 66% reduction on DOD cargo in the out years.

The resulting impact of these volume scenarios on the 20-year cash flows, borrowing capacity and debt service coverage is shown in Table 7 and the corresponding 20-Year Income and Cash Flow Sensitivity Analysis in Appendix G.

Table 7 – Impact of Cargo Volume Reduction on Borrowing Capacity & Debt Service Coverage

	Annual Tariff Escalation			Average Annual Cash Flow Available for Debt Service	Coverage Ratio	Borrowing Capacity
	2010	2011-2020	2021-2030			
Base Case Volume Forecast & Financial Projection	3.4%	2.8%	2.4%	\$ 7,045,095	1.6	\$ 57,857,905
Impact of Volume Reduction on Borrowing Capacity & Coverage						
10% Volume Reduction 2011-2030	3.4%	2.8%	2.4%	\$ 3,483,095	1.6	\$ 28,947,067
	3.4%	2.8%	2.4%	\$ 3,483,095	1.0	\$ 46,315,306
20% Volume Reduction 2011-2030	3.4%	2.8%	2.4%	\$ (243,873)	1.6	Zero
	3.4%	2.8%	2.4%	\$ (243,873)	1.0	Zero
With Tariff Escalation Needed to Restore 1.3 Coverage						
10% Volume Reduction 2011-2030	3.4%	3.4%	2.4%	\$ 5,938,304	1.3	\$ 57,750,402
20% Volume Reduction 2011-2030	3.4%	4.4%	2.4%	\$ 6,350,079	1.3	\$ 57,757,007
With Tariff Escalation Needed to Restore 1.6 Coverage						
10% Volume Reduction 2011-2030	3.4%	3.7%	2.4%	\$ 7,436,451	1.6	\$ 57,872,657
20% Volume Reduction 2011-2030	3.4%	4.8%	2.4%	\$ 7,816,774	1.6	\$ 57,704,588

As this analysis shows, cargo volume reductions would have a significant impact on cash flow available for debt service, borrowing capacity and coverage. A sustained 10% reduction in the cargo volume forecast would reduce borrowing capacity from approximately \$57.9 million to \$28.9 million with the desired 1.6 coverage ratio. Even with a coverage ratio of 1.0, borrowing capacity would be approximately \$46.3 million indicating that cash flows would be insufficient to support the planned borrowing. A sustained 20% volume reduction would result in negative cash flows and zero borrowing capacity.

A 10% or 20% sustained volume reduction would present complications during the DOD buildup period (2011 to 2016) when projected volumes are very high. During these years a 10% or 20% reduction would amount to a very large amount of cargo and revenue, resulting in reduced cash flows and depleting the buildup of cash reserves that would be used for major capital maintenance projects in 2014 to 2019. PAG has two courses of action available to manage this situation: it can adjust tariffs to raise revenues as discussed below; and it can adjust or spread out the timing of these major maintenance projects.

Table 7 shows the level of tariff adjustment that would be required in order to maintain debt coverage of 1.6, the desired level of coverage, and 1.3, the expected level required by loan agreements. Annual tariff escalation in the base case is projected to range from 3.4% in 2010 to 2.4% annually between 2021 and 2030,

resulting in an \$860 increase per loaded container over 20 years (in 2030 dollars). Compared to these escalation levels, the tariff escalation needed to maintain coverage with a 10-20% sustained cargo volume reduction is within a reasonable range.

With a 10% volume reduction, tariff escalations between 2011 and 2020 would need to be approximately six-tenths of a percentage point (0.6%) higher than currently estimated in order to maintain a coverage ratio of 1.3 and approximately nine-tenths of a percentage point (0.9%) higher to maintain a coverage ratio of 1.6. The resulting tariff escalations are below the 4.8% level of projected inflation on Guam. The tariff escalation level needed between 2011 and 2020 to restore debt service coverage with a 20% sustained cargo reduction is another percentage point (1.0%) higher, resulting in overall tariff escalations that are at or slightly below the projected inflation rate on Guam.

