



CITY OF TAMPA, FLORIDA - RFQ
c/o Contract Administration Department
306 E. Jackson Street # 280A4N
Tampa, FL 33602

18-D-00022; Engineer of Record – McKay Bay Refuse To Energy Facility

Public Announcement In Compliance With Requirements Of Chapter 287.055, Laws Of Florida, Consultants Competitive Negotiation Act, As Amended, The City Of Tampa's Equal Business Opportunity Program, City of Tampa Code Chapter 2, Article V, Division 3, Section 2-282, and Applicable Federal Law. Submitters will be Notified of Intent To Award by E-mail.

RFQ – 18-D-00022 - The City of Tampa desires to obtain **Professional Engineering-Of-Record Services for the McKay Bay Refuse-To-Energy Complex**. This project term is expected to be a five-year period with a two - year optional extension. The engineer of record duties will include, but will not be limited to: preparing an annual report to the bond holders assessing the performance and condition of the facility; analyzing and tracking facility operational data; monitoring and reporting on the operation and maintenance of the facility; preparing applications for air, solid waste and stormwater permits; assisting with the project management of regulatory issues related to McKay Ash Reuse, and providing possible construction-related services; attending meetings at the McKay Bay Facility and City's offices; preparing specifications for City initiated capital projects; making recommendations and participating in strategic planning for the City's Recycling Programs; and advising the City on any other matters related to the McKay Bay Facility such as electric sales and financial issues. A copy of a recent annual report to the bond holders is posted to illustrate the level of detail expected.

Estimated fee is \$300,000 per year.

A pre-submittal conference will be held at 10 A.M. Tuesday, June 5, 2018, in the 3rd Floor City Council Chambers, Old City Hall 315 E. Kennedy Blvd., Tampa, Florida 33602.

A link to additional material may be provided at demandstar.com and at: <http://www.tampagov.net/contract-administration/programs/architectural-engineering-construction-and-related-rfqs> . Unless otherwise posted, no further data or site visits will be available before the deadline established for the submission of Letters-Of-Interest.

Questions may be directed to Jim Greiner, P.E., Contract Administration, City of Tampa, (813) 274-8598, or E-Mail Jim.Greiner@tampagov.net.

Firms must provide evidence of any required licenses or registrations with its submission or within ten days thereof in order to be considered.

Firms desiring to provide these services to the City must submit A Single Electronic File in Searchable PDF format, Smaller than 3MB, that includes a Letter of Interest referring to RFQ 18-D-00022, Statement of Qualifications and any supplemental material allowing evaluation for further consideration(short-listing) based upon the following criteria/point system: Successful Experience in Environmental Engineering with specific emphasis on waste combustion, power production and subjects related to the waste-to-energy field, (40); Engineer-Of-Record for Waste to Energy plants Experience, (30); Workload and availability, experience and location of staff to be assigned (10); Past performance/Low amount of City work (5); Standard Form #330 (or #254)(5); Planned WMBE/SLBE Solicitation & Utilization, Form MBD 10 & 20 (10 pts). The PDF file must be addressed to:
Brad L. Baird, P. E., Chairman, Consultants' Competitive Negotiation Committee, City of Tampa – c/o CAD - 4th Floor North, 306 E. Jackson Street, Tampa, Florida 33602.

The PDF must be E-Mailed to ContractAdministration@tampagov.net BEFORE 2 P.M., Thursday, June 21, 2018. Submissions received on the day of the deadline may not be acknowledged by return-e-mail before the deadline.



Failure to Complete, Sign and Submit Both Forms 10 & 20 SHALL render the Bid or Proposal Non-Responsive

**Page 1 of 4 – DMI Solicited/Utilized Schedules
City of Tampa – Schedule of **All Solicited** Sub-(Contractors/Consultants/Suppliers)
(FORM MBD-10)**

Contract No.: _____ Contract Name: _____
Company Name: _____ Address: _____
Federal ID: _____ Phone: _____ Fax: _____ Email: _____

Check applicable box(es). Detailed Instructions for completing this form are on page 2 of 4.

- No Firms were contacted or solicited for this contract.
- No Firms were contacted because: _____
- See attached list of additional Firms solicited and all supplemental information (List must comply to this form)
Note: Form MBD-10 must list ALL subcontractors solicited including Non-minority/small businesses

NIGP Code Categories: Buildings = 909, General = 912, Heavy = 913, Trades = 914, Architects = 906, Engineers & Surveyors = 925, Supplier = 912-77

S = SLBE W=WMBE O = Neither	Company Name Address Phone, Fax, Email	Type of Ownership (F=Female M=Male) BF BM = African Am. HF HM = Hispanic AF AM = Asian Am. NF NM = Native Am. CF CM = Caucasian	Trade or Services NIGP Code (listed above)	Contact Method L=Letter F=Fax E=Email P=Phone	Quote or Response Received Y/N

Failure to Complete, Sign and Submit
this form with your Bid or Proposal
Shall render the Bid Non-Responsive
(Do Not Modify This Form)

It is hereby certified that the information provided is an accurate and true account of contacts and solicitations for sub-contracting opportunities on this contract.

Signed: _____ Name/Title: _____ Date: _____

**Failure to Complete, Sign and Submit Both Forms 10 & 20 SHALL render the Bid or Proposal Non-Responsive
Forms must be included with Bid / Proposal**



Instructions for completing The Sub-(Contractors/Consultants/ Suppliers) Solicited Form (Form MBD-10)

This form must be submitted with all bids or proposals. All subcontractors (regardless of ownership or size) solicited and subcontractors from whom unsolicited quotations were received must be included on this form. The instructions that follow correspond to the headings on the form required to be completed. Note: Ability or desire to self-perform all work shall not exempt the prime from Good Faith Efforts to achieve participation.

- **Contract No.** This is the number assigned by the City of Tampa for the bid or proposal.
- **Contract Name.** This is the name of the contract assigned by the City of Tampa for the bid or proposal.
- **Contractor Name.** The name of your business and/or doing business as (dba) if applicable.
- **Address.** The physical address of your business.
- **Federal ID.** FIN. A number assigned to your business for tax reporting purposes.
- **Phone.** Telephone number to contact business.
- **Fax.** Fax number for business.
- **Email.** Provide email address for electronic correspondence.
- **No Firms were contacted or solicited for this contract.** Checking the box indicates that a pre-determined Subcontract Goal or Participation Plan Requirement was not set by the City resulting in your business not using subcontractors and will self-perform all work. If during the performance of the contract you employ subcontractors, the City must pre-approve subcontractors. Use of the “Sub-(Contractors/Consultants/Suppliers) Payments” form (MBD Form-30) must be submitted with every pay application and invoice. Note: Certified **SLBE or WMBE firms** bidding as Primes **are not exempt** from outreach and solicitation of subcontractors.
- **No Firms were contacted because.** Provide brief explanation why no firms were contacted or solicited.
- **See attached documents.** Check box, if after you have completed the DMI Form in its entirety, you need more space to list additional firms and/or if you have supplemental information/documentation relating to the form. All DMI data not submitted on the MBD Form-10 must be in the same format and have all requested data from MBD Form-10 included.

The following instructions are for information of any and all subcontractors solicited.

- **“S” = SLBE, “W” = WMBE.** Enter “S” for firms Certified by the City as Small Local Business Enterprises and/or “W” for firms Certified by the City as either Women/Minority Business Enterprise; **“O” = Non-certified others.**
- **Federal ID.** FIN. A number assigned to a business for tax reporting purposes. This information is critical in proper identification and payment of the contractor/subcontractor.
- **Company Name, Address, Phone & Fax.** Provide company information for verification of payments.
- **Type of Ownership.** Indicate the Ethnicity and Gender of the owner of the subcontracting business.
- **Trade, Services, or Materials** indicate the trade, service, or materials provided by the subcontractor. NIGP codes aka “National Institute of Governmental Purchasing” are listed at top section of document.
- **Contact Method L=letter, F=fax, E=Email, P=Phone.** Indicate with letter the method(s) of soliciting for bid.
- **Quote or Resp. (response) Rec’d (received) Y/N.** Indicate “Y” Yes if you received a quotation or if you received a response to your solicitation. Indicate “N” No if you received no response to your solicitation from the subcontractor. Must keep records: log, ledger, documentation, etc. that can validate/verify.

If additional information is required or you have questions, please contact the Equal Business Opportunity Program - Minority and Small Business Development Office at (813) 274-5522.



Failure to Complete, Sign and Submit Both Forms 10 & 20 SHALL render the Bid or Proposal Non-Responsive

**Page 3 of 4 – DMI Solicited/Utilized Schedules
City of Tampa – Schedule of **All To-Be-Utilized** Sub-(Contractors/Consultants/Suppliers)
(FORM MBD-20)**

Contract No.: _____ Contract Name: _____
 Company Name: _____ Address: _____
 Federal ID: _____ Phone: _____ Fax: _____ Email: _____

Check applicable box(es). Detailed Instructions for completing this form are on page 4 of 4.

See attached list of additional Firms Utilized and all supplemental information (List must comply to this form)

Note: Form MBD-20 must list ALL subcontractors To-Be-Utilized including Non-minority/small businesses

No Subcontracting/consulting (of any kind) will be performed on this contract.

No Firms are listed to be utilized because: _____

NIGP Code General Categories: Buildings = 909, General = 912, Heavy = 913, Trades = 914, Architects = 906, Engineers & Surveyors = 925, Supplier = 912-77

Enter "S" for firms Certified as Small Local Business Enterprises, "W" for firms Certified as Women/Minority Business Enterprise, "O" for Other Non-Certified

S = SLBE W=WMBE O =Neither	Company Name Address Phone, Fax, Email	Type of Ownership (F=Female M=Male) BF BM = African Am. HF HM = Hispanic Am. AF AM = Asian Am. NF NM = Native Am. CF CM = Caucasian	Trade, Services, or Materials NIGP Code Listed above	\$ Amount of Quote. Letter of Intent (LOI) if available	Percent of Scope or Contract %

Failure to Complete, Sign and Submit
this form with your Bid or Proposal
Shall render the Bid Non-Responsive.
(Do Not Modify This Form)

Total ALL Subcontract / Supplier Utilization \$ _____
 Total SLBE Utilization \$ _____
 Total WMBE Utilization \$ _____
 Percent SLBE Utilization of Total Bid/Proposal Amt. _____% Percent WMBE Utilization of Total Bid/Proposal Amt. _____%

It is hereby certified that the following information is a true and accurate account of utilization for sub-contracting opportunities on this Contract.

Signed: _____ Name/Title: _____ Date: _____

**Failure to Complete, Sign and Submit Both Forms 10 & 20 SHALL render the Bid or Proposal Non-Responsive
Forms must be included with Bid / Proposal**



Page 4 of 4 DMI – Solicited/**Utilized**

Instructions for completing **The Sub-(Contractors/Consultants/ Suppliers) to be Utilized Form (Form MBD-20)**

This form must be submitted with all bids or proposals. All subcontractors (regardless of ownership or size) projected to be utilized must be included on this form. Note: Ability or desire to self-perform all work shall not exempt the prime from Good Faith Efforts to achieve participation.

Contract No. This is the number assigned by the City of Tampa for the bid or proposal.

- **Contract Name.** This is the name of the contract assigned by the City of Tampa for the bid or proposal.
- **Contractor Name.** The name of your business and/or doing business as (dba) if applicable.
- **Address.** The physical address of your business.
- **Federal ID. FIN.** A number assigned to your business for tax reporting purposes.
- **Phone.** Telephone number to contact business.
- **Fax.** Fax number for business.
- **Email.** Provide email address for electronic correspondence.
- **No Subcontracting/consulting (of any kind) will be performed on this contract.** Checking box indicates your business will not use subcontractors when no Subcontract Goal or Participation Plan Requirement was set by the City, but will self-perform all work. When subcontractors are utilized during the performance of the contract, the “Sub-(Contractors/Consultants/Suppliers) Payments” form (MBD Form-30) must be submitted with every pay application and invoice. Note: certified **SLBE or WMBE firms** bidding as Primes **are not exempt** from outreach and solicitation of subcontractors, including completion and submitting Form-10 and Form-20.
- **No Firms listed To-Be-Utilized.** Check box; provide brief explanation why no firms were retained when a goal or participation plan requirement was set on the contract. Note: mandatory compliance with Good Faith Effort outreach (GFECF) requirements applies (MBD Form-50) and supporting documentation must accompany the bid.
- **See attached documents.** Check box, if after completing the DMI Form in its entirety, you need more space to list additional firms and/or if you have supplemental information/documentation relating to the scope/value/percent utilization of subcontractors. Reproduce copies of MBD-20 and attach. All data not submitted on duplicate forms must be in the same format and content as specified in these instructions.

The following instructions are for information of Any and All subcontractors To Be Utilized.

- **Federal ID. FIN.** A number assigned to a business for tax reporting purposes. This information is critical in proper identification of the subcontractor.
- **“S” = SLBE, “W” = WMBE.** Enter “S” for firms Certified by the City as Small Local Business Enterprises and/or “W” for firms Certified by the City as Women/Minority Business Enterprise; **“O” = Non-certified others.**
- **Company Name, Address, Phone & Fax.** Provide company information for verification of payments.
- **Type of Ownership.** Indicate the Ethnicity and Gender of the owner of the subcontracting business.
- **Trade, Services, or Materials (NIGP code if Known)** Indicate the trade, service, or material provided by the subcontractor. Abbreviated list of NIGP is available at <http://www.tampagov.net/mbd> “Information Resources”.
- **Amount of Quote, Letters of Intent** (required for both SLBEs and WMBEs).
- **Percent of Work/Contract.** Indicate the percent of the total contract price the subcontract(s) represent. For CCNA only (i.e. Consultant A/E Services) you must indicate subcontracts as percent of total scope/contract.
- **Total Subcontract/Supplier Utilization.** – Provide total dollar amount of all subcontractors/suppliers projected to be used for the contract. (Dollar amounts may be optional in CCNA depending on solicitation format).
- **Total SLBE Utilization.** Provide total dollar amount for all projected SLBE subcontractors/Suppliers used for this contract. (Dollar amounts may be optional in CCNA proposals depending on the solicitation format).
- **Total WMBE Utilization.** Provide total dollar amount for all projected WMBE subcontractors/Suppliers used for this contract. (Dollar amounts may be optional in CCNA proposals depending on the solicitation format).
- **Percent SLBE Utilization.** Total amount allocated to SLBEs divided by the total bid/proposal amount.
- **Percent WMBE Utilization.** Total amount allocated to WMBEs divided by the total bid/proposal amount.

