5-Year Tariff Projection and 20-Year Financial Plan

Final Draft

Submitted to:
Port Authority of Guam
1026 Cabras Highway, Suite 201
Piti, Guam 96915

Submitted by:
Parsons Brinckerhoff

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5-Year Tariff Projection and 20-Year Financial Plan

Task Order 35

Submitted pursuant to Consultant Agreement No. PAG 09-001 between Jose D. Leon Guerrero Commercial Port (Port Authority of Guam) and Parsons Brinckerhoff acting as Owner's Agent and Engineer to assist the Port in meeting the Port Modernization Program objectives as contained in the Port Master Plan Update 2007.

Parsons Brinckerhoff
Guam International Trade Center
South Marine Corps Drive, Suite 808
Tamuning, Guam 96913
Telephone 671-646-2926
Fax: 671-646-6873

EXECUTIVE SUMMARY

The Jose D. Leon Guerrero Commercial Port (Port) was developed by the U.S. Navy after World War II, later transferred to the Government of Guam, and given its present name by the Guam Legislature in 2002. In the past five decades, limited renovation has taken place at the Port aside from repairs following an earthquake and a typhoon in 2001 and 2002, respectively. The tariff structure at the Port has not been sufficient to fully address maintenance, operations and capital depreciation. As a result, the Port Authority of Guam (PAG) now faces challenges regarding the best way to recapitalize its current assets and prepare the Port for future growth.

Anticipating the commercial impacts that the addition of 25,000 active military personnel and dependents might have on the Port, PAG has begun to analyze a number of facility operations scenarios and their implications for future borrowing and associated tariff revisions. A renewed focus upon asset management and facility expansion will require PAG, with the backing of the Public Utilities Commission and the Legislature, to revisit the tariff user fees and leasing agreements now in place at the Port.

Purpose of the Study. The projections in this analysis seek to identify the tariff rate increase necessary to fund Port Modernization investments identified in the Master Plan and subsequent planning documents.

Approach. Model revenue, expense and debt calculations based on the different cargo forecasts (using organic growth, full military-build up, and half military build-up) and identify the tariff rate increases necessary to support modernization improvements and sustainability investments at the Port.

Conclusion/Recommendation. A tariff rate increase of 6.94 percent per year for two years, followed by an increase of 3.95 percent per year for the next 18 years is recommended (scenario 4). This increase provides adequate revenue to fund the PMP investments with or without the military build-up and can help fund additional PMP improvements if future cargo volumes meet or exceed forecasts.

5-Year Tariff Projection and 20-Year Financial Plan

This 5-Year Tariff Projection and 20-Year Financial Plan identifies the tariff rate adjustment necessary to fund modernization and sustainability improvements at the Port. This report analyzes cargo volume based on organic growth, growth associated with full military build-up and growth associated with a significantly reduced (half-size) military build-up. Based on these growth alternatives and a commitment to move forward on a sound financial basis, tariff increases are identified to address:

1) minimum port modernization program (PMP) investments

2) maximum (based on debt ceiling) PMP investments, and

3) alternatively, what level of investment is possible if (a) tariffs are artificially capped at 3.95 percent, (b) tariffs are not capped but the debt ceiling is retained, and (c) tariffs are not capped but the debt-ceiling is lifted

To address the near-term components of the PMP two investment alternatives have be identified:

1. Minimum PMP Investment includes the purchase of:
    - Yard Equipment – $3.5 million
    - Port of Los Angeles (POLA) Cranes -- $12 million (and replacement cranes beginning in 2028)
    - Financial management system (FMS), terminal operating system (TOS), gate operating system (GOS) -- $7 million
    - Service life extension (SLE) wharf work -- $10 million
    - Uplands Investments -- $46 million DOD Grant

Total Minimum Investment $ 78.5 M: $32.5 million borrowed plus $46 million DOD Grant

2. Maximum PMP Investment includes the purhase of:
    - Minimum PMP Investment -- $32.5 million borrowed plus $46 million DOD Grant
    - Additional Uplands Investments -- $22 million

Total Maximum Investment $ 100.5 M: $54.5 million (authorized debt-ceiling) borrowed plus $46 million DOD Grant

Future PMP investments, including replacement of aging infrastructure, additional yard expansion, additional security system improvements and additional gate and yard automation features can be financed through additional revenue based on future cargo volumes and increased operating efficiency at the Port.

Cargo Growth Alternatives

The different scenarios used in this report include revenue projections based on three different growth alternatives further defined as follows:

1. Organic growth: Scenarios in which cargo volumes increase correspond to projected population growth without the effects of any military build-up
2. Full military build-up: Scenarios using a cargo forecast reflecting the full military build-up supporting 25,000 additional troops beginning in 2016 (delayed five years)
3. Half military build-up: Scenarios that shows a reduced military build-up (also delayed five years) and at 50 percent of the cargo and personnel level used in the full military build-up scenarios

The two near-term PMP investment alternatives (Minimum and Maximum) and the three cargo growth alternatives (Organic Growth, Full military build-up, and Half military build-up) are combined to create the initial six scenarios used in the model. The final three scenarios are based on driving the level of investment by artificially capping tariff increases at 3.95 percent and identifying the investment capacity under each of the cargo growth alternatives.

First Three Scenarios –Minimum PMP Investments

Based on the three cargo growth alternatives, the first three scenarios identify the tariff rate increases projected over the 5-year and 20-year time horizon necessary to support the Minimum PMP investments. These have been identified as the minimum PMP investment scenarios.

Second Three Scenarios – Maximum PMP Investments

The next three scenarios use the same cargo forecasts and the same minimum PMP capital program investments but also include an additional $22 million for necessary Uplands investment. These are referred to as the maximum PMP investment scenarios.

Note: inherent in each of the first six scenarios is a built in bias to lower the rate of tariff increases to 3.95percent (a rate suitable to keep pace with inflation and also allow for minimal additional incremental PMP investments at a slower but steady pace) as soon as the near-term PMP investments (minimum or maximum) have been achieved to position the Port to address modernization and sustainability objectives and handle progressively increasing cargo volumes over time.

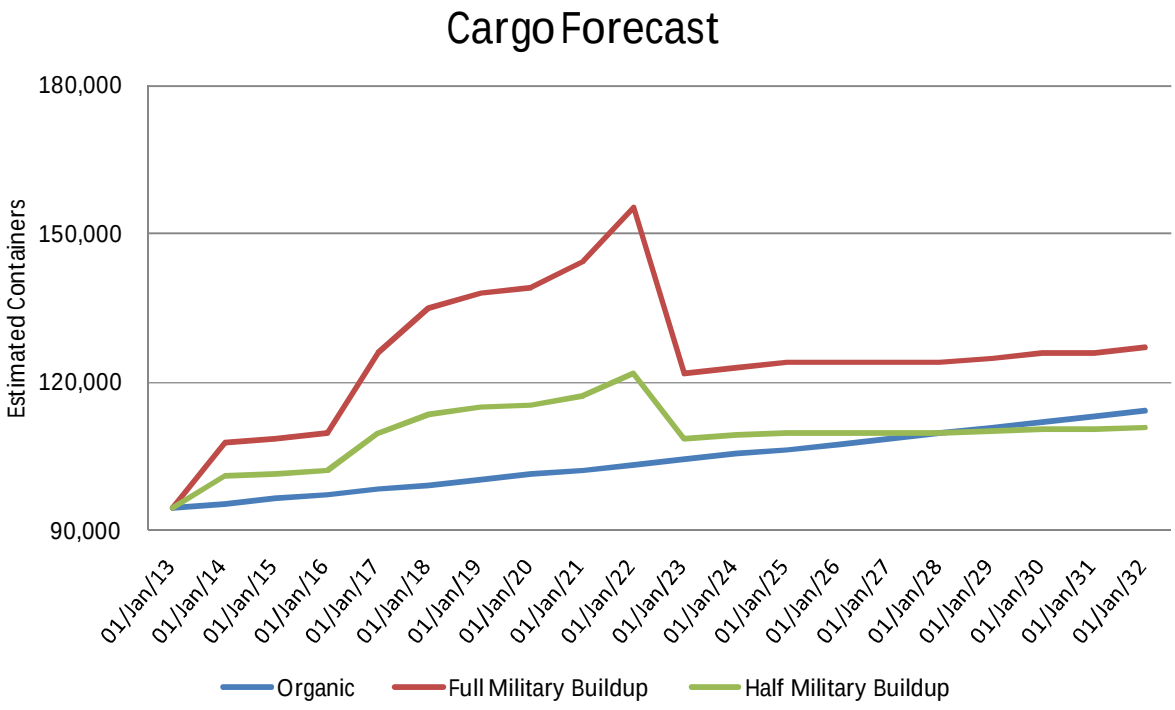
The Final Three Scenarios – 3.95 percent Tariff Rates Increase

The final three scenarios project how much investment can be accommodated with a 3.95 percent tariff rate increase over the course of the 5-year and 20-year time horizon.

Note: Additional crane replacement obligations are also identified in all nine scenarios beginning in 2028. This is to ensure sufficient cash flow is in place to address gantry crane replacement as the current PAG cranes approach the end of their useful life.

20-year Cargo Forecast

The chart below outlines the cargo forecast used in this report showing containers (TEUs) for organic growth, full military build-up and half military build-up.



Tariff Rate Increases

Using this cargo forecast, the financial model calculated the size of the annual tariff increases required to support the port modernization plan at different investment levels. The levels required to support the identified investment are outlined in the tariff rate increases below.

Scenario 1: Minimum PMP – Organic Cargo Growth: 5.06 percent for two years followed by 3.95 percent thereafter

Scenario 2: Minimum PMP – Full Military Build-up: 5.06 percent for two years followed by 3.95 percent thereafter

Scenario 3: Minimum PMP – Half Military Build-up: 5.06 percent for two years followed by 3.95 percent thereafter

Scenario 4: Maximum PMP – Organic Cargo Growth: 6.94 percent for two years followed by 3.95 percent thereafter

Scenario 5: Maximum PMP – Full Military Build-up: 5.06 percent for two years followed by 3.95 percent thereafter

Scenario 6: Maximum PMP – Half Military Build-up: 5.06 percent for two years followed by 3.95 percent thereafter

These six scenarios all have the same initial tariff rate requirement (except Scenario 4) since the growth constraint that limits sufficient revenue available for financing occurs in 2014. As a result, once this threshold is met, the tariff rate structure can be reduced as cargo growth increases and two years of rate increases allow steady growth. The Scenario 4 tariff rate is higher since this scenario has the lowest cargo growth and the highest investment requirement. To accommodate the growth constraint identified in 2014 the necessary tariff rate in the early years is 1.88 percent higher than in the other scenarios.

The final three scenarios show how much infrastructure can be supported under organic growth (Scenario 7), full military build-up (Scenario 8), or half military build-up (Scenario 9) if the tariff rate increases remain at 3.95 percent throughout the 20-year forecast.

In general, very little can be built in the near term with a 3.95 percent tariff increase because the necessary cargo volume is not sufficient to take on additional debt after the purchase of the POLA cranes. The improvements identified in the report will be financed using either revenue bonds, grants, direct loans or guaranteed loans.

Debt Service Assumptions

The debt service used to calculate the tariff rate increases is based on recent debt issuance at the Port and at other agencies on Guam. The table below shows the debt service assumptions used in the various scenarios.

The Minimum PMP scenarios feature $78.5 million in improvements to the Port, while the Maximum PMP scenarios augment this original amount with an additional $22 million in uplands investment.

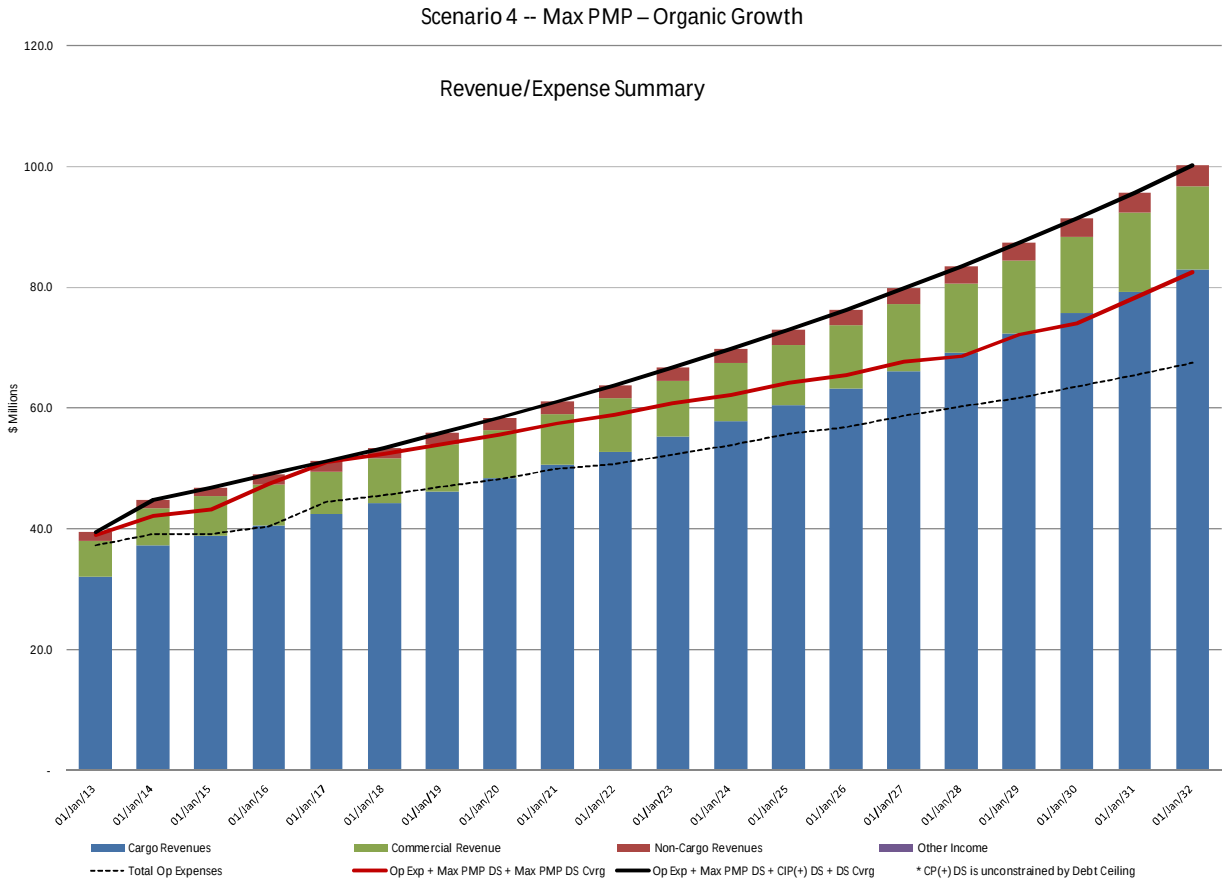
				Debt Service Assumptions				
	Period End Fiscal Year	Issue **Year**	2012 $ Amount	Rate	Max Maturity	Reserve %	Issuance Cost	Annual Debt Serv. ($mil)
	Equipment	2010	3.50	6.22%	15	-	-	0.36
Minimun	POLA Crane Purchase *	2012	12.00	6.00%	15	-	-	1.24
Minimun	SLE Wharf Work (1st Year)	2013	5.00	6.50%	20	10.0%	2.0%	0.45
Minimun	SLE Wharf Work (2nd Year)	2014	5.00	6.50%	20	10.0%	2.0%	0.45
Minimun	FMS/TOS/GOS Year 1	2013	3.00	6.00%	10	10.0%	2.0%	0.41
Minimun	FMS/TOS/GOS Year 2	2014	2.00	6.00%	10	10.0%	2.0%	0.27
Minimun	FMS/TOS/GOS Year 3	2015	2.00	6.00%	10	10.0%	2.0%	0.27
Minimun	Uplands Investment (DOD Grant)	2013	15.33	-	-	NA	NA	-
Minimun	Uplands Investment (DOD Grant)	2014	15.33	-	-	NA	NA	-
Minimun	Uplands Investment (DOD Grant)	2015	15.33	-	-	NA	NA	-
	Total (Minimum)		78.50					
Max	Add'l Uplands Investment (1st Year)	2018	22.0	6.5%	20	10.0%	2.0%	2.00
Max	Add'l Uplands Investment (TBD)	2019	-	-	-	NA	NA	-
	Total (Maximum)		100.50					

* Reserve amount and issuance costs are assumed to come from existing operating expenses or cash reserves, not future debt.

Loans for cranes to replace the retiring POLA cranes beginning in 2028 are not included in this table but are included in the model.

Projected Revenue with Revenues from Projected Tariff Revision

The following chart applies to Scenario 4 which is recommended. This chart shows the projected revenue for cargo revenue, non-cargo revenue and commercial revenue compared to expenses from 2013 to 2032. This chart shows the anticipated revenue with only organic growth and a 6.94 percent annual tariff increase for each of the first 2 years, followed by a 3.95 percent annual increase for each of the subsequent 18 years (2015 to 2032).



It should be noted that Scenario 4 also has a revenue to expense (plus debt service) ratio that is equal to 1.3 throughout the 20 year projection period.

Anticipated Retail Impacts of Tariff Revision

The Financial Feasibility Study Report (2008) indicated that tariffs and fees accounted for less than 10 percent of the total transportation costs of moving a 40-foot container (FEU) from the U.S. West Coast to Guam. Using a base of $565 for charges and fees per FEU at the Port, escalating at 3.95 percent a year would result in a charge of $686 in year 5, and $1,226 in year 20.

		3.95 Escalation		6.94/3.95 Escalation	
Escalation of Customer Charges per TEU ($)	Inflation Only	Total Charges	Above Inflation	Total Charges	Above Inflation
Base charges/fees per TEU	$565	$565	$0	$565	$0
Charges/fees per TEU at Year 5	$658	$686	$28	$726	$68
Charges/fees per TEU at Year 10	$767	$832	$65	$881	$114
Charges/fees per TEU at Year 15	$893	$1,010	$117	$1,069	$176
Charges/fees per TEU at Year 20	$1,040	$1,226	$186	$1,298	$258

Using an inflation rate of 3.1 percent, a TEU will likely contain $150,000 to $600,000 worth of consumer goods in 2032 dollars, implying that the increase in fees attributable to infrastructure recapitalization would likely amount to less than 0.1 cent per dollar of containerized goods imported (dependent upon content value of containers imported).

Conclusion/Recommendation

Based on an analysis of the financial projections, a tariff increase of 6.94 percent for the first two years followed by an increase of 3.95 percent for the next 18 years is recommended (scenario 4). This will provide sufficient revenue to fund all the port modernization program initiatives and create a reserve fund to support future capital investment requirements.

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List of Acronyms

CIP	capital improvement projects
CNMI	Commonwealth of Northern Mariana Islands
CPI	consumer price index
DOD	Department of Defense
DPRI	Defense Posture Realignment Initiative
EDI	electronic data interchange
ERP	enterprise resource planning
FEU	forty-foot equivalent unit (container)
FMS	financial management system
FSM	Federated States of Micronesia
FTE	full-time equivalent
FY	fiscal year
GEDA	Guam Economic Development Authority
GIP	gross island product
GOS	gate operating system
IT	information technology
MARAD	Maritime Administration, U.S. Department of Transportation
O&M	operations and maintenance
OCR	optical character reading
PAG	Port Authority of Guam
PFSP	Port Facility Security Plan
PMC	Performance Management Contract
PMP	Port Modernization Program
POLA	Port of Los Angeles
PUC	Public Utilities Commission
Ro-Ro	roll on/roll off
SLE	service life extension
TEU	twenty-foot equivalent unit (container)
TOS	terminal operating system
USCG	United States Coast Guard
USDA	United States Department of Agriculture
USDOT	United States Department of Transportation
YOE	year of expenditure

Port Authority of Guam Modernization Program

5-Year Tariff Projection and 20-Year Financial Plan

1.0 Introduction

1.1 Background

The Jose D. Leon Guerrero Commercial Port (Port) was developed by the U.S. Navy after World War II, later transferred to the Government of Guam, and given its present name by the Guam Legislature in 2002. In the past five decades, little modernization or renovation has taken place at the Port aside from repairs following an earthquake and a typhoon in 2001 and 2002, respectively. The tariff structure was updated in 2012 but had not been significantly updated prior to that in nearly two decades and has not kept pace with the rate of inflation, equipment costs, asset depreciation, or staff salary increases. As a result, the Port Authority of Guam (PAG) now faces two consequences: 1) the need to address the backlog of modernization activities and maintain existing equipment; and 2) the need to acquire new equipment to accommodate growth. Anticipating the commercial impacts of the addition of 25,000 active military personnel and dependents—equivalent to a 15- percent increase in the population of Guam—PAG has analyzed a number of facility operations scenarios and their implications for future borrowing and associated tariff revisions. A renewed focus upon robust asset management and facility expansion will require PAG, with the backing of the Public Utilities Commission (PUC) and the Legislature, to revisit the tariff user fees and leasing agreements now in place at the Port.

The enabling legislation establishing PAG as an autonomous instrumentality of the Government of Guam requires that the tariffs and user fees at the Port recover the full costs of operations, debt service, interest payments, amortization of depreciable assets, and a reasonable return on public investment. Accordingly, the design and collection of a revised schedule of tariffs, user fees, and lease agreements is crucial to the financial sustainability of the Port's asset condition and operations capability.

1.2 Present Situation

The Port Authority of Guam is now undergoing a process of change intended to strengthen the commercial Port's capabilities to serve a growing island population and a defense asset of strategic importance to the U.S.

This intensive program of asset recapitalization is planned not merely because of the age and condition of many Port facilities and equipment, but is also compelled by the demands of a forthcoming defense repositioning that will bring approximately 25,000 military personnel and dependents to the island. The Department of Defense (DOD) estimates that it will spend roughly $10 billion in constructing new military facilities associated with The U.S.-Japan Defense Posture Realignment Initiative (DPRI) that will move thousands of U.S. Marines from Okinawa to Guam, with other projects also in store for the Navy, Air Force, and Army.

1.3 Study Purpose

This *5-Year Tariff Projection and 20-Year Financial Plan* (Analysis) will help identify the level of increased revenue from tariff adjustments required to help fund the necessary improvements at the Port.

This analysis covers nine scenarios and the corresponding annual tariff increases necessary under each scenario to support capital projects at the Port. Because the cost of modernizing the Port largely falls upon PAG, the following analysis is intended to test a number of financial management and facility improvement scenarios in order to select the most beneficial alternative that will deliver capacity and operational improvements in a fiscally prudent manner.

An initial set of six scenarios examine the associated revenue and expense projections associated with varying degrees of military build-up (full build-up, half build-up) caused growth and organic growth only and varying recapitalization expenditure (minimum and maximum PMP investments). An additional three scenarios sum the value of future earnings of a 3.95 percent tariff increase over 20 years at various rates of growth under three cargo volume scenarios (full build-up delayed five years, half build-up delayed five years, and organic growth).

The findings and recommendations presented in this report are provided from a comprehensive financial model developed to simulate and test assumptions about future revenue, expense, tariff revisions, and debt service alternatives. In constructing and explaining this model, Parsons Brinckerhoff presents a summary of the background conditions at the Port and the goals of the *Port of Guam Modernization Plan* now in the early stages of implementation.

1.4 Report Outline

This Analysis is organized in the following manner:

- Section 2 reviews previous studies submitted to PAG in order to identify the capital requirements of the selected elements of the 2007*Master Plan Update and the Legislatively Approved Port Modernization Program (PMP)* that are included in the earliest purchases and identifies major sources of financing and other funding opportunities.

- Section 3 describes the manner in which the financial model is mechanically structured in Microsoft Excel. In addition, the section lists the model's assumptions concerning changes to revenues and expenses, and how the model can be used to compare the risks and opportunities of nine investment scenarios for port infrastructure. The section then outlines the model's capacity for testing various proposed tariff revisions for their ability to finance selected levels of investment in the Port under different revenue and expense scenarios.

- Section 4 describes options for funding and financing these programmed investments through grants and loans from public (Federal) and private sources.

- Section 5 begins with a set of management principles that inform the structural assumptions composing the financial model. Nine scenarios, describing alternative investment programs that can be undertaken by PAG, are tested against a backdrop of differing demographic, economic, and military/strategic contexts. Revenue and expense escalations are described and compared for each scenario.

- Section 6 discusses the capital and cash flow requirements necessary for project implementation and maintenance for each phase of construction and operation.

- Finally, the report summarizes the general findings of the financial projections to highlight the salient features of the financial model necessary for making informed decisions about the approach to undertaking critical elements of the PMP.

2.0 BACKGROUND: RECENT FINANCIAL MILESTONES AND PLANNING STUDIES

2.1 Introduction

PAG adheres to generally accepted accounting principles observed in governmental units and the fiscal year (FY) of the governments of Guam and the U.S. beginning on October 1. Annual independent audits are also conducted in accordance with government auditing standards maintained by the U.S. Comptroller General.

The most recent independent audit of PAG disclosed that the Port counts $64.5 million in capital assets (such as land, buildings, and equipment), with another $15.9 million in current and other assets, representing a $4.6 million increase in total assets from the previous fiscal year. The bulk of this gain is the result of a $3 million increase (5 percent) in capital assets and a $1.6 million (11 percent) increase in current assets. Net assets (total assets minus total liabilities to PAG) demonstrated an increase for nine consecutive years. According to the 2011 Audited Financial Statement, PAG holds a long-term bank debt of $3.2 million (equipment).

With total operating revenues in recent years trending between $30 million and $35 million, the Port would have declared a loss in FY 2011 of $1.9 million if not for capital contributions in the form of $4.4 million in federal grants. This point is relevant in that PAG's analysis of its responsibilities to the Government of Guam's Autonomous Agency Infrastructure Collection Fund concludes that payments are only mandatory in years in which the Port yields a revenue surplus. In past years (1987 to 1993, 1995 to 1996, and 1998 to 2010), PAG did not contribute to this fund. In 1994, PAG contributed $500,000, and in 1997, PAG similarly transferred $3.5 million to this fund. In FY 2011, PAG accrued $700,000 payable to Guam's Department of Administration, based on the public law describing these responsibilities for revenue-generating government entities. An estimated $875,000 per year is identified in the model as going towards the Autonomous Agency Infrastructure Collection Fund.

Other uncertainties are associated with the Government of Guam's Defined Benefit Retirement Plan, to which all PAG employees contribute. Each legislative session, PAG's funding responsibilities are determined by the Legislature. The plan pays retirement, disability, and survivor benefits to members and their beneficiaries who enrolled before October 1, 1995. All members (under the age of 60 upon hiring date) and beneficiaries enrolled after October 1, 1995, contribute to a Defined Contribution Retirement System. Within this new system, employees may retire at age 60 after 10 years of service or at any age after 25 years of service. Members contribute 5 percent of their standard base pay to the plan.

Finally, long-term liabilities increased from FY 2010 to 2011 as annual leave and accrued sick leave increased by 16 percent ($1.2 million) and 25 percent ($0.9 million), respectively.

PAG revenues and operating income totals have remained relatively stable over the past five years. Table 1 outlines the operating revenues, expenses and income from 2007 to 2011.

Table 1. PAG Financial Performance Indicators ($000), FY 2007-2011

	2007	2008	2009	2010	2011
Revenues and Expenses					
Operating revenues	$28,937	$30,257	$30,521	$36,556	$35,850
Operating expenses	$24,621	$26,463	$25,811	$31,518	$31,920
Operating income	$4,316	$3,794	$4,710	$5,038	$3,930

2.2 Review of Existing Studies

Three primary documents provide the platform upon which this Analysis is built and from which many of the modeling assumptions are drawn—the *Port Master Plan* (February 2008), the *Cargo Forecast* (2010), and the *Financial Feasibility Study Update* (2011)—as well as several deliverables submitted concurrently with this Analysis (such as Parsons Brinckerhoff's *Information Technology Summary*, 2012).

2.2.1 2007 Update to Port Master Plan

The Port commissioned an update to its Master Plan in 2007. In February 2008, Parsons Brinckerhoff submitted a public comment draft of this update. This document included extensive condition surveys of existing Port assets, inventories of lease and user agreements, cargo volume forecasts for container and bulk cargos, analysis of capacity constraints, capital cost estimates for selected design alternatives, and an overview of federal and local permit requirements. Specific investment and renovation recommendations were made concerning each major asset class owned by the Port. The capital cost estimate in 2008 for this comprehensive program was $195 million.

2.2.1.1 Cargo Terminal Modernization

The Master Plan recommended the expansion of operations and stowage space, and the acquisition of new cargo-handling equipment, in order to support 200,000 container lifts and 350,000 breakbulk tons per year. An intensive program of berth modernization would target berths F-5, F-6 (east and west), and F-7 (future berth), with F-6 (east) and F-7 being dredged to 51 feet. Reconfiguration of the cargo storage yard would functionally separate activities directly related to cargo handling operations from those that are not related, supported by construction of new truck entry and exit gates. Reuse of the wheeled chassis storage area creates more space for stacked container storage. Additionally, Parsons Brinckerhoff recommended the purchase and implementation of a terminal operating system (TOS) that integrates invoicing, gate operating system (GOS), and a financial management system (FMS).

2.2.1.2 Warehouse Operations

An operations analysis concluded that Warehouse #1 did not contribute to underutilization of berth F-3 or loss of revenue to PAG. However, Parsons Brinckerhoff recommended that all activities in Warehouses #1 and #2 not related to cargo-handling be located outside the delineated terminal area.

2.2.1.3 Cruise Vessel Assets

As cruise vessel calls are not expected to increase substantially in the near-term, Parsons Brinckerhoff recommended cruise vessels and larger fishing vessels share access at F-3 while also being segregated from commercial cargo terminal operations. Negotiations with tenants surrounding the creation of an F-3 access road should take into account the facility needs of customs and immigration activities related to cruise passenger arrivals at the Port.

2.2.1.4 Cement Facilities

Because defense-related construction activities will prompt a demand for cement on Guam that will exceed the existing facilities' capacity to import it, the harbor depth at the existing unloading dock should be increased to allow use by larger vessels. This would increase throughput capacity at that facility by 250,000 to 300,000 tons per year.

2.2.1.5 Land Use and Zoning

Maximizing the utility of scarce land within the Port with access to deepwater and inland transportation links, and minimal conflict with other critical Port land uses; Parsons Brinckerhoff made a number of recommendations for land use designations of several portions of the land area on Cabras Island. These suggestions included dredging and the creation of additional land for marine industrial use where both environmentally and economically feasible.

2.2.1.6 Port Security

Recommendations include increased security camera visibility of Port lands, a dedicated K-9 unit, improved fencing and barriers, more sophisticated baggage screening in support of future cruise activities, enhanced lighting, adherence to ISO 17799 standards for cyber security, and constant review and update of the *Port Facility Security Plan* (PFSP).

2.2.1.7 Marinas and Harbor of Refuge

The marinas at Hagatna and Agat were targeted for intensive renovation by the Master Plan, since PAG has a legislative mandate to support recreational boating and fishing activities within the Territory. In order to recover the costs of these improvements, Parsons Brinckerhoff recommended better enforcement of marina regulations, movement toward market rate for rental fees, and gradual upgrades that address safety and security deficiencies.

2.2.1.8 Cargo Forecast with Military Program Impacts

The Cargo Forecast study, submitted by Parsons Brinckerhoff to PAG in October 2010, projects future cargo volume growth at the Port for container, cement, and breakbulk cargos under both organic growth and military build-up scenarios. While the tentative military build-up launch date will be revised, the calculation of the cargo volumes associated with the addition of the anticipated number of active military personnel and their dependents remain useful to PAG for this analysis. This document was used as a source for the scale and phasing of the military build-up data used in constructing the nine cargo scenarios presented in this Analysis. The 2011 Financial Feasibility Study Update contains revised estimates for the military build-up forecast.

2.2.1.9 Population Trends

With an average annual growth rate of 1.6 percent from 1990 to 2009, Guam's total (civilian and military) population increased from 133,152 to 178,430 during that time period. In a no build-up scenario of organic growth only, Guam's population in 2020 is expected to be 203,216, reaching 250,000 by 2040. The civilian population increased by 2 percent per year from 113,542 in 1990 to 164,320 in 2009. Without the build-up, the non-military population is projected to reach 189,106 in 2020 and 236,553 in 2040.

Military population on the island has widely varied since the end of World War II, remaining near 20,000 throughout the 1980s, declining to 11,000 by 2000, and reaching 14,000 by 2010. With the military build-up, the defense-related population is expected to increase to 79,178. (This outer boundary figure includes not only active military personnel and dependents, but also temporary construction workers and dependents, as well as people employed in jobs created by secondary and tertiary economic impacts on Guam.) A no build-up scenario for Guam entails the military population remaining near 14,000.

Key sources for population data were the U.S. Census Bureau, the Government of Guam Bureau of Statistics, the DOD, and the Draft Environmental Impact Statement filed in 2009 by the Joint Guam Program Office and the U.S. Navy.