Tariff Pricing Sensitivity

As discussed earlier in this report, there are no alternative port facilities available on the island with which PAG must compete for cargo. Consequently, PAG is in a monopoly position and can adjust pricing as needed to maintain debt service coverage. The government of Guam recently reinforced PAG's rate-making ability by shifting tariff oversight authority from the legislature to the Public Utilities Commission to ensure that tariff adjustments could be made without political interference.

The inelasticity of port-related pricing in Guam was recently demonstrated by two events. During the rapid increase in oil prices in 2008, the ocean carriers serving Guam imposed fuel surcharges amounting to as much as 31.5% of their ocean freight rates. On a typical 40-foot container, this amounted to an \$850 increase, which is equivalent to approximately 180% of the total tariff charges assessed by the Port. Also, Matson and Horizon recently imposed a \$125 per container surcharge on all loaded containers handled at the Port to recover the cost of cranes they have provided for the next five years. This surcharge is equivalent to 25% of all Port tariff charges. Neither of these extraordinary increases in shipping costs led to volume reductions at the Port.

Despite the apparent inelasticity of pricing, it is nonetheless possible that the Port could encounter resistance to sustained pricing increases. The Port has had no history of tariff increases since 1993 and importers using the port could attempt to exercise their market power to resist tariff increases.* Likewise, political forces in Guam could attempt to resist tariff increases. While tariff increases are regarded with considerable concern by the shippers and legislators on Guam, the legislature recently approved the financial plan for the ARRA-USDA Port Improvement Project,

* Based on current practice, the ocean carriers using the port will pass any tariff increases through to the end-user importers or exporters.

which includes the projected tariff escalations of 3.4% in 2010, 2.8% per year from 2011 to 2020, and 2.4% per year from 2021 to 2030.

Borrowing capacity and debt service coverage would be very sensitive to lower than required tariff escalations. To maintain borrowing capacity at an average 1.3 coverage ratio instead of the projected 1.6, tariff escalations between 2010 and 2030 could average two-tenths of a percentage point per year (0.2%) lower, or 3.2% in 2010, 2.6% per year from 2011 to 2020, and 2.2% per year from 2021 to 2030. To maintain only a 1.0 coverage ratio, tariff escalations between 2010 and 2030 could average four-tenths of a percentage point per year (0.4%) lower, or 3.0% in 2010, 2.4% per year from 2011 to 2020, and 2.0% per year from 2021 to 2030.

If PAG were unable to maintain the projected tariff escalations, it would need to reschedule, delay or defer the maintenance and replacement capital expenditures funded from cash flow or reduce operating costs in order to maintain its debt service coverage.

D-4 Financial Statements

Five-year projections of the Port's balance sheet, statement of revenues and expense, and statement of cash flow are presented in Appendices H, I and J and are discussed below. The Port's audited financial statements for the years 2007 and 2008 are available in Appendix K.

Balance Sheet

Appendix H presents a five-year balance sheet projection. The estimates shown in this projection emphasize changes anticipated in the major long-term assets and liabilities associated with the project as opposed to anticipated changes in current assets and liabilities. The balance sheet shows a buildup of PAG assets from \$66.8 million as of June 30, 2009 to \$193.2 million in 2014. The increase is due mainly to the construction of the \$104.2 million ARRA/USDA Port Improvement Project. To a lesser but significant extent, the buildup is also due to the buildup of cash from operation. From 2014 through 2018, cash reserves will be used (along with cash flow from operations) to fund major maintenance projects including the refurbishment of Berths F2 and F3 and replacement or refurbishment of the Subic crane.