If additional information is required or you have questions, please contact the Equal Business Opportunity Program - Minority and Small Business Development Office at (813) 274-5522.



City of Tampa Department of Solid Waste and
Environmental Program Management

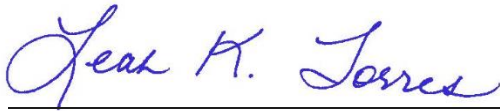
FY 2016 ANNUAL OPERATIONS MONITORING REPORT

McKay Bay Refuse-to-Energy Facility
October 1, 2015 – September 30, 2016

July 2017

FY 2016 ANNUAL OPERATIONS MONITORING REPORT

McKay Bay Refuse-to-Energy Facility



Leah (Richter) Torres, PE
Project Manager

Prepared for:

City of Tampa
Department of Solid Waste and
Environmental Program Management

Prepared by:

Arcadis U.S., Inc.
3109 West Dr. Martin Luther King Jr.
Boulevard
Suite 350
Tampa
Florida 33607
Tel 813 903 3100
Fax 813 903 9115

Our Ref.:

00043055.0000

Date:

July 31, 2017

This document is intended only for the use of the individual or entity for which it was prepared and may contain information that is privileged, confidential and exempt from disclosure under applicable law. Any dissemination, distribution or copying of this document is strictly prohibited.

CONTENTS

Acronyms and Abbreviations.....	v
1 Executive Summary.....	1
1.1 Waste Processing.....	2
1.2 Electricity Production and Consumption.....	2
1.3 Ash Production and Recovered Materials.....	3
1.4 Water Consumption.....	3
1.5 Wastewater Discharge Quantity and Quality.....	4
1.6 Natural Gas Consumption.....	4
1.7 Operations and Maintenance.....	4
1.8 Environmental Performance Summary.....	4
1.9 City Obligations.....	5
1.10 Community Relations.....	5
2 Introduction.....	6
2.1 Background.....	6
2.2 General Facility Requirements and Description.....	7
2.3 Additional Agreements.....	7
3 Performance Review.....	8
3.1 Overview.....	8
3.2 Operator Performance Guarantees.....	9
3.2.1 Throughput and Processing.....	9
3.2.1.1 Bypassed Waste and Lost Energy Revenues.....	9
3.2.1.2 Facility and Online Capacity Utilization.....	10
3.2.2 Electricity Delivery.....	11
3.2.3 Electricity Consumption.....	11
3.2.4 Water Consumption.....	12
3.2.5 Natural Gas Consumption.....	12
3.2.6 Wastewater Discharge Quantity and Quality.....	12
3.2.7 Environmental Performance.....	12
3.2.7.1 Title V Air Operation Permit.....	13

FY 2016 ANNUAL OPERATIONS MONITORING REPORT
MCKAY BAY REFUSE-TO-ENERGY FACILITY

3.2.7.2.	Summary of Air Regulatory Compliance Testing and Reporting	14
3.2.7.3.	Emissions Guidelines	15
3.2.7.4.	Air Emissions	15
3.2.7.5.	Greenhouse Gas Monitoring and Reporting	17
3.2.7.6.	Solid Waste Operating Permit	17
3.2.7.7.	Storm Water Discharge Permit	18
3.2.7.8.	Environmental Resource Permit	19
3.2.7.9.	Section 311 SARA Title III Tier II Reporting	19
3.3	City Obligations	19
3.3.1	Processible Waste Deliveries	19
3.3.2	Utilities	19
3.3.3	Seminole Agreement	20
3.4	Additional Facility Operational Parameters	21
3.4.1	Chemical Reagents Usage	21
3.4.2	Ferrous Removal	22
3.4.3	Non-Ferrous Removal	22
4	Outages.....	23
4.1	Scheduled Maintenance Outages	23
4.2	Unscheduled Outages	24
4.3	Turbine-Generator and Cold Iron/Black Plant Outages	25
5	Facility Condition.....	26
5.1	Existing Building Condition/Upgrades	26
5.2	Site Work.....	27
5.3	Facility Insurance Requirements.....	27
5.4	Facility Fire Protection System.....	27
5.5	Facility Maintenance/Spare Parts	28
5.6	Facility Rolling Stock	28
5.7	Safety	29
5.8	Facility Personnel.....	30
5.9	Operator Training and Certification	30

APPENDIX A - TABLES

Table 3-1.....	Facility Operations Statistics FY 2016
Table 3-2-1	Comparison of Emissions Test Results – Unit 1
Table 3-2-2	Comparison of Emissions Test Results – Unit 2
Table 3-2-3	Comparison of Emissions Test Results – Unit 3
Table 3-2-4	Comparison of Emissions Test Results – Unit 4
Table 3-3.....	Air Emissions Excursion Summary
Table 3-4.....	Facility Environmental Compliance Summary
Table 4-1.....	Unit Downtime Summary
Table 5-1.....	November 2016 Punch List

APPENDIX B - FIGURES

Figure 3-1	Five-Year Comparison
Figure 3-2	Materials Entering the Refuse-to-Energy Facility
Figure 3-3	Waste Processing Data
Figure 3-4A	MSW/Ash Production
Figure 3-4B	Ferrous/Non-Ferrous Production
Figure 3-5	Electrical Production Efficiency
Figure 3-6A	Average Boiler Availability
Figure 3-6B	Average Boiler Availability (FY2012-2016)
Figure 3-7	Heat-Based Refuse Processing Capacity (FY2012-2016)
Figure 3-8	Steam Generating Capacity (FY2012-2016)
Figure 3-9	Tonnage-Based Refuse Processing Capacity (FY2012-2016)
Figure 3-10	Emission Test Results – October 2015
Figure 3-11	Emission Test Results – October 2016
Figure 4-1	Downtime Analysis

APPENDIX C - FACILITY INSPECTION SHEETS

ACRONYMS AND ABBREVIATIONS

1982 O&M Contract	Operation and Maintenance Contract, dated August 26, 1982
40 CFR 60, Subpart Cb	Federal Code governing Clean Air Act Amendments
Second Agreement or 2006 Agreement	Tampa Electric Operator Power Purchase Agreement; as amended and modified in 2006
ADA	Americans with Disabilities Act
Arcadis	Arcadis U.S., Inc., including subconsultants Earthshine Environmental, Inc. & RHCA, Inc.
ASME	American Society of Mechanical Engineers
ASTM	American Society of Testing and Materials
AWT	Advanced Water Treatment water supplied by Howard F. Curren Waste Water Treatment Facility
BTU	British Thermal Unit
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
COMS	Continuous Opacity Monitoring System
City	City of Tampa
CO	Carbon Monoxide
Complex	The McKay Bay Refuse-to-Energy Facility, scale house and transfer station.
CTL	Cedar Trail Landfill
DA	De-aerator
DSCM	Dry Standard Cubic Meter
DMR	Discharge Monitoring Report
FAC 62-213	Florida Administrative Code for Title V Operating Permit
Facility	McKay Bay Refuse-to-Energy Facility
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation

FY 2016 ANNUAL OPERATIONS MONITORING REPORT
MCKAY BAY REFUSE-TO-ENERGY FACILITY

FWS	Florida Waste Services
FY 2013	The City's fiscal year for the period October 1, 2012 – September 30, 2013
gpd	Gallons per Day
HAP	Hazardous Air Pollutant
HCEPC	Hillsborough County Environmental Protection Commission
HCSL	Hillsborough County Southeast Landfill
HHV	Higher Heating Value
Interim O&M Agreement	Interim Operation and Maintenance Agreement, dated December 28, 1998
kWh	Kilowatt-Hours
kWh/ton	Kilowatt-Hours per ton of MSW
Landfill	Means Either the HCSL or CTL
LQG	Large Quantity Generator
lb/yd ³	Pounds per Cubic Yard
mg/L	Milligrams per Liter
mgd	Million Gallons per Day
MSGP	Multi-Sector General Permit
MSL	Mean Sea Level
MSW	Municipal Solid Waste
MW	Megawatt
MWC	Municipal Waste Combustor
MWh	Megawatt-Hours
NFMRS	Non-Ferrous Metals Recovery System
NPDES	National Pollution Discharge Elimination System
NSPS	New Source Performance Standards
OEC	Office of Environmental Coordination
O&M	Operation and Maintenance
O&M Agreement	Operation and Maintenance Agreement originally dated December 28, 1998, amended

FY 2016 ANNUAL OPERATIONS MONITORING REPORT
MCKAY BAY REFUSE-TO-ENERGY FACILITY

	and restated on July 21, 2011, effective August 1, 2011
Operator	Wheelabrator McKay Bay, Inc.
OSHA	Occupational Safety and Health Administration
PSD Permit	Prevention of Significant Deterioration Permit
RATA	Relative Accuracy Test Audit
REC	Renewable Energy Credit
Retrofit Agreement	Retrofit Design, Procurement, and Construction Agreement, dated December 28, 1998
RFP	Request for Proposals, dated July 31, 1998
RRLLC	Resource Recycling, L.L.C.
Seminole Agreement	Seminole Electric Cooperative Power Purchase Agreement, dated June 28, 2010, and subsequent Amendments
SEC	Seminole Electric Cooperative, Inc.
SWFWMD	Southwest Florida Water Management District
SNCR	Selective Non-Catalytic Reduction
TECO	Tampa Electric Operator
TECO Agreement or First Agreement	Tampa Electric Operator Power Purchase Agreement; as amended and modified
T-G	Turbine Generator
Therm	A Unit of Energy equivalent to 100,000 BTUs. Approximately 100 Cubic Feet of Natural Gas
tpd	Tons per Day
Transfer Station	800 tpd McKay Bay Transfer Station
USEPA, EPA	United States Environmental Protection Agency
UT	Ultrasonic Testing
WWTP	Wastewater Treatment Plant

1 EXECUTIVE SUMMARY

The purpose of this section of the Annual Report is to summarize the findings of Arcadis U.S., Inc., and its subconsultants Earthshine Environmental Inc. and RHCA, Inc. (collectively hereafter referred to as “Arcadis”), with respect to the overall performance of the City of Tampa (the “City”) McKay Bay Refuse-to-Energy Facility (the “Facility”) during the period beginning October 1, 2015, and ending September 30, 2016 (“FY 2016”). Wheelabrator McKay Bay, Inc. (the “Operator”) operated the Facility under the terms and conditions of the Amended and Restated Operation and Maintenance Agreement (the “O&M Agreement”) dated July 21, 2011.

Pursuant to City Council Resolution No. 2703-H, Section 12.14, dated December 16, 1982, the City employs an independent consulting engineer to monitor the operations and maintenance of the Facility. Under this resolution, the independent consulting engineer is required to prepare an annual report that includes a review of the condition of the Facility, identifies the need for any required repairs, maintenance, and capital improvements to the Facility, and provides a review of the operational performance of the Facility. Arcadis reviewed information and performed inspections in accordance with Contract 11-D-00041; McKay Bay Refuse-to-Energy Complex – Amendment No. 4 between the City and Arcadis during FY 2016; which should be reviewed in its entirety in connection with the scope and depth of this Annual Report. This report is Arcadis’ twenty-first Annual Report to date, sixth under the most recent Consulting Engineering Agreement for the Facility, and covers the period from October 1, 2015, through September 30, 2016, or FY 2016.

This report records Arcadis’ review of the Facility for FY 2016 as it relates to the Operator’s obligations under the O&M Agreement. Throughout FY 2016, Arcadis performed periodic inspections of the Facility and reviewed data and information provided by the City and the Operator. The purpose of this report is to present Arcadis’ findings with respect to the overall performance of the Facility and to provide an operations summary for FY 2016. This report also includes Arcadis’ assessment of whether the Facility is operated and maintained in a manner that enables it to receive and process waste, generate steam, convert the steam into electric power, and recover secondary materials (i.e., ferrous and non-ferrous metals) as specified in the O&M Agreement.

It is Arcadis’ opinion, after review of the operating data and reports provided by the Operator and performing independent evaluations of data and inspections of the Facility, that the Operator operated and maintained the Facility in accordance with the O&M Agreement and prudent industry practice; and met all guarantee conditions in the O&M Agreement and associated permits, or else paid appropriate penalties. O&M Agreement Performance Guarantees were explicitly met during FY 2016, but as is typical, certain Maximum Utilities Usage Guarantees were exceeded during the fiscal year and the required penalties were paid by the Operator per the O&M Agreement. In accordance with the terms of the O&M Agreement, the Operator also continues to maintain the required insurance coverage and a \$1.5 million letter of credit that was issued by Bank of America, N.A. in favor of and for the benefit of the City. Additionally, the Operator continues to be lax in responding to and completing open punchlist items and responding to the City and Arcadis’ concerns. Arcadis drafted a letter regarding the punchlist and several other operations, environmental, and health and safety concerns and provided it to the Operator at the beginning of FY 2017. In response to the letter, the Operator removed the Facility management team, including the Facility Manager, Operations Manager, and Environmental, Health and Safety Manager and came in with corporate support to

FY 2016 ANNUAL OPERATIONS MONITORING REPORT
MCKAY BAY REFUSE-TO-ENERGY FACILITY

temporarily fill those positions while responding to Arcadis and the City's concerns. Further developments of the Operator's response will be elaborated on in the FY 2017 annual report.

All four retrofitted municipal solid waste combustion lines completed their fifteenth full year of commercial operation under the terms of the revised 30-year O&M Agreement. The four retrofitted combustion lines have processed a total of 4,923,774 tons of processible waste since start-up through the end of FY 2016. The individual combustion lines (numbered 1 through 4) have processed a total of 1,189,296 tons, 1,188,261 tons, 1,273,405 tons, and 1,272,813 tons, respectively, through the end of FY 2016.

The Operator continued to participate in the Occupational Safety and Health Administration ("OSHA") VPP Star designation program. The annual VPP self-evaluation was submitted to OSHA on February 11, 2016. This designation allows the Operator to self-monitor its health and safety procedures and exempts the Facility from programmed OSHA inspections. The Operator's VPP Star participation lowers insurance premiums and is a major contributor to achieving low accident and incident rates at the Facility.