2.2.1.10 Economic Trends

The key economic drivers of Guam's economy are tourism and DOD expenditures. Tourism forecasts are largely attuned to the performance of developed Asian economies, which provide the bulk of passenger arrivals (Japan, Korea, etc.) and those trends are not studied in detail here. For local cargo demand, transshipment and local construction are determining factors in forecasting growth.

Gross island product (GIP), a key indicator of economic activity that totals the value of all goods and services produced in Guam, is expected to advance from $4.0 billion in 2009 to $5.1 billion in 2020, under the no build-up scenario. Under the projected build-up scenario, GIP will likely peak at $5.6 billion in the fifth year of the build-up before declining to $4.9 billion by the seventh year of the build-up. After construction is completed, the GIP would be approximately 4 percent higher than the no build-up scenario for each year.

2.2.1.11 Employment Trends

Civilian employment in Guam the year previous to the submission of the cargo forecast (2009) totaled 60,147 people. During the mid-1990s, civilian employment totaled 66,000 people. During that year, there were roughly 7,344 active duty personnel, bringing total employment to 67,491 in the study year. This represents a marked decline from 79,695, a recent peak in 1992. Key sectors are local and federal government employment and retail and services (much of which is related to tourism). With the military build-up, civilian employment is projected to peak at 95,000 to 100,000 full-time-equivalent positions in the fifth year of the build-up.

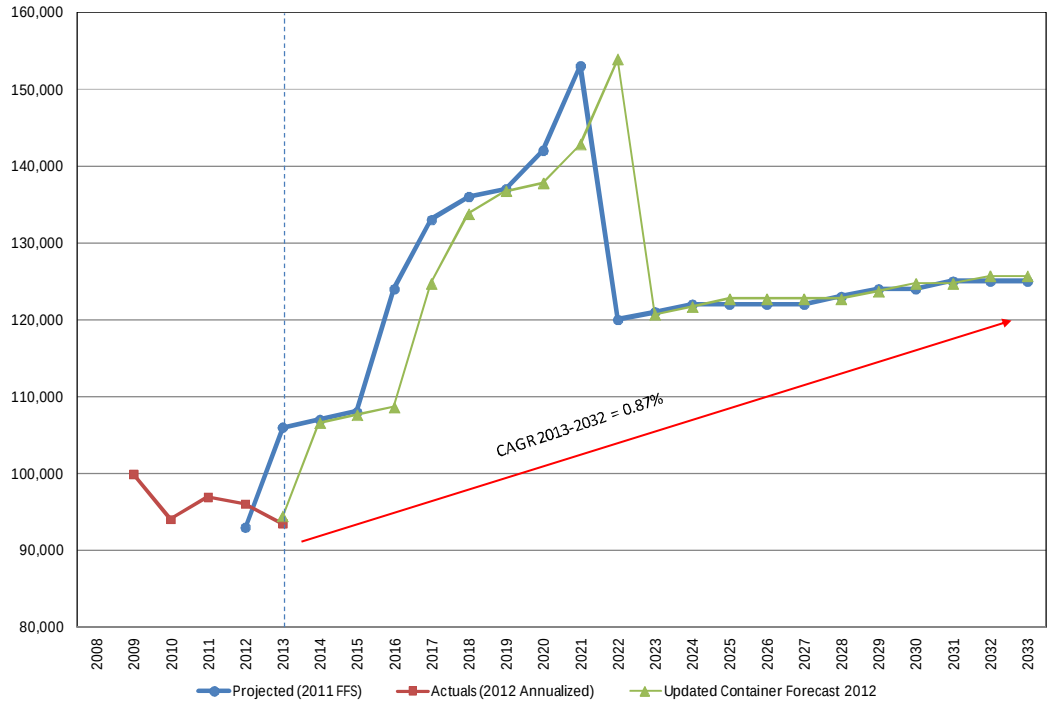
2.2.1.12 Cargo Forecast for Organic Growth

The cargo forecast for organic growth was derived from an assessment of population growth and consumption trends on Guam, projecting a population growth of 1 percent annually, with associated growth in per capita consumption and cargo import volumes. Since the most substantial function of the Port at this time is the importation of container, cement, and breakbulk cargos for the local population, factors affecting consumption of these cargos are the key driving variables of this scenario. Between 1991 and 2009, the Port handled an average of 148,000 twenty-foot equivalent units (TEU) per year. Of the approximately 40,000 containers imported from Asia and the U.S. West Coast in 2009, 31,800 were carrying goods consumed in Guam, while 8,300 were transshipped to Commonwealth of Northern Mariana Islands (CNMI) and Federated States of Micronesia (FSM). Organic container growth is projected at 1.3 percent per year. Breakbulk held constant at roughly 100,000 revenue tons per year in the half-decade prior to the study, with a three-to-one ratio of outbound to inbound commodity flow. Organic growth in breakbulk volumes is projected at 1.6 percent per year. Finally, bulk cement volumes held constant at 80,000 revenue tons in the years preceding the cargo forecast before declining to 56,000 revenue tons in 2009. The cargo forecast predicts an organic growth rate of 1.0 percent for the next three decades in a no build-up scenario.

2.2.1.13 Cargo Forecast for Military Build-up

Container volumes are estimated to increase by 30 percent from 95,000 in the first year to 125,000 per year by the fourth year of the military build-up construction period (Figure 1). By the eighth and ninth years, container volumes should peak at 142,000 to 153,000 boxes per year. After a decline as construction is completed, annual container volume should grow from 121,000 boxes in the tenth year to 126,000 boxes in the twentieth year after the build-up commences.

Figure 1. Container Forecasts, 2007-2032

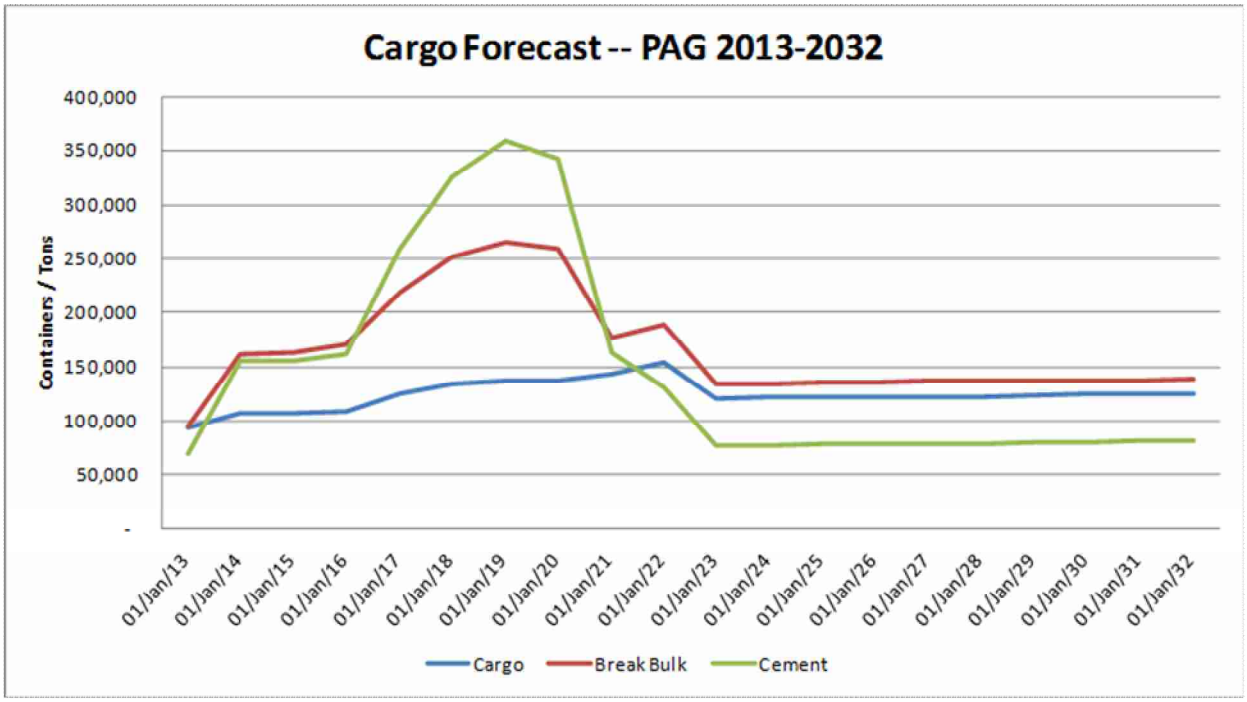


Breakbulk volumes peak rapidly from 95,000 revenue tons in the first year to reach 259,000 revenue tons in the seventh year of the build-up. By the eighth year, revenue tonnage will likely decline to 177,000 per year, slowly achieving 136,000 revenue tons in the thirtieth year after the build-up with modest growth throughout the remainder of the forecast period.

Cement import volumes are expected to grow from roughly 70,000 revenue tons in the first year to potentially achieve a peak of 340,000 to 360,000 revenue tons by the sixth year and decline to 77,000 revenue tons by the tenth year. From that point, the model anticipates that modest growth will only raise annual tonnages for the next 10 years to reach just over 80,000 revenue tons by the twentieth year after the initiation of the military build-up.

Figure 2 shows the container, breakbulk and cement forecasts from 2013 to 2032.

Figure 2. Volume Forecast, 2013-2032



2.2.1.14 Financial Feasibility Study Report

Parsons Brinckerhoff submitted the *Financial Feasibility Study Report* in August 2008 to PAG in support of the Port's modernization efforts by describing in more detail the financial implications of the $195 million (2008 dollars) in infrastructure improvements prescribed in the Port Master Plan.

2.2.1.15 Financial Model and Borrowing Options

Parsons Brinckerhoff included a financial analysis model in the 2008 feasibility study that evaluated project alternatives for their revenue-producing ability based upon various operations scenarios and dependent upon multiple input options—cargo volumes, military build-up versus no military build-up, labor productivity, crane productivity, public-private partnership structure (for maintenance or operations), grounded versus chassis operations, tariff and non-tariff price escalation, maintenance

and replacement capital requirements, debt coverage ratios, and interest rates. Main outputs are revenue and expense summaries by year for three decades, inclusive of operating income, net income, and unencumbered cash flow. Each unique combination of factors was formed into a scenario addressed for feasibility of financing and practical implementation.

The feasibility study then outlined major sources of financing and funding for the largest and most immediately necessary Port improvements. The document also alluded to the necessity of tariff revision to support future debt service and coverage ratio requirements.

2.2.1.16 Recommendations

Despite the increases in container, bulk cement, and breakbulk volume imports predicted to accompany the forthcoming military build-up, the program of improvements recommended by Parsons Brinckerhoff cannot be financed by future PAG cash flow alone. Accordingly, revisions to the structure of tariffs and user fees will be required to realize meaningful improvements at the Port. Additionally, borrowing may be undertaken in the manner appropriate to each management scenario outlined in the study, augmented by revenue bonds and federal assistance. In general, some degree of borrowing risk may be mitigated by selecting a front-end loaded repayment schedule that maximizes debt service while the military build-up imports are at their peak.

2.2.1.17 Information Technology Strategy

Submitted concurrently with the *Management Review* and this Analysis in the fall of 2012, Parsons Brinckerhoff and subconsultant RVE Management developed a strategy to overhaul PAG's TOS and enterprise resource planning (ERP) capabilities. New investments in information technology (IT) will be integrated via a planned central database linking applications in cargo handling and billing, a new differential global positioning system to track cargo, a new GOS, and a new resource allocation framework for PAG labor and other assets.

The realized value of these investments is predicated upon productivity gains expected in facility operations coupled with more accurate revenue capture made possible through a more agile FMS. For instance, optical character recognition (OCR) technology and handheld terminal hardware can eliminate many of the multi-step, manual billing processes now in place.

Management objectives related to IT strategy include application of a selective focus to the present IT resources through staff attrition. While the overall number of staff may be reduced through voluntary retirement schedules, the capacity of the remaining staff can be improved through training. Parsons Brinckerhoff also recommended a new organizational hierarchy for the proposed IT positions also being recommended, as well as a related implementation strategy for the forthcoming TOS and the upgrade of the existing JD Edwards system. The report then highlights the role that database administration and electronic data interchange (EDI) analysis will play in the new IT strategy and establishes the key qualifications for each role in the implementation team as it should be constituted for the highest level of effectiveness. Finally, the document outlines a $6- to $7-million budget for key IT expenditures—inclusive of FMS, TOS, GOS, weigh-in-motion units, reefer monitoring system, handheld hardware, database and voice-over-IP systems, servers, and cabling—that are necessary for the described improvements to occur.

2.3 The Changing Planning and Financial Landscape

The Port's financial strategy has evolved considerably since the publication of the 2007 Update to Port Master Plan.

2.3.1 First Financial Feasibility Assessment

A Financial Feasibility Assessment was prepared in 2008. It determined that the PAG contribution to the Port Modernization Program based on organic growth requirements (versus military-build-up requirements) was approximately 25 percent, meaning that a Federal contribution of 75 percent of Port Modernization Program costs would be needed. With costs escalating and the timeframe for execution being envisioned in the years 2010-2013, the PMP costs were projected closer to $215 million. The Port contribution was thus placed at about $50+ million. It was also determined that the PMP would need to be executed in phases as funding assistance became available.

2.3.2 ARRA Grant Program

The Port prepared a federal grant application in 2009 and targeted the execution of a first phase of the PMP for $104.2 million. The application involved the Port borrowing $54.5 million and receiving a federal grant of $49.7 million. Due to grant requirements, the first phase would be focused on uplands improvements.

2.3.3 Legislative Approval of Phase 1 of the PMP

Concurrent with the ARRA Grant application, the Port sought legislative approval for Phase 1 of the PMP as outlined in the ARRA Grant Application and supported by the Financial Feasibility Assessment. The Legislature approved Phase 1 of the PMP, mandated the purchase of gantry cranes by 2012, and imposed a $54.5 million debt ceiling on PAG borrowing. Phase 1 consisted of Phase 1-A Uplands work and Phase 1-B in-Water work. At the same time, a second Phase involving expansion of wharfs and additional uplands expansion was pushed out 20 years. This meant a portion of the originally approved Master Plan was now being pushed beyond the immediate planning horizon.

2.3.4 ARRA Grant Application and Legislative Authorization of Phase 1 of PMP

PAG borrowing of $54.5 million per the ARRA Grant application was focused on addressing uplands requirements only. This did not include the purchase of gantry cranes that were now mandated. Also, funding in the form of 100 percent federal contribution would now be needed to address future in-water work. PAG was taking a calculated risk that being responsive to military cargo handling demands would lead to additional federal support for the unfunded balance of Phase 1. PAG also now had the dilemma of acquiring gantry cranes while it was using its borrowing capacity to address other uplands improvements.

2.3.5 ARRA Grant Denied, DOD Provides $50 million Grant

The Port did not receive its requested ARRA Grant. The Legislature directed that it focus the PMP on organic growth requirements only if alternative funding was not found. DOD reprogrammed 2010 funds and deposited it into a previously established federal account known as the Port Improvement Enterprise Fund. This effectively amounted to the Port receiving its grant. The amount was actually $50 million instead of the previously requested $49.7 million. It did not come with the "funds obligation" timing constraints associated with the original ARRA Grant.

2.3.6 Port Updates Financial Feasibility Assessment

In 2011, the Port reviewed its 2010 cargo forecast update and manipulated it by delaying the start of volume increases by a few years and flattening the peaks. It then evaluated whether cargo flow would support increased Port borrowing at the $69 million level. This was in anticipation of needing to borrow to match the DOD grant as pledged during the ARRA Grant application and needing to borrow to purchase gantry cranes. It was also in anticipation of checking the viability of asking the Guam Legislature to increase the debt ceiling. The updated assessment evaluated conservative, median, and full build-up cargo volumes in subjecting the assessment to sensitivity analysis. It was determined that additional borrowing could be sustained.

2.3.7 Military Re-set leads to PAG Re-set

In 2010 PAG learned that the U.S. Congress was calling for a military reset of its Pacific assets. This meant that the Guam build-up was put on hold while a new Master Plan for troop deployment in the Pacific Theatre was developed and congressionally approved. It also meant that the associated Environmental Impact Assessment for work on Guam would be updated and possibly take two years to accomplish. PAG began looking at the prospects of several years of delay in military cargo flow. With delayed cargo flow, revenue projections prepared in 2008 and updated in 2010 were considered no longer valid. PAG began to think about cascading delays that would push waterfront issues out well into the future. It also began to think about "just in time borrowing" to align with cargo revenue slippage and service life extension work for facilities that would not see a major face lift for many years to come.

2.3.8 PAG Commissions Marine Preliminary Design and Transitions to Service Life Extension Design

The Port began development of the preliminary design drawings for in-water work associated with Phase 1-B in 2010. In connection with that effort it did an in-water inspection that revealed unexpected and significant damage to the F-5 pile-supported wharf structure that had been constructed in the late 1990's. With the PAG re-set mindset now in place, PAG decided to re-direct the marine design to address service-life-extension of the wharfs. The PMP began transitioning from a static program to one that was flexing with the changing planning and financial landscape. PAG, with Legislative support, began to articulate the "balanced PMP" approach. The balanced PMP began to look like a combination of (1) reduced uplands modernization with hybrid (wheeled

and grounded) operations, limited expansion, and a revised but still modified gate complex (2) just-in time borrowing, (3) service life extending waterfront work, (4) gantry crane acquisition (5) systems modifications, and (6) merged security projects.

2.3.9 PMP Status Today

PAG is focused on making meaningful improvement but with limited upfront investment until it gains assurance that cargo revenues will be sufficient to sustain the investments.

PAG is assuming the build-up will happen but wants to temper its approach to consider it will be delayed and very well may be downsized.

PAG is assuming that the major waterfront work in terms of facility replacement, dredging, and facility expansion will be pushed out 20 years. It is therefore focusing on service-life extension of the existing wharf structures and will be handling "light-loaded" Panamax class cargo vessels for the next 20 years.

PAG has received PUC approval to purchase Gantry Cranes and have a sales agreement and price already negotiated. PAG will be executing a $12 million loan in connection with this purchase.

PAG has dropped the USDA $25 million Guaranteed loan that formed a portion of the Port's intended $54.5 million borrowing. There is still in play the possibility of executing a $25 million USDA Direct Loan as part of the original borrowing plan.

PAG has established the "minimum recommended PMP" and concurrent security enhancements to include:

- Small container yard expansion
- New but smaller and relocated gate complex
- Expanded break-bulk yard
- Improved access to Berth F-4 and B-B facility through the demolition of WH2
- Systems upgrades for FMS, TOS, and GOS
- Gantry crane acquisition
- Service Life Extension of Wharves
- Replacement of existing hi-mast lights through a security grant, and
- Establishment of communications network and Emergency Operations Center through security grants.

The "minimum recommended PMP" does not require borrowing up to the current debt-ceiling of $54.5 million. Instead borrowing is limited to $32.5 million ($12 million cranes, $3.5 million equipment, $7 million for FMS/TOS/GOS, $10 million for SLE and additional Yard Equipment). It does not involve executing the $25 million USDA Direct Loan which if added in total would require an increase of the debt ceiling by $3 million. It includes improvements listed in the description in the paragraph immediately above that are funded by the Enterprise Fund grant.

The "maximum allowable PMP" given current legislative constraints and without additional federal contributions would be the "minimum recommended PMP" and an additional $22 million in uplands improvements from the original Master Plan and it supporting Implementation Plan requirements list. This would likely involve additional yard improvements and more building renovation and expansion work.

The "maximum affordable PMP" will evolve over the next 20 years and be directly linked to the pace and scale of the military build-up and resulting revenues. Some aspects and the timing of this improvement have not been fully identified at present and will be influenced by the pace of degradation of unimproved existing facilities and measures needed to improve cargo handling capacity. It should involve building renovation and expansion as needed but likely in lower priority than yard infrastructure improvements. It will not involve wharf replacement, dredging, and wharf expansion. It may involve wharf improvements related to future crane replacements. It should focus on overall sustainability of the Port operation. The magnitude of this investment will result from accumulated reserves and depend on tariff rates. In building the CIP investment capital, the model we have created will cap tariff increases at 3.95 percent per year to keep pace with inflation and include a small growth factor to increase buying power over time.

The "balanced PMP" approach has ushered in some serious attention to sustainability issues. The Port has commissioned the development of Structured Maintenance Programs for its Gantry Cranes and Yard Equipment. They have also solicited the services of a Performance Management Contractor to manage the maintenance of Gantry Cranes. A long-standing delay to the execution of a PMC Contract to manage Terminal Operations has now emerged from "protest status" in the Guam courts. The Port will look at PMC initiatives as a way of improving expanded, modernized, and sustainable operations. Lastly, the Port is focused on streamlining its operations, improving its management of information, and avoiding the loss of revenue capture associated with continuing to operate with antiquated legacy systems and inefficient manual processes.

2.3.10 PMP Status Going Forward

In the absence of cargo growth volumes driven by a fast-paced military build-up, we are dealing with cargo volumes impacted by organic growth, the loss (possibly temporary) of a second major shipping line, and possible industry adjustment to the delayed military build-up. As a consequence, the Port has recently experienced a slowdown and slight downturn in cargo volumes which will reset the revenue baseline and then go forward at a pace driven by organic growth alone until the build-up happens.

With the present cargo situation, the Port has to consider limiting its early borrowing to the minimum necessary to modernize and get out in front of the build-up. The large volumes needed to

"front" the debt servicing revenue are simply not there right now to support borrowing beyond the current debt-ceiling limit.

In order to do a minimal modernization and get out in front of the build-up, the Port is faced with temporary elevated tariffs until volumes allow the rate of increases to be lowered. The Port and Guam have the choice of dealing with these temporary higher rates or foregoing even the minimal modernization until they see real volume increases.

This assessment and the supporting financial model evaluate six different scenarios associated with varying PMP investment, varying cargo volumes, and resulting tariffs. It also evaluates three scenarios to determine what is affordable with a fixed tariff increase rate (3.95 percent) and varying cargo volume increases. We have framed the PMP investment levels around minimal modernization, debt-ceiling, debt service capability, and affordability over time. We have framed the cargo volumes around organic growth, a full military build-up that is delayed, and a military build-up that is both downsized and delayed. Collectively these nine scenarios perform a level of "sensitivity" analysis needed by the Port and requested by the Public Utility Commission.

The assessment takes a look at the 20-year planning horizon and places PMP investments within the overall Port financial plan. It looks at the entire Port operation and not just its Capital Improvements Plan (CIP) or Master Plan or PMP. This means PAG will examine all operating expenses, all revenue sources, the impacts of having PMCs, the impacts of having structured maintenance programs, making sure the Port has the right M&R budget for all Port assets, making sure it maintains sustainable operations, ensuring that improvements are made to systems, investing in Service Life Extension, including Gantry Crane replacements in the outlying years.

The first five years of the 20-year Financial Plan essentially represents the 5-Year tariff projection depending on which scenario the Port elects to follow after reviewing the financial assessment and financial model outputs.

3.0 FINANCIAL MODEL FRAMEWORK AND DESIGN

The following section describes the structure of Parsons Brinckerhoff's financial model.

3.1 General Model Framework

This subsection outlines the objective of financial modeling while conceptually defining the architecture of the model created for PAG.

3.1.1 Objectives

The financial model uses the annualized 2012 revenue and cargo forecasts to develop projected revenue from tariffs. The revenues are then updated annually based on the cargo projections identified in either the organic growth, full military build-up or half military build-up forecasts. These revenues are then evaluated against the annual expenses provided by PAG for 2013 and projected forward to the 2032 timeframe. The result of the initial forecast then identifies the tariff rate necessary to support varying levels of debt service required to support either the minimum or maximum investments.

3.1.2 Model Architecture

Created and operated in Microsoft Excel, the 5-Year Tariff Projection and 20-Year Financial Report Model is contained in one single Excel workbook, with different input and output summary displays divided between 18 separate worksheets noted at the bottom of the Excel screen display. The model layers key management decisions concerning the level of investment in facility and equipment recapitalization in the Port on top of contextual factors (economy, military build-up, and others) that drive revenue growth at PAG.

Financial performance, tariff projections, and debt sizing considerations can be drawn from comparison of alternatives constructed of inputs such as:

- Cargo throughput revenues—chassis, ground, reefer, breakbulk, unitized, roll on/roll off (Ro-Ro), stuffing/devan, heavylift, longlength, and out-of-gauge cargos

- Other cargo-related revenues—lift on/lift off, preslung, export of scrap containers, transshipment of containers, overstowage of containers, shifting of containers, rigging of containers, reefer plug/unplug, direct labor billings, equipment rental, port fees, wharfage, fuel surcharges, maritime security fees, facility maintenance fees, and the forthcoming crane surcharge

- Non-cargo revenues—facilities revenues, marina revenues, coastal zone revenues, harbor of refuge, demurrage, claims fee, bulk scrap, material used, cruise passenger service, fuel bunker service, special services, PAG documentation, tariff subscription, penalties, hazardous material fees, security administration charges, and reimbursements

- General and administrative expenses—salaries/wages, insurance benefits, retirement benefits, other benefits, other personnel costs, communications, leases/rentals, utilities, general insurance, damage/shortage/write-down/supplies, miscellaneous, advertising, agency and management fees, Performance Management Contract (PMC) management fee, professional services, contractual services, earthquake expenses, and typhoon expenses

- Other Expenses—interest expense for USDA loan, claims settlement, contributions to public sector retirement plan, federal expenses, and gain/loss on asset disposals

3.1.3 Crane and Equipment Repair and Maintenance Expenses

The repair and maintenance necessary to keep the cranes in good working order was estimated by Sarandipity, LLC. The estimate for crane repair and maintenance is $74.2 million over the 20 year project horizon or between $2.8 and $4.7 annually.

3.1.4 Facility Maintenance

Facility maintenance is estimated to be 1.5 percent of total asset value per year. For PAG facilities, this amounts to approximately $1 million in the first year based on the estimated asset value of the Port of $64.5 million (Ernst & Young, 2011 Audited Financial Statement).

3.1.5 Yard Equipment

Yard equipment repair and maintenance includes the necessary upkeep of masts, cables, fleet vehicles, yard dogs, top picks, fork trucks, and other major equipment in the yard. Sarandipity again provided an estimate for yard equipment at approximately $19.4 million over the next 20 years or between $586,000 and $1.5 million annually.

3.1.6 Revenue and Expense Format

Revenues are projected based on future tariff rates applied to forecast volumes of container, breakbulk, and cement associated with civilian and military population growth and congruent increases in consumption of retail goods and construction imports. Commercial leases are anticipated to increase by 4.5 percent per annum to more accurately reflect competing market rates. Expenses are forecasted to grow at the rate of 3.1 percent, as estimated by the Port. Increases to the base pay rate for employees was also applied at 3.1 percent. For the Port to achieve 50 percent median compensation for employees as identified in the recent compensation survey, it is likely that this rate will need to increase more aggressively than 3.1 percent per year. However, the 2012 *Management Review* also suggests reducing the rate of hiring new employees and potentially re-assigning some employees, which should improve staff/compensation alignment. In the Maximum PMP scenarios an anticipated increase in the number (2 each at approximately 19 employees each) of Gangs required in cargo terminal operations will increase labor expenses (including salary and benefits) by $2.4 million beginning in FY 2017. This labor expense for these employees is also expected to increase by 3.1 percent per annum. Note: it is expected that modernization of systems and realignment of staff on the administrative side of the house would result in staff adjustments but no net growth resulting from increasing cargo volumes over time. Similarly it is expected that the

institution of structured maintenance programs for gantry cranes and yard equipment will usher in efficiency improvements and will eliminate the need for staff increases in this area as well.

3.2 Detailed Model Design

This subsection outlines how the cargo volume forecasts were identified, and explains the overall organization of the financial model.

3.2.1 Volume Forecast

Inputs for cargo volumes used in the financial projections derive from the conservative forecast described in the 2010 *Cargo Study* as being 10 percent less than the median cargo forecast in that document. As in previous transmittals to PAG, the cargo volumes associated with the military build-up remain the same in aggregate. However, their arrival begins later than initially anticipated, with lower peaks flattened somewhat to distribute the elevated cargo volumes over a larger number of years.

Assumptions pertaining to the volume of cargo arrival associated with the expected military build-up use the "conservative" estimate of the 2011 *Financial Feasibility Update*, which had delayed the onset of annual cargo volumes four years after the schedule established by the 2010 report. The financial modeling for this analysis provides an additional year of delay resulting in a total delay of five years.

3.2.2 Financial Model Organization

Each of the nine scenarios can be computed in the same Excel workbook supplied by Parsons Brinckerhoff. The data content driving the analysis and differentiating the scenario outputs is organized into tabs denoting separate spreadsheets within the main Excel workbook. The tabs are:

- Cover—Identifies the analysis as the Financial Report Model for PAG and the date of transmittal to the Authority.

- Color code—Used as a key to differentiate cell data that is imported from another worksheet (blue text), cell data that exports to another worksheet (red text), calculations not exported to another worksheet, or from another worksheet (black text), counterflow calculations (light grey background), unconfirmed input assumptions (bright yellow background), and confirmed input assumptions (light yellow background).

- Case switch—Enables the user of the Financial Report Model to switch back and forth between any one of the nine sets of scenario parameters selectable via the interactive pull-down menu listing digits 1 through 9, representing the various scenarios.

- InpC—Denoting "Input: Columns," this tab interprets the case selected on the previous worksheet to structure the rest of the analysis based on the tariff escalation rate derived for each scenario, the beginning and end of the model period, inputs for projected rates on consumer price index (CPI) inflation during the model period, expected rates of growth in cargo volumes and commercial lease revenues, and the predicted rate of escalation for

operations and maintenance (O&M) costs during the model period under analysis. A revenue constraint of 3.95 percent is also included on this sheet.

- InpC2—Supplies the individual column data for commercial and non-commercial revenue categories (as well as PAG asset value and Guam's population base) that will be summed to produce revenue totals, growth volumes, and required tariff revisions.

- Cargo—Identifies the cargo, breakbulk and cement forecasts used in the 2011 Financial Feasibility study and moves them forward one additional year (five years total). An interactive chart which can adjust the annual volumes is also included on this tab.

- InpR—Denoting "Input: Rows," supplies the individual row data for general and administrative expenses including labor, benefits, other personnel costs, other expenses (loan fees, settlement of claims, retirement contributions), crane and equipment repair and maintenance, while also calculating the scale and timing of the military build-up as it impacts each year of the selected scenarios.

- Time—Establishes the time frame of the model period affecting outputs for revenue accrual and growth and expense escalation, using September 30, 2012, as the base date for financial projections.

- Esc—Denoting "Escalation," this tab displays what is mostly a compounding sheet for tariff escalation in each scenario.

- Time+Esc—Combines the summaries of the last two worksheets on one worksheet in order to be a reference for later cell data in the model.

- O&M Costs—Summarizes the cash flow needs of repair and maintenance for cranes and equipment, inclusive of periodic rehabilitation and replacement.

- OpRev—Derived from 2012 year-to-date financial performance data supplied by PAG, with the tariff revision specific to each scenario applied to revenue volumes sourced from the Cargo Forecast. Data was annualized based on level monthly estimates for the financial year fourth quarter.

- RevExp_Summary—Visually depicts the predicted financial performance summary, relating each year's projected expenses to the future amounts of cargo and non-cargo revenues, commercial revenue, and other income. This sheet includes both an annual summary in tabular form as well as a chart showing revenue by category, expenses, and future debt service obligations.

- Summary Table—For each case that is selected in the Case Switch tab, this table summarizes revenue and expense forecasts for 20 years and the resulting net surplus or deficit in each of the nine scenarios.

- Financing—A transition slide to go from revenue and expense calculations and into the debt service and financing components of the model.

- Debt assumptions—Presents the debt assumptions for each investment, including the proposed issue year, present value (2012) of investment, year of expenditure (YOE) value, anticipated interest rate, maximum term of maturity, reserve assumptions, issuance costs, and estimated level debt service required to retire the loan, if applicable.

- Maximum DS—Presents in one table the debt service and revenue requirements for every modeled year in each of the nine scenarios, detailing purchases of POLA cranes (and their replacements beginning in Year 16); two years of SLE wharf work; implementation of the FMS, TOS, and GOS; and three to five years of uplands investment (minimum or maximum investment).

- Maximum DS chart—Graphically depicts the forecasted net revenue as it climbs above the financial requirements of investment in the POLA cranes and their replacements, SLE wharf improvements, FMS, TOS, GOS, and uplands improvements in the years in which they are issued

- CP Inv_Brw—Illustrates the constrained and unconstrained borrowing and investment for each scenario.

- CIP Invest_Sched—Shows the borrowing and investment schedules for each investment throughout the 20-year PMP planning horizon.

3.3 Model Outputs

3.3.1 Variable Tariff Revision

Scenarios 1 through 6 are primarily interested in answering two questions under a variety of differing commodity growth and investment conditions:

First—What is the annual increase to the existing tariff revenues at the Port necessary to pay for the program of facility and equipment investment in each scenario?