Statement of Revenues & Expenses

Appendix I presents a five-year statement of revenue and expense projection with separate estimates for cargo operations, non-cargo operations and consolidated operations. Total revenues are expected to increase from an estimated \$31.0 million in 2009 to \$56.7 million in 2014 as a result of cargo volume increases from the DOD buildup as described earlier. Operating income is projected to increase from less than \$1 million in 2009 to \$10.9 million in 2012 and \$7.5 million in 2014. Net income, including operating and non-operating income, is projected to increase from a slight loss in 2009 to \$7.6 million in 2012 and \$4.6 million in 2014. This analysis excludes extraordinary and nonrecurring non-operating items that cannot

be predicted, some of which were included in the USDA Form 442-7 submitted by PAG.

Statement of Cash Flow

Appendix J presents a five-year statement of cash flow projection. With the buildup of cargo volume, revenues and operating cash flow, the Port's cash balance is projected to increase from \$14.0 million at the beginning of 2009 to \$42.0 million in 2014. Starting in 2014, as a result of the major maintenance projects including the refurbishment of Berths F4, F5 and F6 and replacement or refurbishment of the Subic crane, the cash buildup will occur more slowly and then decline. Proceeds from the ARRA grant and USDA Master Plan loan are assumed to be deposited directly into a MARAD construction fund, from which construction disbursements would be made by MARAD, and not flow through PAG.

Comparison Data for Other Facilities

Table 8 provides comparison data for other ports, although none provides an ideal basis of comparison. Data are provided for:

- Saipan – The Commonwealth Port Authority (Saipan, Rota and Tinian), which has a much smaller seaport operation and also includes airports
- Hawaii – The State Of Hawaii Harbors Division, which is much larger than Guam and includes seven seaports, including major hubs like Honolulu and smaller inter-island ports
- Anchorage – The Port of Anchorage, Alaska, which larger than Guam but similar in terms of its relation to the U.S. mainland and its current MARAD-sponsored development program

Table 8 - Comparative Financial Data for Selected Pacific Ports

	Port Authority of Guam (Consolidated) FY 2008	Commonwealth Port Authority (Saipan, Rota, Tinian)* FY2006	State of Hawaii Harbors Division FY2008	Port of Anchorage FY2008
Container Volume**	168,000	Not available	1,498,000	544,000
Total Assets	\$66,797,000	\$201,621,000	\$949,873,000	\$192,573,000
Seaport Revenues	\$30,190,000	\$9,006,000	\$99,259,000	\$9,929,000
Total Revenues	\$30,190,000	\$19,957,000	\$99,259,000	\$9,929,000
Operating Income	\$1,154,000	(\$4,152,000)	\$15,669,000	\$634,000
Net Income	\$399,000	(\$4,567,000)	\$7,787,000	\$1,337,000
Cash Balance	\$13,971,000	\$11,458,000	\$242,693,000	\$23,967,000

Sources: Audited financial statements for each port.

*Includes airports

**TEUs – twenty-foot equivalent units

Adjusting for its smaller volume, Guam's asset base is similar to Anchorage's. Both ports are beginning major expansions, the assets of which have not yet been booked. PAG's revenues are much greater than Anchorage's and large in relative comparison to Hawaii, because Guam is an operating port while the other two are landlord

ports. Guam's operating income and net income are similar in size to Anchorage and, after adjusting for relative volume, similar to Hawaii as well. PAG's cash balance is similar to Saipan's and somewhat lower in relative size than Anchorage and Hawaii, after adjusting for volume differences.

Appendices

- A. Information Regarding Report Preparer
- B. ARRA-USDA Port improvement Project Layout
- C. ARRA-USDA Port Improvement Construction Phasing Layout
- D. Detailed Cargo Volume Forecast
- E. 20-Year Income & Cash Flow Projection
- F. Detailed Model Data for 20-Year Income & Cash Flow Projection
- G. 20-Year Income & Cash Flow Sensitivity Analysis
- H. Five-Year Balance Sheet Projection
- I. Five-Year Statement of Revenue & Expense Projection
- J. Five-Year Statement of Cash Flow Projection
- K. PAG Audited Financial Statements for 2007 & 2008