The Facility underwent various inspections throughout the year by regulatory agencies and as required by permit. No significant issues of concern were raised by these inspections. Regulatory inspections are further expanded upon in Section 3.2.7.6.

The following is a summary of the Facility's performance during FY 2016:

1.1 Waste Processing

- The Operator accepted 310,650 tons of waste during FY 2016 with an average higher heating value (HHV) of 5,012 BTU/lb. As the HHV was above 5,000 BTU/lb the Annual Processing Guarantee is adjusted downward equivalent to the amount the HHV is greater than 5,000 BTU/lb. The adjusted Annual Processing Guarantee is 309,257.78 (310,000*5,000/5,012). As the accepted tonnage was greater than the adjusted Annual Processing Guarantee, the Operator met the guarantee and owes no penalties for Bypassed Waste for FY 2016. The Annual Tonnage Guarantee for waste deliveries required to be met by the City is 260,000 tons per year.
- The Operator processed a total of 309,799 tons of processible waste during FY 2016. The difference between the tonnage accepted and processed is the change in pit inventory over the year, or unaccounted for losses such as evaporation or liquid run-off from the waste.

1.2 Electricity Production and Consumption

- The Operator delivered 148,102 net MWh of electricity to Seminole Electric Cooperative, Inc. ("SEC") in FY 2016, resulting in an increase of 10.5% (15,485 MWh) from the FY 2015 production of 132,616 MWh. The increase shown is merely the result of lower electrical generation due to the required five-year T-G overhaul and the generator rotor winding failure during FY 2015.
- Net sale of electricity to SEC under the SEC Agreement resulted in \$8,071,312.34 in energy payments and \$333,448.34 in Renewable Energy Credit ("REC") payments by SEC to the City during FY 2016.
- The Operator's share of the energy payments due to the excess energy bonus for the energy production rate exceeding 370 net kWh/ton was \$812,339.23 based on electricity sold to SEC. The

FY 2016 ANNUAL OPERATIONS MONITORING REPORT

MCKAY BAY REFUSE-TO-ENERGY FACILITY

City's net payment received for both energy and REC was \$7,592,421.45 for energy after deducting the Operator's share of energy revenues for FY 2016.

- The Operator produced 173,475 gross MWh of electricity prior to in-house usage.
- The net annual energy production rate was 476.75 kWh/ton of waste received in FY 2016, as compared to 441.59 kWh/ton in FY 2015, and the annual contractual guarantee of 370 kWh/ton.
- The Operator purchased 201 MWh of electricity during FY 2016 thereby meeting the guarantee of 500 MWh. This was also a decrease of 2,370 MWh from the 2,571 MWh of electricity purchased in FY 2015. The significant difference from FY 2015 was due to the scheduled 5-year T-G outage and a major unscheduled generator outage due to a failure during FY 2015. The maximum amount of purchased electricity permitted by the O&M Agreement is 500 MWh in a fiscal year without a scheduled T-G outage and 2,600 MWh in a fiscal year with a scheduled T-G outage.

1.3 Ash Production and Recovered Materials

- In FY 2016, the Facility produced 72,661 tons of ash (wet) or 23.4% of the total waste processed, compared to 67,382 tons, or 22.4% in FY 2015.
- In FY 2016, the Facility recovered 9,618 tons of ferrous metal or 3.1% of the total processible waste processed, compared to 8,802 tons, or 2.9% in FY 2015. This is an increase in recovery of 8.5%. The City receives 50% of all ferrous revenues. The City's share of revenues from the sale of ferrous metals in FY 2016 was \$501,954.61.
- In FY 2016, the Facility recovered 89 tons of non-ferrous metal or 0.03% of the total processible waste processed, compared to 225 tons or 0.08% in FY 2015. This is a decrease in recovery of 60.4%. Arcadis has serious concerns that this system is not being operated appropriately and has raised those concerns with the Operator. Revenues for non-ferrous metals are split with 55% going to the City and 45% to the Operator. The City's share of revenues from the sale of non-ferrous metals in FY 2016 was \$34,083.90.

1.4 Water Consumption

- The Facility consumed 29,998,691 gallons of potable water during FY 2016, of which 3,435,600 gallons were used as cooling tower make-up due to interruptions of the normal Advanced Water Treatment ("AWT") water supply from the City's waste water treatment facility. After subtracting the potable water used for cooling tower make-up, the Facility consumed 26,563,091 gallons of potable water, which is 4,563,091 gallons above the O&M Agreement guaranteed maximum of 22,000,000 gallons that the City is responsible for paying. The Operator paid the City \$16,677.59 for the additional usage per the terms of the O&M Agreement, thereby meeting their obligation in FY 2016.
- The Facility consumed 202,908,900 gallons of AWT water during FY 2016, thereby meeting the O&M Agreement AWT consumption guarantee maximum of 225,000,000 gallons. AWT water usage was approximately 10.9% below the O&M Agreement guarantee maximum.

1.5 Wastewater Discharge Quantity and Quality

- The Facility discharged 52,301,000 gallons of water to the City's sanitary sewer system during FY 2016, thereby meeting the O&M Agreement guarantee maximum of 60,000,000 gallons.

1.6 Natural Gas Consumption

- The Facility consumed approximately 621,527 therms (1 therm = 100,000 BTU) of natural gas during FY 2016, versus approximately 557,660 therms in FY 2015. Both years significantly exceeded the O&M Agreement Maximum Utilities Usage Guarantee of 30,000 therms and are much higher than the previous years' average of approximately 140,000 therms. Arcadis is concerned with the amount of natural gas usage as it is generally indicative of the manner in which the boilers are maintained and un-scheduled downtime or to control emissions; however, as is typical of previous years, the Operator passed through the cost of the first 30,000 therms to the City per the O&M Agreement and directly paid for all natural gas consumed above 30,000 therms, thereby meeting their obligation in FY 2016.

1.7 Operations and Maintenance

- The combustion lines maintained a 94.6% average availability for FY 2016, compared to 90.5% in FY 2015. The significantly increased availability over last year is due to the scheduled T-G outage and several major unscheduled outages in FY 2015.
- The Operator performed seven (7) scheduled outages and thirty-four (34) unscheduled outages in FY 2016, compared to eight (8) scheduled and fifty-six (56) unscheduled outages in FY 2015. The significant decrease in unscheduled outages is primarily due to several major T/G failures that caused boiler outages throughout FY 2015.
- The T-G was off-line one (1) time for a total of 105.85 hours due to scheduled plant outages and a cold iron outage during FY 2016. The T-G was also off-line two (2) times for a total of 40.7 hours due to unscheduled outages during FY 2016.
- Arcadis reviewed the Operator's spare parts list, and performed periodic reviews of the Facility's inventory and determined the spare parts maintained on-site by the Operator are adequate to maintain Facility operations, but have decreased in total quantity as the Operator has removed some spare parts they believe are obsolete. The Operator's inventory report indicated that the value of the spare parts inventory on January 17, 2017 was \$1,373,419. This is a decrease compared to \$1,578,003 on November 20, 2015 but is slightly above the FY 2014 inventory value of \$1,322,864.

1.8 Environmental Performance Summary

The Operator conducted annual air compliance testing and annual emission relative accuracy tests ("RATA"), on combustion lines No. 1 through No. 4 during FY 2016. The results of annual air testing, other Facility testing, and inspections indicated that the Facility is operating in compliance with the O&M Agreement and the applicable portions of the following emission standards and permits:

- USEPA Clean Air Act (the National Emission Guidelines for Municipal Waste Combustors, 40 CFR Part 60, Subpart Cb), applicable portions;

FY 2016 ANNUAL OPERATIONS MONITORING REPORT
MCKAY BAY REFUSE-TO-ENERGY FACILITY

- New Source Performance Standards (“NSPS”), applicable portions;
- Title V Air Operation Permit (No. 0570127-006-AV (now Title V Air Permit No. 0570127-007-AV renewal effective 1-5-17);
- PSD Permit No. PSD-FL-086(B);
- USEPA Greenhouse Gas Mandatory Reporting Rule (GHG MRR), applicable portions;
- Solid Waste Operating Permit (No. 34662-006-SO, current No. 34662-009-SO/31);
- Surface Water Management System Operations (Environmental Resource Permit) Permit No. 29-127374-002;
- Multi-Sector Generic Permit (“MSGP”) for Storm Water Discharge; and
- Contractual limits imposed by the City.

The Operator performs semi-annual sampling and analysis of the Facility sewer discharge quality as per the Service Agreement.

In accordance with Facility’s Title V Air Operation Permit and applicable state and federal requirements and regulations, the Facility operates continuous emission monitoring systems and continuous opacity monitoring systems and performs the required quarterly testing/audits of the systems performance. This includes performing quarterly CEMS cylinder gas audits to demonstrate compliance in accordance with 40 CFR 60, Appendix F Quality Assurance Requirements and performing quarterly opacity audits of the Facility’s COMS to demonstrate compliance with 40 CFR 60, Appendix B, Specification 1 and Procedure 3. A full summary of the Facility’s various environmental permits compliance, testing, and reporting is included in Section 3.2.7 and later sections of this report.

1.9 City Obligations

The City is required to fulfill certain contractual obligations for the operation of the Facility, including processible waste deliveries, utilities, and power purchase revenue sharing. The City met all of its contractual requirements by providing the required waste, utilities, and electrical revenue sharing.

1.10 Community Relations

The Operator was very active during FY 2016 continuing its partnership with Desoto Elementary School and Stewart Garland Magnet Middle School and by participating in monthly School Advisory Meetings and other activities and functions.

The Operator also continued its education of the public in refuse-to-energy; including conducting many tours for citizens, college groups, organizations, and school children throughout the year.

2 INTRODUCTION

2.1 Background

The City, through its Solid Waste Department, has been responsible for the collection and disposal of its solid waste since 1927. The City disposed of its solid waste primarily by landfilling until 1967, when the City completed construction of a municipal solid waste incinerator without energy recovery capabilities. That facility was closed in 1979 due to environmental regulations promulgated at that time. In 1981, the City created the Office of Environmental Coordination (“OEC”) to oversee the City’s solid waste disposal activities and the first retrofit of the McKay Bay Refuse-to-Energy Facility. A brief summary of the history of the McKay Bay Refuse-to-Energy Facility and certain associated contracts is provided below.

- 1982 – The City contracted with Waste Management, Inc. to design, build, and operate for a 20-year period the 1,000-tpd McKay Bay Refuse-to-Energy Facility. Waste Management, Inc. replaced the original incinerator with state of the art European-designed incinerators using heat recovery boilers, and installed a turbine generator with all necessary ancillary equipment required to export surplus electricity to TECO for sale.
- 1998 – After an extensive RFP process, the City entered into the following three agreements with the Operator: the Retrofit Design, Procurement, and Construction Agreement (“Retrofit Agreement”), the Interim Operation and Maintenance Agreement (“Interim O&M Agreement”), and the Operation and Maintenance Agreement (“Original O&M Agreement”), collectively referred to as the “Agreements.” These Agreements were initiated in part to meet requirements of the USEPA Clean Air Act Amendment.
- 1999 – The City issued a Notice of Commencement to the Operator to begin retrofitting the Facility pursuant to the Retrofit Agreement.
- 2002 – The Operator begins operation of the Facility under the 20-year O&M Agreement on January 1, 2002.
- 2009 – The City entered into Amendment No. 6 with the Operator that provided for the installation, operation and maintenance of the Non-Ferrous Metals Recovery System (“NFMRS”).
- 2010 – The City and Seminole Electric Cooperative, Inc. (SEC) entered into a Power Purchase Agreement (“Seminole Agreement”), which provided a new power purchase agreement to replace the TECO Agreement and 2006 Agreement when they expired in August 2011.
- 2011 – The City executed the Amended and Restated O&M Agreement (the “O&M Agreement”), dated July 21, 2011, effective August 1, 2011, with the Operator, which provided a 10-year extension of the O&M Agreement and incorporated the Seminole Agreement, revised the power revenue sharing arrangements, and combined all of the Amendments into one restated Agreement. The expiration date of the current Agreement is September 30, 2032.

2.2 General Facility Requirements and Description

The Operator completed the retrofit of the Facility, and all related equipment, components, and auxiliaries, in January 2002, allowing the Facility to conform to all applicable governmental and industry codes and standards. The Operator is required to operate, maintain, repair, and manage the Facility in accordance with good industry practices and standards, and to ensure that the Facility is in good operating condition at the end of 30 years (2032). Arcadis performs regular inspections and maintains a punchlist of open items that the Operator is required to complete to maintain the appearance and functionality of the Facility. Table 5-1 in Appendix A provides the current open items on the punchlist as of November 2016.

2.3 Additional Agreements

In addition to the Agreements between the City and the Operator related to the operation and maintenance of the Facility, the City and Operator have several other important agreements that are relevant to the operation of the Facility. These agreements are summarized briefly below.

- The Operator has an agreement with Trademark Metals Recycling, LLC (“TMR”) to process and sell ferrous metals and Southern Recycling to process non-ferrous metals. The ferrous metals are transported to the TMR facility in Gainesville, FL. TMR processes the material, and any resultant ash that is recovered from that process is disposed of by TMR. Revenue for both metals streams are split between the Operator and City, with credits being passed through on the monthly invoices.
- The City has an agreement with SEC for the sale of electricity to SEC based on an estimated contract value of 20 MW. It also provides REC payments based on half of the energy sold to SEC for each month. Revenues are shared between the Operator and City, with the City receiving the majority share of electrical revenues.
- The City has an agreement with Republic Services, Inc. to allow for disposal of ash at the Cedar Trail Landfill (“CTL”), located in Bartow, Florida. The City continues to dispose diverted processible waste at the Hillsborough County Waste-to-Energy Facility, Pinellas County Resource Recovery Facility, and Hillsborough County Southeast Landfill (“HCSL”). The City also disposes of non-processible waste at Angelo’s Landfill, located in Zephyrhills, Florida.

3 PERFORMANCE REVIEW

3.1 Overview

This section summarizes the operational performance of the Facility during FY 2016. Table 3-1 presents a summary of the Facility operating data, including, but not limited to, City processible waste delivered to the Facility, waste processed, ash landfilled, ash percentage, ferrous and non-ferrous metals recovered, and unit electricity production. Figure 3-1 presents the Facility's performance in comparison to data from previous years. Figures 3-2 and 3-3 provide an overview of deliveries and processing data for FY 2016.