Generally the, following tariff increases will accommodate the minimum investment requirements:

- Minimum PMP, Organic Cargo Growth—5.06 percent annual increase for two years followed by 3.95 percent per year thereafter
- Minimum PMP, Full Military Build-up—5.06 percent annual increase for two years followed by 3.95 percent per year thereafter
- Minimum PMP, Half Military Build-up—5.06percent annual increase for two years followed by 3.95 percent per year thereafter

To accommodate the maximum investment the following increases are required:

- Maximum PMP, Organic Cargo Growth—6.94 percent annual increase for two years followed by 3.95 percent per year thereafter
- Maximum PMP, Full Military Build-up—5.06 percent annual increase for two years followed by 3.95 percent per year thereafter
- Maximum PMP, Half Military Build-up—5.06 percent annual increase for two years followed by 3.95 percent per year thereafter

The scenarios have the same initial interest rate requirement (except Scenario 4) since the growth constraint is early since the modernization improvements require investments prior to any significant cargo growth from either the military build-up or from organic growth. The Scenario 4 interest rate has the lowest cargo growth and the highest investment requirement so the necessary tariff rate in the early years is 1.88 percent higher than in the other scenarios. As a result, except for Scenario 4 the tariff increase necessary to support the minimum investment also supports the maximum investment. Once revenue has stabilized and debt service obligations are met, the maximum tariff increase is intentionally limited to a 3.95 percent annual increase. This means that within approximately two years, none of the scenarios have a tariff rate increases greater than 3.95 percent annually.

Second—Beyond the "points of constriction" (the initial low revenue years, during which little excess revenue is yielded by the tariff increases), in which years are there excess revenues and how large are they?

While Scenarios 1 through 6 are described in greater detail in Section 5.3, they can be summarized here as a framework illustrating the growth scenarios (full build-up, half build-up, and no build-up) and investment scenarios (maximum at $100.5 million, minimum at $78.5 million). In each of the six analyses, summary charts are presented detailing revenue growth over a 20-year time frame. In each of the cases, the incremental tariff growth, when compounded over multiple years, results in substantial excess revenue in later years (such as years 3 through 20), while early compounding produces revenue that is able to cover debt service with little excess.

The key differentiators in scenarios 1 through 6 (cargo volume and level of investment) determine which years are the "points of constriction," the years for which there is little to no excess revenue and upon which the tariff increase must be based in order to achieve an adequate debt coverage ratio. For each scenario, the model provides a specific percentage increase that will achieve full cost recovery and debt service. Additionally, the comparison between full, half, and no build-up scenarios allows the model user to more accurately balance risk by seeing what impact the proposed military build-up has upon PAG revenues.

Secondary considerations include determination of which years will produce excess revenue given the continued compounding of this tariff increase each year and what volume of total excess revenues may be produced in any given year.

3.3.2 Financial Performance with Predetermined Tariff Increase

The final three scenarios were completed to analyze the predicted financial performance of PAG should a tariff increase of 3.95 percent, compounded annually, be permitted to proceed by the PUC.

Of note in these scenarios is which years, if any, there is too little excess revenue to satisfy the risk tolerance of PAG or investors. Finally, the analysis for each scenario is able to derive the amount of excess revenue in later years after multiple instances of compounding the 3.95 percent annual increase. Again, the differentiators in this scenario are the degree of military build-up that occurs—full, half, or none. The final three scenarios assume a level of investment at PAG that can be supported by just a 3.95 percent increase throughout all 20 years.

Figures 3 through 11 show a summary of the revenues, expenses and anticipated debt service for all nine scenarios. These figures illustrate the relative amount of revenue necessary to accommodate the minimum and maximum investment required in each scenario. An additional line illustrating a potential future PMP scenario that accommodates additional investments (beginning in 2015) is also included. This level of investment would accommodate much of the modernization investments identified in the 2007 Master Plan Update, but only if the Port moved in the direction of revisiting waterfront facility replacement, expansion, and associated dredging. If Service Life Extension and the resulting assumptions about no dredging, no wharf replacement, and dealing with "light loaded" vessels remains in place, then the accumulated reserves would be focused on uplands improvements only or set the stage for taking on loans to accomplish the larger "waterfront work" 20 years out.

The 'Minimum PMP' scenarios entail investment in equipment, cranes, SLE wharf work, purchase and implementation of FMS/TOS/GOS, and uplands investment. 'Maximum PMP' scenarios append an additional $22 million for uplands investment to the original Minimum PMP expenditures.

Figure 3. Variable Tariff Revision—Scenario 1, Minimum PMP, Organic Cargo Growth

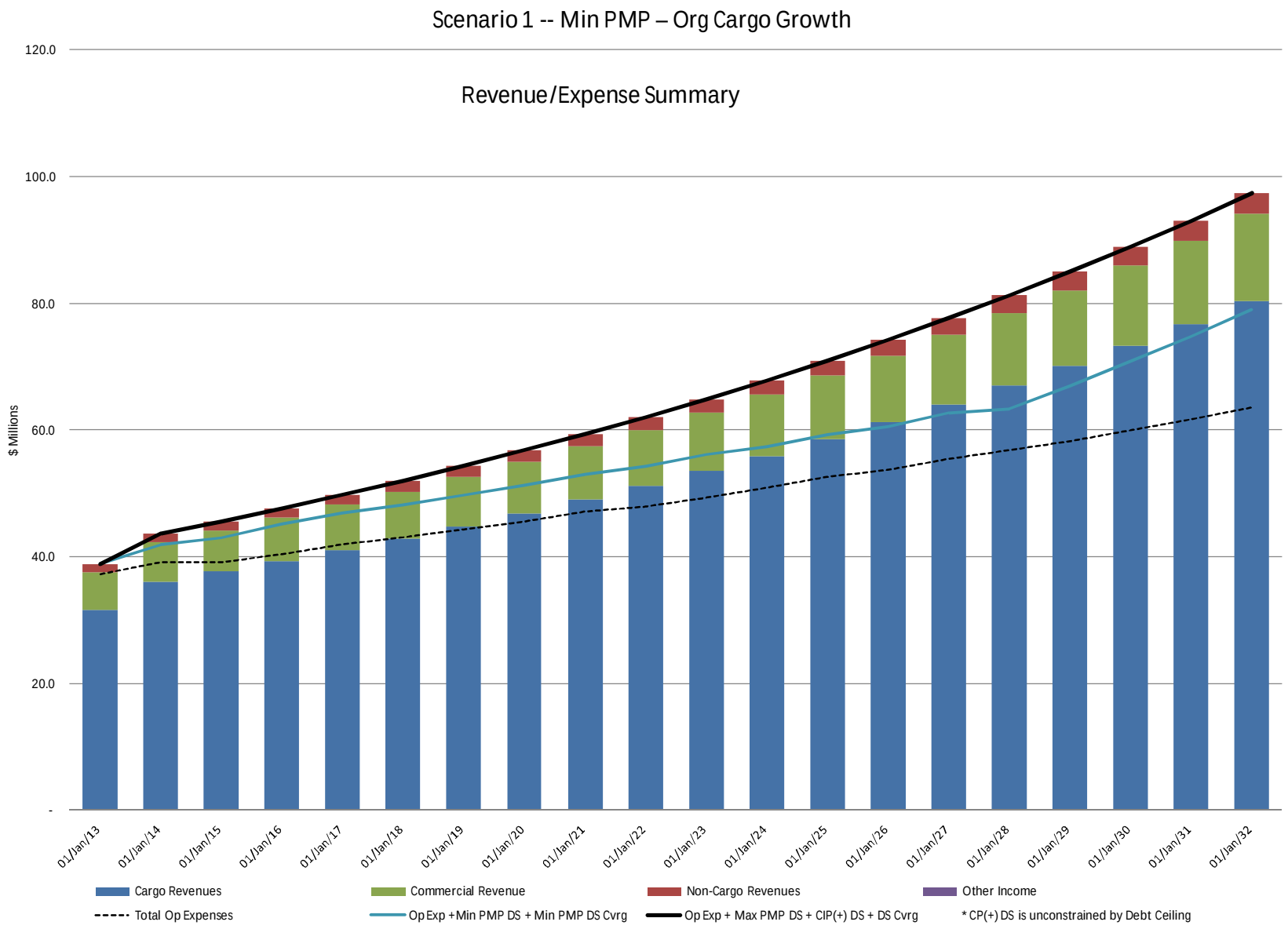


Figure 4. Variable Tariff Revision—Scenario 2, Minimum PMP, Full Military Build-up

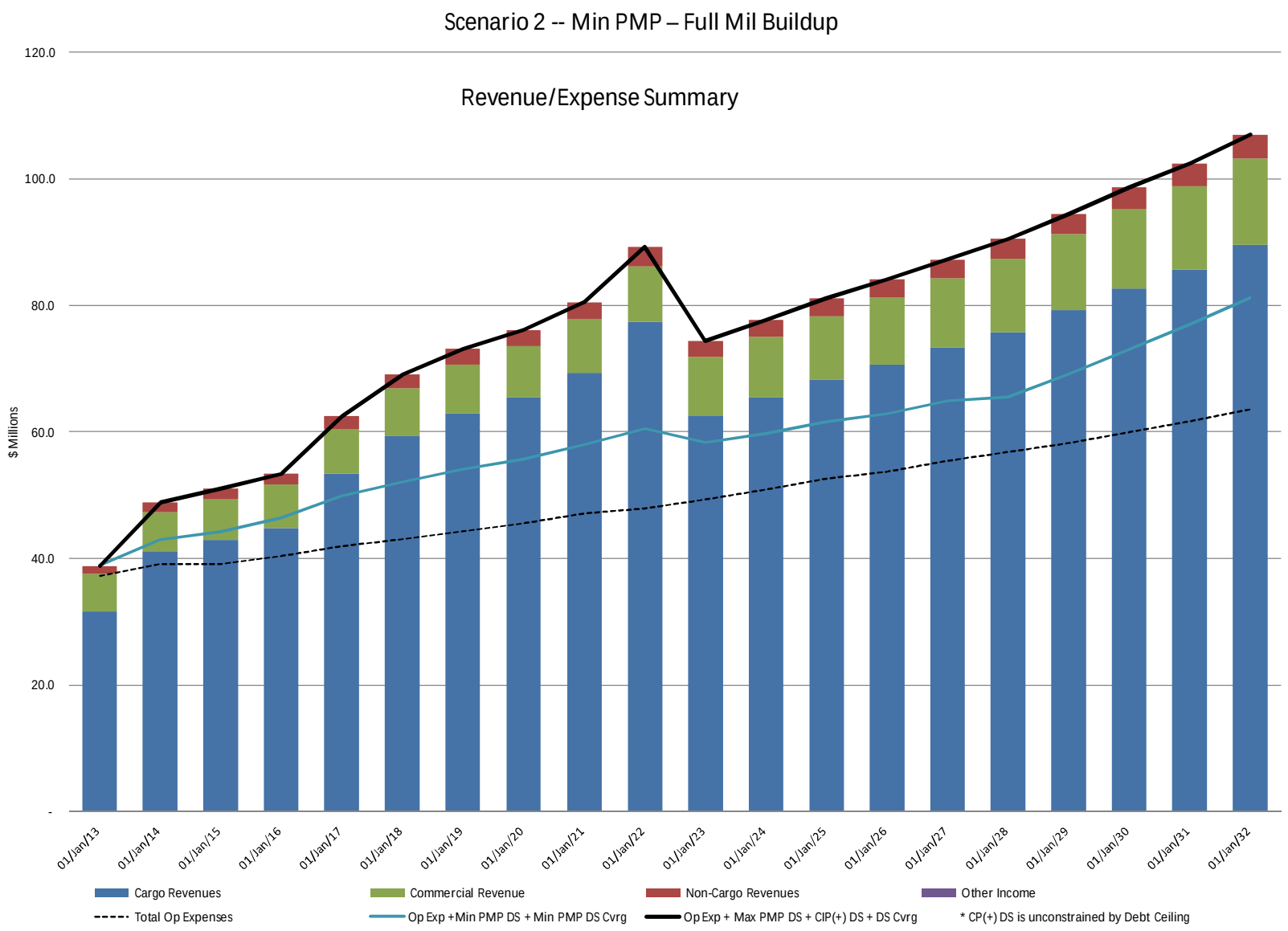


Figure 5. Variable Tariff Revision—Scenario 3, Minimum PMP—Half Military Build-up

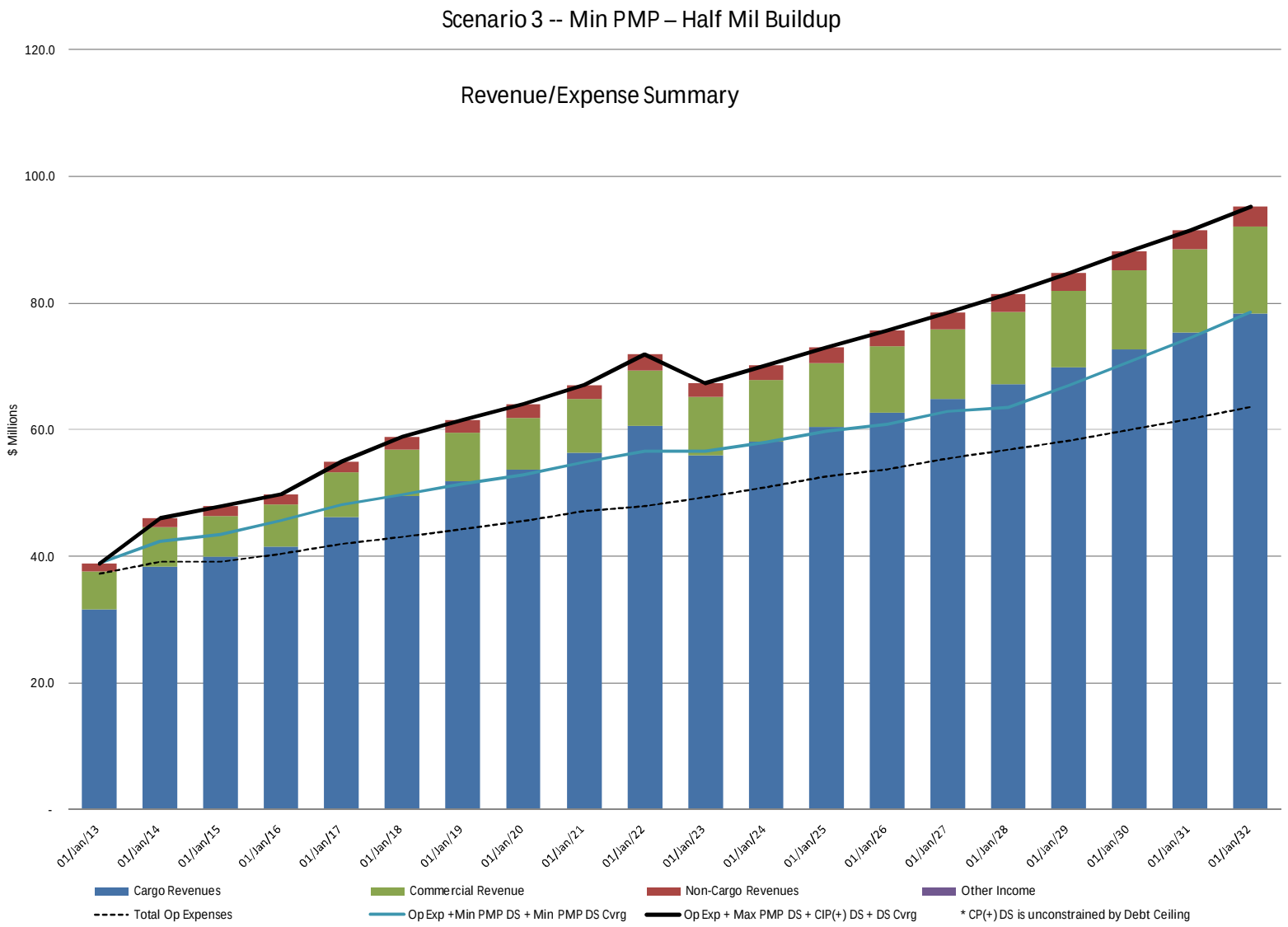


Figure 6. Variable Tariff Revision—Scenario 4, Maximum PMP, Organic Cargo Growth

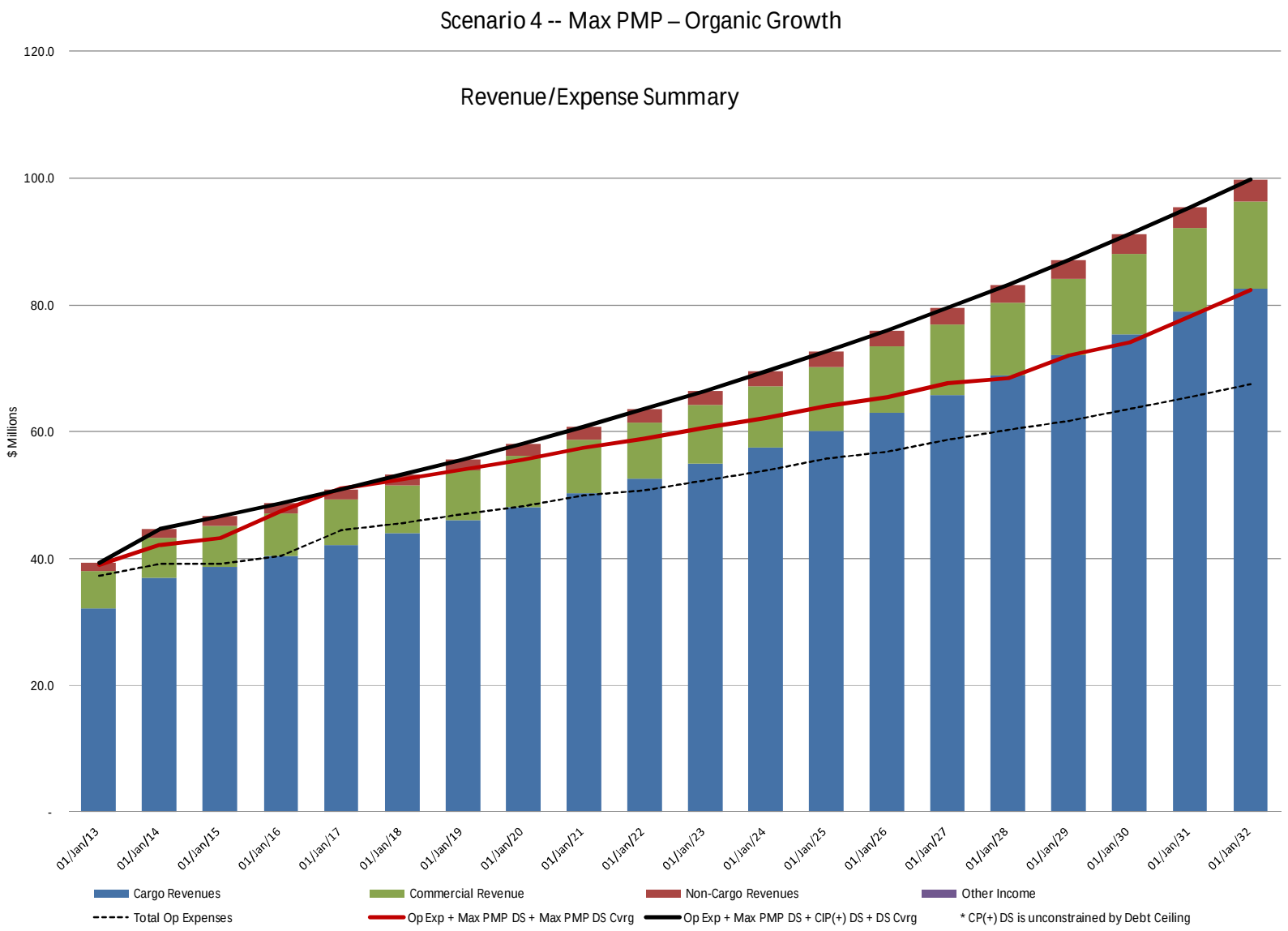


Figure 7. Variable Tariff Revision—Scenario 5, Maximum PMP, Full Military Build-up

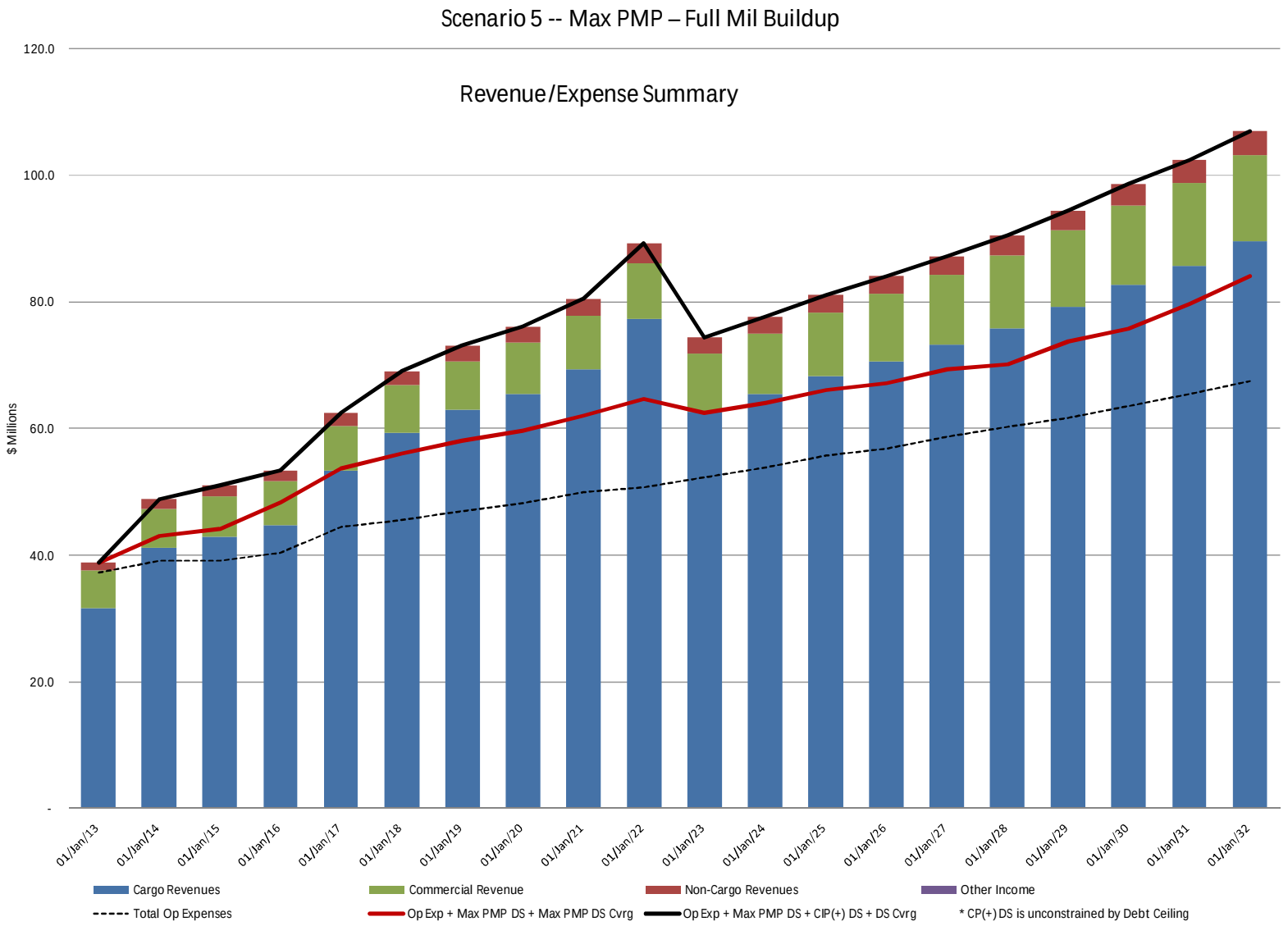


Figure 8. Variable Tariff Revision—Scenario 6, Maximum PMP, Half Military Build-up

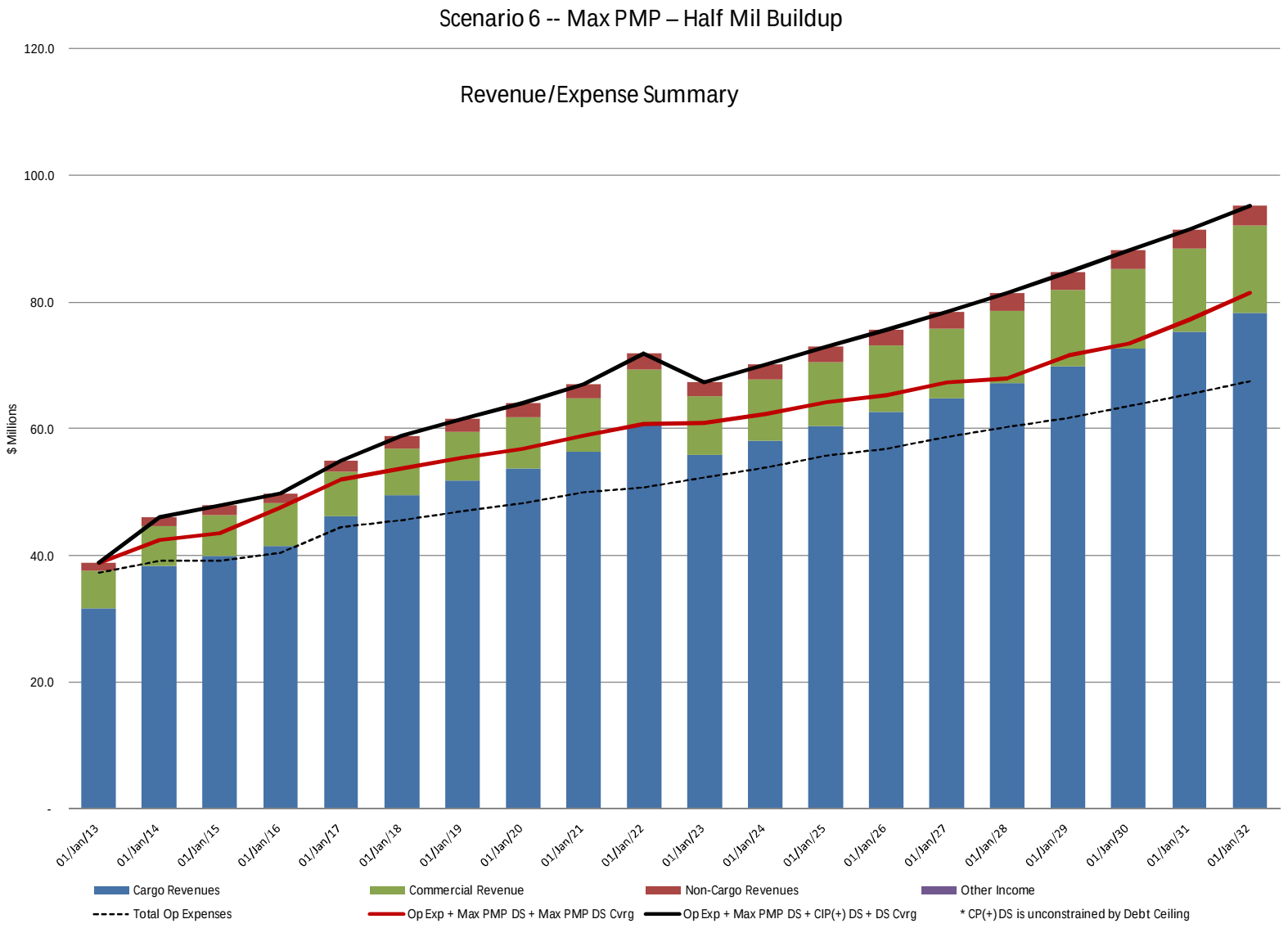


Figure 9. Variable Tariff Revision—Scenario 7, 3.95-percent Tariff Growth, Organic Cargo Growth

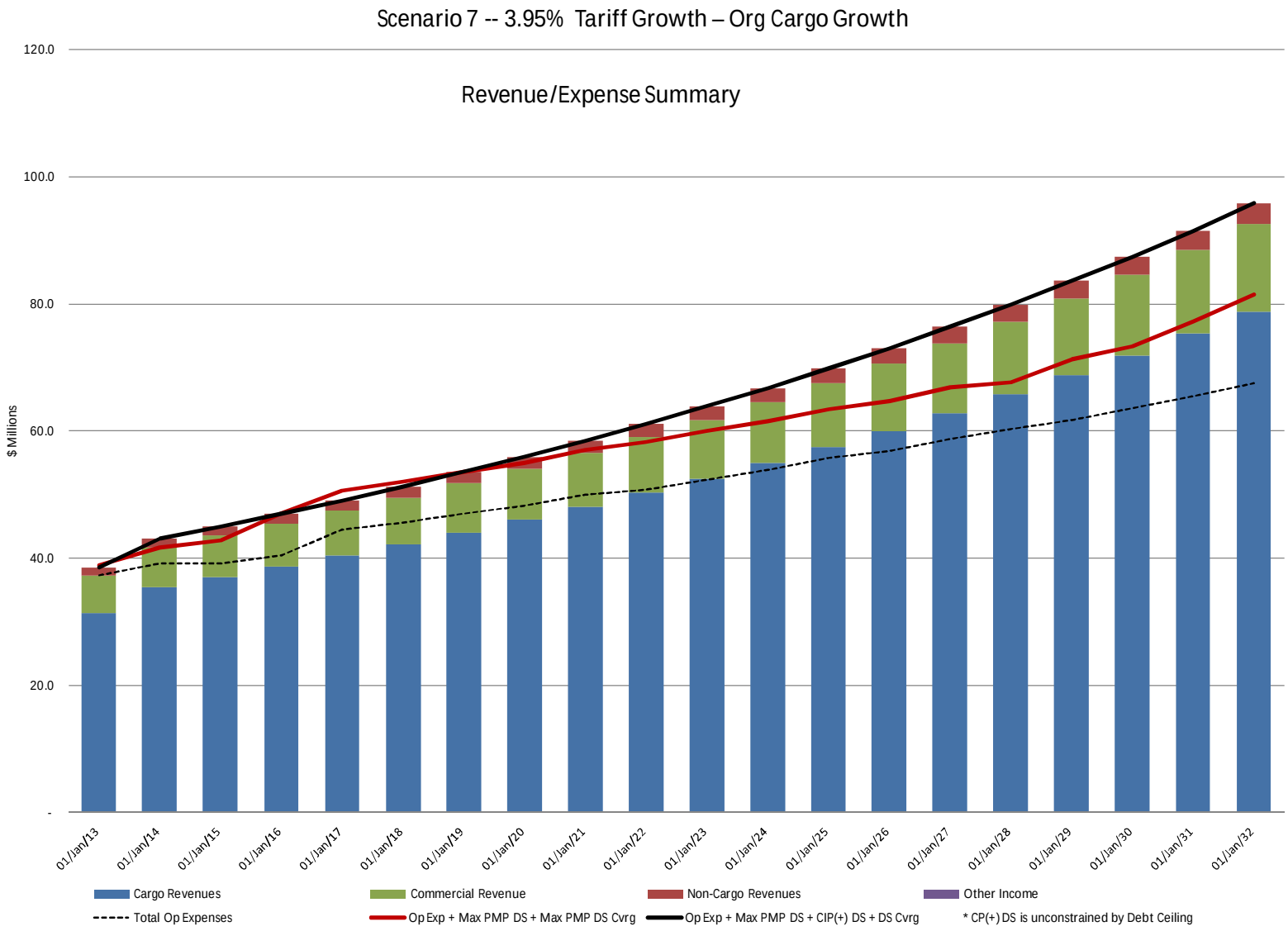


Figure 10. Variable Tariff Revision—Scenario 8, 3.95-percent Tariff Growth—Full Military Build-up

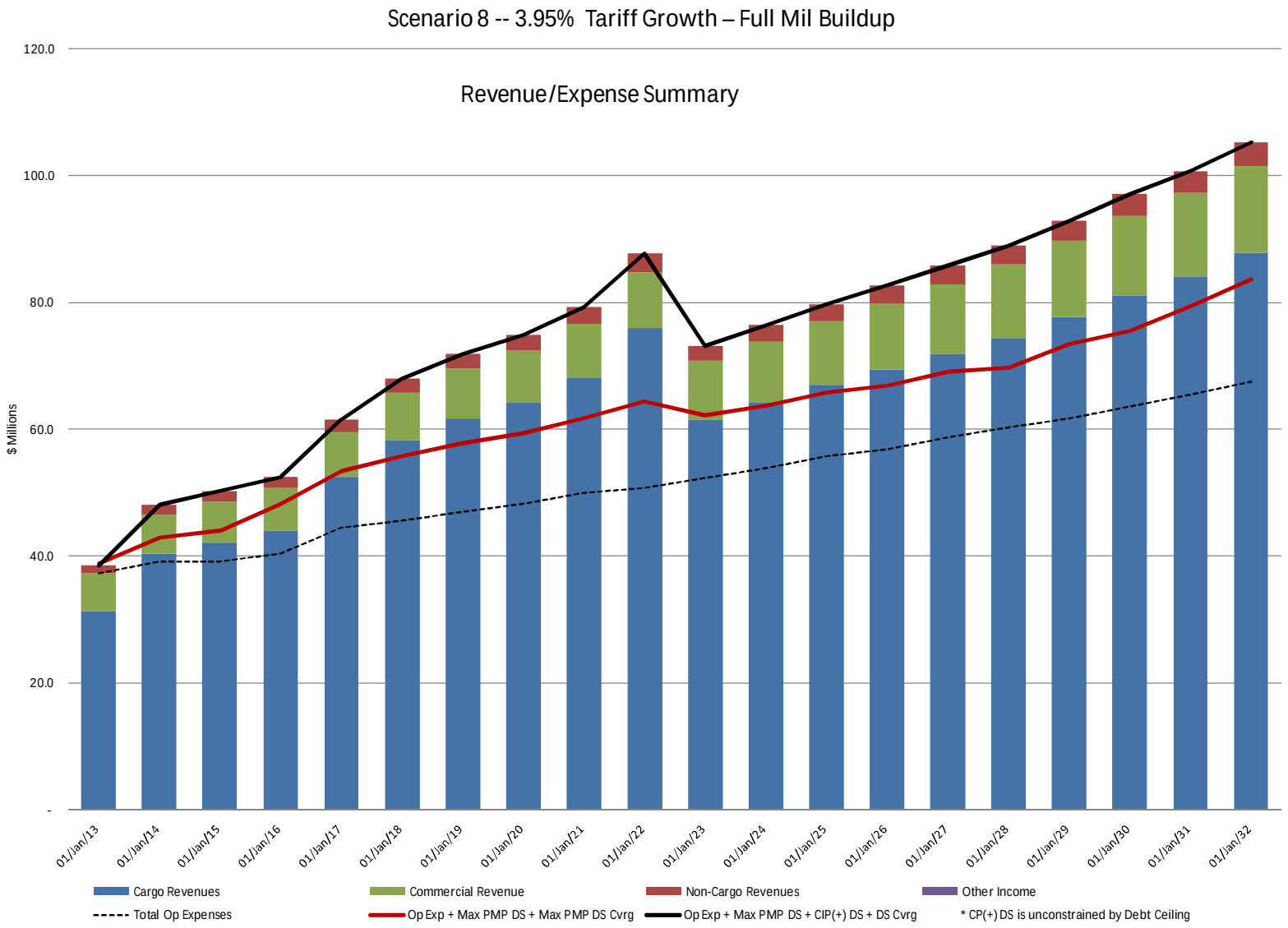
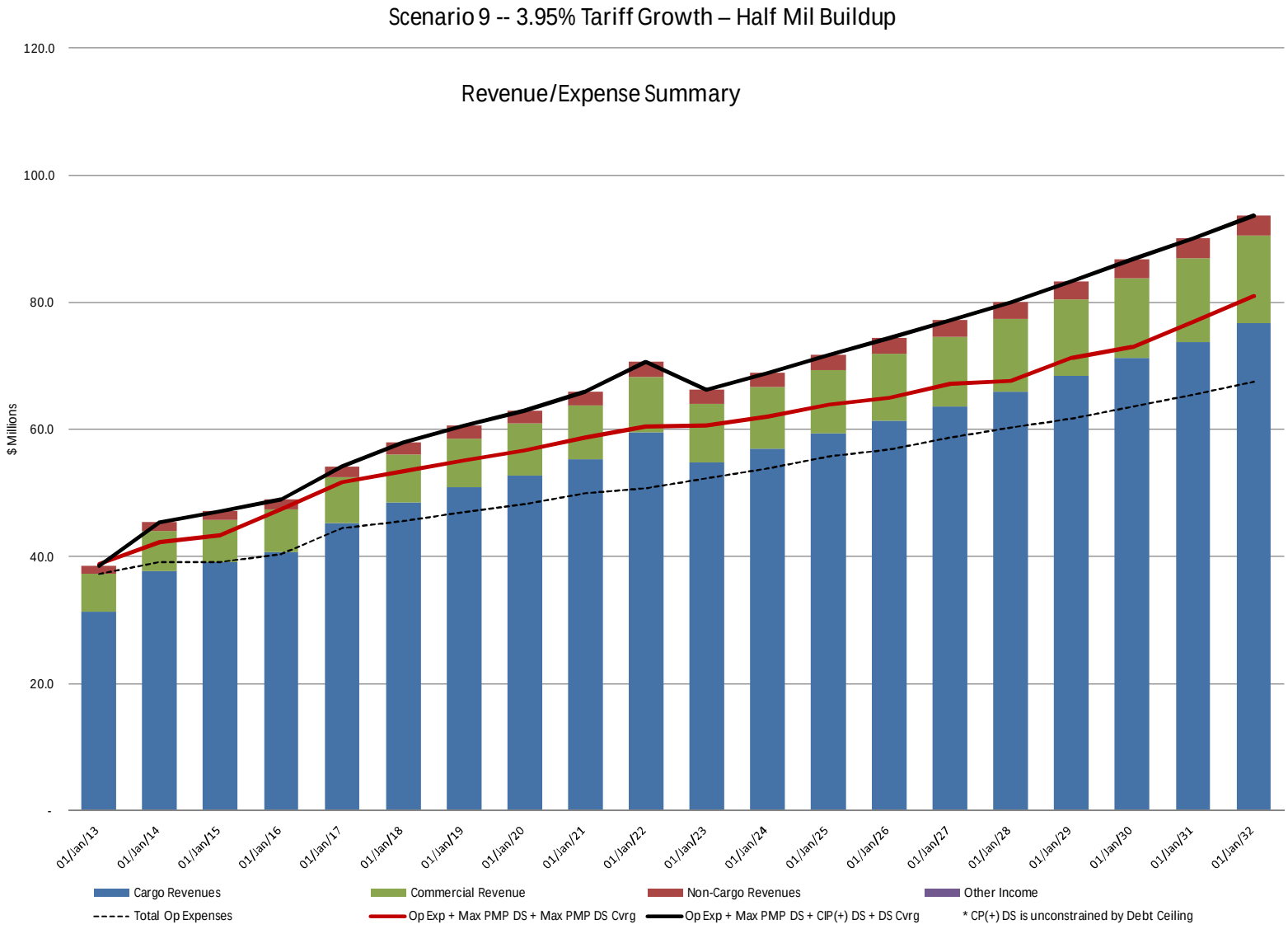


Figure 11. Variable Tariff Revision—Scenario 9, 3.95-percent Tariff Growth, Half Military Build-up



4.0 FINANCING AND FUNDING OPTIONS

The following section outlines options available to PAG to finance selected modernization alternatives through a mix of loans, grants, or other sources.

4.1 Financing Options for PAG

In financing the infrastructure upgrades and equipment purchases outlined in the *Port Modernization Plan*, PAG faces a number of choices regarding financing. In addition to the more standard paths of commercial loans and revenue bonds, PAG has access to federal grants and direct or guaranteed government loans.

4.1.1 Revenue Bonds

PAG may issue tax-exempt revenue bonds with the assistance of the Guam Economic Development Authority (GEDA) that are secured by the production of revenues associated with the infrastructure the bonds are intended to fund. This differentiates them from general obligation bonds, which are typically repaid through tax revenues and lay claim to any legally available resources held by the issuer. The standard term for such bonds is 30 years, and their tax exempt nature allows lower financing costs for government entities, such as PAG.

However, issuance of bonds is not without organizational cost. There are extensive regulations governing the bond market, and PAG would need to strengthen its compliance and bond counsel capabilities. Additionally, the financial performance of PAG would come under greater scrutiny from bondholders and brokers. Finally, government entities in Guam have a history of not ranking in the highest investment grades, and that could increase lending costs associated with the transaction for PAG.

4.1.2 USDA Community Facility Guaranteed Loan Program

The U.S. Department of Agriculture (USDA) Office of Rural Development administers a loan portfolio of over $86 billion dollars, as of 2010, with an additional $16 billion in loan guarantees and grants. The USDA's Community Facilities Direct and Guaranteed Loan Program is a funding source for government entities, such as municipalities, counties, or autonomous agencies like PAG.

Financing supplied or guaranteed by this program is used to construct or improve facilities that provide a public service, with approved uses including land acquisition, professional service and consulting fees, and equipment purchase. To obtain either a direct loan or a guarantee for a commercial bank loan, successful applicants will have demonstrated authority to borrow and pledge security for the loans, as well as the authority to build, maintain, and operate the facility being funded. Projects that are intended to substantially alter the financial operations of a government entity are expected to prove credit-worthiness through independent feasibility studies. Additionally, financial stability and the ability to manage and control the facility are

prerequisite conditions to securing a direct or guaranteed loan under this USDA program.

Funds secured through a loan granted or guaranteed by the USDA can be typically used for land or equipment purchase, real estate improvements, furnishings, professional service or consulting fees, lender and guarantee fees, two year's interest on the loan, and occasionally, the first year of operating expenses for the funded facility. The loan period is defined by the life of the facility, with the funds used for repayment derived from user fees, and in the case of the Port, tariffs and other commercial service or leasing revenues. PAG is the borrower of $54.5 million in both direct loans and loans guaranteed by the USDA Community Facilities program. The first three of six USDA program loans were used in part to purchase cranes formerly sited at the Port of Los Angeles (POLA).

PAG has had several direct and guaranteed loans in play in recent times. These included Guaranteed Equipment Loans and $50 million in direct and guaranteed Loans for the PMP. PAG is now preparing to purchase gantry cranes with one loan. It is also adjusting its PMP borrowing to drop the $25 million guaranteed loan but retain the $25 million direct loan. It is possible, and has been recommended by USDA, that PAG consider dropping the $25 million direct loan and submit a future loan application built around a revised proforma related to the realities of the military build-up and associated revenue streams. It is clear in looking at some of the scenarios in this analysis, that serious consideration needs to be given to following this adjusted course.

4.1.3 Direct Loans

The direct loan features three means-tested tiers of interest rate: poverty, intermediate, and market rate. While the lowest interest rate is set at 4.5 percent, the market rate is equal to the eleventh bond buyers' rate recognized by the U.S. Treasury Department. The intermediate rate is then established halfway between the lowest rate and the market rate offerings. Eligibility considerations for means-tested, subsidized interest rates are established by analysis of the median household income of the surrounding jurisdiction. Direct loans have ranged in amount from $5,000 to $47 million, with the average being $1,140,319. As mentioned above, PAG is still considering being the borrower of a $25 million USDA Community Facilities Direct Loan.

4.1.4 Guaranteed Loans

Credit enhancement is available through the USDA Office of Rural Development to encourage the creation of community facilities in eligible, low-to-moderate income areas. While the borrower is compelled to retain a portion of the loaned funds, the guarantees are sold on the secondary market, where the USDA guaranty increases project feasibility and financial return. The USDA guaranty repays in cash 90 percent of funds at stake in the event of a loss. The lender is charged a guaranty fee of

1 percent of the borrowed amount, and this charge is typically assessed to the borrower.

For loans guaranteed by the USDA, the interest rate is set by the lending institution based on its own investment goals or experience with previous, similar projects. The local lender may set the interest rate as fixed or variable over the life of the loan. Defining the relationship of the borrower, the lender, and the USDA, it is the lender that formally applies to the USDA with supporting documentation (feasibility studies, construction documents, estimates, etc.), with the lender having decided upon its own criteria that the investment in the facility is sound. The relationship between the lender and the borrower is that of a typical loan, with the lender in charge of collecting payments, supervising liens on collateral, and verifying financial performance. Guaranteed loans have ranged in amount from $26,000 to $26 million, averaging $2,454,491 in the course of the program.

PAG was an intended borrower of a $25 million USDA Guaranteed Loan with ANZ Guam as the lender. PAG has indicated a desire to drop that loan. ANZ Guam is also lending an additional term loan guaranteed by the USDA program earmarked for the acquisition of cargo handling equipment. As of the latest audited financial review, PAG has maintained the requisite interest coverage ratio (net profit before depreciation, interest, taxes and amortization divided by total interest expense) of 1.5 to 1, while also maintaining a debt service coverage ratio of 1.3 to 1.

4.2 Major Sources of Funding for PAG

4.2.1 USDOT Maritime Administration

Since June 2008, PAG has partnered with the U.S. Department of Transportation's (USDOT) Maritime Administration (MARAD), signing a Memorandum of Understanding concerning the Port of Guam Improvement Enterprise Program that designates MARAD as the leading federal entity to assist PAG in securing modernization funding, navigating the environmental permitting process, and leading the procurement effort associated with the modernization. Through related federal legislation (the National Defense Authorization Act, 2010), MARAD has established the Port of Guam Improvement Enterprise Fund as a separate account in the U.S. Treasury.

4.2.2 Department of Defense

The Supplemental Appropriations Act of 2010 provided $50 million to PAG for its Port Modernization Program in August of that year, transferring that amount to the Port of Guam Improvement Enterprise Fund to September.

4.2.3 Other Federal Grant and Loan Programs

Since 1999, PAG has received $23.2 million in federal non-loan contributions of various categories. It is likely that the federal government will continue to recognize

the strategic importance of Guam and its Port in weighing future appropriations decisions but this money should not be considered a reliable annual revenue source.

4.2.4 Debt Service Assumptions

The debt service used to calculate the tariff rate increases is based on recent debt issuance at the Port and at other agencies on Guam. The table below shows the debt service assumptions used in the various scenarios.

				Debt Service Assumptions				
	Period End Fiscal Year	Issue Year	2012 $ Amount	Rate	Max Maturity	Reserve %	Issuance Cost	Annual Debt Serv. ($mil)
Minimum	Equipment	2010	3.50	6.22%	15	-	-	0.36
	POLA Crane Purchase *	2012	12.00	6.00%	15	-	-	1.24
	SLE Wharf Work (1st Year)	2013	5.00	6.50%	20	10.0%	2.0%	0.45
	SLE Wharf Work (2nd Year)	2014	5.00	6.50%	20	10.0%	2.0%	0.45
	FMS/TOS/GOS Year 1	2013	3.00	6.00%	10	10.0%	2.0%	0.41
	FMS/TOS/GOS Year 2	2014	2.00	6.00%	10	10.0%	2.0%	0.27
	FMS/TOS/GOS Year 3	2015	2.00	6.00%	10	10.0%	2.0%	0.27
	Uplands Investment (DOD Grant)	2013	15.33	-	-	NA	NA	-
	Uplands Investment (DOD Grant)	2014	15.33	-	-	NA	NA	-
	Uplands Investment (DOD Grant)	2015	15.33	-	-	NA	NA	-
	Total (Minimum)		78.50					
Max	Add'l Uplands Investment (1st Year)	2018	22.0	6.5%	20	10.0%	2.0%	2.00
	Add'l Uplands Investment (TBD)	2019	-	-	-	NA	NA	-
	Total (Maximum)		100.50					

* Reserve amount and issuance costs are assumed to come from existing operating expenses or cash reserves, not future debt

5.0 FINANCIAL PERFORMANCE SCENARIOS

This section provides an overview of the primary principles and assumptions that inform the financial analysis, describes the outcome of each modeled scenario, and considers implementation issues for the tariff revision process.

5.1 Principles

Parsons Brinckerhoff's *Financial Feasibility Study Report* (2008) laid out a number of principles concerning recapitalization investment at the Port, upon which modeling assumptions have been built in this and previous reports. These management objectives remain relevant both as goals and as explanations of the model structure.

5.1.1 Maintain the Port and Its New Equipment

The uses of funds prescribed in the Capital Improvement Program, submitted in tandem with the Master Plan 2007 Update, represent a tremendous expenditure of public funds. It is incumbent, then, upon project planners to ensure that a robust program of asset management is built into the financial framework in considering the feasibility of these improvements. This will not only lengthen the useable life of the asset, but it will also contribute to efficiency gains in port and equipment operations.

5.1.2 Achieve Cost Recovery via Operating Revenues

As established in its authorizing legislation, it is the responsibility of the Board of Directors of PAG to establish and maintain, with the approval of the PUC, a schedule of dockage, rentals, tolls, pilotage, wharfage, and user charges for PAG facilities and services that will recover the cost of operating the Port. These costs include salaries of management and labor; equipment acquisition and maintenance; dredging and maintenance for Apra harbor, the entry channel, and the breakwater; depreciation of capital assets; utilities; insurance; interest and other borrower fees on loans; and other general expenses (in addition to a reasonable return on public investment). Future uncertainties about PAG's responsibility for retirement expenses and its contributions to the Government of Guam's Autonomous Agency Infrastructure Collection Fund further provide compelling reasons for a renewed focus on cost recovery through revenue enhancement at the Port. Finally, by achieving more complete cost recovery through consistent revenues, PAG may lower the cost of future borrowing and achieve a better bond rating, should revenue bonds be selected as a financing option at a future date.

5.1.3 Leverage Productivity Improvements to Reduce Costs

While retail consumers in Guam may not realize or fully experience the cost of service provision at PAG through inflation of total landed costs, PAG has in recent years deferred critical investments in capital improvement projects due to revenue shortfalls. In turn, productivity of Port assets has lagged behind what it could be,

further increasing the cost of service provision within PAG. New cranes and more comprehensive system integration between the TOS, GOS, and FMS interfaces will allow productivity improvements and greater throughput per dollar expended within the Port.

5.1.4 Maintain Awareness of Inflation

Cost controls and productivity improvements will produce a better return on public investment within the Port. However, in some years, inflation and rising costs outside of PAG's control will compel the Port's administration to seek a revision to the tariff in order to more accurately reflect the cost of delivering the Port's services to the residents of Guam. While several of the modeled scenarios in this analysis assume a fixed 3.95 percent increase to the tariff per year, several other scenarios derive the necessary tariff increase required to support different levels of borrowing and associated facility improvement within the Port.

5.2 Scenario Assumptions

Building off the stated principles, this Analysis assumes that PAG and the PUC will allow the necessary changes in operations and financial management to pursue more intensive maintenance, allow tariffs to stay current with cost inflation, and achieve full cost recovery for Port assets and associated services. Beyond these broader assumptions are more detailed inferences that have been used to structure the analysis and the accompanying revenue model.

- The model includes a front-loaded two year escalation of 5.06 percent (or 6.94 percent for one scenario of organic growth coupled with a large build-out) followed by 18 years of a smaller annual increase of 3.95 percent.

- Baseline cargo assumptions for organic growth before the addition of cargos attributed to the forthcoming military build-up are the median projections found in the previous Cargo Forecast submitted to PAG. It is assumed that the contextual factors—economic, political, and environmental—that shaped those predictions are still valid and in place.

- Incremental volumes in container count, breakbulk, and cement tonnage are sourced from the previously submitted Cargo Forecast. This same document frames its predictions on the most recent phasing schedule for the introduction of troops to Guam, as well as the most recent estimation of the construction schedule required for completing housing and work space.

- Cargo, non-cargo, commercial, and other revenues are sourced from budgets and actual figures provided by PAG for the most recent fiscal year.

- Cost escalation of 3.1 percent per year is derived from estimates provided by PAG and generally corresponds to the historic inflation rate observed on

Guam. Organic growth rates for cargo (1 percent) are linked to reasonable estimates for organic population growth in a no build-up scenario. Revenues derived from commercial leases within the Port are assumed to increase at 4.5 percent per year. Facility maintenance for Port assets is assumed to be 1.5 percent of the total Port asset valuate per year increasing with increased Port investments (e.g. Uplands Investments).

- Crane purchases ($12 million) are assumed to occur in late 2012 since the proposal to acquire them has now been approved by the PUC.

- Maintenance costs for the cranes are modeled at approximately $3 million in early years, escalating to $4 million per year towards the end of asset life. Yard equipment repair and maintenance costs are modeled to be between $600,000 to $900,000 per year, with peaks in 2021 and 2025.

- The $10 million in improvements associated with the SLE program (such as cathodic protection, repairs to berth F-5, and additional equipment purchase) are assumed to commence after the resolution of uncertainties surrounding the crane purchase. This indicates a purchase/construction period from 2013 to 2014. This improvement package is also funded by the $10 million GEDA loan.

- FMS, TOS, and GOS implementation at a total cost of $7 million are expected to begin in 2013 with the FMS. The TOS and GOS systems will likely be implemented later in 2014 and 2015.

- The uplands investment program ($46 million now estimated as available) will likely take place over three years from 2013-2015. This is a grant and is not anticipated to impact the debt obligations or cash reserves of the Port. The maximum investment scenarios (4 though 6), assume an additional $22 million (financed through PAG borrowing), can be devoted to uplands investment consistent with the debt-ceiling. This spending is depicted to occur over two years from 2016-2017. Depending on the timing of the project, this investment is possible in scenarios 7 through 9 if it is delayed to allow for the creation of the necessary funding.

- Some financing costs, such as fees associated with bond issuance and loan origination, including reserve amounts and debt service coverage requirements, are included. A debt service coverage ratio 1.3 was estimated and soft costs of approximately two percent of the loan amount were used. Other items, such as the management of the Port Improvement Enterprise Fund or other investment requirements not identified previously in this report, are not included in the analysis.

- The model assumes that PAG management staff will be able to make the necessary operational changes to achieve increased operating efficiency, after

purchase of the new equipment, in order to realize the projected revenues at the forecast level of expense. Additional operating and maintenance expenses have been added to reflect the increased asset valuation of the Port for Upland investments beginning in 2016.

- Productivity gains are also predicated upon PAG's adherence to a heightened program of asset management through more intensive planned maintenance for cranes and yard equipment. For cranes, this will entail annual maintenance expenditures in excess of $3 million, in addition to $656,000 for insurance costs. When the complete asset life costs (inclusive of acquisition, operations, maintenance, insurance, and additional training and personnel) of the cranes is considered, the acquisition cost is roughly one-fifth the total cost of ownership.

- The model includes a crane surcharge of $105 per container beginning in March of 2013 and continuing for the rest of the two decade finance period. A breakbulk charge of $5 per ton is also included.

- This analysis also includes a change to labor staffing norms toward two additional labor gangs in 2017, totaling 38 full-time equivalent (FTE) employees. This increased expenditure, beginning in 2017, is escalated at 3.1 percent annually.

- No isolated surcharge for cargos attributed solely to DOD is included in this revenue model, due primarily to the difficulty in implementing such a policy with regard to identification and segregation of these cargos. Accordingly tariff growth is applied uniformly and does not discriminate against any particular constituencies.

- Retirement and other costs associated with employee benefits are escalated in the same manner other expenses are projected. Substantial deviations from this assumption may affect the actual cash flow available to debt service in future years.

- The model includes an annual contribution of $875,000 to the Government of Guam's Autonomous Agency Infrastructure Collection Fund.

5.3 Summary of Financial Projections and Borrowing Capacities

The following scenarios model the outcomes of different levels of port infrastructure investment in various growth contexts at the Port, both with and without tariff revisions. Given the current uncertainties of the expected military build-up and its impacts upon the Guam economy, the scenarios are primarily structured around the scale and timing of this expected personnel increase and the level of expenditure and recapitalization PAG undertakes to accommodate growth.

5.3.1 Organic Growth with Minimum Investment

The organic growth scenario is characterized by incremental gains in container, break bulk, liquid bulk, ro-ro, and other commodity flows, absent additional stimulation by federal expenditure above current levels in Guam. The key drivers of organic growth in this analysis are population growth within the existing resident group as well as increases in GIP. The minimum investment scenario describes a Port recapitalization of the core essentials, primarily core assets whose productive life is currently exhausted or nearing completion. The minimum investment scenario is $78.5 million ($32.5 million borrowed).

Key expenditure categories in the minimum scenario are uplands investment ($46 million), crane purchase ($12 million), FMS/TOS/GOS ($7 million), SLE wharf work and equipment ($10 million), and previously purchased yard equipment ($3.5 million—2011).

5.3.2 Organic Growth with Maximum Investment

In this scenario, organic growth in commodity flows (identical to the volumes described in Scenario 1) are paired with the maximum level of investment PAG could undertake. In addition, the maximum level is determined by the outer bounds of asset capacity needs, PAG's cash flow from predicted revenues, loan conditions regarding debt coverage ratios, and legislated limits on borrowing. The maximum investment scenario is $100.5 million ($54.5 million borrowed).

Key expenditure categories in the $ 100.5 million maximum investment scenario are uplands investment $68million ($46 million through DOD Grant and $ 22million by PAG borrowing), crane purchase ($12 million), FMS/TOS/GOS ($7 million), SLE wharf work and equipment ($10 million), and previously purchased yard equipment ($3.5 million).

5.3.3 Half Build-up with Minimum Investment

A half-sized military build-up scenario with minimum investment. Revenues in this model are forecast with the conservative cargo volumes associated with an addition of this scale. The minimum investment scenario is $78.5 million ($32. 5 million borrowed).

5.3.4 Half Build-up with Maximum Investment

This scenario represents a similarly sized half military build-up scenario for population and cargo but with increased investment. The maximum investment scenario is $100.5 million ($54.5 million borrowed).

5.3.5 Full Build-up with Minimum Investment

A full military build-up scenario for Guam entails the addition of 25,000 persons to the military population of Guam. Parsons Brinckerhoff expects this additional build-up to be delayed five years but will take place over the course of nine years as previously outlined, with 1,500 people arriving in the first three years, an additional 2,500 in the next four years, and the remainder of the 25,000 arriving in the final two years. Revenues in this model are forecast with the conservative cargo volumes associated with an addition of this scale. The minimum investment scenario is $78.5 million ($32.5 million borrowed).

5.3.6 Full Build-up with Maximum Investment

This scenario represents a similarly sized full military build-up scenario for population and cargo but with increased investment. Revenues in this model are forecast with the conservative cargo volumes associated with an addition of this scale. The maximum investment scenario is $100.5 million ($54.5 million borrowed).

5.4 Summary of Financial Performance with Tariff Revision

The final three modeling scenarios are completed to derive the maximum "affordable" borrowing totals under different growth conditions, given a legislated tariff increase of 3.95 percent per annum.

5.4.1 Organic Growth with 3.95-percent Tariff Increase

The first scenario projects organic growth from the present commodity flow volumes and forecasts revenues based on this revised rate structure.

5.4.2 Half Build-up, Delayed Five Years, with 3.95-percent Tariff Increase

The second modeling scenario in this approach considers the revenue impacts of a half-sized military build-up (delayed five years) and the additional debt these incremental revenue gains make possible. A half-sized military build-up in this scenario entails the addition of 12,500 military personnel and dependents.

5.4.3 Full Build-up, Delayed Five Years, with 3.95-percent Tariff Increase

The final modeling scenario assesses the highest "affordable" amount of debt that PAG should consider in light of a full military build-up (delayed five years) in which 25,000 military personnel and dependents are added to Guam's population.

5.5 Summary and Analysis

The results of the financial projections are presented below, submitted in addition to a digital copy of the Excel workbook containing the financial model used to derive these outcomes.

5.5.1 Financial Performance in Scenarios 1 through 6

Scenario 1 features an organic growth context with no military build-up, supported by the minimum level of infrastructure investment on behalf of PAG. Scenario 2 forecasts the financial performance of PAG should it decide to implement the minimum investment program in preparation for a full military build-up. Scenario 3 again describes the minimum level of facility and equipment investment, but in the context of a half-sized military build-up. Scenario 4 depicts the maximum level of PAG investment set against a backdrop of organic growth with no military build-up. Scenario 5 models the maximum level of port investment in tandem with a full military build-up. Finally, Scenario 6 analyzes the maximum level of investment with a half-sized military build-up.

Figure 12 through Figure 17 illustrate the excess revenue available to the Port after expenses and projected debt service are paid. Figure 18 through Figure 20 show the revenue projections for the scenarios that use a 3.95 percent tariff increase for the organic, full military build-up and half military build-up scenarios. The revenue generated in the organic growth assumption is not sufficient to cover capital investments planned before 2018. Likewise the half-military build-up also has insufficient revenue to cover all the planned investments. If this tariff rate increase is used, it is likely that many of the planned investments will need to be delayed until sufficient revenue is available to fund the investments beyond the POLA cranes.

More detailed descriptions of the program of individual facility improvements and equipment purchases associated with each scenario can be found in Section 5.3