The Facility received and accepted 310,650 tons of waste from the City and processed 309,799 tons, excluding some diverted waste during FY 2016. The difference between waste accepted by the Facility and waste processed is the change in pit inventory over the year, which in this case represents an increase of 851 tons from the initial level. The remainder of the waste that was not processed at the Facility was non-processible waste, Properly Rejected Waste, or Bypassed Waste. As the Facility accepted more than the Annual Processing Guarantee, all diverted waste is considered Properly Rejected Waste for FY 2016.

Ash production for FY 2016 was 72,661 tons. This resulted in a total ash gross weight of approximately 23.4% of the total waste processed. The total ferrous recovery during FY 2016 was 9,618 tons, or approximately 3.1% of waste processed. Non-ferrous recovery during FY 2016 was 89 tons, or approximately 0.03% of waste processed. Figure 3-4A illustrates the total quantity of City waste and ash land filled and Figure 3-4B illustrates the total quantity of ferrous and non-ferrous metals shipped on a monthly basis during FY 2016.

The Facility exported an hourly average of 17.15 MW of electricity during FY 2016, excluding T-G downtime hours. The net energy production rate for FY 2016 was 476.75 kWh/ton based on total tons of waste accepted as compared to the annual contractual guarantee of 370 kWh/ton. As a point of reference, during the Facility's Acceptance Test, the Facility exceeded the guarantee of 370 kWh/ton by averaging 442 kWh/ton. The electrical generation efficiency for the gross and net electrical generation is shown in Figure 3-5.

The Facility underwent seven (7) scheduled combustion line outages for general maintenance, cleaning, and repairs during FY 2016. Figure 3-6A shows the Facility availability for each month of FY 2016 and Figure 3-6B compares boiler availability over the past five years. A more detailed account of outage activities, including major maintenance items, is included in Section 4.0, Outages.

Based on Arcadis' assessment of the Facility, the Operator operated and maintained the Facility in a manner consistent with the requirements of the O&M Agreement, but does continue to have some challenges with respect to metals recovery, the ash management system, and completion of ongoing punchlist items. This assessment is based on a review of information and data provided by the City and the Operator, discussions with the Operator's Facility Manager, Operations Manager, Environmental, Health and Safety Manager, Shift Supervisors, and observations made during periodic site and outage inspections.

3.2 Operator Performance Guarantees

Section 3.2 describes the performance guarantees required by the O&M Agreement to be fulfilled by the Operator during FY 2016. As detailed in the O&M Agreement, the Operator is required to attain certain Facility performance guarantees for solid waste processing, electricity delivery, and environmental performance. The following provides a review of the Operator's performance with respect to each of these guarantees during FY 2016.

3.2.1 Throughput and Processing

The O&M Agreement requires that the Operator accept the Annual Processing Guarantee of 310,000 tons per year of processible waste. The Annual Tonnage Guarantee to be delivered by the City is 260,000 tons per year.

The HHV of the waste averaged 5,012 BTU/lb in FY 2016, down from 4,879 BTU/lb in FY 2015. There is a provision to adjust the minimum tons required in the Annual Processing Guarantee, provided the higher heating value ("HHV") of the refuse exceeds 5,000 BTU/lb as per the O&M Agreement. As the BTU was above 5,000 BTU/lb, the adjusted Annual Processing Guarantee for FY 2016 was 309,257.78 tons. The Operator accepted 310,650 tons and processed 309,799 tons of processible waste, thereby meeting the requirements of the Annual Processing Guarantee and eliminating any potential penalties for Bypassed Waste during the year.

There is no direct penalty associated with the Operator not meeting the Annual Processing Guarantee, but by accepting less than the guarantee, this would allow the City to pursue performance adjustments for any Bypassed Waste and Lost Energy Revenues, which would otherwise not be allowable pursuant to Schedule 3 of the O&M Agreement. However, as the City has in the past not provided greater than 310,000 tons of waste, or the waste is too heavily loaded in one month or season, this has resulted in a previous point of contention between Arcadis, the Operator and the City regarding whether penalties for Bypassed Waste should be due. The City and the Operator have been discussing undergoing a contract Amendment to resolve this dispute, but it has been put on hold and has not been drafted or accepted at the time of this report.

3.2.1.1. Bypassed Waste and Lost Energy Revenues

The O&M Agreement defines Bypassed Waste as waste that the Operator was obligated to accept at the Facility, but that was not accepted or disposed of by the Operator at its sole cost and expense pursuant to Section 3.01 of the O&M Agreement, and that does not constitute waste that the Operator is permitted to properly reject based on the calculations in Schedule 3 of the O&M Agreement.

Schedule 3 allows the Operator to properly reject waste if they have received more than 1,700 tons in a single day, 7,000 tons in a single week, 24,000 tons in a 4-week period, or 310,000 tons in a fiscal year. These values are all adjusted down if the HHV for the fiscal year exceeds 5,000 BTU/ton of waste, as per their individual definitions in the O&M Agreement. As the HHV for FY 2016 was 5,012 BTU/ton, the values for determining Properly Rejected Waste in Schedule 3 were adjusted in FY 2016, with the primary adjustment being the Annual Processing Guarantee of 310,000.

FY 2016 ANNUAL OPERATIONS MONITORING REPORT
MCKAY BAY REFUSE-TO-ENERGY FACILITY

As the Operator did exceed the adjusted Annual Processing Guarantee of 309,257.78 tons with the 310,650 tons accepted during FY 2016, there were no penalties for Bypassed Waste and Lost Energy Revenues during FY 2016.

3.2.1.2. Facility and Online Capacity Utilization

Each of the four combustion lines has a design throughput capacity determined by the heating value of the fuel, the steam that each line can produce, and the mass of the refuse that each line can process. On an average basis, each combustion line is designed for a maximum heat input of 2.4-billion BTU/day, which is equivalent to 250 tons of waste with an average heating value of 4,800 BTU/lb. The design steaming capacity of each combustion line is 62,186 lbs. steam/hr., or 545 million lbs. steam/yr.

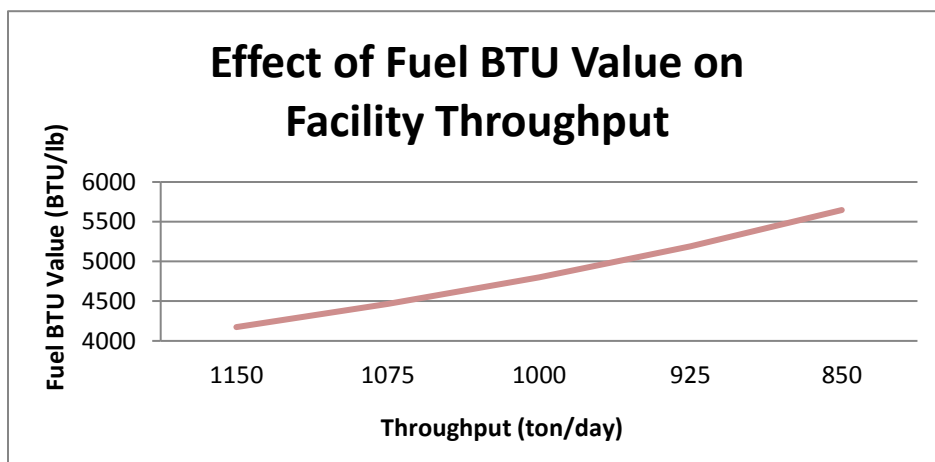
The following table compares the annual average total Facility capacity utilization across all units (actual utilization of the Facility compared to design utilization of the Facility, ignoring availability) and the annual average online capacity utilization across all units (actual utilization of the Facility compared to design utilization of the Facility, factoring in the availability of the units).

Annual Average Total Facility Capacity Utilization for FY 2016

	Total Facility Utilization	On-Line Utilization
Waste Throughput @ 1000 TPD	84.9%	89.5%
Heat Input @ 100mm BTU/hr/line	88.7%	93.5%
Steam Flow @ 62,186 lbs/hr/line	89.4%	94.3%
Electricity Production @ 22.5 MW	88.0%	90.1%

Ideally, the online utilization as measured by heat input should be 100%. However, the downturn in the City’s economy, increased recycling initiatives, and unbalanced waste flows due to tourist and snowbird seasons have resulted in a waste shortfall during some portions of the year. Under more ideal conditions, the Facility could process up to 6.5% additional waste, were it available.

It is also important to note that the HHV value of the fuel being greater than the design value of 4,800 BTU per pound of waste can affect throughput of fuel into the boiler (higher HHV = lower throughput). The higher heating value of the fuel during FY 2016 was 5,012 BTU per pound of waste, which results in a reduction of the throughput of the Facility by 4.23% (42.29 tons per day, or 10.57 tons per day per Unit). See graph below for an illustration of the effect of changing BTU values on Facility throughput.



Detailed figures for heat input, steam produced, and throughput are presented in Figures 3-7, 3-8, and 3-9, respectively.

3.2.2 Electricity Delivery

The Operator maintained an average electrical generation rate of 17.15 MW in FY 2016, excluding T-G downtime. In addition, the Operator must meet or exceed the Energy Guarantee of 370 kWh/ton. The Operator averaged 476.75 kWh/ton of Processible Waste accepted at the Facility in FY 2016, thereby exceeding the Energy Guarantee by 106.75 kWh/ton.

The Operator produced 174,475 gross MWh of electricity prior to in-house usage and delivered 148,101.62 net MWh of electricity to SEC in FY 2016. Net sale of electricity to SEC under the Seminole Agreement resulted in \$8,071,312.34 in energy payments and \$333,448.34 in REC payments by SEC to the City during FY 2016.

Per the O&M Agreement, the Operator shares in energy payments if it exceeds the Energy Guarantee of 370 kWh/ton. As the Operator averaged 476.75 kWh/ton during FY 2016, the Operator's share according to the Annual Revenue and Settlement Statement results in \$812,339.23 paid to the Operator. Any payments made by SEC for REC are not shared with the Operator. Net payments for energy and REC to the City, after Operator share, for FY 2016 result in \$7,592,421.45. A complete explanation of the excess energy revenues from the Annual Revenue and Settlement Statement calculations is included in Section 3.3.3.

3.2.3 Electricity Consumption

The City purchased 201 MWh of electricity from TECO in FY 2016. The purchased power is attributed to 105.9 MWh due to a scheduled cold iron and T-G outage in October 2015, 0.35 MWh due to a low vacuum trip in August 2016, and 40.35 MWh due to an unscheduled condenser failure and cleaning in September 2016. Under the terms of the O&M Agreement, the Operator may use up to 500 MWh during normal years and 2,600 MWh during planned T-G overhaul years at the City's cost. The Operator met the guarantee by 299 MWh during FY 2016.

3.2.4 Water Consumption

The Operator is limited to consuming 22,000,000 gallons/year of potable water at the City's expense as per the terms of the O&M Agreement. The Facility consumed 29,998,691 gallons of potable water during FY 2016 including 3,435,600 gallons utilized in the cooling tower. This water was used in the cooling tower due to distribution disruptions and chemical problems from the City's wastewater treatment plant and does not count towards exceeding the guarantee. Therefore, the Facility's adjusted consumption was 26,563,091 gallons of potable water during FY 2016, not meeting its water consumption guarantee by 4,563,091 gallons. As is typical in recent past years, the Operator paid the City for the additional usage per the terms of the O&M Agreement during the annual settlement and true-up process, thereby meeting the Maximum Utilities Guarantee for potable water consumption.

The Operator is limited to consuming 225,000,000 gallons/year of AWT water at the City's expense as per the terms of the O&M Agreement. The Facility consumed 202,908,900 gallons of AWT water during FY 2016. The primary use of AWT water is makeup to the cooling tower and secondary use as plant wash down water, wastewater system makeup, and irrigation. The Operator met its Maximum Utilities Usage guarantee for AWT water by 22,091,100 gallons in FY 2016.

3.2.5 Natural Gas Consumption

The Operator is responsible for the cost of natural gas that exceeds 30,000 therms per year as stated in the O&M Agreement. The Facility consumed approximately 621,527 therms of natural gas during FY 2016, derived and calculated based on the direct billings for natural gas. The Operator exceeded the O&M Agreement Maximum Utilities Usage Guarantee for natural gas by over 590,000 therms. As is typical from past years, the Operator passed through the cost of the first 30,000 therms to the City and paid for everything above 30,000 therms directly. The Operator's utilization of natural gas during this past year is significantly higher than typical past usage in previous fiscal years (with the exception of FY 2015). The excess usage is primarily attributed to the significant unscheduled downtime, as well as heavy rains and wet waste during July and August to control emissions.

3.2.6 Wastewater Discharge Quantity and Quality

The Operator is limited to discharging 60,000,000 gallons/year of wastewater to the City's sanitary sewer at the City's expense as per the terms of the O&M Agreement. The Facility discharged 52,301,000 gallons of water to the City's sanitary sewer system, thereby meeting their guarantee by 7,699,000 gallons during FY 2016. The City monitors the sewer effluent on a regular basis and no documented sewer quality concerns were reported to Arcadis during FY 2016.

3.2.7 Environmental Performance

The following sections provide an overview of the Facility's environmental compliance, environmental permits, and related regulatory data submittals, reporting, and testing requirements (as stipulated by the permits and applicable regulatory requirements). The Facility permits further discussed include: the FDEP Title V Air Operation Permit, the Facility's FDEP Solid Waste Operating Permit, the Facility's Stormwater Discharge MSGP, and the Environmental Resource Permit. A summary of the applicable permits, with information about their submission and required renewal dates, is included in Table 3-4.

3.2.7.1. Title V Air Operation Permit

The FDEP Air Resources Management Division implements a Title V Air Operation Permitting Program, as per Chapter 62-213, Florida Administrative Code (“FAC”) “Operation Permits for Major Sources of Air Pollution” for emissions sources under the Clean Air Act's 1990 Amendments. Air emissions sources that must obtain a Title V Air Operation Permit include those facilities emitting 100 tons/year or more of any regulated pollutant, 10 tons/year of a single hazardous air pollutant (HAP), or 25 tons/year or more of any combination of HAPs. All applicable facilities must comply with the program and apply for the state-issued Title V Operating Permit, which must be renewed every five years.