Figure 12. Financial Performance—Scenario 1, Minimum PMP, Organic Cargo Growth

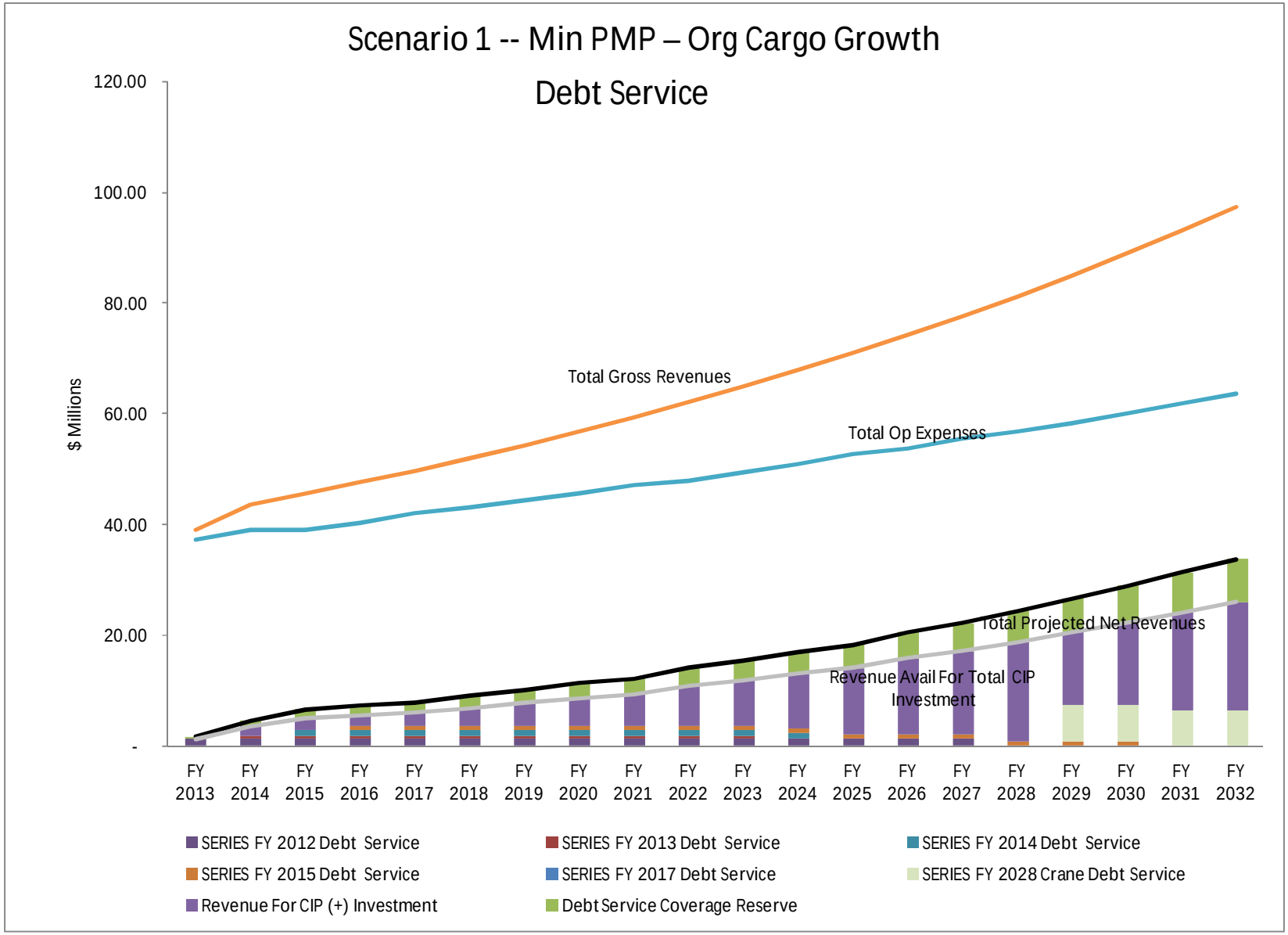


Figure 13. Financial Performance—Scenario 2, Minimum PMP, Full Military Build-up

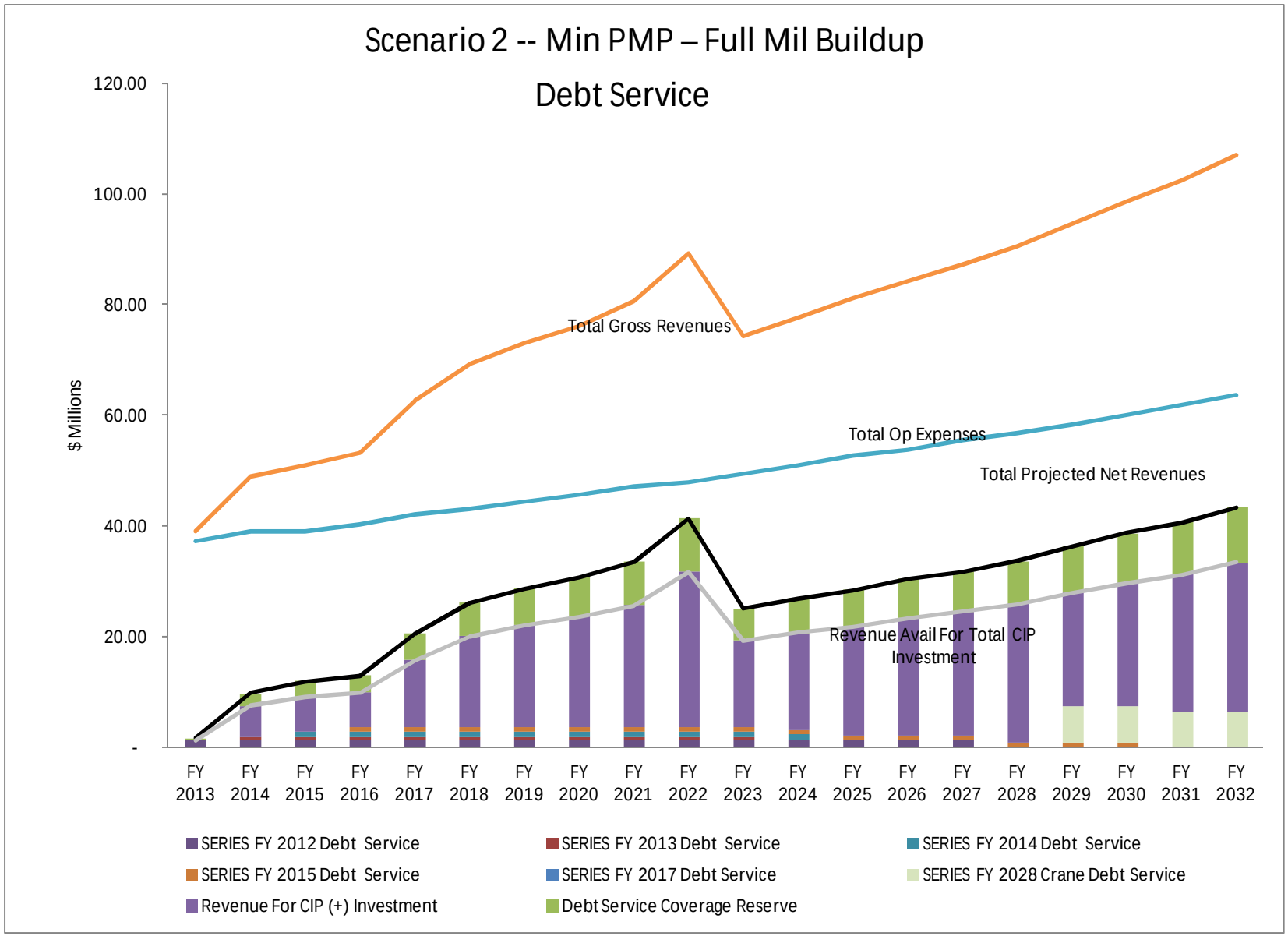


Figure 14. Financial Performance—Scenario 3, Minimum PMP, Half Military Build-up

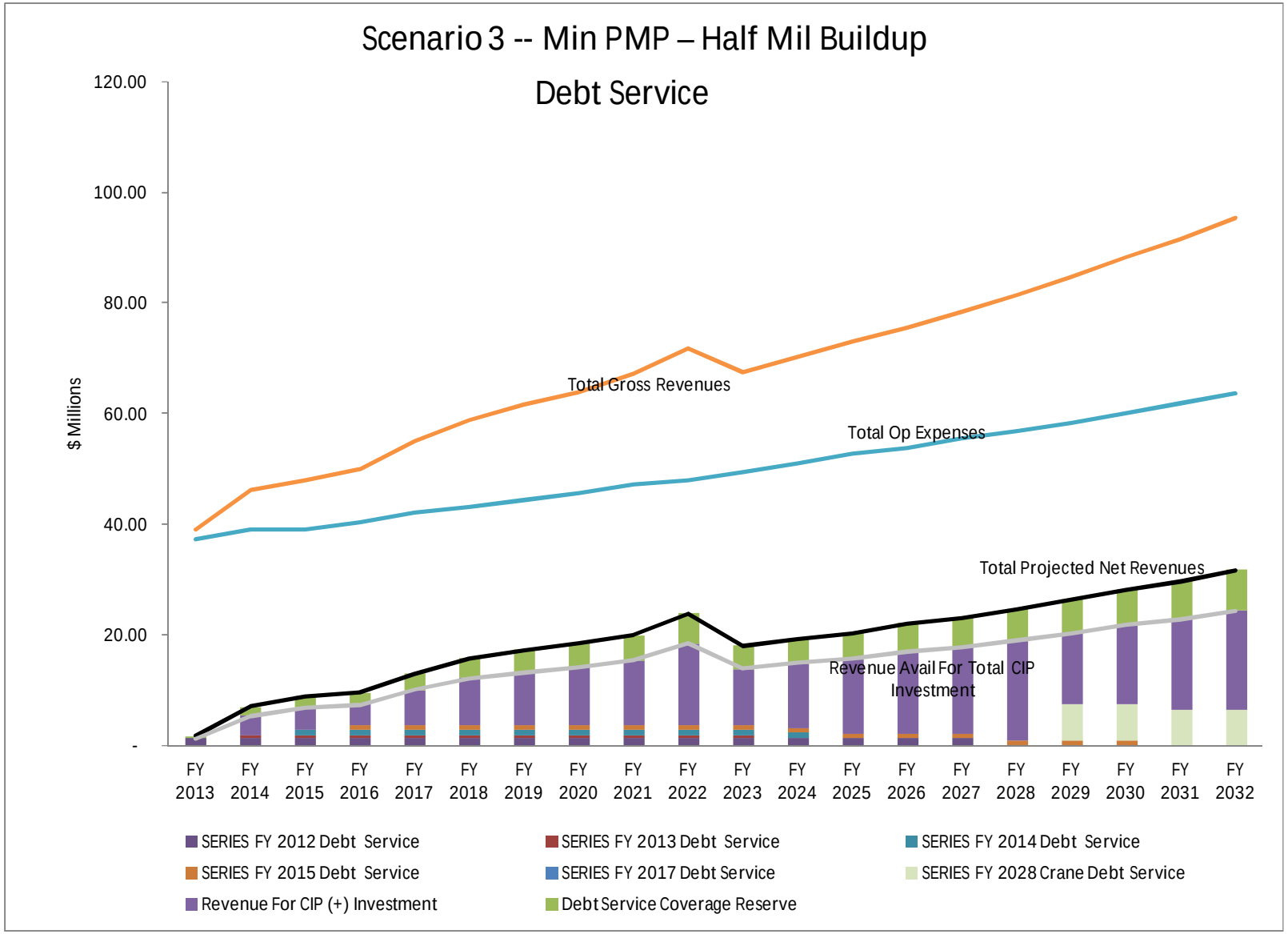


Figure 15. Financial Performance—Scenario 4, Maximum PMP, Organic Cargo Growth

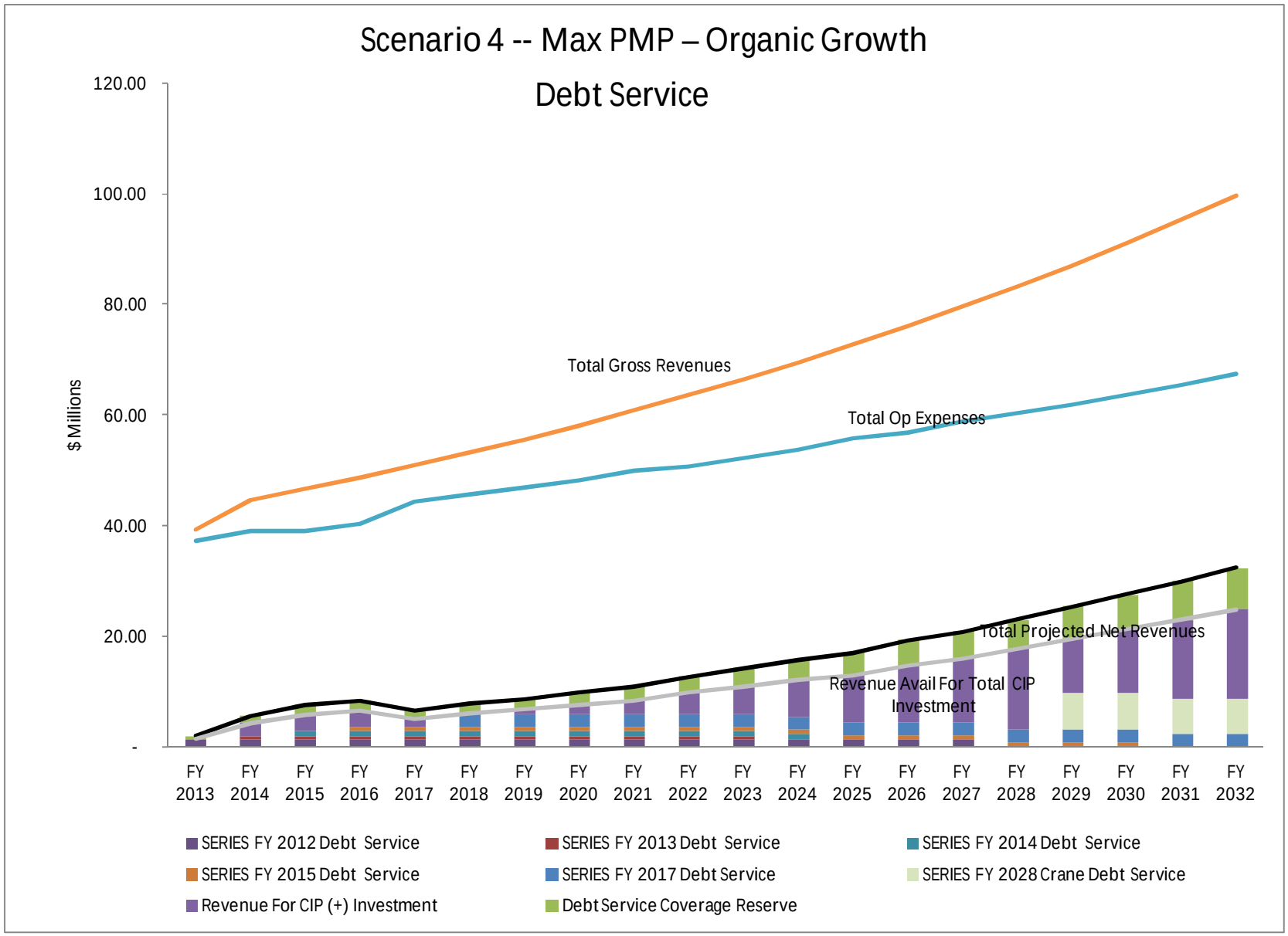


Figure 16. Financial Performance—Scenario 5, Maximum PMP, Full Military Build-up

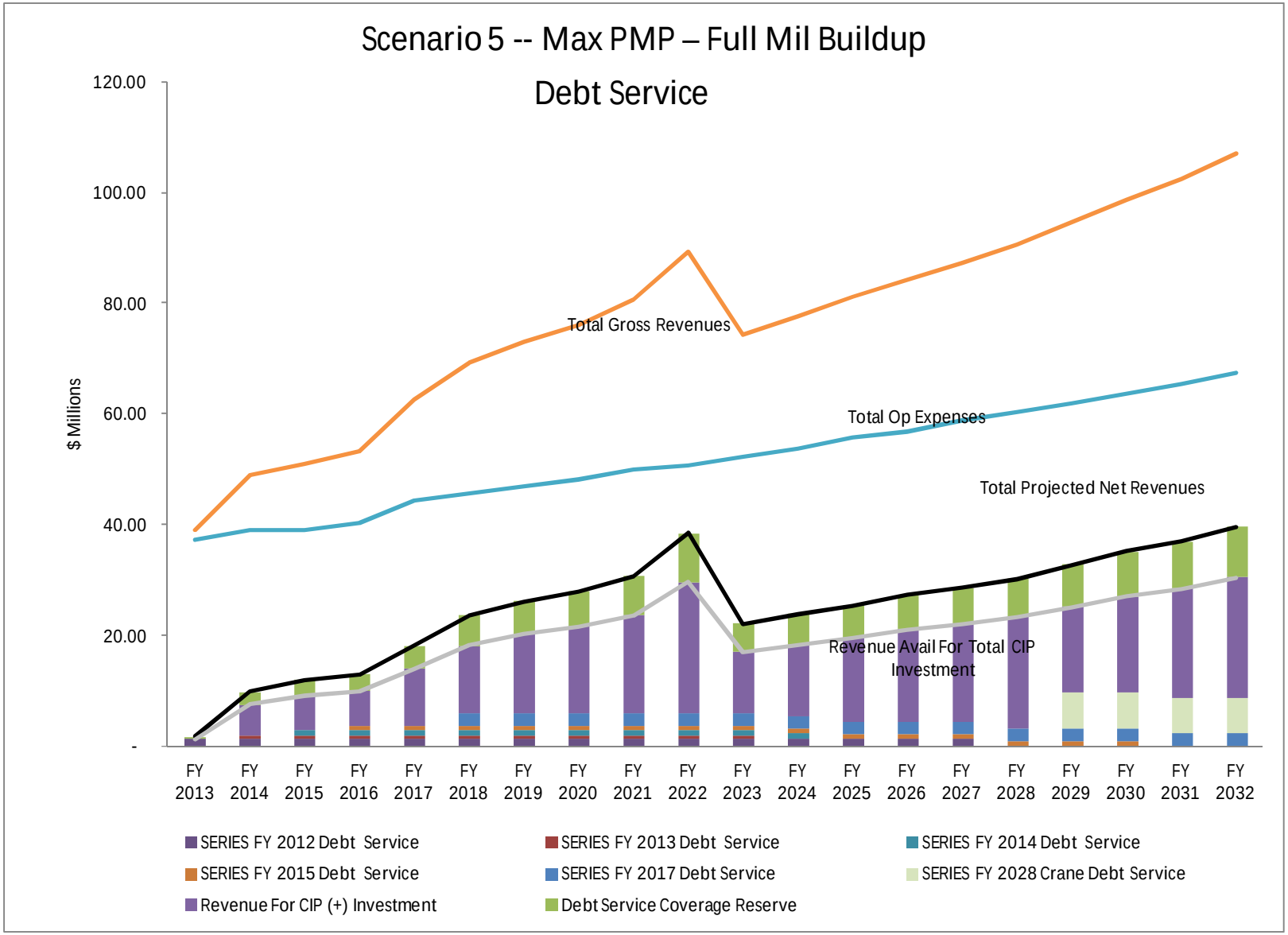


Figure 17. Financial Performance—Scenario 6, Maximum PMP, Half Military Build-up

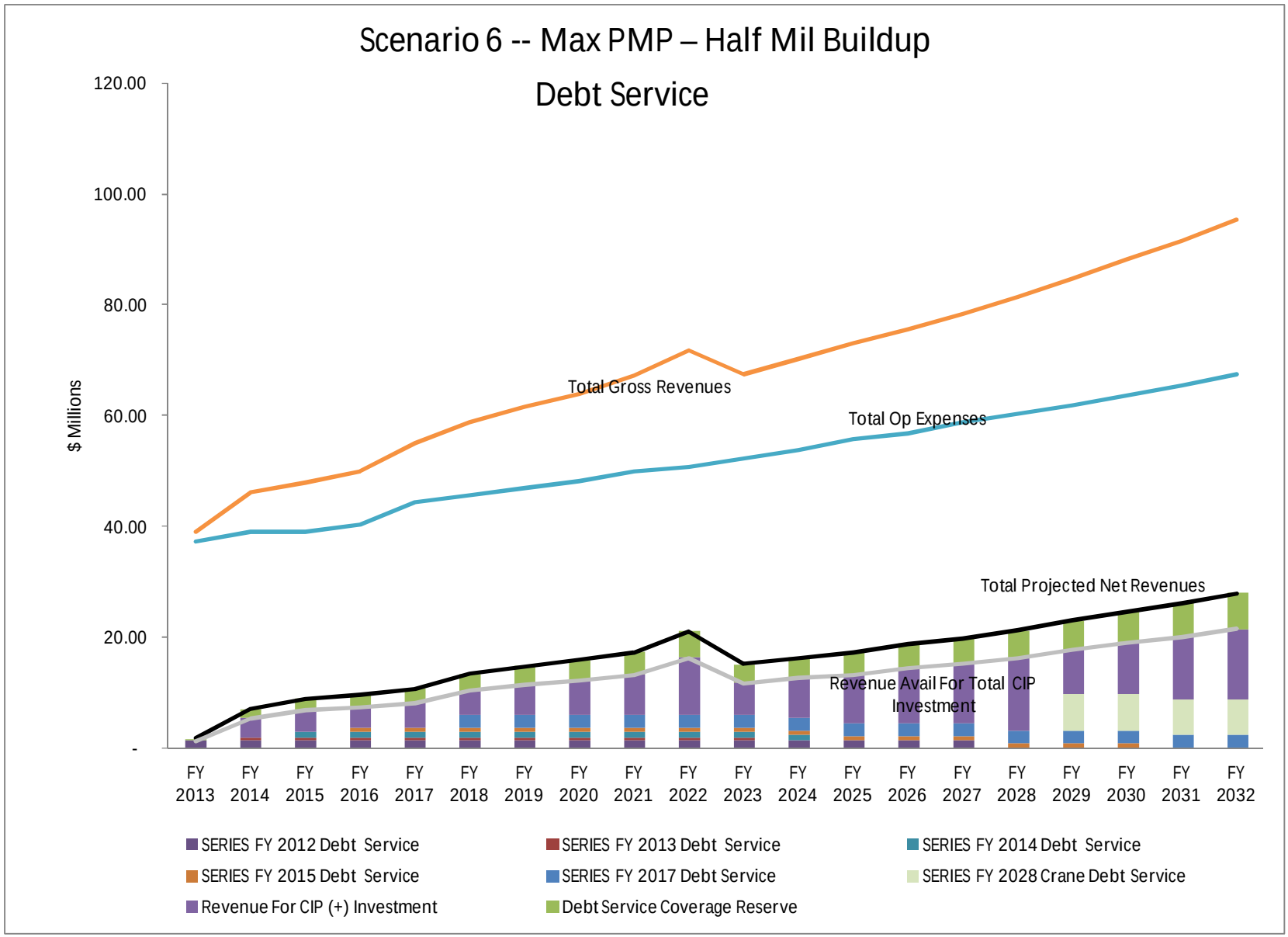


Figure 18. Financial Performance—Scenario 7, 3.95-percent Tariff Growth, Organic Cargo Growth

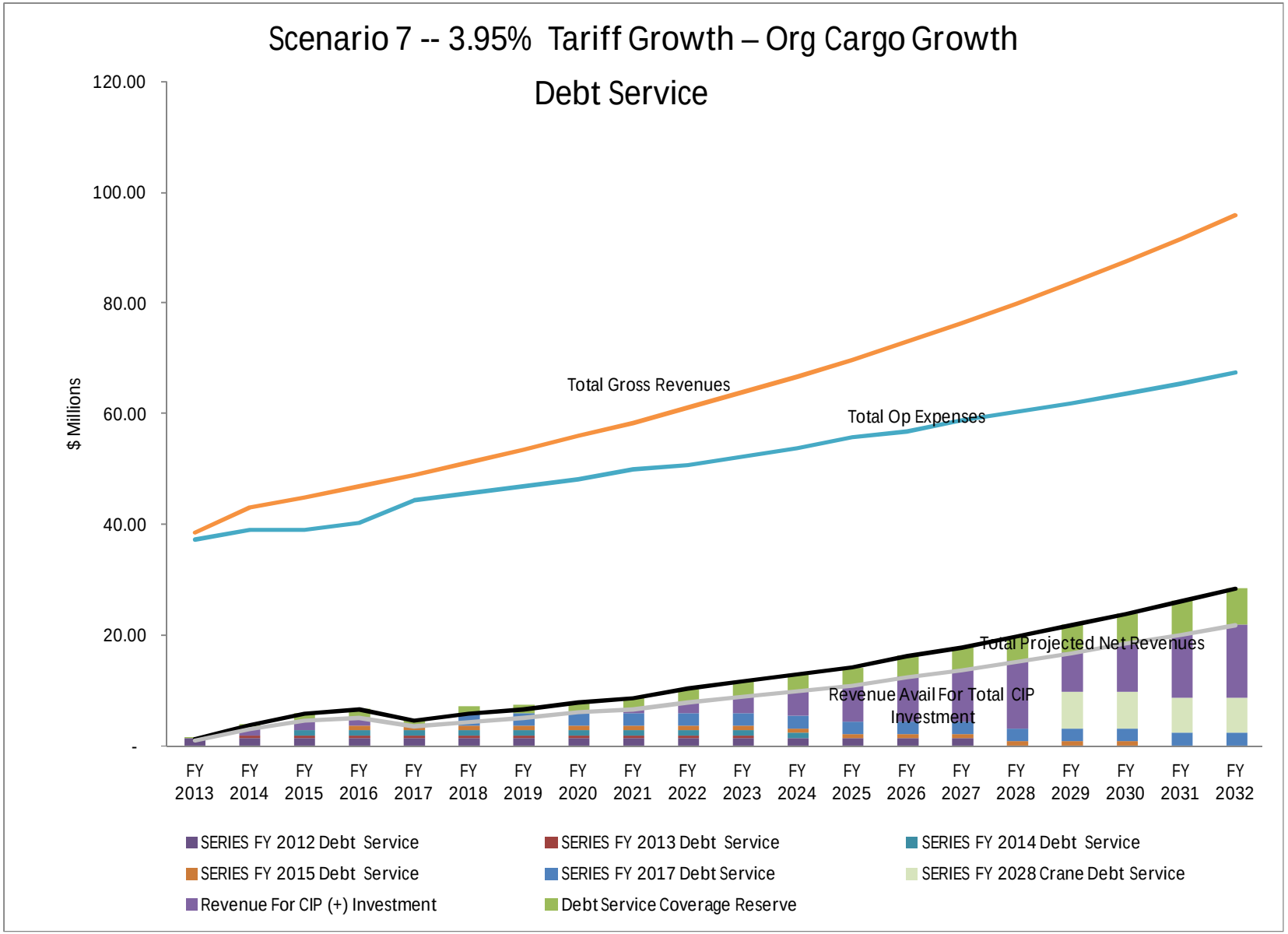


Figure 19. Financial Performance—Scenario 8, 3.95-percent Tariff Growth, Full Military Build-up

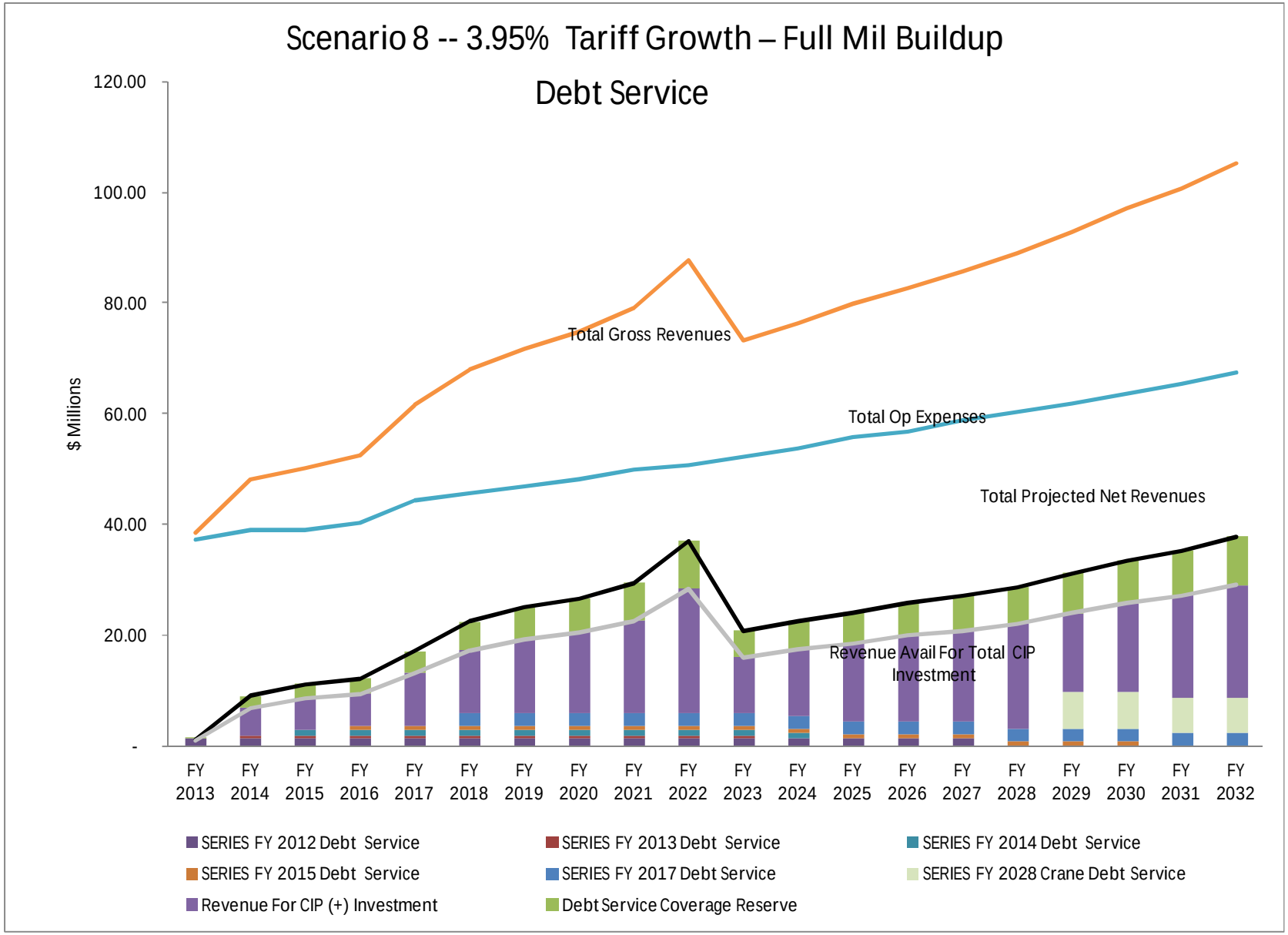
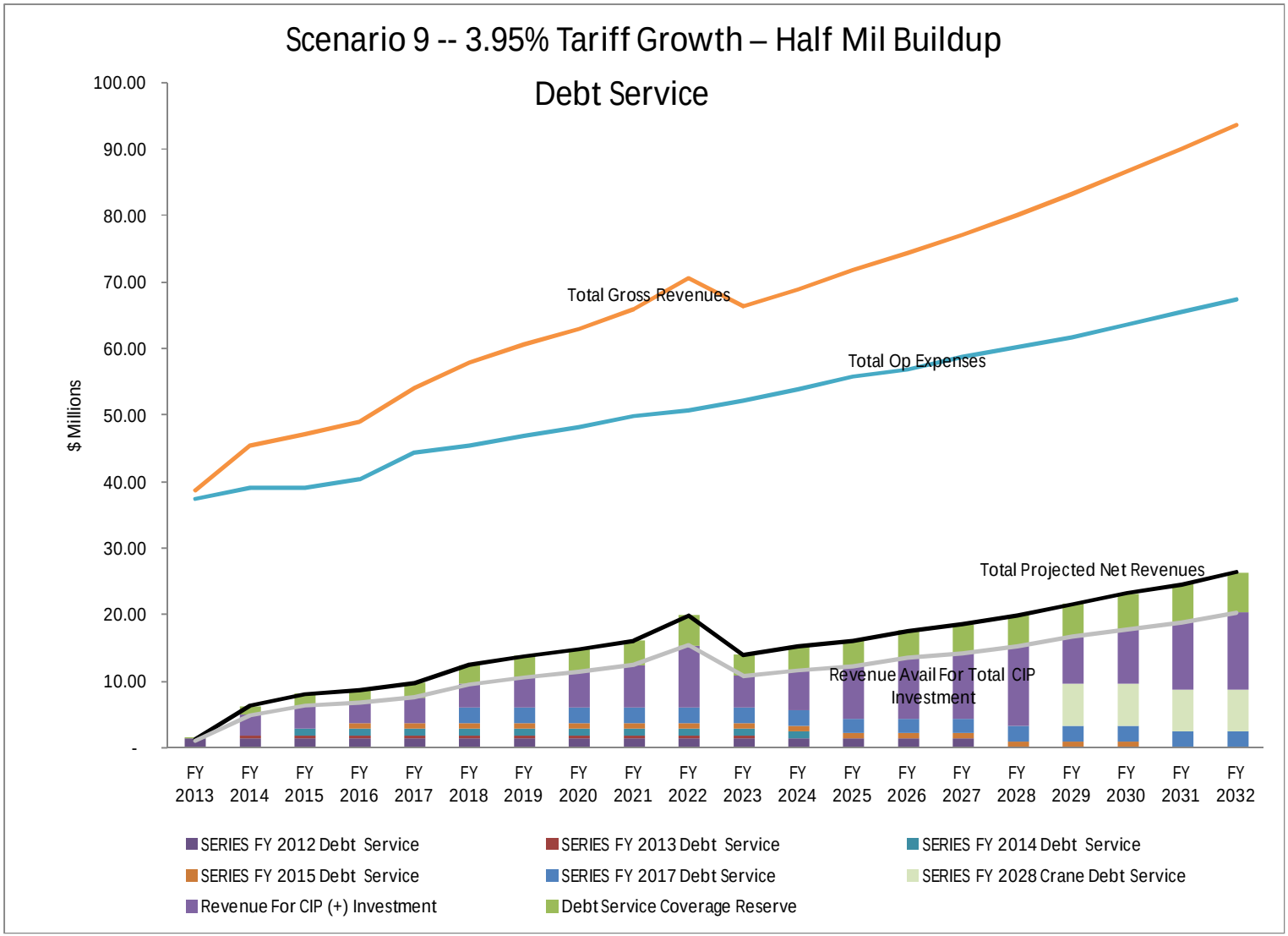


Figure 20. Financial Performance—Scenario 9, 3.95-percent Tariff Growth, Half Military Build-up



5.5.1.1 Revenues

The two organic growth scenarios (Scenarios 1 and 4) feature annual cargo revenues for the 20-year of approximately $1.08 to $1.12 billion. In Scenario 4, this is the result of limited cargo volumes requiring higher rates of annual tariff increase (6.94 percent for the first two years), which compound throughout the 20-year period even after the annual increases are reduced to 3.95 percent. In both scenarios, cargo revenues grow from $31.6 to $32.2 million in 2013 to $80.3 to $83 million in 2032. Non-cargo revenues grow during this same time period from $1.3 million in 2013 to $3.3 to 3.45 million in 2032. Scenario 4 required the highest annual tariff increase in the early years which leads to a higher compounded revenue even after the tariff rate constraints take hold beginning in 2015.

The half build-up scenarios (Scenarios 3 and 6) both grow cargo revenues from $31.6 million in 2013 to $78.3 million in 2032, totaling $1.1 billion in cargo revenues in the two-decade loan period. These scenarios feature a lower tariff rate increase (5.06 percent) than the Scenario 4, organic growth scenario, and also have lower volume than the full military build-up scenarios. Non-cargo revenues increase from $1.3 million at the start of the project to $3.2 million in 2032.

Finally, the full build-out scenarios (Scenarios 2 and 5) grow cargo revenues from $31.6 million in 2013 to $89.5 million in 2032, totaling $1.3 billion over 20 years. Non-cargo revenues advance from $1.3 million in 2013 to $3.7 million in 2032 in both full build-out scenarios. These scenarios have increased revenue as a result of the full military build-up.

In all of the six scenarios, commercial revenues increase from $5.95 million in 2013 to $13.7 million in 2032. None of the scenarios include any federal transfer funds beyond the acknowledgement of $3.87 million in 2012. There are typically some Federal reimbursements; however, due to uncertainties in future federal reimbursements they are not included in the model.

5.5.1.2 Expenses

In each of the six scenarios, expenses grow identically (except for cargo handling labor) from 2013 to 2032. The model increases general and administrative expenses at 3.1 percent per annum, while other expenses associated with increased cargo volume will be mitigated or lessened by gains in efficiency from new labor structures, cargo-handling equipment, and hardware and software system upgrades. PAG's goal to achieve the median U.S. salary for employees in every position is not included in the model's structuring assumptions. As cargo volume and the movement of other related goods increases, it is anticipated that the efficiency of the current gang structure can accommodate some of the increase. However in the Maximum PMP scenarios additional gang labor has been added beginning in 2017. Other infrastructure and technology improvements, namely the TOS and GOS, will help increase the amount of cargo that can be efficiently handled by the Port, also helping to eliminate cargo-growth-induced increases in operating expenses.

Total annual expenses increase more than 70.0 percent from $37.3 million in 2013 to $63.6 million ($67.4 million in Max PMP scenarios) in 2032. General and administrative expenses increase from $29.15 million to $51.9 million. Operations and maintenance expenses increase from $4.5 million to $8.3 million ($12.1 million in Max PMP scenarios) over the 20-year finance period. Other expenses including interest expenses and retirement contributions decline slightly from $3.6 million in 2013 to $3.4 million in 2032.

5.5.2 Financial Performance in Scenarios 7 through 9

The final three scenarios assume an annual tariff increase of 3.95 percent. Scenario 7 includes no military build-up, but only organic growth for population, container, cement, and breakbulk volumes. Scenario 8 includes a full military build-up for population and import volumes. Finally, Scenario 9 depicts a half-size military build-up, with a similarly scaled impact upon cargo volumes.

5.5.2.1 Revenues

The largest variance in the three cases can be found in the differing cargo revenues for full, half, and no build-up scenarios. In Scenario 7, depicting organic growth only (no build-up), annual cargo revenues increase from $31.3 million in 2013 to $78.8 million in 2032. In Scenario 8 (full build-up), annual cargo revenues begin at the same level in 2013 and increase over time to $87.8 in 2032. In Scenario 9 (half build-up), they again start at $31.1 million, increasing to $76.8 million at the end of the 20-year finance window. The (undiscounted) sum of two decades revenues is approximately $1 billion for organic growth, $1.3 billion for full build-up, and $1.1 billion for half build-up.

The defense escalation has little bearing upon non-cargo revenues. In each of the three scenarios, non-cargo revenues end 2013 at $1.3 million, while eventually increasing to $3.2 million (no build-up and half build-up) and $3.6 million (full build-up) in 2032. Finally, in each of Scenarios 7, 8, and 9, commercial revenues for 2013 are projected at $5.95 million, increasing to $13.7 million by 2032.

5.5.2.2 Expenses

The difference of half, full, or no build-up scenarios does little to affect the expenditures side of the ledger, with only minor differences. As in the first six scenarios, an increase of 3.1 percent, per annum, is assumed for general and administrative expenses. Growth in other expense categories is expected to be mitigated or lessened by gains in efficiency from new labor structures, cargo-handling equipment, and hardware and software system upgrades. While it is a stated aim of the port to achieve the median U.S. salary for employees in each labor category, this increase is not explicitly included in the model's inputs.

In each of the final three cases, general and administrative expenses increase from $29.15 million in 2013 to $51.9 million in 2032. Likewise, operations and maintenance costs, beginning in 2013, rise from $4.5 million that year to $12.1 million at the close of the twenty year finance period. This increase is largely driven by inflation, rather than increasing real costs. In Scenarios 7, 8 and 9 other expenses begin in 2013 at $3.6 million and decrease to $3.4 million in 2032. Likewise, in all scenarios, total annual expenses increase from $37.3 million in 2013 to $67.4 million in 2032.

Summary Tables of all nine scenarios can be found in Appendix A.

5.5.3 Implementation and Feasibility

The scenarios utilizing an annual increase of 3.95 percent imply either a reduced or partially deferred investment program for facility upgrades and equipment purchases in the immediate short-term future should the proposed tariff increase be approved. As the anticipated military build-up is not slated to occur until five to nine years after the first tariff increase, the tariff will be more sufficiently recovering costs by that time to more realistically support debt service payments above other expenses. Depending upon cash flow requirements of existing expenses and liabilities at PAG, it

may be necessary to initially increase tariffs by an amount greater than 3.95 percent—such as 5.06 percent—in the first two years and then reduce the annual rate of increase to 3.95 percent thereafter. Alternately, the issuance of revenue bonds may be able to transfer some of the excess revenue accruals from later years (2023 to 2032) to PAG during the initial lean years (2013 to 2018). This may be a more viable option once uncertainty surrounding the military build-up dissipates.

5.6 Anticipated Retail Impacts of Tariff Revision

The Financial Feasibility Study Report (2008) indicated that tariffs and fees accounted for less than 10 percent of the total transportation costs of moving a 40-foot container (FEU) from the U.S. West Coast to Guam. Using a base of $565 for charges and fees per FEU at the Port, escalating at 3.95 percent a year would result in a charge of $686 in year 5, and $1,226 in year 20.

Escalation of Customer Charges per TEU ($)	3.95 Esc	Inflation Only	Difference
Base charges/fees per TEU	565	565	0
Charges/fees per TEU at Year 5	686	658	28
Charges/fees per TEU at Year 10	832	767	65
Charges/fees per TEU at Year 15	1,010	893	117
Charges/fees per TEU at Year 20	1,226	1,040	186

At a 3.1 percent rate of inflation, a TEU will likely contain $150,000 to $600,000 worth of consumer goods (2032 dollars), implying that the increase in fees would likely amount to less than 0.1 cent per dollar of containerized goods imported (dependent upon content value of containers imported).

5.7 Risks

The successful implementation of the financial strategies available to PAG is predicated upon a number of assumptions that have previously been outlined in Section 4.2. However, it bears emphasis that as a financial model is an analytically structured set of assumptions, the realization of the revenue and debt service goals embedded in that model depend upon the accuracy or inaccuracy of the underlying context of those forecasts as they pertain to the DOD military build-up driving container, cement, and breakbulk volumes; the Japanese, Korean, and American economies that drive tourism and container imports; or other factors affecting population growth in Guam. The following risks are highlighted.

5.7.1 Debt Service

Many of the debt service and revenue forecasts for the 20-year window feature a projection for FY 2013 to FY 2015 that entails little excess revenue cushion, in some cases leaving less than $500,000 after all standard expenses and debt service have been paid. This may be beyond the risk tolerance of PAG and its Board of Directors, or the PUC, given that the past three fiscal years have seen a revenue gain from FY 2009 to FY 2010 of $6,034,000, followed by a revenue loss the following year of $706,000. PAG has also experienced volatility in terms of operating income, with a $328,000 gain from FY 2009 to FY 2010 and a $1,098,000 loss from FY 2010 to FY 2011. Some of the risk that revenues may not satisfy debt service or cover ratio requirements may be mitigated through bond issuance that transfers some of the excess revenue of later years to PAG during the leaner years of 2013 to 2015.

5.7.2 Tariff Stability

The revenue projections included in this analysis hinge upon PAG being able to secure the necessary permission from the PUC to revise the Port tariff. Additionally, the ability of PAG to affect a sustained increase in non-tariff commercial revenues (accrued through leases, space rentals, marina fees, and other user charges) also has an impact upon achieving these future revenue goals. Unforeseen reductions in cargo volumes after the introduction of new equipment to the Port may impel future tariff revisions to promote full cost recovery and a commitment to debt retirement.

5.7.3 Productivity Improvements

It is expected that the introduction of new equipment (cranes, terminal operating equipment, gate improvements, and financial/billing hardware and systems) will produce measurable productivity gains for both PAG and users of the Port. The *Financial Feasibility Study* (2008) estimated that a 40-percent improvement in containers moved, per crane, per hour is readily achievable based upon performance at comparably sized ports. For shippers and retail consumers, decreased time at berth should partially mitigate revised tariffs and user fees associated with using the Port, lessening the degree to which Port charges may affect the transportation cost embedded in the total landed cost of retail products. For PAG, productivity gains will enable staff to execute more container and breakbulk movement per piece of equipment per hour, implying less expenditure upon labor.

For these labor savings to occur, PAG must have the ability to decrease the number of total labor hours scheduled at the Port. Excess labor resources diminish the productivity gains expected of the new equipment and increase the operating expenses of the Port. Accordingly, seasonal variability (as well as the limited nature of the peak associated with the military build-up) suggests a similarly variable labor force will lessen the risk that expansion of labor costs could jeopardize the unencumbered cash flow available for debt service.

5.7.4 Labor Costs

The financial model assumes a labor wage escalation in line with increases in the CPI in Guam from 1997 to 2010. The model does not account for the possibility of higher than average inflation in manual labor costs resulting from a peaked demand for manual labor associated with the military build-up and heightened construction industry activity.

5.7.5 Administrative Personnel

Staffing levels within the administrative divisions are built into the model with the assumption that recruitment and promotion will proceed with a full awareness of the cost to the organization, carefully monitoring the value produced by additions or changes to PAG's administrative workforce. The financial projections assumes that the total number of employees in the administrative divisions will only decrease by voluntary retirement. The introduction of new systems will likely require new roles, such as one FTE reviewing revenues and expenses quarterly to ensure that the established tariff remains adequate for full cost recovery and debt service. Cross-training is assumed to take place (rather than new hires) where possible to derive the greatest value from the existing employees as PAG's administrative processes are adapted in line with new FMS, TOS, and GOS capabilities.

5.7.6 Cargo Volumes

Cargo volumes are predicted using a base of FY 2011 and FY 2012 amounts using the Cargo Forecast previously completed by Parsons Brinckerhoff. The realization of cargo volumes lower than expected—due either to a reduced scale for the military build-up or changes to the transshipment network in Micronesia that leads to less transshipment volumes through Guam—could make it more difficult for PAG to meet debt service and coverage requirements.

5.7.7 Military Presence after the Build-up

Reductions in the number of military personnel and dependents within the 20-year finance window could decrease PAG revenues as the volume of containers decreases with reduced retail consumption in Guam.

5.7.8 Natural and Man-made Disasters

Guam's location in the Western Pacific means the Port is vulnerable to both typhoons and earthquakes. While past occurrences of typhoon and earthquake damage have been repaired through PAG's insurance policies, there is a possibility that a future typhoon or earthquake could damage the Port beyond the limit of existing insurance coverage. Additionally, Guam's increasing strategic importance to U.S. interests in the Western Pacific also infers a higher risk of terroristic threat to Port assets. The financial model assumes a 20-year window free of uninsured losses due to natural or man-made disasters. However, the proposed gantry crane surcharge creates a reserve that allows for casualty management, i.e. unforeseen crane replacement due to natural disaster. Should this happen, the timing for crane replacement(s) would be adjusted in the financial model to see what the overall CIP adjustments would likely be. Such adjustments are not modeled in advance in this study.

6.0 FINANCIAL FRAMEWORK CONSIDERATIONS

This section identifies the capital requirements, cash flow, and maintenance requirements necessary to support the modernization plan.

6.1 Master Plan CIP Capital Requirements

The minimum Port Modernization Program investment totals $78.5 million, with $32.5 million borrowed. Investment in the Port uplands amount to $46 million, executed from 2015 to 2017. Crane purchases totaling $12 million will be completed in late 2012. FMS, TOS, and GOS investments total $7 million and take place from 2013 to 2015 along with SLE wharf work and equipment totaling $10 million, and previously purchased equipment.

The maximum Port Modernization Program includes an additional $22.0 million spent on uplands investments after the completion of other Port improvements.

Table 2. Financing Assumptions

Expenditure	Issue Year	Amount 2012 ($Mil)
POLA crane purchase	2012	12.00
Replacement crane purchase 2	2028	8.00
Replacement crane purchase 3	2029	8.00
Replacement crane purchase 4	2030	8.00
Replacement crane purchase 5	2031	8.00
SLE wharf work and equip (year 1)	2013	5.00
SLE wharf work and equip (year 2)	2014	5.00
FMS/TOS/GOS (year 1)	2013	3.00
FMS/TOS/GOS (year 2)	2014	2.00
FMS/TOS/GOS (year 3)	2015	2.00
Uplands investment (year 1)	2013	15.33
Uplands investment (year 2)	2014	15.33
Uplands investment (year 3)	2015	15.33
Additional uplands investment (year 1)	2016	11.00
Additional uplands investment (year 2)	2017	11.00

6.2 Master Plan CIP Cash Flow Needs

Acquisition costs constitute approximately 20 percent of the total cost of ownership for PAG's new cranes. It is important to note that these new assets arrive with cash flow needs specific to their maintenance and operation that must be satisfied in order to achieve anticipated productivity gains. These costs include fuel, annual maintenance, insurance, upgrades and major maintenance, financing expenses, and additional training costs for PAG personnel.

6.3 Maintenance and Replacement Capital Needs

The introduction of new cranes and other cargo handling equipment to a recapitalized Port presents the opportunity to practice a more intensive program of asset maintenance and encourage long utility life for cranes and other yard equipment, as well as the improvements to Port facilities.

6.3.1 Facility Maintenance

The FY 2011 audited financial statement for PAG lists a total asset value of $64,530,000 in 2011 dollars. From peer comparisons, this model has inferred an estimated maintenance and repair allocation of 1.5 percent of total asset value per year. For PAG facilities, this amounts to $967,950 in 2011 dollars.

6.3.2 Crane and Equipment Maintenance

In the first year of operations (2013), the financial model allocates $3.74 million to crane maintenance, which is then escalated by approximately 3 percent per year. Cumulatively, this represents an amount of $74.2 million (2012 dollars) over the 20-year finance window. These maintenance and repair allocations do not include any depreciation, interest, or amortization projections. Based on estimates derived from Sarandipity, LLC, $3.9 million per year for four cranes should be observed as a minimum. Over the two-decade asset life of the cranes, roughly $74.2 million should be spent on overhaul and maintenance activities.

6.4 20-Year CIP Investments

6.4.1 Master Plan Context

To this point, we have identified CIP investments that track with what has been labeled as Minimum PMP Investments and Maximum PMP Investments. These are PMP investments that are consistent with the 2007 Master Plan Update but that have evolved from a near-term need to (a) deal with fiscal reality and (b) balance improvement and sustainability requirements in the process.

The Minimum PMP investments provide limited site expansion, terminal reconfiguration, and systems upgrades that address modernization and capacity enhancements. These are designed to position the Port to handle increasing cargo volumes associated with 'adaptively managed' near-term military build-up and long-term organic growth.

The Maximum PMP investments address additional deficiencies associated with existing aging infrastructure and buildings. The Maximum PMP is labeled that way because it is the maximum level of investment effectively authorized by the Legislature when you consider the existing debt-ceiling limit and the absence of additional federal support beyond the current $ 50 million DOD Grant

The Minimum and Maximum PMP Investments as defined in this report fall far short of executing all of Phase 1 of the Port Modernization Program as presented to, and authorized by, the Guam Legislature. What is excluded from Phase 1 is partial wharf replacement and dredging, hi-mast lighting changes, fully outfitted OCR Portals, and building expansions/retrofits.

These investments also fall short of accomplishing Phase II of the Master Plan which was pushed out beyond the 20-year planning horizon by the Legislature and which involved berth expansion, further yard expansion, and additional dredging.

6.4.2 Balanced Approach Context Near-Term (next five years)

Inherent in the Minimum and Maximum PMP Investment levels is that ground space would be increased both in the break-bulk and container yards and that these increases would be limited. The operational assumption is that container cargo volumes requiring ground storage (containers on chassis in wheeled slots, empty and full containers in ground slots, and containers in refrigerated slots) would be managed by some combination of:

- Wheeled slots being converted to ground slots
- Wheeled refrigeration being converted to grounded refrigeration
- Higher stacking in the container yard expansion area
- Greater volumes of containers being removed more quickly from the site, i.e. consignees needing to receive cargo quicker rather than leave it at the Port to take up space
- Adaptive management by the military lowering peak cargo demands

It is assumed that improved access to berth 4 with the demolition of warehouse 2 and greater dedication of land area to the break-bulk operation in combination with shorter dwell time on the ground will suffice to meet break-bulk cargo handling demands.

It is assumed that Service Life Extension work would be pursued to extend the useful life of existing wharf structures to 15- 20 more years. There would be no wharf replacement and no dredging. Cargo would need to come to the port on Panamax class vessels that remain light-loaded.

Lastly, the Master Plan Update called for a large ground expansion to the east when a 'primarily wheeled' operation was contemplated. A larger gate complex running parallel to this larger ground storage area was also called for and was designed to take more traffic off of route 11. Both of these requirements have effectively been eliminated in the Minimum and Maximum PMP Investment scenarios. Again, this points to more of a transition from wheeled to grounded operations over time with adaptive management serving to slow down and lower cargo volume peaks and the truck traffic needed to service those volumes.

6.4.3 Balanced Approach Context Long-Term (next twenty years)

As discussed in near-term objectives, there would be no wharf replacement, no dredging, and no change in the size of vessels delivering cargo to Guam. Wharf replacement would be scheduled to occur at the end of the current planning horizon. Fifteen years from now, planners will need to determine whether commerce will change enough that cranes will be replaced with 50-gage cranes or

100-gage cranes. That decision will impact the wharf replacement and configuration of crane rails. CIP investment would be limited to planning and the start of engineering/design work related to wharf replacements, dredging, and possible wharf expansion.

Much of the existing facility (buildings and infrastructure) has been in place for 45+ years. Five years from now when near-term priorities have been addressed these facilities will be 50+ years old. Over the next 20 years, much of it will require replacement or major renovation. Improvements and sustainability actions will compete and include: completed OCR Portals and gamma ray scanners, security equipment enhancements, yard equipment supplements, emergency generators, refrigerated outlet expansion, yard equipment replacements, crane replacements, building expansions, building retrofits, utilities upgrades, pavement upgrades, and improved utilization and upgrade of other Port waterfront properties such as hotel wharf, marinas, etc.

The Master Plan or Port Modernization Program will continue to evolve and need to be revisited. Investment requirements associated with MP Completion or PMP Evolution will need to be refined and prioritized to make sure that operations remain sustainable and cost-effective. To that end, we have included cumulative CIP investment curves for each of the scenarios included in this report. These are designed to illustrate that additional progress can be made against original MP objectives and continually surfacing sustainability concerns as modified by the passage of time.

Figures 21 through 29 show the cumulative CIP investment curves for each scenario including cumulative CIP with debt constrained and debt unconstrained projections. To help understand the investment levels in current dollars, a net present value line (2012 $) has also been included with a discount rate of 5 percent.

These graphs illustrate the near-term minimum and maximum PMP investments that accomplish modernization minimums and reflect a conservative early approach consistent with currently established debt authorization. They are also designed to illustrate that you can and must go well beyond the Minimum and Maximum investment levels in order to achieve overall sustainability and modernization objectives. As the graphs show, there are varying levels of how far you can progress depending on whether you choose to make investments without further federal assistance and whether you choose to ask the Legislature for debt-ceiling relief.

Figure 21. CIP Investment Schedule— Scenario 1, Minimum PMP, Organic Cargo Growth

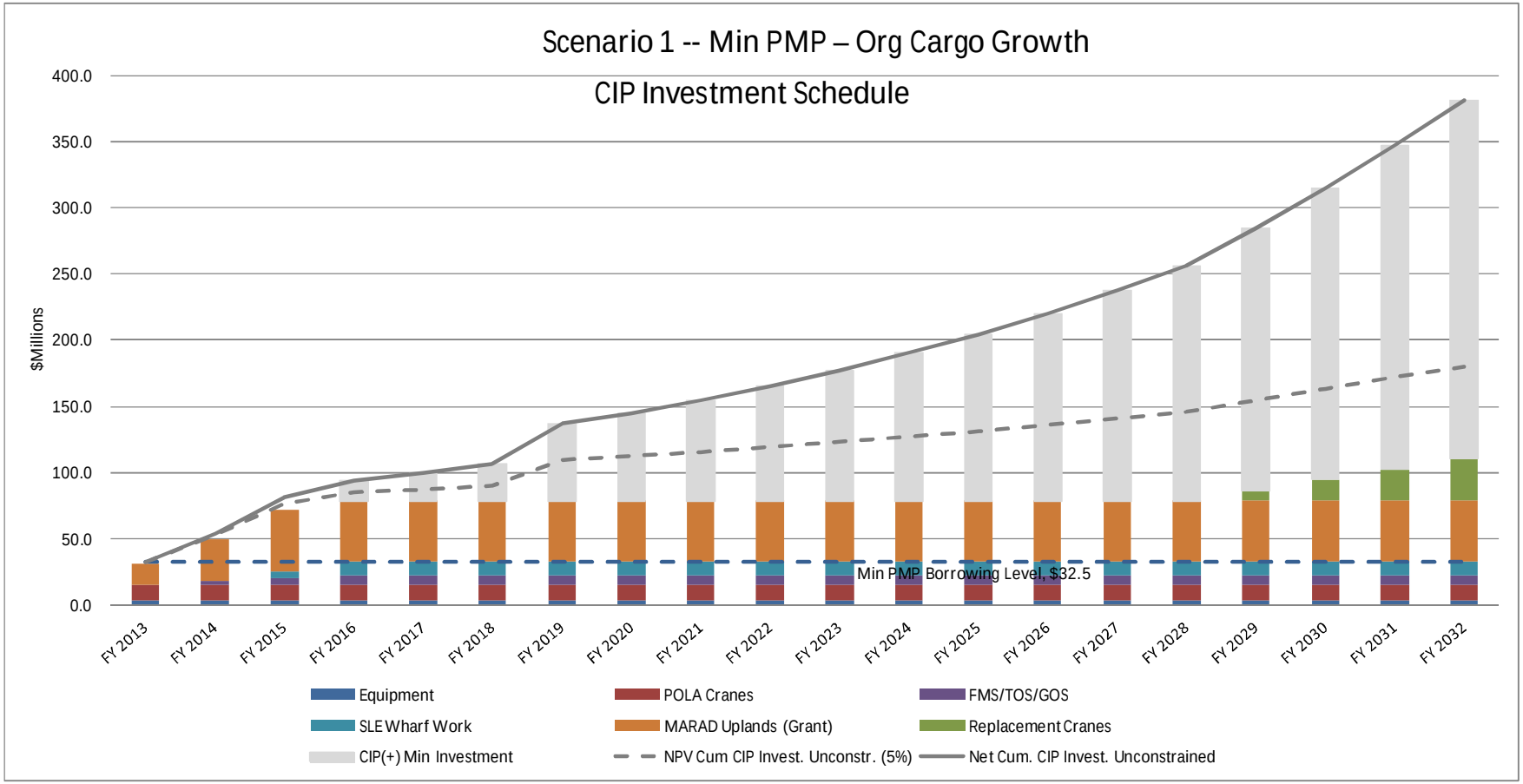


Figure 22. CIP Investment Schedule— Scenario 2, Minimum PMP, Full Military Build-up

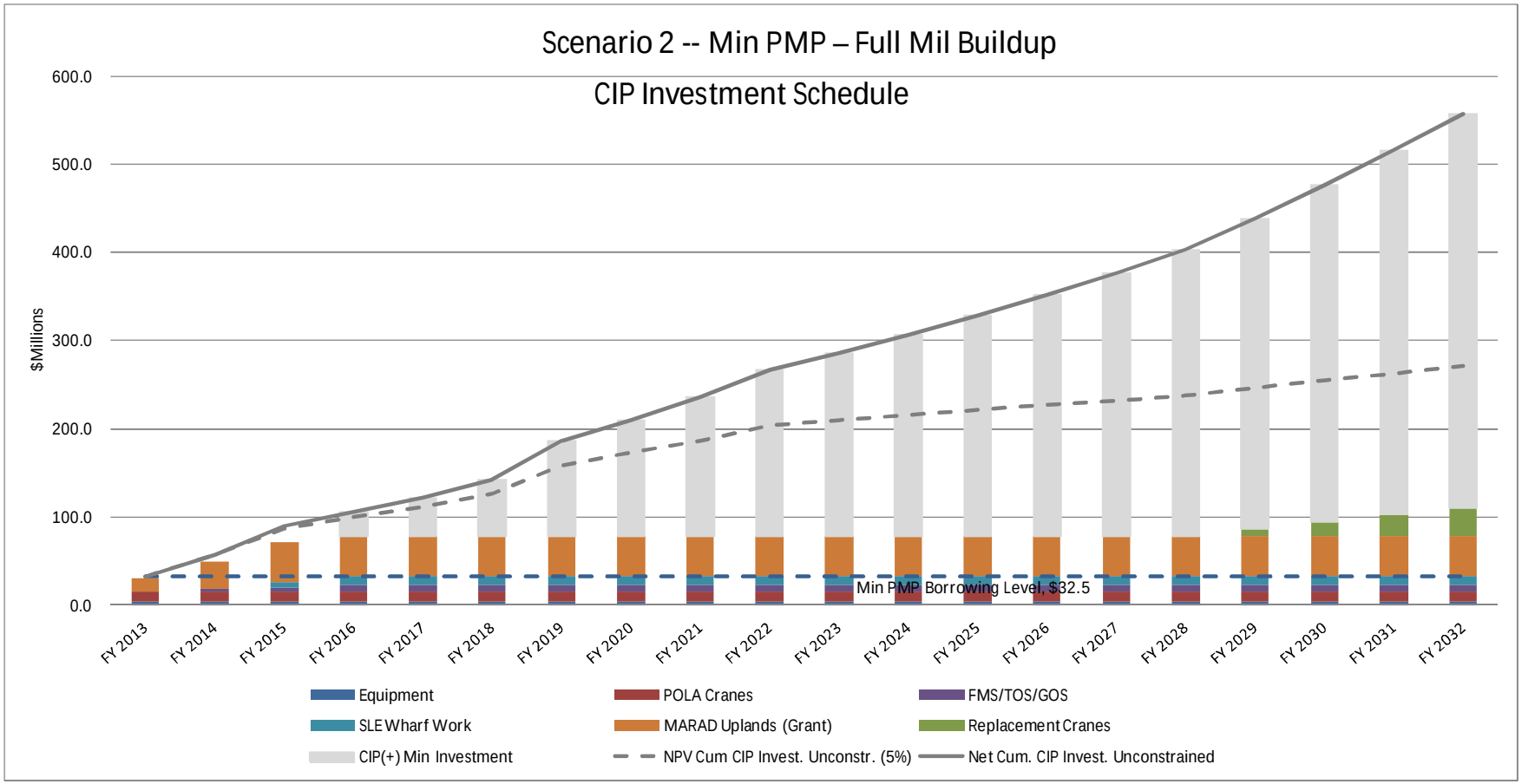


Figure 23. CIP Investment Schedule— Scenario 3, Minimum PMP, Half Military Build-up

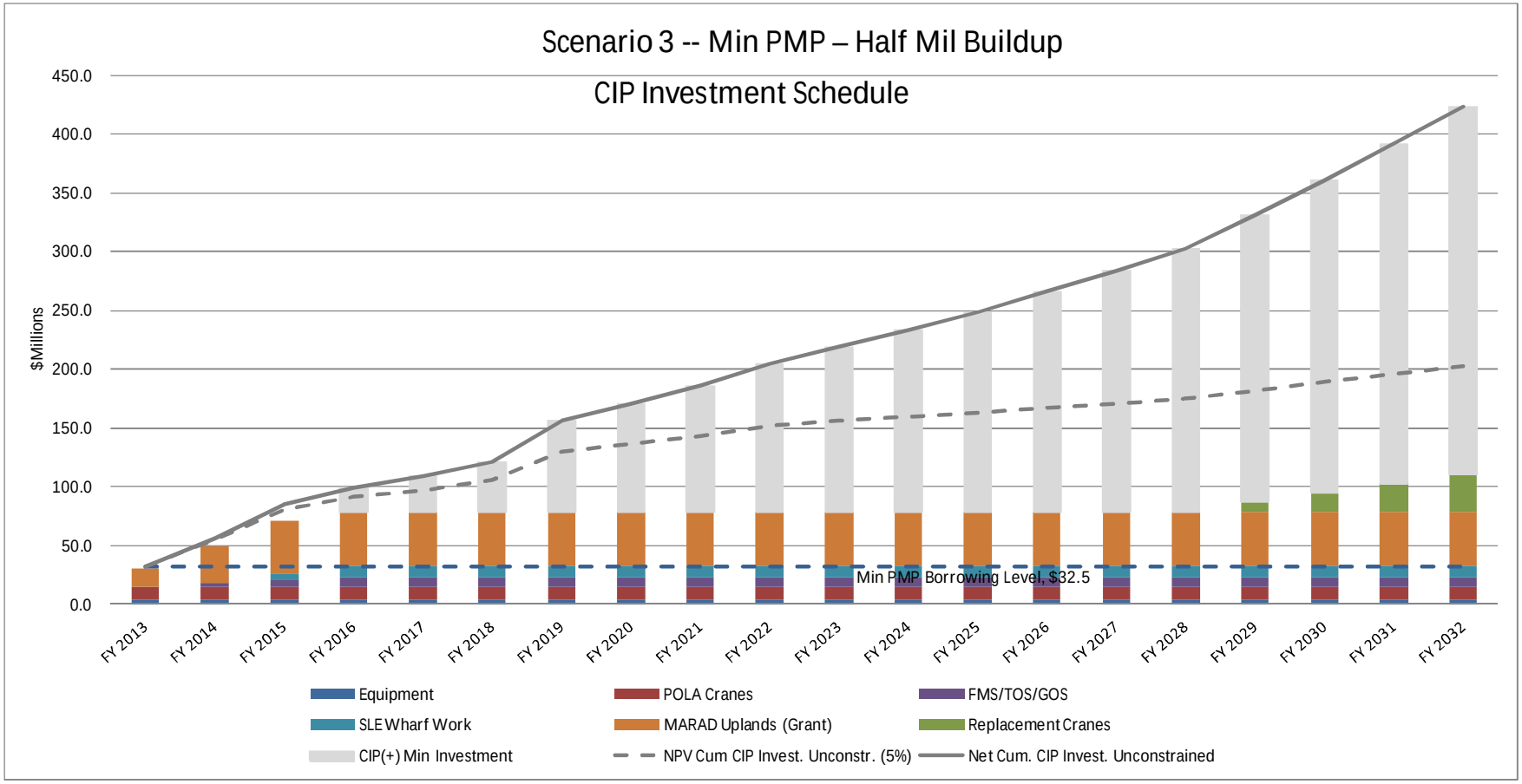


Figure 24. CIP Investment Schedule— Scenario 4, Maximum PMP, Organic Cargo Growth

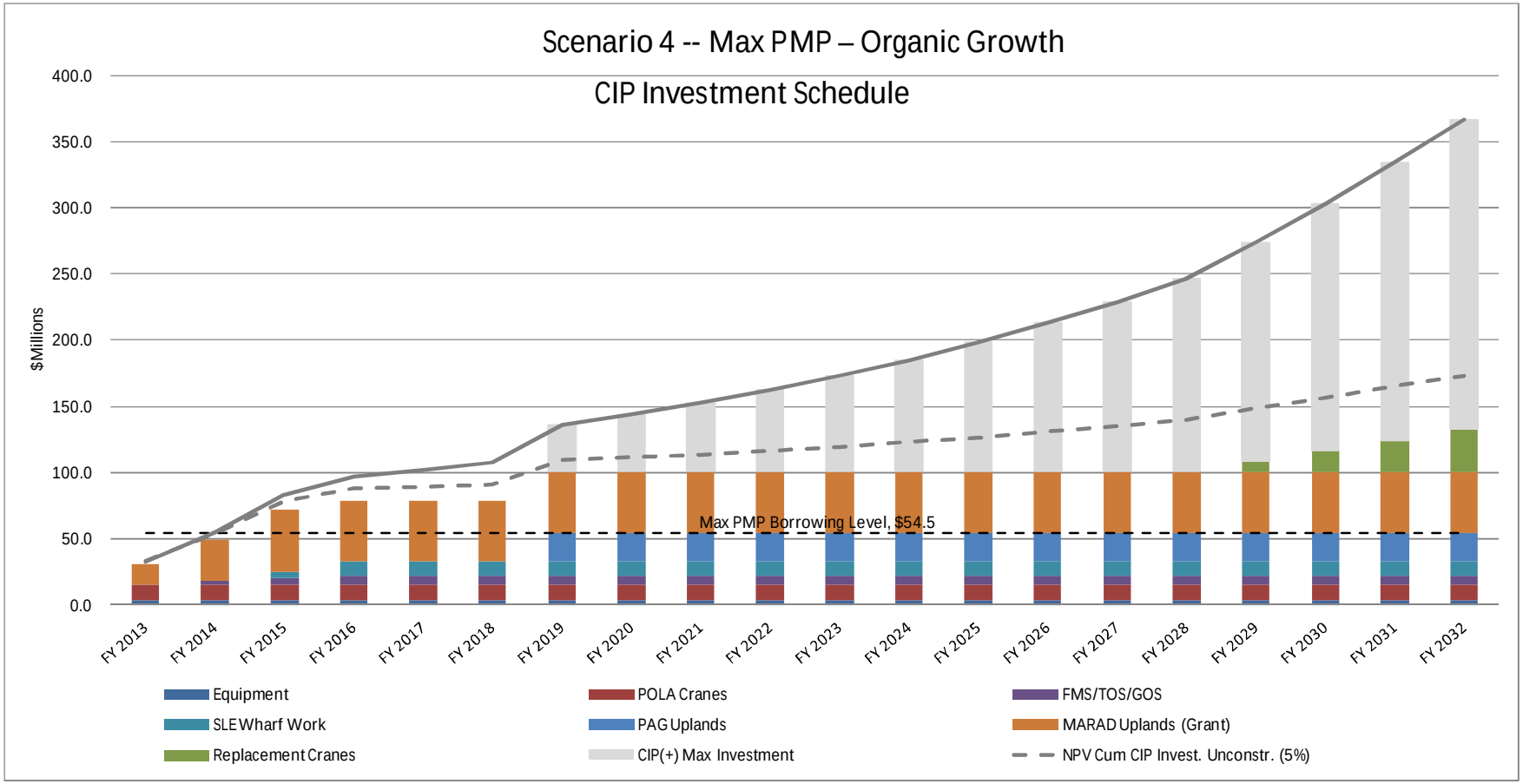


Figure 25. CIP Investment Schedule— Scenario 5, Maximum PMP, Full Military Build-up