Arcadis and Earthshine prepared the Facility’s Title V Air Operation Permit renewal application package and submitted it to the FDEP and HCEPC during FY 2016. The Final Title V Air Operation Permit was received from FDEP on January 5, 2017 (effective date). The Facility’s next renewal application for Title V Air Operation Permit No. 0570127-007-AV will be due for submittal to the FDEP and HCEPC on May 25, 2021, and the Permit expires on January 25, 2022. Arcadis and Earthshine, on behalf of the City, will prepare and submit the renewal application prior to the deadline date.

In the Title V Air Operation Permit renewal application submitted to the FDEP in 2016 (July & subsequent comments in Fall 2016), Arcadis and Earthshine requested various changes to the Permit specific conditions language in order to correct, update, and/or provide more operational flexibility. The following are two of the beneficial changes, to specific requirements, that were requested, subsequently approved by the FDEP, and incorporated into the renewal Title V Permit 0570127-007-AV:

1. A Permit language change was requested and subsequently approved by the FDEP to allow the City and the Operator to remove the bottom ash conveyor covers currently in place in the boiler area for important safety considerations, improved maintenance and operational performance. The following was specified to the FDEP: No changes are proposed for the fly ash conveyors and they will remain enclosed; The boiler bottom ash and grate siftings are quenched first to minimize potential fugitive emissions and then the wetted bottom ash is transferred on to the vibratory conveyors that transport the wetted bottom ash to the Ash Handling Building; The portion of the bottom ash conveyance system for which the enclosure covers are proposed for removal is located inside the recently installed enclosure walls structure; The enclosure walls are approximately 25 feet in height and surround the Facility’s combustion train and air pollution control equipment, thus providing additional protection from wind contact in the bottom ash conveyor area, and; Given that reasonable precautions are used at the Facility to control unconfined particulate emissions resulting from bottom ash, the potential for fugitive emissions due to removal of bottom ash conveyor covers is believed to be insignificant.
2. The Facility’s Title V Permit version prior to renewal, (Title V Permit No. 0570127-006-AV (Section III, A.33)) stated that “... Annual testing (no more than 12 calendar months following the previous performance test) shall also be conducted on each EU to demonstrate compliance with the emissions standards for HCl.” The following revision to this requirement was requested and subsequently approved by the FDEP, to align HCl with the Facility’s other air emissions testing frequency requirements, and subsequently approved by the FDEP: “The owner or operator shall conduct a performance test for HCl on a calendar year basis (no less than 9 months and no more than 15 months following the previous performance test; and must complete 5 performance tests in each 5-year calendar period.)”

3.2.7.2. Summary of Air Regulatory Compliance Testing and Reporting

During FY 2016, the Operator was responsible for conducting various testing activities and providing compliance-related reports to the City for review by Arcadis and subsequently to the appropriate regulatory agencies as required by the Facility operating permits. This section provides a summary of the testing activities, regulatory reports, regulatory inspections, and compliance status of the Facility for FY 2016.

The Facility's "Annual Statement of Compliance" for Title V Source (FDEP Form 62-213.900(7)) was submitted to the FDEP and HCEPC on February 11, 2016. This statement is for the time period of January 1, 2015 to December 31, 2015. In summary, the Statement of Compliance indicated that the Facility was in compliance with the terms and conditions of the Title V Permit with the exception of the items identified within the report. There were two "non-compliant" items indicated in the Facility's 2015 & 2016 Annual Statement of Compliance reports that actually occurred during the FY 2016 timeframe. The reported incidents of non-compliance are as follows:

A CO excess emissions event, for Boiler Unit 3 (EU105) occurred on June 6, 2016 (FY 2016). This event was reported to the HCEPC within 24 hours of occurrence and was included in subsequent quarterly and semi-annual regulatory reporting submittals. In summary, the CO event was reported by the Operator as being due to the processing of wet fuel and the inability to start the auxiliary gas burner when necessary to stabilize combustion. Corrective action entailed taking the Unit offline until repairs could be made to the gas burner. A CO excess emissions event, for Boiler Unit 2 (EU104) that occurred on July 28, 2016 (FY 2016). This event was reported to the HCEPC within 24 hours of occurrence and was included in subsequent quarterly and semi-annual regulatory reporting submittals. In summary, the CO event was reported by the Operator to be due to the processing of wet fuel and the inability to start the auxiliary gas burner when necessary to stabilize combustion. For corrective action, it was indicated that the burner was repaired as the Unit was being brought down.

The Facility's Annual Emissions Fees and Form, for the time period from January 1, 2015 to December 31, 2015, was submitted to the FDEP (FDEP Form 62-213.900(1)) on February 11, 2016 and the Facility's Annual Air Emissions Fees and Form, for the time period from January 1, 2016 to December 31, 2016, was submitted to the FDEP on March 24, 2017.

The "Annual Operating Report for Air Pollution Emitting Facility" (FDEP Form 62-210.900(5)) was submitted electronically to the FDEP on February 11, 2016.

Starting in calendar year 2014, the FDEP changed their reporting software to combine the AOR with Annual Air Emissions Fees calculations. The eAOR and Emissions Fees Reports are now combined as per rules repealed and changes made by the FDEP to Rules 62-210.370 and 900, F.A.C., and 62-213.205 and 900, F.A.C. The annual emissions fees are now based on actual quantity of regulated air pollutants emitted instead of being based on the amount of regulated pollutants allowed by the Facility's permit limit. The Facility's Annual Air Emissions Fees, as calculated via the Facility's eAOR, were submitted to the FDEP by the City prior to the deadline.

The Semi-Annual Excess Emissions and Monitoring System Performance ("CEMs Downtime") report for the period of January 1, 2016 through June 30, 2016 was submitted to the Hillsborough County EPC and the FDEP on July 22, 2016. The Semi-Annual/Annual Excess Emissions and Monitoring System Performance report for the period of January 1, 2015 to December 31, 2015 was submitted to the HCEPC

FY 2016 ANNUAL OPERATIONS MONITORING REPORT
MCKAY BAY REFUSE-TO-ENERGY FACILITY

and FDEP on January 22, 2016 in accordance with 40 CFR 39b(a) and 40 CFR 60.59(g) and the Facility Title V Air Operation Permit.

During the reporting period (FY 2016) the Operator submitted the Facility's Quarterly Excess Emissions and Monitoring Systems Performance Reports, Quarterly Cylinder Gas Audits of the CEMS, and Quarterly Opacity Audits of the Facility COMS reports to the Hillsborough County EPC as required by the Facility's Title V Air Operation Permit.

The Facility's Annual Air Emissions Compliance Testing and RATA is discussed in Section 3.2.7.4 "Air Emissions".

3.2.7.3. Emissions Guidelines

In accordance with the National Emission Guidelines for Municipal Waste Combustors, 40 CFR Part 60, Subpart Cb (Clean Air Act), the FDEP implements regulations governing existing municipal waste combustors (MWC) rated at greater than 250 tons/day. These MWCs are subject to the following standards:

- Good combustion practices to minimize CO emissions;
- Emissions standards for dioxins/furans, particulate matter, opacity, cadmium, lead, mercury, sulphur dioxide, hydrogen chloride, nitrogen oxides, and fly ash/bottom ash/fugitive dust;
- Compliance testing/monitoring requirements;
- Operator training and certification by the ASME; and
- Updating manuals, drawings, procedures, and training.

The Operator conducted Facility annual air emissions testing during FY 2016. The Operator hired independent contractor, Montrose Environmental Group, Inc. (formerly Clean Air Engineering, Inc.), to perform the air compliance testing, RATA, and analytical services. The results of the testing indicated that the Facility is operating in compliance with the new emission standards and their Title V Air Operations Permit and PSD requirements. As a notable point, per the O&M Agreement, the Facility operates in compliance with applicable portions of the Clean Air Act, the more stringent requirements of the New Source Performance Air Emission Standards, and limits imposed by the O&M Agreement. The O&M Agreement standards are more stringent than the actual permit requirements and they have successfully met those more stringent O&M Agreement standards every year from start-up of the Facility to date.

3.2.7.4. Air Emissions

The Operator met all emission requirements by operating within the limits imposed by the City's Facility Title V Air Operation Permit and PSD requirements during FY 2016. The Operator conducted the required Annual Air Emissions testing ("stack testing") and RATA of the Facility's CEMS during October 2015 (FY 2016), with HCEPC present during some of the testing schedule. The parameters tested included: particulate matter, metals, opacity (% COMS), acid gases, and dioxins/furans (dioxins/furans-one unit per year tested on a rotating basis). VE of Fugitive Emissions (Method 22) was conducted for the ash handling system and VE of opacity (Method 9) was performed for the Facility's carbon and lime silos. RATA of the Facility's CEMs includes the inlet monitors for each MWC unit (O₂ and SO₂) located at each

FY 2016 ANNUAL OPERATIONS MONITORING REPORT
MCKAY BAY REFUSE-TO-ENERGY FACILITY

respective inlet to the SDA and the outlet monitors (O₂, SO₂, NO_x, CO) for each MWC unit located at the respective stack ductwork. The results of the air compliance testing and RATA indicated that the Facility was in compliance with the requirements of the O&M Agreement, the Title V Air Operation Permit, and the PSD permit. The results for all tested parameters are presented in Tables 3-2-1 through 3-2-4, along with a comparison of these results to the limits specified by the Facility's Title V Air Operation Permit and the contractual limits of the O&M Agreement. The results of the Annual Air Emissions and RATA testing, performed in October 2015 were submitted to the FDEP and HCEPC on November 20, 2015.

A graphical depiction of the annual emissions test results versus the allowable limits are presented as Figure 3-10. Annual air emissions compliance data for the air emissions testing, performed in October 2016 (FY 2017) by Montrose Environmental Group, Inc. (formerly Clean Air Engineering, Inc.), is also presented in Figure 3-11 of this report for comparative purposes.

Arcadis consulted with the City and WMBI starting in early FY 2015 and continuing to FY 2016 regarding the USEPA issuance of the Final Rule for including the changes to Procedure 3, Quality Assurance Requirements for Continuous Opacity Monitoring Systems at Stationary Sources, to 40 CFR Part 60, Appendix F. The changes included QA/QC requirements for continuous opacity monitoring systems (COMS). While some of the requirements were already performed routinely at most facilities some new items were added to the list. Some of the highlights included:

- daily instrument zero and upscale drift checks, and daily status indicator checks (most facilities are already doing this routinely)
- quarterly performance audits (already done at most facilities)
- annual "clear path" zero alignments (additional for implementation)
- every 3-years "clear path" zero alignment with monitor off-stack if using the external device monitor for the annual alignments (additional for implementation)
- a corrective action in place for malfunctioning continuous opacity monitoring systems (COMS) (already done at most facilities)

Facilities with "newer" opacity monitors would likely not have issues with the "clear path" zero alignment procedures as the opacity monitor may have the ability to accommodate the required method. However, facilities with old monitors (such as some of the old Land monitors, as in place at the Facility) may have a more difficult time implementing the zero alignment procedures. The Facility has older model Land MKII monitors.

Due to the Procedure 3 changes, facilities had to update their QA/QC plans to incorporate changes to Procedure 3.

After meetings, discussions, and research as to the Facility's MKII Opacity monitors ability to accommodate the revised Procedure 3 Quality Assurance requirements, the City and Operator agreed on replacement of the Facility's Land MKII opacity monitors with new Durag Opacity monitors capable of performing all of the required Procedure 3 revised QA procedures. Therefore, the Operator replaced the Land MK II opacity monitors on all units with new Durag Model D-R 29G2 opacity monitors during October 2015 (FY 2016).

FY 2016 ANNUAL OPERATIONS MONITORING REPORT
MCKAY BAY REFUSE-TO-ENERGY FACILITY

The new monitors are to meet the quality assurance requirements for Continuous Opacity Monitoring Systems at Stationary Sources 40 CFR Part 60, Appendix F Procedure 3. Proper certifications were performed following installation.

There were twelve (12) air emission excursion events in FY 2016, all of which were documented and reported to the appropriate regulatory agencies as required. In comparison, there were thirteen in FY 2015, six in FY 2014, twelve in FY 2013, seventeen in FY 2012, and seventeen in FY 2011. The excursion events are shown in Table 3-3. The air emissions events consisted of ten CO exceedances, one carbon feed issue, and one visible emissions issue. All of the excursions were accepted by HCEPC as being within the allowable conditions of the Facility's Title V Air Operation Permit (i.e. start up, shutdown, or malfunction and within the allowable time duration for the exceedance) or were excused by the FDEP and HCEPC. Section III, Subsection A, A.19-21 provides the Facility's excess emissions allowance criteria.

3.2.7.5. Greenhouse Gas Monitoring and Reporting

Starting with the first quarter of calendar year 2010, the Operator began quarterly air emissions testing and data collection in order to comply with the USEPA Greenhouse Gas Mandatory Reporting Rule (GHG MRR) requirements (Title 40 Code of Federal Register Part 98) applicable to the Facility. The GHG MRR requires certain refuse-to-energy facilities to monitor their GHG emissions and report on an annual basis, with reports submitted electronically to the USEPA by March 31st of each calendar year.

In accordance with 40 CFR 98, Mandatory Green House Gas (GHG) Reporting Rule, the Operator performed the required quarterly testing, to determine the biogenic/anthropogenic CO₂ fraction of the waste stream during FY 2016. The City and Arcadis submitted the required Annual GHG Emissions report, presenting the quarterly test results for calendar year 2015, on March 11, 2016. The calendar year 2016 report was filed on March 11, 2016. The Annual GHG Report is submitted, as required, via USEPA e-GGRT system.

3.2.7.6. Solid Waste Operating Permit

Based on Arcadis' review of information provided by the Operator, the Operator and City complied with the conditions of the Facility's Solid Waste Operating Permit (No. 34662-006-SO) during FY 2016. The Facility underwent one inspection by the FDEP Solid Waste Division during FY 2015. The inspection was performed on December 17, 2015. No issues were noted by the inspectors during their visit.