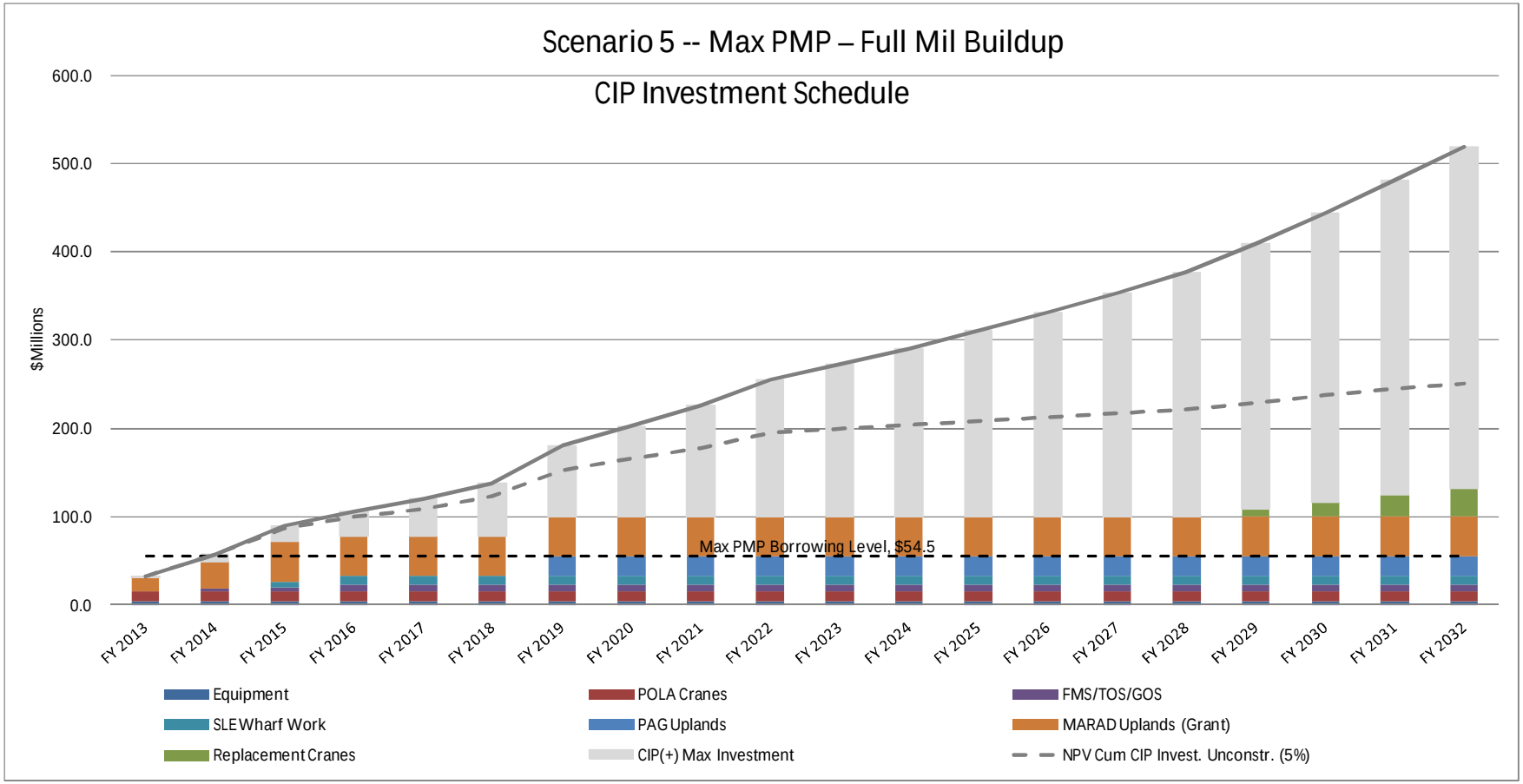


Figure 26. CIP Investment Schedule— Scenario 6, Maximum PMP, Half Military Build-up

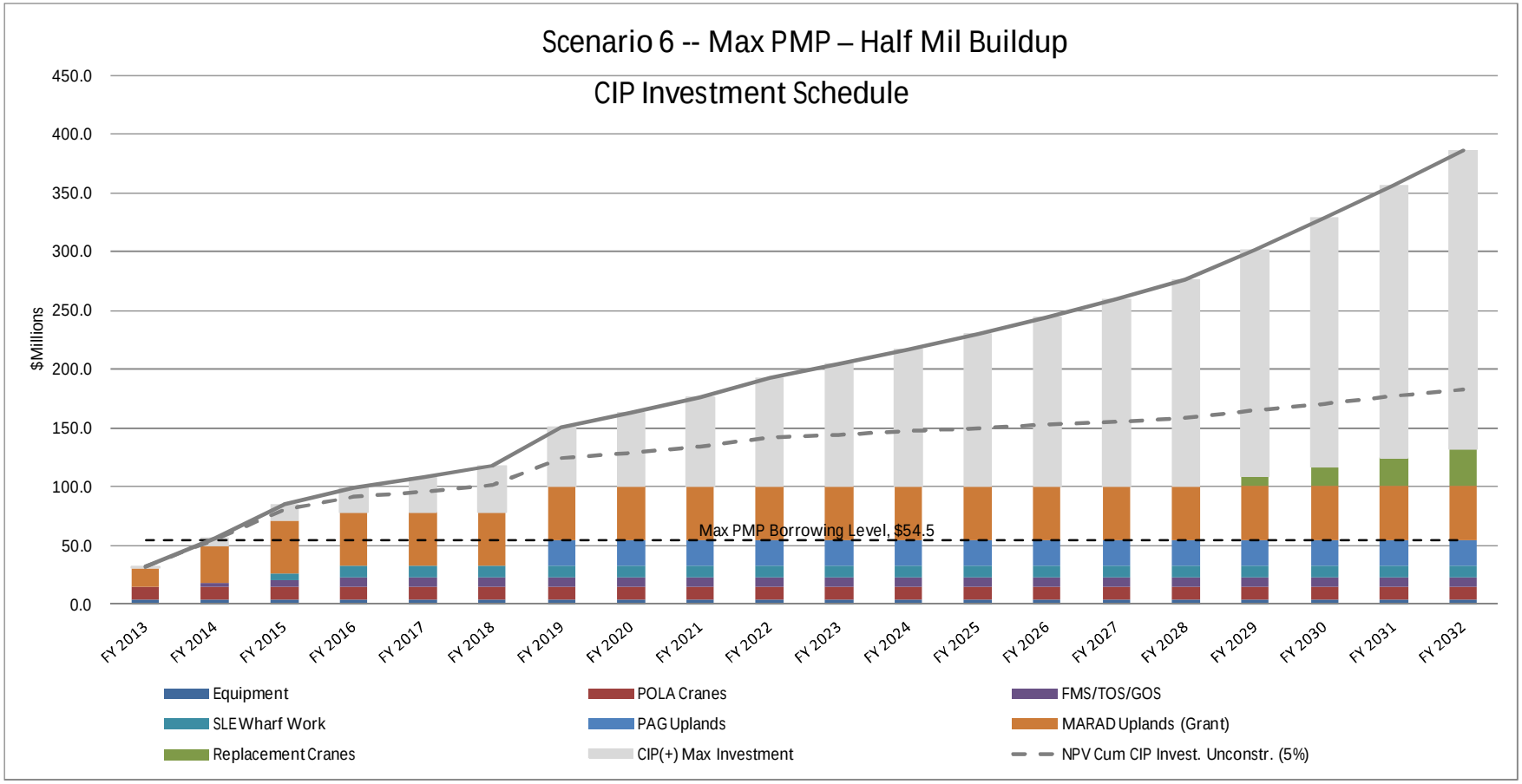


Figure 27. CIP Investment Schedule—Scenario 7, 3.95-percent Organic Cargo Growth

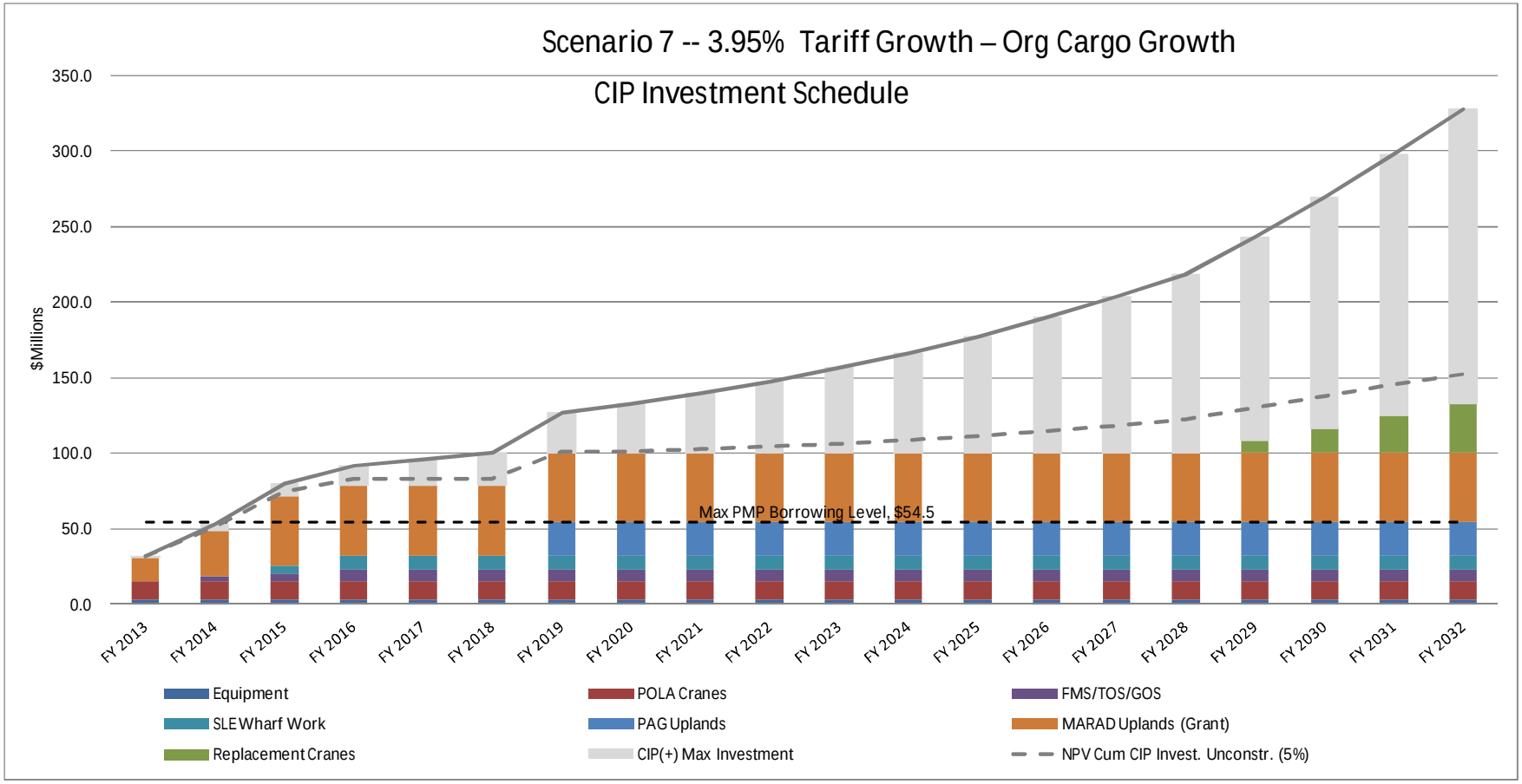


Figure 28. CIP Investment Schedule—Scenario 8, 3.95-percent Tariff Growth, Full Military Build-up

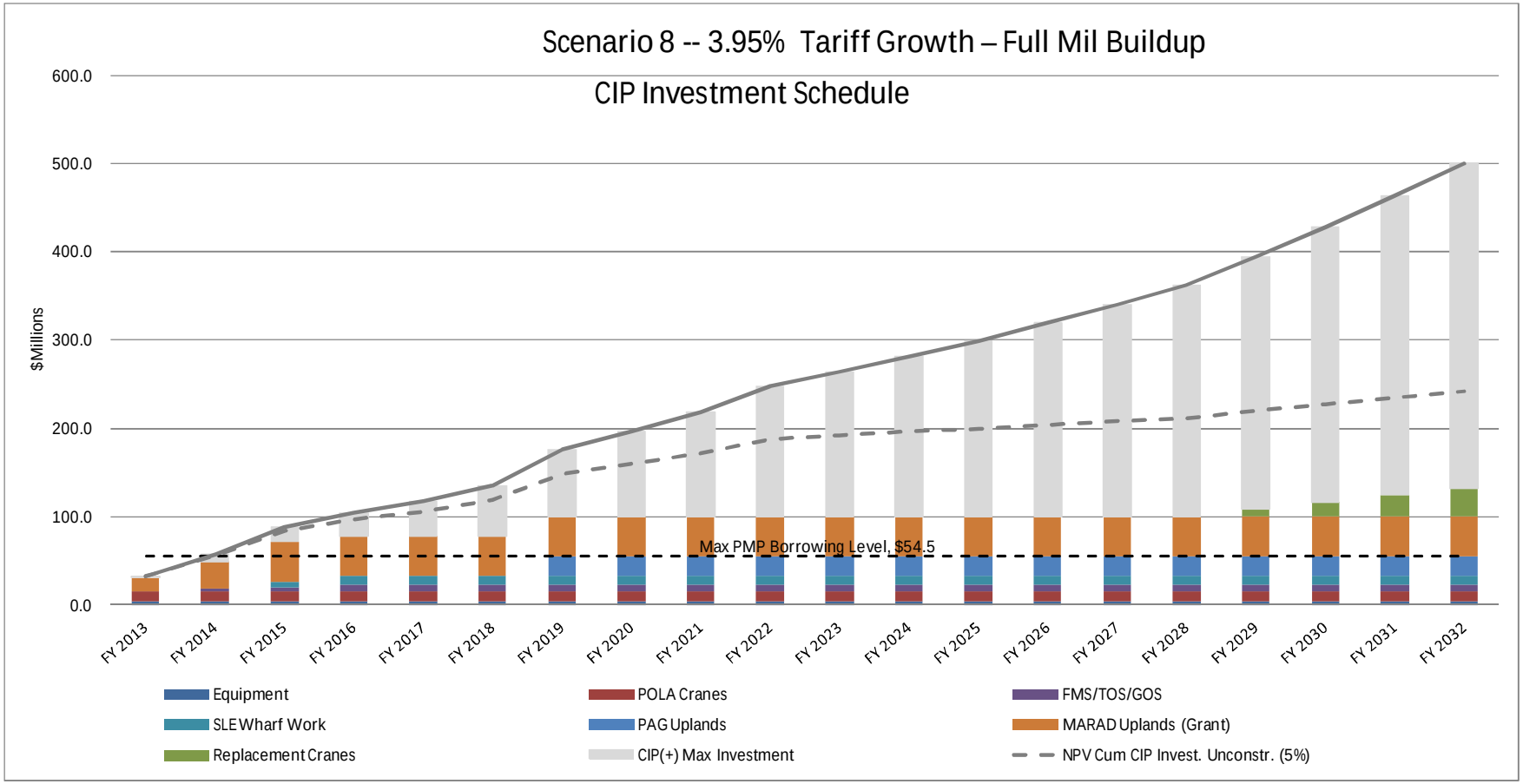
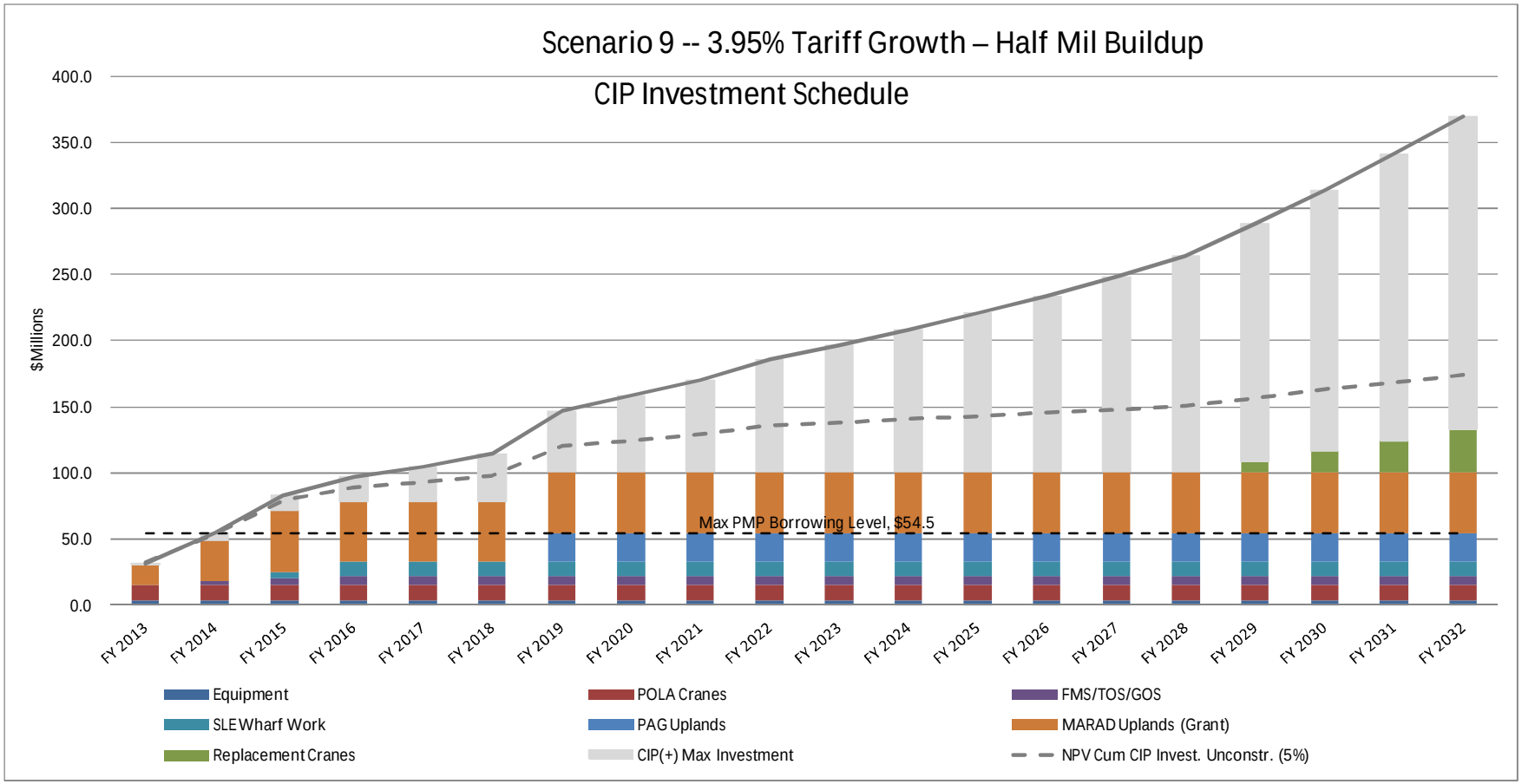


Figure 29. CIP Investment Schedule—Scenario 9, 3.95-percent Tariff Growth, Half Military Build-up



7.0 CONCLUSIONS

PAG has a unique opportunity to modernize its facility to support future growth and ensure the viability of goods movement to the island without significantly impacting the total cost of consumer goods. To seize this opportunity a considerable investment in the Port infrastructure is required.

Based on the financial projections identified in the report, a tariff increase of 6.94 percent for the first two years, followed by an increase of 3.95 percent for the next 12 years is recommended (scenario 4). This level of tariff rate increase is tied to the assumption that the military build-up may not occur but that significant investment is still required to modernize, address sustainability concerns, and meet continuous organic growth requirements in Guam.

Figure 24 illustrates that the cumulative NPV (using a discount rate of 5 percent) of CIP investments would reach $175.2 million if the military build-up does not occur and revenues are based on organic growth volumes for cargo over the next 20 years. The NPV of CIP investments is an indicator of how much investment relative to the original MP target of $ 200M + has been achieved over time. However, to be clear, it is likely that this level of expenditure will require significantly more (than envisioned in the original MP) sustainability investment in the process.

Alternatively, Figures 30 and 31, shown below, illustrate that the NPV of potential CIP investments would grow to $197.7 million and $268.6 million based on the net revenue associated with the respective half-size and full-size military build-up cargo volumes, should they materialize. These constitute the two best outcomes associated with half-size or full-size build-up projections because the compounding effect of tariff adjustments is greater with the first two years being at 6.94 percent instead of 5.06 percent as reflected in Figures 25 and 26. While this may be an unintended consequence of starting out with higher tariff rates, it is important to realize that spreading these investments over the next 20 years will usher in the appropriate level of stewardship needed to address the eventual degradation of aging facilities that will be in service between 45 and 65 years. Therefore, PAG should resist the temptation to artificially lower tariffs below 3.95 percent which is the minimum recommended for the foreseeable future.

Figure 30. NPV of Potential CIP Investments – Half Military Build-up

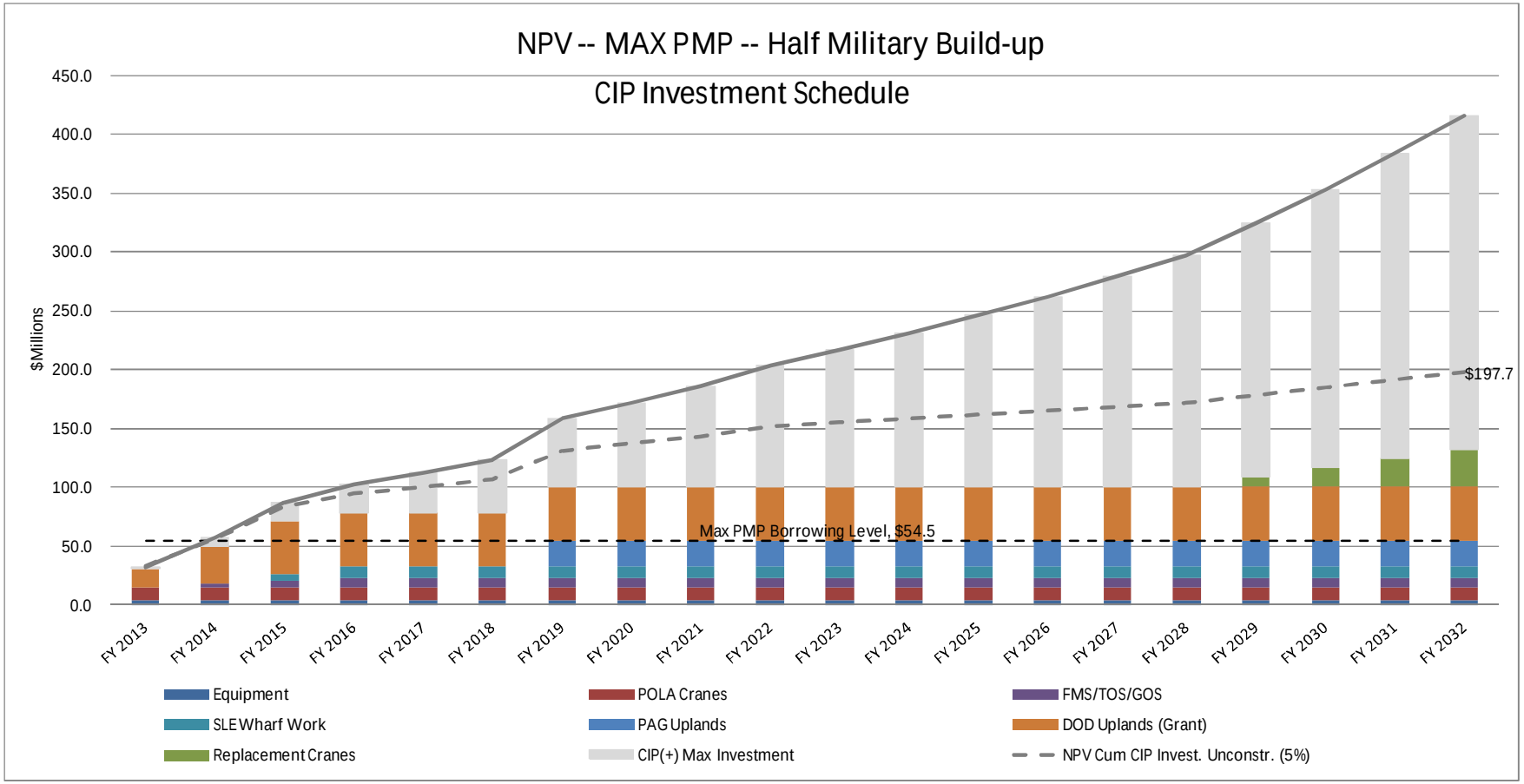
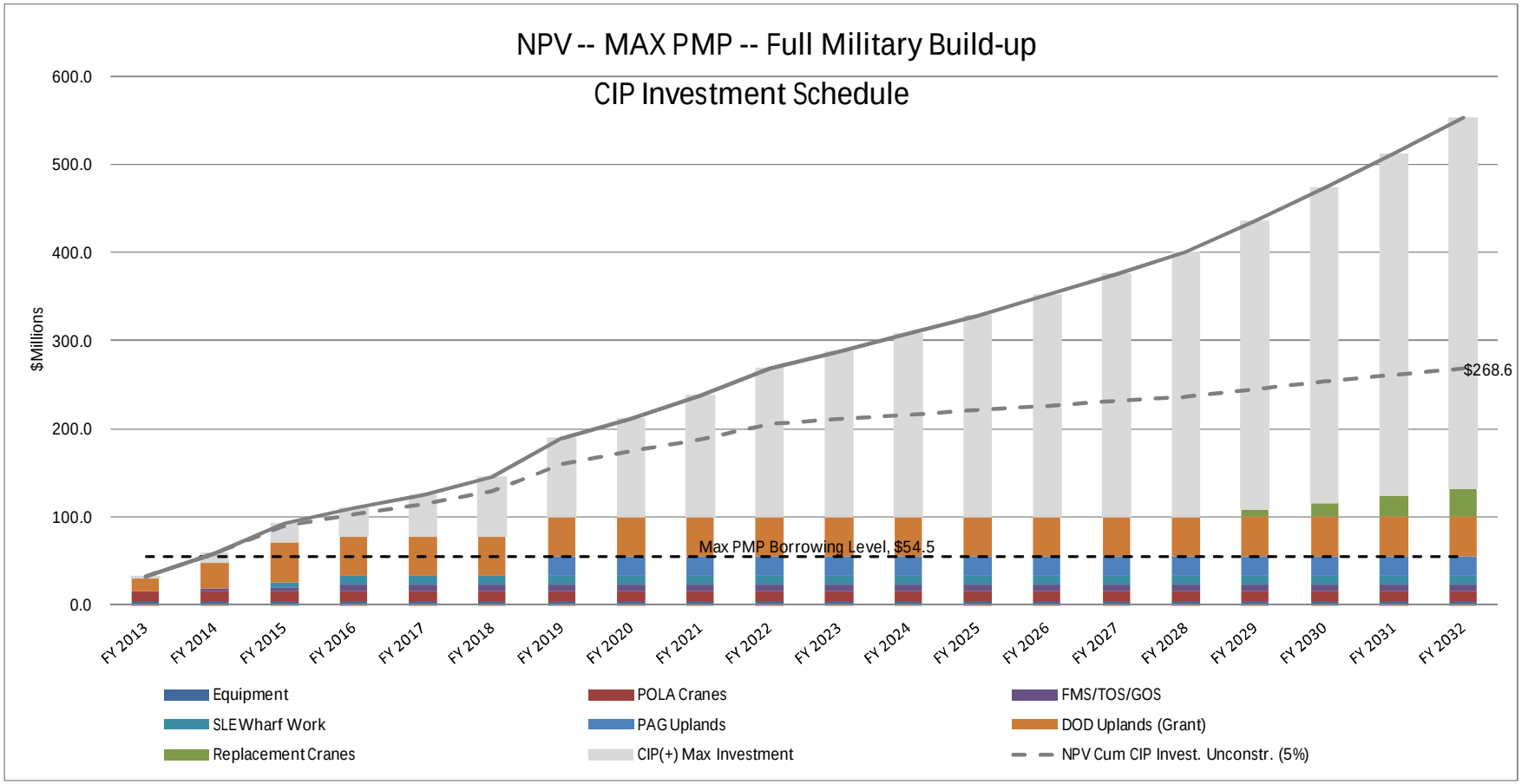


Figure 31. NPV of Potential CIP Investments – Full Military Build-up



Lastly, while mentioned previously in this report, it is noted here again that this report addresses CIP investment opportunities that are related to, but not precisely aligned with, the original Master Plan Update in 2007. Instead it represents a rational assessment of investments that link to global and long-term modernization and sustainability for the Port that meet the ever present and growing needs of Guam and satisfy to the best extent possible the potential needs of military and commercial partners who depend on reliable and responsive Port operations.

Appendix A

Financial Projections
Before Debt Service or CIP Investments

DRAFT Port Authority of Guam Financial Projections — FY 2013-32

Tariff Escalation Assumed to Begin October 1, 2012 Tariff Case: 1 -- Min PMP – Org Cargo Growth

1	2	3	4	5	6	7	8	9	10	11
	Revenues (millions)				Total Annual Revenues [5]	Expenses (millions)			Total Annual Expenses [9]	Net Surplus/ (Deficit) [10]
Fiscal Year	Cargo Revenues [1]	Non-Cargo Revenues [2]	Commercial Revenue [3]	Other Income [4]		General and Administrative Expenses [6]	Other Expenses [7]	O&M Costs [8]		
2010	$28.41	$1.24	$6.38		$36.03	$29.39	$3.08		$32.47	$3.56
2011	$27.54	$1.23	$6.00		$34.78	$29.68	$3.20		$32.88	$1.90
2012	$27.37	$1.23	$5.69	$3.87	$38.16	$27.97	$2.76		$30.72	$7.44
2013	$31.64	$1.31	$5.95		$38.90	$29.15	$3.62	$4.52	$37.29	$1.61
2014	$36.07	$1.39	$6.22		$43.67	$30.05	$3.61	$5.48	$39.14	$4.53
2015	$37.66	$1.46	$6.49		$45.61	$30.99	$3.60	$4.52	$39.10	$6.51
2016	$39.32	$1.53	$6.79		$47.64	$31.95	$3.59	$4.82	$40.35	$7.29
2017	$41.07	$1.61	$7.09		$49.77	$32.94	$3.57	$5.49	$42.00	$7.77
2018	$42.91	$1.69	$7.41		$52.00	$33.96	$3.56	$5.50	$43.02	$8.98
2019	$44.83	$1.77	$7.75		$54.34	$35.02	$3.54	$5.78	$44.34	$10.00
2020	$46.84	$1.86	$8.09		$56.80	$36.10	$3.53	$5.88	$45.51	$11.29
2021	$48.96	$1.95	$8.46		$59.37	$37.22	$3.51	$6.42	$47.15	$12.22
2022	$51.18	$2.05	$8.84		$62.06	$38.24	$3.49	$6.23	$47.96	$14.10
2023	$53.50	$2.15	$9.24		$64.89	$39.43	$3.48	$6.48	$49.38	$15.51
2024	$55.95	$2.26	$9.65		$67.86	$40.65	$3.46	$6.72	$50.83	$17.03
2025	$58.51	$2.37	$10.09		$70.96	$41.91	$3.44	$7.32	$52.67	$18.30
2026	$61.19	$2.49	$10.54		$74.22	$43.21	$3.42	$7.00	$53.63	$20.59
2027	$64.01	$2.61	$11.01		$77.64	$44.55	$3.42	$7.44	$55.41	$22.22
2028	$66.96	$2.74	$11.51		$81.22	$45.93	$3.42	$7.49	$56.84	$24.37
2029	$70.06	$2.88	$12.03		$84.97	$47.35	$3.42	$7.49	$58.27	$26.71
2030	$73.32	$3.02	$12.57		$88.91	$48.82	$3.42	$7.75	$60.00	$28.91
2031	$76.73	$3.17	$13.13		$93.04	$50.34	$3.42	$8.00	$61.76	$31.28
2032	$80.31	$3.33	$13.73		$97.37	$51.90	$3.42	$8.28	$63.60	$33.77
Total	$1,081.01	$43.63	$186.58		1,311.23	789.71	69.95	128.59	988.25	322.98

Footnotes:

[1] Reflects revenue from port operations directly related to cargo based on organic growth with no military buildup.

[2] Non-Cargo revenue includes all revenue not derived from the loading and unloading of freight or leases.

[3] Lease revenue.

[4] Federal reimbursements of $1.5 million per annum was removed from Other Income after 2013. This revenue source is discretionary and should not be considered reliable in future years.

[5] Summary of columns 2,3,4 and 5.

[6] Includes salary, benefits, insurance and other expenses.

[7] Includes inerest expenses and retirment government contributions.

[8] Maintenance and Repair of Port equipment at 1.5% of total equipment, buildings and property, plus new equipment costs.