During FY 2011, the Operator, without prior notification to the City, submitted to the FDEP a request to change the RCRA Generator status of the Facility from a Conditionally Exempt Small Quantity Generator ("CESQG") to a Large Quantity Generator ("LQG") of hazardous waste. The Operator indicated that this was due to the occasional need to dispose of large quantities (as per RCRA definition) of fabric filter bags from the Facility's APC system and their current corporate policy for spent fabric filter bag disposal. Due to the Facility's resultant LQG status, a minor modification of the Facility's Solid Waste Operating Permit was prepared to provide an updated version of the Operator's Waste Control Plan for the Facility, reflecting the change of status and associated record-keeping and reporting requirements. The "Waste Control Plan" is referenced in, and is part of the Facility's Solid Waste Operating Permit. The Operator prepared the revised Waste Control Plan during FY 2011. Arcadis, on behalf of the City, prepared and

FY 2016 ANNUAL OPERATIONS MONITORING REPORT
MCKAY BAY REFUSE-TO-ENERGY FACILITY

submitted the Solid Waste Permit modification request (including the updated Waste Control Plan) to the FDEP on October 28, 2011 (FY 2012). FDEP approval of the Solid Waste Operating Permit modification (modification number 34662-008-SO/MM) was received on January 10, 2012. The hazardous waste biennial report for LQG status was submitted on February 11, 2016.

Due to an interpretation letter from FDEP that allowed for disposal of fabric filter bags in the hoppers without considering them hazardous waste, the Operator submitted paperwork to change their status back from a LQG to a CESQG on January 12, 2016, which was accepted by FDEP on February 15, 2016.

The Facility's Solid Waste Operation Permit (Permit No. 34662-009-SO/31) expires on November 5, 2018. The Solid Waste Permit renewal application package is due for submittal to the FDEP on September 4, 2018 and will be prepared and submitted prior to the due date.

Arcadis prepared and submitted on behalf of City, an application package to the FDEP requesting "minor modification" to the Facility's Solid Waste Operations Permit for construction of permanent enclosure walls surrounding the Facility's combustion train and APC equipment. The minor modification application package submitted to the FDEP on June 11, 2014 included all of the information necessary to satisfy the requirements for "minor modification" of the Facility's current Solid Waste Operation Permit (No. 34662-009-SO/31), Section 2 - Specific Conditions, Part A: Administrative Requirements, Item 2 - Permit Modifications and the requirements of 62-701.320(4), Florida Administrative Code (F.A.C.). In summary, the enclosure walls are intended to increase the operational flexibility while performing routine maintenance, housekeeping, and other non-routine maintenance activities.

The Notice of Final Minor Modification No. 34662-010-SO/MM to the Facility's Solid Waste Permit No. 34662-009-SO/31 authorizing construction of the permanent enclosure walls around the Facility's combustion train and APC equipment was issued by the FDEP on July 2, 2014.

3.2.7.7. Storm Water Discharge Permit

The Facility's storm water discharge is regulated by the FDEP. The permitting authority was delegated from the USEPA National Pollutant Discharge Elimination System (NPDES) program to the FDEP NPDES program. The Facility's storm water system discharge is permitted under the Multi-Sector Generic Permit ("MSGP") for Storm Water Discharge associated with Industrial Activity, Sector O, Steam-Electric Power Generating Facilities, including coal-handling sites", Facility ID No. FLR05B577-003 (since last renewal the new ID No is FLR05B577-004). The Operator indicates that it maintains and operates the Facility in accordance with its Storm Water Pollution Prevention Plan. The Facility met all requirements of the MSGP, based on information provided to Arcadis by the City, during FY 2016.

Arcadis prepared and submitted to the FDEP, on behalf of the City, the Facility's Notice of Intent for renewal of the MSGP for Stormwater Discharge coverage, dated January 26, 2016. The acknowledgement of MSGP coverage acceptance was received from the FDEP on March 8, 2016. The Facility's current MSGP for Stormwater Discharge (ID No. FLR05B577-004) is effective until February 22, 2021.

The Discharge Monitoring Reports ("DMRs") are required to be submitted for years 2 and 4 of the permit. For calendar year 2016 DMRs were not submitted. For Year 2 (calendar year 2017) of the MSGP, DMRs will be submitted in March of 2018.

3.2.7.8. Environmental Resource Permit

The Operator maintains the storm water management system, within the Facility boundaries, in accordance with the O&M Agreement and provides additional services for the storm water detention ponds when requested by the City. The Facility storm water management system is subject to the requirements of its Surface Water Management System Operations (Environmental Resource Permit) Permit No. 29-127374-002, issued by the FDEP. The permit requires inspection of the stormwater management system by a Professional Engineer every two years, and submittal of FDEP Form 62-343.900(6) to the FDEP certifying that the stormwater management system is functional. The most recent bi-annual inspection was performed by Arcadis on September 14, 2016. The FDEP form “Environmental Resource Permit Inspection Certification” was submitted to the FDEP on September 23, 2016.

The next bi-annual inspection of the Facility’s stormwater management system is scheduled to be performed in 2018, prior to the September 29, 2018 deadline.

3.2.7.9. Section 311 SARA Title III Tier II Reporting

Pursuant to Section 311 of SARA Title III, the Operator prepares and annually files the required forms and fees associated with the onsite applicable chemical inventory for the Facility. For the state of Florida, Tier II Administration is managed by the Florida Division of Emergency Management, State Emergency Response Commission. Florida now encourages facilities to submit reports and associated annual registration fees electronically. The Operator submitted the Facility’s E-Plan Online Tier 2 Data Submission Report for Calendar Year 2016 on February 11, 2016.

3.3 City Obligations

The O&M Agreement also defines contractual obligations for the City, including processible waste deliveries, utilities, and power purchase revenue sharing. The following provides a summary of the City’s obligations and the City’s performance with respect to those contractual requirements in FY 2016.

3.3.1 Processible Waste Deliveries

The City is obligated to supply the Facility with at least the Annual Tonnage (260,000 tons of processible waste per contract year) during the Billing Year. For purposes of the O&M Agreement, all processible waste accepted at the Facility and all Bypassed Waste during a billing month is credited to the Annual Tonnage. The City delivered 310,650 tons of processible waste to the Facility, not counting any diverted waste during FY 2016, thereby meeting its delivery obligations.

3.3.2 Utilities

The City must maintain the following utility services and infrastructure up to the boundary of the Facility Site and Transfer Station:

- Wastewater discharge system up to and including the lift station;
- Storm water discharge system;
- Natural gas line up to and including the meter;

FY 2016 ANNUAL OPERATIONS MONITORING REPORT
MCKAY BAY REFUSE-TO-ENERGY FACILITY

- Existing road network (outside the Facility boundaries);
- Electrical service and interconnection system up to and including the main breaker between the Facility and the Utility Operator grid (TECO);
- Utility transmission lines for metered water and AWT water lines up to and including the meter assembly; and
- Fire water lines up to and including the shut-off valve on the Facility's side of the check valve.

Additionally, the City must provide and directly pay for or have provided and directly paid for the following utilities (up to their maximum annual allocation) for the Facility:

- Electricity;
- Potable water;
- Advanced wastewater treatment water;
- Natural gas; and
- Sanitary sewer.

The City met its contractual obligations by providing all of the required utilities during FY 2016.

As typical in past years, there were several interruptions to the delivery of AWT water during FY 2016. However, the Facility was designed to use potable water to supply the cooling tower during these times without any reduced electrical production. These interruptions are documented and all potable water used during the interruptions is discounted from the Operator's Maximum Utilities Usage guarantee for potable water.

Additionally, there was some discussion regarding whether the City is responsible for maintaining a long-term contract for natural gas versus maintaining the connection itself. The Operator raised concerns that the natural gas rate (which has been paid directly by them for many years) raised because the City did not renew the original long-term contract and was converted to as-available or interruptible. The City maintains the utility is still being provided and reimbursed up to the maximum utilities allowance and that the Operator had been paying for the natural gas directly for many years at their request and preference. The City recommends the Operator should negotiate and enter into a new contract as long as they are going to continue direct payment of the utility.

3.3.3 Seminole Agreement

The City is solely responsible for contracting for the sale of energy or electrical capacity generated by the Facility. The City sold all electrical energy generated, net of in-house needs, to SEC under the terms of the Seminole Agreement during FY 2016.

The Operator is also entitled to and received an amount equal to a portion of the proceeds for electricity sold to SEC through the Seminole Agreement. As documented in the FY 2016 Annual Revenue and Settlement Statement, the Operator averaged 476.75 net kW/ton. According to the O&M Agreement, providing that the minimum 370 kWh per ton minimum generation rate is met, the Operator receives proceeds inflation-adjusted values of \$0.00506/kW for all energy up to 470 kWh/ton (Tier 1) and

\$0.02393/kW for all energy in excess of 470 kWh/ton (Tier 2), or receives a minimum of 10% of the City's electrical revenues for the year, whichever is larger. Using the processible waste tonnage of 310,650 tons accepted for the year, the Tier 1 and Tier 2 calculation resulted in \$788,565.95, which is less than 10% of the electrical revenues the City received during FY 2016. Therefore, the Operator received the 10% value of \$812,339.23 as its share of the electrical revenues during FY 2016.

3.4 Additional Facility Operational Parameters

There are a number of additional Facility operational parameters that are not part of the annual performance guarantees, but provide valuable information to measure overall Facility operation. Arcadis' assessment of these operational parameters includes an evaluation of reagent (chemical) consumption, and ferrous and non-ferrous metals removal.

3.4.1 Chemical Reagents Usage

The O&M Agreement allows the Operator to pass-through to the City 80% of the cost for chemicals consumed in the air pollution control equipment, subject to the Operator's obligation to use commercially reasonable efforts to minimize the use of those products. The primary chemicals used in the control of emissions are pebble lime, activated carbon, urea, and bottled gaseous chemicals that are used in maintaining and calibrating the CEM equipment. Arcadis evaluated the consumption rates of these chemicals on a per-ton of MSW basis, and determined that the costs were competitive and usage was comparable to or less than that of similar-sized facilities in FY 2016, with the exception of lime usage.

Arcadis' comparisons of over a decade's worth of tracking information have shown that the lime usage rate has increased in the past six years to a value that is higher than the previous six to seven years of operating usage. It should be noted that the increased usage of lime is not based on any requirements from the air pollution control system, as SO₂ inlet levels at the Facility have dropped over the past several years and lime is primarily used to control SO₂ removal. Arcadis and the Operator are currently monitoring the increased usage rate of lime to determine the significant influence and if any measures can be taken to reduce usage in the future. Near the end of FY 2012, the Operator took steps to install a density and flow meter on the lime slurry piping to help further control how much lime is being fed to the SDA units. The Operator continues to analyse ongoing usage and manipulate the control set-points of the density and flow meter to help further control usage.

As a note, while lime usage dropped during air pollution control system tuning in FY 2013, it rose again significantly in FY 2014. The Operator responded in several meetings that this change is not due to controlling inlet SO₂, but is rather to assist in controlling the pH of the fly ash. As the Operator is responsible for maintaining the ash as non-hazardous per the O&M Agreement, the Operator is within its rights to use lime in this manner, but use in this manner could be causing long-term erosion damage and wear to the APC equipment and ash conveying equipment. These concerns were further expanded upon in a letter drafted by Arcadis and provided to the Operator at the beginning of FY 2017. As the discussions around the letter and responsiveness of the Operator occurred during FY 2017, this will be elaborated on further during the following year's annual report.

3.4.2 Ferrous Removal

In accordance with the O&M Agreement, the Operator continued to operate the ferrous metal removal equipment to recover ferrous materials and deliver them to a recycling facility owned by Trademark Metals Recycling.

As shown in Table 3-1, the Operator recovered 9,618 tons of ferrous material or approximately 3.1% of the total waste processed during FY 2016. Figure 3-4B illustrates the amount of ferrous materials recovered on a monthly basis. The Operator paid the City 50% of the net metal revenues received during FY 2016, resulting in \$501,954.61 of credits to the City on the monthly invoices provided by the Operator.

Of note, the Agreement with Trademark Metals Recycling expired at the end of July 2016, near the end of FY 2016. The Operator put the ferrous metals out to bid, but the responsive bidders (including Trademark), were significantly lower than the previous contract value. The Operator reselected Trademark as the highest bidder, but the payment structure dropped from 37% of the heavy metals index for each ton of ferrous metals to 27%, which will likely result in reduced revenues to the Operator and the City.

3.4.3 Non-Ferrous Removal

The Operator began operation of the NFMRS in FY 2010. Non-ferrous metals are removed from the bottom ash and the recovered metals are delivered to Southern Recycling for further processing and marketing. The Operator recovered 89 tons of non-ferrous metals or approximately 0.03% of the total waste processed during FY 2016. This is a large decrease in recovery from the amount recovered in FY 2015 (225 tons) and an extremely large decrease from the 282 tons, or 0.10% of total waste, recovered in FY 2011 when the equipment was newly installed.

During discussions on why the recovery has declined, the Operator has maintained that the volume of non-ferrous metals in the incoming waste stream has also declined, while Arcadis believes that enhanced maintenance of the equipment and increased quality of ash (i.e. removing as much moisture and excess lime from the fly ash) would increase recovery rates. Additionally, Arcadis noted to the Operator that in their experience with other operating facilities, the belt speed on the NFMRS was too slow and the divider appeared too far from the belt. These concerns were further expanded upon in a letter drafted by Arcadis and provided to the Operator at the beginning of FY 2017. As the discussions around the letter and responsiveness of the Operator occurred during FY 2017, this will be elaborated on further during the following year's annual report.

The NFMRS capital cost was successfully paid off in August 2013 (FY 2013). During FY 2016, revenues were split between the Operator and the City with 45% to the Operator and 55% to the City. The City's portion was applied as a credit to the monthly invoice provided by the Operator. The City received \$34,083.90 in credits on the monthly invoices for their share on non-ferrous metals during FY 2016. This is a significant decrease from the \$84,894.64 in credits received during FY 2015 and is primarily due to the decrease in materials collected, but is partially impacted by a reduction in the market price for non-ferrous material.

4 OUTAGES

4.1 Scheduled Maintenance Outages

The following section briefly summarizes activities observed by Arcadis and its representatives or subcontractors during scheduled maintenance combustion line outages.