[9] Summary of columns 7, 8, and 9.

[10] Difference between column 6 and column 10.

DRAFT Port Authority of Guam Financial Projections — FY 2013-32

Tariff Escalation Assumed to Begin October 1, 2012 Tariff Case: 2 -- Min PMP – Full Mil Buildup

1	2	3	4	5	6	7	8	9	10	11
	Revenues (millions)				Total Annual Revenues [5]	Expenses (millions)			Total Annual Expenses [9]	Net Surplus/ (Deficit) [10]
Fiscal Year	Cargo Revenues [1]	Non-Cargo Revenues [2]	Commercial Revenue [3]	Other Income [4]		General and Administrative Expenses [6]	Other Expenses [7]	O&M Costs [8]		
2010	$28.41	$1.24	$6.38		$36.03	$29.39	$3.08		$32.47	$3.56
2011	$27.54	$1.23	$6.00		$34.78	$29.68	$3.20		$32.88	$1.90
2012	$27.37	$1.23	$5.69	$3.87	$38.16	$27.97	$2.76		$30.72	$7.44
2013	$31.64	$1.31	$5.95		$38.90	$29.15	$3.62	$4.52	$37.29	$1.61
2014	$41.09	$1.57	$6.22		$48.87	$30.05	$3.61	$5.48	$39.14	$9.73
2015	$42.88	$1.64	$6.49		$51.02	$30.99	$3.60	$4.52	$39.10	$11.92
2016	$44.80	$1.72	$6.79		$53.31	$31.95	$3.59	$4.82	$40.35	$12.96
2017	$53.38	$2.06	$7.09		$62.53	$32.94	$3.57	$5.49	$42.00	$20.54
2018	$59.37	$2.29	$7.41		$69.08	$33.96	$3.56	$5.50	$43.02	$26.05
2019	$62.88	$2.44	$7.75		$73.07	$35.02	$3.54	$5.78	$44.34	$28.73
2020	$65.46	$2.55	$8.09		$76.11	$36.10	$3.53	$5.88	$45.51	$30.60
2021	$69.34	$2.75	$8.46		$80.55	$37.22	$3.51	$6.42	$47.15	$33.40
2022	$77.30	$3.08	$8.84		$89.22	$38.24	$3.49	$6.23	$47.96	$41.25
2023	$62.63	$2.51	$9.24		$74.38	$39.43	$3.48	$6.48	$49.38	$25.00
2024	$65.37	$2.63	$9.65		$77.65	$40.65	$3.46	$6.72	$50.83	$26.82
2025	$68.24	$2.76	$10.09		$81.08	$41.91	$3.44	$7.32	$52.67	$28.42
2026	$70.66	$2.87	$10.54		$84.07	$43.21	$3.42	$7.00	$53.63	$30.44
2027	$73.20	$2.98	$11.01		$87.19	$44.55	$3.42	$7.44	$55.41	$31.78
2028	$75.82	$3.10	$11.51		$90.43	$45.93	$3.42	$7.49	$56.84	$33.59
2029	$79.18	$3.25	$12.03		$94.45	$47.35	$3.42	$7.49	$58.27	$36.19
2030	$82.70	$3.40	$12.57		$98.67	$48.82	$3.42	$7.75	$60.00	$38.68
2031	$85.69	$3.54	$13.13		$102.36	$50.34	$3.42	$8.00	$61.76	$40.61
2032	$89.52	$3.71	$13.73		$106.95	$51.90	$3.42	$8.28	$63.60	$43.35
Total	$1,301.15	$52.16	$186.58		1,539.90	789.71	69.95	128.59	988.25	551.65

Footnotes:

[1] Reflects revenue from port operations directly related to cargo based on full military buildup.

[2] Non-Cargo revenue includes all revenue not derived from the loading and unloading of freight or leases.

[3] Lease revenue.

[4] Federal reimbursements of $1.5 million per annum was removed from Other Income after 2013. This revenue source is discretionary and should not be considered reliable in future years.

[5] Summary of columns 2,3,4 and 5.

[6] Includes salary, benefits, insurance and other expenses.

[7] Includes inerest expenses and retirment government contributions.

[8] Maintenance and Repair of Port equipment at 1.5% of total equipment, buildings and property, plus new equipment costs.

[9] Summary of columns 7, 8, and 9.

[10] Difference between column 6 and column 10.

DRAFT Port Authority of Guam Financial Projections — FY 2013-32

Tariff Escalation Assumed to Begin October 1, 2012 Tariff Case: 3 -- Min PMP – Half Mil Buildup

1	2	3	4	5	6	7	8	9	10	11
	Revenues (millions)				Total Annual Revenues [5]	Expenses (millions)			Total Annual Expenses [9]	Net Surplus/ (Deficit) [10]
Fiscal Year	Cargo Revenues [1]	Non-Cargo Revenues [2]	Commercial Revenue [3]	Other Income [4]		General and Administrative Expenses [6]	Other Expenses [7]	O&M Costs [8]		
2010	$28.41	$1.24	$6.38		$36.03	$29.39	$3.08		$32.47	$3.56
2011	$27.54	$1.23	$6.00		$34.78	$29.68	$3.20		$32.88	$1.90
2012	$27.37	$1.23	$5.69	$3.87	$38.16	$27.97	$2.76		$30.72	$7.44
2013	$31.64	$1.31	$5.95		$38.90	$29.15	$3.62	$4.52	$37.29	$1.61
2014	$38.40	$1.47	$6.22		$46.09	$30.05	$3.61	$5.48	$39.14	$6.95
2015	$39.88	$1.53	$6.49		$47.91	$30.99	$3.60	$4.52	$39.10	$8.81
2016	$41.45	$1.60	$6.79		$49.84	$31.95	$3.59	$4.82	$40.35	$9.49
2017	$46.11	$1.79	$7.09		$55.00	$32.94	$3.57	$5.49	$42.00	$13.00
2018	$49.48	$1.93	$7.41		$58.82	$33.96	$3.56	$5.50	$43.02	$15.80
2019	$51.79	$2.03	$7.75		$61.56	$35.02	$3.54	$5.78	$44.34	$17.22
2020	$53.75	$2.11	$8.09		$63.96	$36.10	$3.53	$5.88	$45.51	$18.45
2021	$56.36	$2.24	$8.46		$67.06	$37.22	$3.51	$6.42	$47.15	$19.91
2022	$60.58	$2.42	$8.84		$71.84	$38.24	$3.49	$6.23	$47.96	$23.88
2023	$55.90	$2.24	$9.24		$67.38	$39.43	$3.48	$6.48	$49.38	$18.00
2024	$58.11	$2.34	$9.65		$70.10	$40.65	$3.46	$6.72	$50.83	$19.27
2025	$60.41	$2.44	$10.09		$72.94	$41.91	$3.44	$7.32	$52.67	$20.28
2026	$62.56	$2.54	$10.54		$75.64	$43.21	$3.42	$7.00	$53.63	$22.01
2027	$64.80	$2.64	$11.01		$78.45	$44.55	$3.42	$7.44	$55.41	$23.04
2028	$67.12	$2.74	$11.51		$81.38	$45.93	$3.42	$7.49	$56.84	$24.53
2029	$69.81	$2.86	$12.03		$84.70	$47.35	$3.42	$7.49	$58.27	$26.44
2030	$72.63	$2.99	$12.57		$88.18	$48.82	$3.42	$7.75	$60.00	$28.19
2031	$75.25	$3.11	$13.13		$91.50	$50.34	$3.42	$8.00	$61.76	$29.74
2032	$78.30	$3.24	$13.73		$95.27	$51.90	$3.42	$8.28	$63.60	$31.67
Total	$1,134.37	$45.57	$186.58		1,366.52	789.71	69.95	128.59	988.25	378.27

Footnotes:

[1] Reflects revenue from port operations directly related to cargo based on 1/2 of forecast military buildup

[2] Non-Cargo revenue includes all revenue not derived from the loading and unloading of freight or leases.

[3] Lease revenue.

[4] Federal reimbursements of $1.5 million per annum was removed from Other Income after 2013. This revenue source is discretionary and should not be considered reliable in future years.

[5] Summary of columns 2,3,4 and 5.

[6] Includes salary, benefits, insurance and other expenses.

[7] Includes inerest expenses and retirment government contributions.

[8] Maintenance and Repair of Port equipment at 1.5% of total equipment, buildings and property, plus new equipment costs.

[9] Summary of columns 7, 8, and 9.

[10] Difference between column 6 and column 10.

DRAFT Port Authority of Guam Financial Projections — FY 2013-32

Tariff Escalation Assumed to Begin October 1, 2012 Tariff Case: 4 -- Max PMP – Organic Growth

1	2	3	4	5	6	7	8	9	10	11
	Revenues (millions)				Total Annual Revenues [5]	Expenses (millions)			Total Annual Expenses [9]	Net Surplus/ (Deficit) [10]
Fiscal Year	Cargo Revenues [1]	Non-Cargo Revenues [2]	Commercial Revenue [3]	Other Income [4]		General and Administrative Expenses [6]	Other Expenses [7]	O&M Costs [8]		
2010	$28.41	$1.24	$6.38		$36.03	$29.39	$3.08		$32.47	$3.56
2011	$27.54	$1.23	$6.00		$34.78	$29.68	$3.20		$32.88	$1.90
2012	$27.37	$1.23	$5.69	$3.87	$38.16	$27.97	$2.76		$30.72	$7.44
2013	$32.16	$1.33	$5.95		$39.44	$29.15	$3.62	$4.52	$37.29	$2.15
2014	$37.18	$1.44	$6.22		$44.83	$30.05	$3.61	$5.48	$39.14	$5.69
2015	$38.83	$1.51	$6.49		$46.83	$30.99	$3.60	$4.52	$39.10	$7.73
2016	$40.55	$1.58	$6.79		$48.92	$31.95	$3.59	$4.82	$40.35	$8.57
2017	$42.36	$1.66	$7.09		$51.12	$32.94	$3.57	$7.89	$44.40	$6.71
2018	$44.26	$1.75	$7.41		$53.42	$33.96	$3.56	$7.98	$45.50	$7.91
2019	$46.25	$1.83	$7.75		$55.83	$35.02	$3.54	$8.34	$46.90	$8.93
2020	$48.34	$1.93	$8.09		$58.36	$36.10	$3.53	$8.52	$48.15	$10.21
2021	$50.53	$2.02	$8.46		$61.01	$37.22	$3.51	$9.14	$49.87	$11.14
2022	$52.82	$2.12	$8.84		$63.79	$38.24	$3.49	$9.03	$50.77	$13.02
2023	$55.23	$2.23	$9.24		$66.70	$39.43	$3.48	$9.37	$52.27	$14.43
2024	$57.76	$2.34	$9.65		$69.75	$40.65	$3.46	$9.70	$53.81	$15.94
2025	$60.41	$2.46	$10.09		$72.95	$41.91	$3.44	$10.39	$55.74	$17.21
2026	$63.19	$2.58	$10.54		$76.31	$43.21	$3.42	$10.17	$56.80	$19.51
2027	$66.11	$2.71	$11.01		$79.83	$44.55	$3.42	$10.71	$58.68	$21.15
2028	$69.17	$2.84	$11.51		$83.52	$45.93	$3.42	$10.86	$60.21	$23.31
2029	$72.38	$2.98	$12.03		$87.39	$47.35	$3.42	$10.96	$61.74	$25.65
2030	$75.75	$3.13	$12.57		$91.45	$48.82	$3.42	$11.33	$63.58	$27.88
2031	$79.28	$3.29	$13.13		$95.71	$50.34	$3.42	$11.69	$65.45	$30.26
2032	$82.99	$3.45	$13.73		$100.17	$51.90	$3.42	$12.08	$67.40	$32.77
Total	$1,115.56	$45.19	$186.58		1,347.33	789.71	69.95	177.49	1,037.15	310.18

Footnotes:

[1] Reflects revenue from port operations directly related to cargo based on organic growth with no military buildup

[2] Non-Cargo revenue includes all revenue not derived from the loading and unloading of freight or leases.

[3] Lease revenue.

[4] Federal reimbursements of $1.5 million per annum was removed from Other Income after 2013. This revenue source is discretionary and should not be considered reliable in future years.

[5] Summary of columns 2,3,4 and 5.

[6] Includes salary, benefits, insurance and other expenses.

[7] Includes inerest expenses and retirment government contributions.

[8] Maintenance and Repair of Port equipment at 1.5% of total equipment, buildings and property, plus new equipment costs.

[9] Summary of columns 7, 8, and 9.

[10] Difference between column 6 and column 10.

DRAFT Port Authority of Guam Financial Projections — FY 2013-32

Tariff Escalation Assumed to Begin October 1, 2012 Tariff Case: 5 -- Max PMP – Full Mil Buildup

1	2	3	4	5	6	7	8	9	10	11
	Revenues (millions)				Total Annual Revenues [5]	Expenses (millions)			Total Annual Expenses [9]	Net Surplus/ (Deficit) [10]
Fiscal Year	Cargo Revenues [1]	Non-Cargo Revenues [2]	Commercial Revenue [3]	Other Income [4]		General and Administrative Expenses [6]	Other Expenses [7]	O&M Costs [8]		
2010	$28.41	$1.24	$6.38		$36.03	$29.39	$3.08		$32.47	$3.56
2011	$27.54	$1.23	$6.00		$34.78	$29.68	$3.20		$32.88	$1.90
2012	$27.37	$1.23	$5.69	$3.87	$38.16	$27.97	$2.76		$30.72	$7.44
2013	$31.64	$1.31	$5.95		$38.90	$29.15	$3.62	$4.52	$37.29	$1.61
2014	$41.09	$1.57	$6.22		$48.87	$30.05	$3.61	$5.48	$39.14	$9.73
2015	$42.88	$1.64	$6.49		$51.02	$30.99	$3.60	$4.52	$39.10	$11.92
2016	$44.80	$1.72	$6.79		$53.31	$31.95	$3.59	$4.82	$40.35	$12.96
2017	$53.38	$2.06	$7.09		$62.53	$32.94	$3.57	$7.89	$44.40	$18.13
2018	$59.37	$2.29	$7.41		$69.08	$33.96	$3.56	$7.98	$45.50	$23.57
2019	$62.88	$2.44	$7.75		$73.07	$35.02	$3.54	$8.34	$46.90	$26.17
2020	$65.46	$2.55	$8.09		$76.11	$36.10	$3.53	$8.52	$48.15	$27.96
2021	$69.34	$2.75	$8.46		$80.55	$37.22	$3.51	$9.14	$49.87	$30.68
2022	$77.30	$3.08	$8.84		$89.22	$38.24	$3.49	$9.03	$50.77	$38.45
2023	$62.63	$2.51	$9.24		$74.38	$39.43	$3.48	$9.37	$52.27	$22.10
2024	$65.37	$2.63	$9.65		$77.65	$40.65	$3.46	$9.70	$53.81	$23.84
2025	$68.24	$2.76	$10.09		$81.08	$41.91	$3.44	$10.39	$55.74	$25.34
2026	$70.66	$2.87	$10.54		$84.07	$43.21	$3.42	$10.17	$56.80	$27.27
2027	$73.20	$2.98	$11.01		$87.19	$44.55	$3.42	$10.71	$58.68	$28.51
2028	$75.82	$3.10	$11.51		$90.43	$45.93	$3.42	$10.86	$60.21	$30.22
2029	$79.18	$3.25	$12.03		$94.45	$47.35	$3.42	$10.96	$61.74	$32.71
2030	$82.70	$3.40	$12.57		$98.67	$48.82	$3.42	$11.33	$63.58	$35.10
2031	$85.69	$3.54	$13.13		$102.36	$50.34	$3.42	$11.69	$65.45	$36.92
2032	$89.52	$3.71	$13.73		$106.95	$51.90	$3.42	$12.08	$67.40	$39.55
Total	$1,301.15	$52.16	$186.58		1,539.90	789.71	69.95	177.49	1,037.15	502.74

Footnotes:

[1] Reflects revenue from port operations directly related to cargo based on full military buildup.

[2] Non-Cargo revenue includes all revenue not derived from the loading and unloading of freight or leases.

[3] Lease revenue.

[4] Federal reimbursements of $1.5 million per annum was removed from Other Income after 2013. This revenue source is discretionary and should not be considered reliable in future years.

[5] Summary of columns 2,3,4 and 5.

[6] Includes salary, benefits, insurance and other expenses.

[7] Includes inerest expenses and retirment government contributions.

[8] Maintenance and Repair of Port equipment at 1.5% of total equipment, buildings and property, plus new equipment costs.

[9] Summary of columns 7, 8, and 9.

[10] Difference between column 6 and column 10.

DRAFT Port Authority of Guam Financial Projections — FY 2013-32

Tariff Escalation Assumed to Begin October 1, 2012 Tariff Case: 6 -- Max PMP – Half Mil Buildup

1	2	3	4	5	6	7	8	9	10	11
	Revenues (millions)				Total Annual Revenues [5]	Expenses (millions)			Total Annual Expenses [9]	Net Surplus/ (Deficit) [10]
Fiscal Year	Cargo Revenues [1]	Non-Cargo Revenues [2]	Commercial Revenue [3]	Other Income [4]		General and Administrative Expenses [6]	Other Expenses [7]	O&M Costs [8]		
2010	$28.41	$1.24	$6.38		$36.03	$29.39	$3.08		$32.47	$3.56
2011	$27.54	$1.23	$6.00		$34.78	$29.68	$3.20		$32.88	$1.90
2012	$27.37	$1.23	$5.69	$3.87	$38.16	$27.97	$2.76		$30.72	$7.44
2013	$31.64	$1.31	$5.95		$38.90	$29.15	$3.62	$4.52	$37.29	$1.61
2014	$38.40	$1.47	$6.22		$46.09	$30.05	$3.61	$5.48	$39.14	$6.95
2015	$39.88	$1.53	$6.49		$47.91	$30.99	$3.60	$4.52	$39.10	$8.81
2016	$41.45	$1.60	$6.79		$49.84	$31.95	$3.59	$4.82	$40.35	$9.49
2017	$46.11	$1.79	$7.09		$55.00	$32.94	$3.57	$7.89	$44.40	$10.59
2018	$49.48	$1.93	$7.41		$58.82	$33.96	$3.56	$7.98	$45.50	$13.31
2019	$51.79	$2.03	$7.75		$61.56	$35.02	$3.54	$8.34	$46.90	$14.66
2020	$53.75	$2.11	$8.09		$63.96	$36.10	$3.53	$8.52	$48.15	$15.81
2021	$56.36	$2.24	$8.46		$67.06	$37.22	$3.51	$9.14	$49.87	$17.19
2022	$60.58	$2.42	$8.84		$71.84	$38.24	$3.49	$9.03	$50.77	$21.07
2023	$55.90	$2.24	$9.24		$67.38	$39.43	$3.48	$9.37	$52.27	$15.11
2024	$58.11	$2.34	$9.65		$70.10	$40.65	$3.46	$9.70	$53.81	$16.29
2025	$60.41	$2.44	$10.09		$72.94	$41.91	$3.44	$10.39	$55.74	$17.20
2026	$62.56	$2.54	$10.54		$75.64	$43.21	$3.42	$10.17	$56.80	$18.84
2027	$64.80	$2.64	$11.01		$78.45	$44.55	$3.42	$10.71	$58.68	$19.77
2028	$67.12	$2.74	$11.51		$81.38	$45.93	$3.42	$10.86	$60.21	$21.16
2029	$69.81	$2.86	$12.03		$84.70	$47.35	$3.42	$10.96	$61.74	$22.97
2030	$72.63	$2.99	$12.57		$88.18	$48.82	$3.42	$11.33	$63.58	$24.61
2031	$75.25	$3.11	$13.13		$91.50	$50.34	$3.42	$11.69	$65.45	$26.05
2032	$78.30	$3.24	$13.73		$95.27	$51.90	$3.42	$12.08	$67.40	$27.86
Total	$1,134.36	$45.57	$186.58		1,366.52	789.71	69.95	177.49	1,037.15	329.36

Footnotes:

[1] Reflects revenue from port operations directly related to cargo based on 1/2 of forecast military buildup

[2] Non-Cargo revenue includes all revenue not derived from the loading and unloading of freight or leases.

[3] Lease revenue.

[4] Federal reimbursements of $1.5 million per annum was removed from Other Income after 2013. This revenue source is discretionary and should not be considered reliable in future years.

[5] Summary of columns 2,3,4 and 5.

[6] Includes salary, benefits, insurance and other expenses.

[7] Includes inerest expenses and retirment government contributions.

[8] Maintenance and Repair of Port equipment at 1.5% of total equipment, buildings and property, plus new equipment costs.

[9] Summary of columns 7, 8, and 9.

[10] Difference between column 6 and column 10.

DRAFT Port Authority of Guam Financial Projections — FY 2013-32

Tariff Escalation Assumed to Begin October 1, 2012 Tariff Case: 7 -- 3.95% Tariff Growth – Org Cargo Growth

1	2	3	4	5	6	7	8	9	10	11
	Revenues (millions)				Total Annual Revenues [5]	Expenses (millions)			Total Annual Expenses [9]	Net Surplus/ (Deficit) [10]
Fiscal Year	Cargo Revenues [1]	Non-Cargo Revenues [2]	Commercial Revenue [3]	Other Income [4]		General and Administrative Expenses [6]	Other Expenses [7]	O&M Costs [8]		
2010	$28.41	$1.24	$6.38		$36.03	$29.39	$3.08		$32.47	$3.56
2011	$27.54	$1.23	$6.00		$34.78	$29.68	$3.20		$32.88	$1.90
2012	$27.37	$1.23	$5.69	$3.87	$38.16	$27.97	$2.76		$30.72	$7.44
2013	$31.34	$1.29	$5.95		$38.58	$29.15	$3.62	$4.52	$37.29	$1.29
2014	$35.42	$1.36	$6.22		$42.99	$30.05	$3.61	$5.48	$39.14	$3.85
2015	$36.98	$1.43	$6.49		$44.90	$30.99	$3.60	$4.52	$39.10	$5.80
2016	$38.61	$1.50	$6.79		$46.89	$31.95	$3.59	$4.82	$40.35	$6.55
2017	$40.32	$1.57	$7.09		$48.99	$32.94	$3.57	$7.89	$44.40	$4.58
2018	$42.12	$1.65	$7.41		$51.18	$33.96	$3.56	$7.98	$45.50	$5.68
2019	$44.00	$1.73	$7.75		$53.48	$35.02	$3.54	$8.34	$46.90	$6.58
2020	$45.98	$1.82	$8.09		$55.89	$36.10	$3.53	$8.52	$48.15	$7.74
2021	$48.05	$1.91	$8.46		$58.42	$37.22	$3.51	$9.14	$49.87	$8.55
2022	$50.22	$2.01	$8.84		$61.07	$38.24	$3.49	$9.03	$50.77	$10.30
2023	$52.50	$2.11	$9.24		$63.84	$39.43	$3.48	$9.37	$52.27	$11.57
2024	$54.89	$2.21	$9.65		$66.76	$40.65	$3.46	$9.70	$53.81	$12.95
2025	$57.40	$2.32	$10.09		$69.81	$41.91	$3.44	$10.39	$55.74	$14.07
2026	$60.03	$2.44	$10.54		$73.01	$43.21	$3.42	$10.17	$56.80	$16.21
2027	$62.79	$2.56	$11.01		$76.36	$44.55	$3.42	$10.71	$58.68	$17.68
2028	$65.69	$2.69	$11.51		$79.88	$45.93	$3.42	$10.86	$60.21	$19.67
2029	$68.72	$2.82	$12.03		$83.57	$47.35	$3.42	$10.96	$61.74	$21.83
2030	$71.91	$2.96	$12.57		$87.44	$48.82	$3.42	$11.33	$63.58	$23.86
2031	$75.25	$3.11	$13.13		$91.49	$50.34	$3.42	$11.69	$65.45	$26.05
2032	$78.76	$3.26	$13.73		$95.75	$51.90	$3.42	$12.08	$67.40	$28.34
Total	$1,060.98	$42.73	$186.58		1,290.29	789.71	69.95	177.49	1,037.15	253.14

Footnotes:

[1] Reflects revenue from port operations directly related to cargo based on organic growth and 3.95% tariff increases.

[2] Non-Cargo revenue includes all revenue not derived from the loading and unloading of freight or leases.

[3] Lease revenue.

[4] Federal reimbursements of $1.5 million per annum was removed from Other Income after 2013. This revenue source is discretionary and should not be considered reliable in future years.

[5] Summary of columns 2,3,4 and 5.

[6] Includes salary, benefits, insurance and other expenses.

[7] Includes inerest expenses and retirment government contributions.

[8] Maintenance and Repair of Port equipment at 1.5% of total equipment, buildings and property, plus new equipment costs.

[9] Summary of columns 7, 8, and 9.

[10] Difference between column 6 and column 10.

DRAFT Port Authority of Guam Financial Projections — FY 2013-32

Tariff Escalation Assumed to Begin October 1, 2012 Tariff Case: 8 -- 3.95% Tariff Growth – Full Mil Buildup

1	2	3	4	5	6	7	8	9	10	11
	Revenues (millions)				Total Annual Revenues [5]	Expenses (millions)			Total Annual Expenses [9]	Net Surplus/ (Deficit) [10]
Fiscal Year	Cargo Revenues [1]	Non-Cargo Revenues [2]	Commercial Revenue [3]	Other Income [4]		General and Administrative Expenses [6]	Other Expenses [7]	O&M Costs [8]		
2010	$28.41	$1.24	$6.38		$36.03	$29.39	$3.08		$32.47	$3.56
2011	$27.54	$1.23	$6.00		$34.78	$29.68	$3.20		$32.88	$1.90
2012	$27.37	$1.23	$5.69	$3.87	$38.16	$27.97	$2.76		$30.72	$7.44
2013	$31.34	$1.29	$5.95		$38.58	$29.15	$3.62	$4.52	$37.29	$1.29
2014	$40.35	$1.53	$6.22		$48.10	$30.05	$3.61	$5.48	$39.14	$8.96
2015	$42.10	$1.61	$6.49		$50.21	$30.99	$3.60	$4.52	$39.10	$11.11
2016	$43.99	$1.69	$6.79		$52.46	$31.95	$3.59	$4.82	$40.35	$12.11
2017	$52.41	$2.01	$7.09		$61.52	$32.94	$3.57	$7.89	$44.40	$17.11
2018	$58.28	$2.25	$7.41		$67.94	$33.96	$3.56	$7.98	$45.50	$22.44
2019	$61.72	$2.39	$7.75		$71.85	$35.02	$3.54	$8.34	$46.90	$24.96
2020	$64.25	$2.50	$8.09		$74.84	$36.10	$3.53	$8.52	$48.15	$26.69
2021	$68.05	$2.69	$8.46		$79.20	$37.22	$3.51	$9.14	$49.87	$29.33
2022	$75.86	$3.02	$8.84		$87.71	$38.24	$3.49	$9.03	$50.77	$36.94
2023	$61.45	$2.46	$9.24		$73.15	$39.43	$3.48	$9.37	$52.27	$20.88
2024	$64.14	$2.58	$9.65		$76.37	$40.65	$3.46	$9.70	$53.81	$22.56
2025	$66.95	$2.70	$10.09		$79.74	$41.91	$3.44	$10.39	$55.74	$24.00
2026	$69.32	$2.81	$10.54		$82.67	$43.21	$3.42	$10.17	$56.80	$25.87
2027	$71.81	$2.92	$11.01		$85.74	$44.55	$3.42	$10.71	$58.68	$27.06
2028	$74.37	$3.03	$11.51		$88.92	$45.93	$3.42	$10.86	$60.21	$28.71
2029	$77.66	$3.18	$12.03		$92.87	$47.35	$3.42	$10.96	$61.74	$31.13
2030	$81.11	$3.33	$12.57		$97.01	$48.82	$3.42	$11.33	$63.58	$33.43
2031	$84.04	$3.46	$13.13		$100.64	$50.34	$3.42	$11.69	$65.45	$35.19
2032	$87.78	$3.63	$13.73		$105.14	$51.90	$3.42	$12.08	$67.40	$37.74
Total	$1,276.99	$51.08	$186.58		1,514.65	789.71	69.95	177.49	1,037.15	477.50

Footnotes:

[1] Reflects revenue from port operations directly related to cargo based on full military buildup and 3.95% tariff increases.

[2] Non-Cargo revenue includes all revenue not derived from the loading and unloading of freight or leases.

[3] Lease revenue.

[4] Federal reimbursements of $1.5 million per annum was removed from Other Income after 2013. This revenue source is discretionary and should not be considered reliable in future years.

[5] Summary of columns 2,3,4 and 5.

[6] Includes salary, benefits, insurance and other expenses.

[7] Includes inerest expenses and retirment government contributions.

[8] Maintenance and Repair of Port equipment at 1.5% of total equipment, buildings and property, plus new equipment costs.

[9] Summary of columns 7, 8, and 9.

[10] Difference between column 6 and column 10.

DRAFT Port Authority of Guam Financial Projections — FY 2013-32

Tariff Escalation Assumed to Begin October 1, 2012 Tariff Case: 9 -- 3.95% Tariff Growth – Half Mil Buildup

1	2	3	4	5	6	7	8	9	10	11
	Revenues (millions)				Total Annual Revenues [5]	Expenses (millions)			Total Annual Expenses [9]	Net Surplus/ (Deficit) [10]
Fiscal Year	Cargo Revenues [1]	Non-Cargo Revenues [2]	Commercial Revenue [3]	Other Income [4]		General and Administrative Expenses [6]	Other Expenses [7]	O&M Costs [8]		
2010	$28.41	$1.24	$6.38		$36.03	$29.39	$3.08		$32.47	$3.56
2011	$27.54	$1.23	$6.00		$34.78	$29.68	$3.20		$32.88	$1.90
2012	$27.37	$1.23	$5.69	$3.87	$38.16	$27.97	$2.76		$30.72	$7.44
2013	$31.34	$1.29	$5.95		$38.58	$29.15	$3.62	$4.52	$37.29	$1.29
2014	$37.71	$1.44	$6.22		$45.37	$30.05	$3.61	$5.48	$39.14	$6.23
2015	$39.16	$1.50	$6.49		$47.16	$30.99	$3.60	$4.52	$39.10	$8.06
2016	$40.70	$1.57	$6.79		$49.06	$31.95	$3.59	$4.82	$40.35	$8.71
2017	$45.27	$1.75	$7.09		$54.12	$32.94	$3.57	$7.89	$44.40	$9.71
2018	$48.57	$1.89	$7.41		$57.87	$33.96	$3.56	$7.98	$45.50	$12.37
2019	$50.83	$1.98	$7.75		$60.56	$35.02	$3.54	$8.34	$46.90	$13.67
2020	$52.76	$2.07	$8.09		$62.92	$36.10	$3.53	$8.52	$48.15	$14.77
2021	$55.32	$2.19	$8.46		$65.97	$37.22	$3.51	$9.14	$49.87	$16.10
2022	$59.45	$2.37	$8.84		$70.66	$38.24	$3.49	$9.03	$50.77	$19.89
2023	$54.85	$2.19	$9.24		$66.28	$39.43	$3.48	$9.37	$52.27	$14.01
2024	$57.02	$2.29	$9.65		$68.96	$40.65	$3.46	$9.70	$53.81	$15.15
2025	$59.27	$2.39	$10.09		$71.75	$41.91	$3.44	$10.39	$55.74	$16.01
2026	$61.38	$2.49	$10.54		$74.40	$43.21	$3.42	$10.17	$56.80	$17.60
2027	$63.57	$2.58	$11.01		$77.17	$44.55	$3.42	$10.71	$58.68	$18.48
2028	$65.84	$2.69	$11.51		$80.04	$45.93	$3.42	$10.86	$60.21	$19.82
2029	$68.48	$2.80	$12.03		$83.31	$47.35	$3.42	$10.96	$61.74	$21.57
2030	$71.23	$2.93	$12.57		$86.72	$48.82	$3.42	$11.33	$63.58	$23.15
2031	$73.80	$3.04	$13.13		$89.98	$50.34	$3.42	$11.69	$65.45	$24.53
2032	$76.79	$3.17	$13.73		$93.69	$51.90	$3.42	$12.08	$67.40	$26.28
Total	$1,113.34	$44.63	$186.58		1,344.55	789.71	69.95	177.49	1,037.15	307.39

Footnotes:

[1] Reflects revenue from port operations directly related to cargo based on 1/2 of forecast military buildup and 3.95% tariff increases.

[2] Non-Cargo revenue includes all revenue not derived from the loading and unloading of freight or leases.

[3] Lease revenue.

[4] Federal reimbursements of $1.5 million per annum was removed from Other Income after 2013. This revenue source is discretionary and should not be considered reliable in future years.

[5] Summary of columns 2,3,4 and 5.

[6] Includes salary, benefits, insurance and other expenses.

[7] Includes inerest expenses and retirment government contributions.

[8] Maintenance and Repair of Port equipment at 1.5% of total equipment, buildings and property, plus new equipment costs.

[9] Summary of columns 7, 8, and 9.

[10] Difference between column 6 and column 10.