The Operator performed a total of seven (7) scheduled combustion line maintenance outages during FY 2016 and achieved an availability of 94.6%. This availability is slightly below average compared to the previous years. The Operator has historically maintained in excess of 95% on-line availability, and this high level of availability could be attributed in part to the success of the frequent outage schedule and reduced waste deliveries. A monthly summary of both scheduled and unscheduled outages is presented in Table 4-1 and Figure 4-1.

The Operator utilizes a combination of specialty outside contractors and plant personnel to perform the required maintenance. During FY 2016, the typical time span for a scheduled maintenance outage was four to five days.

Note that annual inspections are typically performed in conjunction with required ASME Boiler Code and Insurance requirements.

A summary of typical outage activities is as follows:

- Perform ultrasonic testing in the boiler, superheaters, and economizer (bi-annually);
- Inspect the steam drum internals (annually);
- Perform inspection, maintenance, and testing on the drum and superheater safety valves (annually);
- Inspect and replace castable refractory, tiles, and wool in the furnace as required;
- Replace broken boiler manway refractory plugs as required;
- Clean, inspect, and perform maintenance on grates, including annual grate rotation;
- Clean and inspect the steam coil air heater(s);
- Inspect, clean, and perform preventative maintenance on the hoppers, ram feeder, under grates, hydraulic system, gas burner, ash expeller, and sifting conveyor;
- Inspect walls of the lower charging hopper feed chute;
- Inspect and perform preventative maintenance on the induced draft, primary, and secondary air fans;
- Inspect and perform preventative maintenance on the superheater screw conveyors;
- Inspect and repair boiler appurtenances;
- Perform operational pressure test on the boiler;
- Inspect, clean, and perform preventative maintenance on the spray-dry absorber (including bi-annual UT testing), fabric filter house, and screw conveyors; and

FY 2016 ANNUAL OPERATIONS MONITORING REPORT
MCKAY BAY REFUSE-TO-ENERGY FACILITY

- Perform general maintenance, cleaning, painting, repairs, and instrument calibrations throughout the combustion lines.

During the October 2015 (FY 2016) cold iron and T-G outage, the Operator performed additional maintenance on the common equipment systems and turbine-generator. A short list of some of the associated items performed is below:

- Performed valve repairs on the boiler drum safeties, superheater safeties, de-aerator safeties, as well as repairs and preventative maintenance on valves in the turbine and condensate system island, as required;
- Replaced the BC-5 belt, scrapers, pulleys, and multiple rollers;
- Replaced the BC-3 belt pans and lagging on the underside of the BC-3 gallery;
- Replaced approximately thirty (30) feet of 6" City water piping between the old wastewater tank and the Water Treatment Building;
- Replaced the old opacity monitoring systems at the stack inlet with new models;
- Inspected and performed eddy current testing and cleaning on the main and dump condenser tube bundles. Plugged one leaking tube in the main condenser bundle;
- Performed island rejection mode and overspeed trip testing on the turbine;
- Performed UT and mag particle testing on the DA tanks and repaired a crack in the "A" upper DA chamber;
- Performed structural board replacements of portions of the cooling tower and performed a structural inspection of the cooling tower;
- Performed testing of the main transformer, auxiliary transformer, and main breaker;
- Replaced the bypass breaker for the West Electrical Room UPS system;
- Performed station battery load testing and other testing of relays, breakers and transformers; and
- Performed additional cleaning and preventative maintenance of the condensate system and other common systems.

Detailed outage reports are maintained and available in the Operator's offices.

4.2 Unscheduled Outages

The combustion lines were off-line 35 times for 793 hours (2.26%) out of 35,136 maximum hours due to unscheduled outages that were related to maintenance problems during FY 2016. A complete downtime summary can be found in Table 4-1.

At the tail end of FY 2016 and leading into FY 2017, the Operator had major issues with the condensing system and build-up due to water chemistry on the inside of the condenser tubes. This issue resulted in 152.08 hours of downtime in September, but turned into more serious concerns at the beginning of FY 2017 and into the cold iron outage for FY 2017. As the primary events occurred during FY 2017, this will be expanded upon more in next year's annual report.

4.3 Turbine-Generator and Cold Iron/Black Plant Outages

The availability of the T-G was 98.3% during FY 2016. A cold iron/black plant outage was performed in October 2015.

The following represents the major causes of T-G downtime during the reporting period. A complete record of T-G downtime can be seen in Table 4-1.

- 105.85 hours of downtime during the scheduled cold iron outage in October 2015
- 40.35 hours of downtime due to condenser issues in September 2016

5 FACILITY CONDITION

This section describes the Facility conditions at the end of FY 2016 and recommendations or improvements required as a condition of the O&M Agreement.

5.1 Existing Building Condition/Upgrades

The Operator continued to meet the requirements for maintaining the building and aesthetic portions of the Facility during FY 2016; however, there are several areas of the Facility which are becoming a concern. The Operator is required to operate, maintain, repair, and manage the Facility in accordance with good industry practices and standards, and to ensure that the Facility is in good operating condition at the end of the current O&M Agreement. Arcadis performs periodic inspections of the Facility and provides the Operator with a punch list of items that need attention. The punch list, most recently generated and submitted in November 2016 (FY 2017) is located in Table 5-1. The annual equipment inspection sheets filled out during annual inspections of the Facility every October/November are located in Appendix C of this report.

Once received, the Operator has fifteen days to dispute any new punchlist items and six months to complete the open items on the punch list, unless otherwise agreed to by the City. Items are prioritized by the Operator and, when required, completed either immediately or on an accelerated schedule. The punch list system has been an effective maintenance tool in the past, and continued to be used in FY 2016, with limited results. The Operator has been typically responsive to punch list recommendations in the past, and many of the items are addressed quickly with the more aesthetically-oriented recommendations typically receiving lower priority than the Facility operations and safety-related issues. However, a multitude of issues with corrosion, housekeeping, and Facility aesthetics have remained open on the punchlist for extended periods, with more new items being opened than old items closed during subsequent punchlist inspections throughout FY 2016.

Arcadis and the City have been flexible with the Operator on the six-month completion limit on certain open punchlist items, particularly those that require substantial resources, planning or cold iron/black plant outages to complete. The Operator has made minor efforts to meet with Arcadis to resolve many of these overdue punchlist items; however, has been increasingly more combative when questioned about items open well beyond the six-month completion period. The November 2016 punchlist has a total of 416 open items, 72 of which were opened in 2014, 224 of which were opened in 2015, and 120 of which were opened during the 2016 (FY 2017) inspections. There were only 76 items closed during the October and November 2016 inspections (FY 2017).

The Operator still needs to institute operations practices that will limit the recurring punch list items regarding housekeeping, painting and general corrosion prevention. As an example, the Facility administration building is beginning to show wear and tear and is in need of refurbishing. These concerns and the timeliness of the completion of punchlist items were further expanded upon in a letter drafted by Arcadis and provided to the Operator at the beginning of FY 2017. As the discussions around the letter and responsiveness of the Operator occurred during FY 2017, this will be elaborated on further during the following year's annual report.

FY 2016 ANNUAL OPERATIONS MONITORING REPORT

MCKAY BAY REFUSE-TO-ENERGY FACILITY

Some major Facility enhancements/improvements that were performed by the Operator during FY 2016 include:

- Completion and acceptance of the new Facility enclosure walls;
- Major repairs and replacements of the of several fabric filter hoppers and fabric filter inlet and outlet ductwork;
- Major repairs and replacements of the SDA live bottoms and hoppers;
- Major lagging replacements and conveyor repairs for the inclined conveyor belt area; and
- Replacement of all four boiler opacity monitors.

The Operator completed the final punchlist items and submitted the record drawings and other requirements for completion of the new Facility enclosure walls project. This project included the installation of new Facility enclosure walls around the boiler building and APC areas, as well as a cover over the ash building wastewater settling basin. The Operator submitted final documents on June 17, 2016 and August 8, 2016. The City provided acceptance of the project on September 14, 2016 via letter and back-dated the acceptance of the project to May 31, 2016.

5.2 Site Work

The Operator maintains a staff of supervised laborers and painters to maintain the appearance of the Facility and provide litter collection and landscaping maintenance on an as-needed basis. In addition, the Operator oversees the contract for ongoing maintenance and weed removal for the onsite stormwater management ponds. The Operator continued to perform these tasks in FY 2016 with some punchlist items that need attention as noted in Section 5.1.

5.3 Facility Insurance Requirements

In accordance with Section 9 of the O&M Agreement, the Operator is required to maintain insurance, including workers' compensation and employer's liability insurance, property insurance, business interruption and extra expense insurance, miscellaneous insurance, and subcontractors' insurance. Arcadis has reviewed the Operator's most recent insurance certificates. Copies of the current insurance certificates are maintained on file at the City's Risk Management Office.

The cost of insurance is a pass-through to the City and any changes made to the requirements reflect the cooperative effort between the City and the Operator to maintain proper coverage at an affordable price. The Operator typically makes an effort to identify the most cost-effective insurance coverage, and it continued to actively manage insurance coverage in FY 2016. Any proposed changes in insurance coverage are submitted for approval to the City Council.

5.4 Facility Fire Protection System

The fire piping system, fire pumps, extinguishers, and monitoring system are inspected and certified annually by a licensed outside fire inspection contractor. No Fire Marshall inspections occurred during FY 2016.

5.5 Facility Maintenance/Spare Parts

During FY 2016, the Operator performed maintenance on all of the combustion lines as required in the O&M Agreement. The maintenance of the combustion lines was performed based on the Operator's open work order list and on a scheduled-outage basis. The Operator provides their open work order list to Arcadis for review monthly and creates new work orders based on some open punch list and operator identified items. Arcadis monitors the outages as well as plant conditions and provides updated punch-lists for those items deemed necessary to repair. The Operator continues to maintain the Facility and perform maintenance on the combustion lines and common systems; however, Arcadis has issued several concerns to the Operator that have yet to be addressed.

Arcadis has also reviewed the Operator's spare parts inventory and stock records as of October 25, 2016. The Operator provides the spare parts inventory to Arcadis annually for review. The Operator's October 2016 inventory report indicated that there was \$1,373,419 worth of spare parts on hand. This is a decrease in spare parts value from 2015, but equivalent to the previous year's value of \$1,322,864 in 2014. The value is within the range of fluctuation typically seen during normal usage and replenishment of materials and parts. The Operator continues to maintain sufficient spare parts inventory for continued operation and maintenance of the Facility. All spare parts will become property of the City upon expiration of the O&M Agreement.

5.6 Facility Rolling Stock

The City purchased the initial Facility rolling stock with the Retrofit of the Facility. Pursuant to the O&M Agreement, the Operator is required to maintain the equipment in good working order and replace when deemed necessary. All rolling stock in the type and quantity specified in the O&M Agreement is to be returned to the City in good working order at the expiration or termination of the O&M Agreement. The following equipment was noted on site and is further evaluated in Appendix C of this report.

FY 2016 ANNUAL OPERATIONS MONITORING REPORT
MCKAY BAY REFUSE-TO-ENERGY FACILITY

Equipment	Identification Number
Front End Loaders (2)	839236, No Asset # Noted
Fork Lifts (3)	856892, 856891, 856893
Sweeper	New Sweeper, Asset # not yet identified during inspection.
Pick-up Truck (F150)	602939
Man lift	856894
Roll-Off Trucks (2)	402925, 404159

5.7 Safety

The Operator had three OSHA Recordable health and safety events by Facility employees and multiple first aid events during FY 2016. The first OSHA Recordable injury of a Facility employee occurred due to hearing loss Standard Threshold Shift during normal annual employee medical monitoring evaluations. The employee was scheduled to be re-tested to confirm, but the Operator never noted that the OSHA event was cleared. The second OSHA Recordable injury of a Facility employee occurred when the employee was working on the bottom ash vibrating conveyors in the sump area and received chemical burns on his legs. This issue raised concerns with Arcadis and the City on whether the sump and conveyors were being appropriately maintained by the Operator. The third OSHA Recordable injury of a Facility employee occurred when the employee was attempting to prime and start a dewatering pump and suffered second degree burns. There were more than a half dozen other events that were recorded only as first aid events throughout FY 2016.

The Operator continued to participate in the OSHA VPP Star designation program. The annual VPP self-evaluation was submitted to OSHA on February 11, 2016. This designation allows the Operator to self-monitor its health and safety procedures and exempts the Facility from programmed OSHA inspections. The VPP Facility recertification is scheduled to occur in April 2017, which is during FY 2017.

The Operator has a full-time health and safety officer on-site who maintains and updates safety and training records, health and safety manuals, and material safety data sheets. The Operator also continues to utilize its “Safety on Purpose” program designed to expand employees’ knowledge and awareness of safety issues. This includes expanded pre-job safety briefings before any activity as well as more detailed job hazard analysis forms. The program focuses on insuring employees are asking, and can successfully answer three questions regarding employee knowledge, preparation and ability to safely perform tasks.

FY 2016 ANNUAL OPERATIONS MONITORING REPORT
MCKAY BAY REFUSE-TO-ENERGY FACILITY

1. Do I know how to do the task safely?
2. Am I prepared to perform the task safely?
3. Am I able to perform the task safely?

The Operator additionally provides online, computer based, self-study programs for topics such as; back safety, blood borne pathogens, confined space entry, electrical safety, fall protection, ladder safety, and personal protective equipment, just to name a few. Classroom instructor safety training includes classes in mobile equipment, fork lift operation, fire aid/CPR and AED, confined space entry and rescue, and the OSHA 40-hour HAZWOPER class, to name a few.

Additionally, as part of its safety program, the Operator holds monthly safety committee meetings that allow staff to bring safety issues to the attention of management. This approach has proven to be very effective for identifying and addressing safety concerns in a timely manner. This extensive safety awareness and employee participation program has allowed the Operator to maintain employee safety at levels far above the industry standard.

5.8 Facility Personnel

During FY 2016 several operations and maintenance positions became open and were subsequently filled by the Operator. The Operator continues to maintain adequate staffing with appropriately trained and experienced personnel to fulfill their obligations under the O&M Agreement, the various Permits, and Federal Regulations.

At the beginning of FY 2017, several key staff, including the Facility Manager, Operations Manager, and Environmental, Health and Safety Manager were terminated by the Operator's parent company due to operating, environmental, and health and safety concerns raised in a letter provided by Arcadis and the City at the beginning of FY 2017. The Operator brought in some temporary management staff to manage the Facility while interviewing for replacements and discussing the concerns with the City and Arcadis. As this primarily occurred during FY 2017, it will be expanded upon in the following year's annual report.

5.9 Operator Training and Certification

The Clean Air Act Amendments require operator certification of the individuals directly responsible for the day-to-day operations of the Facility, as well as a certified operator on each shift. The American Society of Mechanical Engineers ("ASME") conducts the tests and provides provisional certifications to those qualified individuals. The Clean Air Act Amendments also require site-specific certification, which requires each facility to provide current O&M manuals, safety manuals, and process flow diagrams. The ASME conducted a review of the Operator's program and performed a site-specific examination for the plant operators. The Facility Manager, Operations Manager, Shift Supervisors, and Control Room Operators all have received their appropriate ASME operator's certification. The Operator continues to meet all the requirements of the Clean Air Act Amendments operator certifications. Many Operator employees also participate in extensive onsite training and certification classes offered by the Operator corporate training site.

APPENDIX A

Tables



Table 3-2-1

**McKay Bay Refuse-to-Energy Facility
FY 2016
Comparison of Emissions Test Results, Permit Limits, and Contract Limits
UNIT 1 - October 2015, December 2016**

Pollutants	Units	Oct-15 Average Emission	Dec-16 Average Emission	Permit Limits	Contract Limits
Particulate	mg/dscm	1.2	3.4	27	24
Particulate	lb/hr	0.109	0.273	2.76	
Particulate	lb/mmBtu	1.11E-03	3.06E-03	2.30E-02	
Opacity	%	2.9	1	10	10
MWC Metals:					
Cadmium	mg/dscm	1.20E-04	4.90E-04	0.04	0.02
Cadmium	lb/hr	1.03E-05	3.94E-05	4.10 E-03	
Cadmium	lb/mmBtu	1.04E-07	4.41E-07	3.42 E-05	
Lead	mg/dscm	6.60E-04	3.70E-03	0.44	0.2
Lead	lb/hr	5.92E-05	3.04E-04	4.51E-02	
Lead	lb/mmBtu	5.95E-07	3.35E-06	3.76 E-04	
Mercury	microgram/dscm	0.91	0.65	70 or	70 or
Mercury	Rem. Eff %	96%	97%	> 85% (3)	> 85% (3)
HCL	ppmdv	3.2	1.7	29 or	25
HCL	Rem. Eff %	99.4%	99.7%	> 95%	> 95%
Fluoride	lb/hr	NT (1)	<0.001	1.5	1.5
Fluoride	lb/mmBtu	NT (1)	<0.0000113	1.25E-02	
Nitrogen Oxides	ppmdv	120	131	205	150
Sulfur Dioxide	ppmdv	0.4	0.3	29	29
Sulfur Dioxide	Rem. Eff %	99.6%	99.4%	> 75%	> 80%
PCDDs/PCDF	nanogram/dscm	2.7	NT (2)	30	
PCDDs/PCDF	lb/hr	2.35E-07	NT (2)	3.07 E-06	13
PCDDs/PCDF	lb/mmBtu	2.46E-09	NT (2)	2.56 E-08	
Carbon Monoxide	ppmdv	14.0	8.0	100	100

(1) Fluoride tests required every 5 years; previous testing is covered in the October 2011 test results.

(2) PCDD's/PCDF (Dioxins & Furans) run on 1 combustion line per year, Last Testing: Line 1 ~ Oct. 2015, Line 2 ~ Oct. 2016, Line 3 ~ Oct 2013, Line 4 ~ Oct 2014.

(3) Mercury limit is 70 microgram/dscm or 85% removal, whichever is less stringent.

NT - Not Tested

Table 3-2-2

**McKay Bay Refuse-to-Energy Facility
FY 2016
Comparison of Emissions Test Results, Permit Limits, and Contract Limits
UNIT 2 - October 2015, December 2016**

Pollutants	Units	Oct-15 Average Emission	Dec-16 Average Emission	Permit Limits	Contract Limits
Particulate	mg/dscm	3.7	5.6	27	24
Particulate	lb/hr	0.306	0.464	2.76	
Particulate	lb/mmBtu	3.34E-03	5.03E-03	2.30E-02	
Opacity	%	0.5	2	10	10
MWC Metals:					
Cadmium	mg/dscm	2.30E-04	6.60E-04	0.04	0.02
Cadmium	lb/hr	1.93E-05	5.52E-05	4.10 E-03	
Cadmium	lb/mmBtu	2.08E-07	5.96E-07	3.42 E-05	
Lead	mg/dscm	3.20E-03	6.20E-03	0.44	0.2
Lead	lb/hr	2.64E-04	5.18E-04	4.51E-02	
Lead	lb/mmBtu	2.84E-06	5.58E-06	3.76 E-04	
Mercury	microgram/ dscm	0.76	0.84	70 or	70 or
Mercury	Rem. Eff %	96%	96%	> 85% (3)	> 85% (3)
HCL	ppmdv	0.6	3.5	29 or	25
HCL	Rem. Eff %	99.9%	99.4%	> 95%	> 95%
Fluoride	lb/hr	NT (1)	<0.0013	1.5	1.5
Fluoride	lb/mmBtu	NT (1)	<0.0000130	1.25E-02	
Nitrogen Oxides	ppmdv	137	130	205	150
Sulfur Dioxide	ppmdv	0.1	0.2	29	29
Sulfur Dioxide	Rem. Eff %	99.8%	99.8% (4)	> 75%	> 80%
PCDDs/PCDF	nanogram/ dscm	NT (2)	1.8	30	
PCDDs/PCDF	lb/hr	NT (2)	1.54E-07	3.07 E-06	13
PCDDs/PCDF	lb/mmBtu	NT (2)	1.64E-09	2.56 E-08	
Carbon Monoxide	ppmdv	4.4	6.4	100	100

(1) Fluoride tests required every 5 years; previous testing is covered in the October 2011 test results.

(2) PCDD's/PCDF (Dioxins & Furans) run on 1 combustion line per year, Last Testing: Line 1 ~ Oct. 2015, Line 2 ~ Oct. 2016, Line 3 ~ Oct 2013, Line 4 ~ Oct 2014.

(3) Mercury limit is 70 microgram/dscm or 85% removal, whichever is less stringent.

(4) Unit 2 inlet CEMS failed RATA during December stack testing and removal efficiency is not accurate.

NT - Not Tested

Table 3-2-3

**McKay Bay Refuse-to-Energy Facility
FY 2016
Comparison of Emissions Test Results, Permit Limits, and Contract Limits
UNIT 3 - October 2015, December 2016**

Pollutants	Units	Oct-15 Average Emission	Dec-16 Average Emission	Permit Limits	Contract Limits
Particulate	mg/dscm	2.7	2.8	27	24
Particulate	lb/hr	0.244	0.220	2.76	
Particulate	lb/mmBtu	2.47E-03	2.54E-03	2.30E-02	
Opacity	%	3.6	1	10	10
MWC Metals:					
Cadmium	mg/dscm	4.30E-04	2.70E-04	0.04	0.02
Cadmium	lb/hr	3.79E-05	2.10E-05	4.10 E-03	
Cadmium	lb/mmBtu	3.82E-07	2.41E-07	3.42 E-05	
Lead	mg/dscm	4.90E-03	2.20E-03	0.44	0.2
Lead	lb/hr	4.30E-04	1.74E-04	4.51E-02	
Lead	lb/mmBtu	4.40E-06	2.00E-06	3.76 E-04	
Mercury	microgram/ dscm	0.87	<0.53	70 or	70 or
Mercury	Rem. Eff %	97%	>95%	> 85% (3)	> 85% (3)
HCL	ppmdv	1.1	2.8	29 or	25
HCL	Rem. Eff %	99.8%	99.5%	> 95%	> 95%
Fluoride	lb/hr	0.0084	NT (1)	1.5	1.5
Fluoride	lb/mmBtu	8.93E-05	NT (1)	1.25E-02	
Nitrogen Oxides	ppmdv	154	130	205	150
Sulfur Dioxide	ppmdv	0.1	2.9	29	29
Sulfur Dioxide	Rem. Eff %	99.8%	95.9%	> 75%	> 80%
PCDDs/PCDF	nanogram/ dscm	NT (2)	NT (2)	30	
PCDDs/PCDF	lb/hr	NT (2)	NT (2)	3.07 E-06	13
PCDDs/PCDF	lb/mmBtu	NT (2)	NT (2)	2.56 E-08	
Carbon Monoxide	ppmdv	7.5	26.7	100	100

(1) Fluoride tests required every 5 years; previous testing is covered in the October 2011 test results.

(2) PCDD's/PCDF (Dioxins & Furans) run on 1 combustion line per year, Last Testing: Line 1 ~ Oct. 2015, Line 2 ~ Oct. 2016, Line 3 ~ Oct 2013, Line 4 ~ Oct 2014.

(3) Mercury limit is 70 microgram/dscm or 85% removal, whichever is less stringent.

NT - Not Tested

Table 3-2-4

**McKay Bay Refuse-to-Energy Facility
FY 2016
Comparison of Emissions Test Results, Permit Limits, and Contract Limits
UNIT 4 - October 2015, December 2016**

Pollutants	Units	Oct-15 Average Emission	Dec-16 Average Emission	Permit Limits	Contract Limits
Particulate	mg/dscm	1.2	2.1	27	24
Particulate	lb/hr	0.111	0.174	2.76	
Particulate	lb/mmBtu	1.09E-03	1.87E-03	2.30E-02	
Opacity	%	2.3	1	10	10
MWC Metals:					
Cadmium	mg/dscm	5.50E-05	4.50E-04	0.04	0.02
Cadmium	lb/hr	5.06E-06	3.78E-05	4.10 E-03	
Cadmium	lb/mmBtu	4.93E-08	4.04E-07	3.42 E-05	
Lead	mg/dscm	3.80E-04	2.60E-03	0.44	0.2
Lead	lb/hr	3.32E-05	2.22E-04	4.51E-02	
Lead	lb/mmBtu	3.38E-07	2.37E-06	3.76 E-04	
Mercury	microgram/ dscm	1.40	1.20	70 or	70 or
Mercury	Rem. Eff %	97%	94%	> 85% (3)	> 85% (3)
HCL	ppmdv	1.0	21.0	29 or	25
HCL	Rem. Eff %	99.8%	96.6%	> 95%	> 95%
Fluoride	lb/hr	0.0079	NT (1)	1.5	1.5
Fluoride	lb/mmBtu	9.27E-05	NT (1)	1.25E-02	
Nitrogen Oxides	ppmdv	143	133	205	150
Sulfur Dioxide	ppmdv	0.3	2.9	29	29
Sulfur Dioxide	Rem. Eff %	99.0%	92.5%	> 75%	> 80%
PCDDs/PCDF	nanogram/ dscm	NT (2)	NT (2)	30	
PCDDs/PCDF	lb/hr	NT (2)	NT (2)	3.07 E-06	13
PCDDs/PCDF	lb/mmBtu	NT (2)	NT (2)	2.56 E-08	
Carbon Monoxide	ppmdv	10.4	7.2	100	100

(1) Fluoride tests required every 5 years; previous testing is covered in the October 2011 test results.

(2) PCDD's/PCDF (Dioxins & Furans) run on 1 combustion line per year, Last Testing: Line 1 ~ Oct. 2015, Line 2 ~ Oct. 2016, Line 3 ~ Oct 2013, Line 4 ~ Oct 2014.

(3) Mercury limit is 70 microgram/dscm or 85% removal, whichever is less stringent.

NT - Not Tested

Table 3-3
McKay Bay Refuse-to-Energy Facility
FY 2016
Air Emissions Excursion Summary

Month	Excursion Type	Unit Number	Explanation
September 8, 2016	CO	2	Total flow instrument failure for SDA outlet temperature control caused fan/grate trip.
September 7, 2016	CO	1	Startup issues due to air flow controller failure.
September 2, 2016	CO	2	High moisture from Hurricane Hermine caused issues with the CEMS outlet percent.
July 28, 2016	CO	2	Gas burner failed to light during wet fuel which caused combustion issues.
July 25, 2016	VE	2	Visible emissions occurred for several minutes due to a plugged superheater section.
June 14, 2016	CO	2	Broken gas supply valve caused combustion issues during wet fuel event.
June 13, 2016	CO	3	Secondary air damper sticking caused combustion issues.
June 8, 2016	Carbon Feed	3,4	A fire in the "B" carbon silo resulted in a required manual feed of carbon.
June 6, 2016	CO	3	Wet fuel caused combustion issues.
April 2, 2016	CO	2	Side wall clinker caused combustion issues.
December 29, 2015	CO	2	Grate clinker caused combustion issues.
November 2, 2015	CO	4	Failed limit switch on grate caused uncontrolled combustion.
TOTAL COUNT	12 Events		

Source: Wheelabrator McKay Bay Inc. monthly "Schedule 13" reports and "Quarterly Excess Emissions Reports" for FY 2016.

McKay Bay Refuse-to-Energy Facility
Environmental Compliance Summary



Latest Revision: 1-26-17

No.	Permits	Issuance Date	Expiration Date	Submission Timeframe/ Submittal Date	Permit Renewal Due Date	Responsible Party		Permitting Fees	Regulatory Agency	
						Prepared By	Reviewed/ Submitted By		Required By	Submitted To
1	Solid Waste Operating Permit 34662-009-SO/31 Pursuant to 403.087(1), F.A.C.	11/5/13	11/5/2018	Application for renewal (no later than 61 days before the expiration of this permit.)	9/4/18	Earthshine/Arcadis	City	\$ 1,000.00	FDEP, HCEPC	FDEP Tallahassee
	SO/MM to Solid Waste Operating Permit 34662-009-SO/31 for Addition of Enclosure Walls	7/2/14	N/A	Submitted application for Minor Modification on June 11, 2014.	N/A	Earthshine/Arcadis/W MBI	City	\$ 250.00	FDEP	FDEP Tallahassee
2	Solid Waste Operating Permit & USEPA RCRA SQG Permit. Facility Generator Status Changed back to SQG on 1-26-16. USEPA Facility ID #FLD982168775	1/26/16		As per applicable FDEP & EPA rules & guidelines: Adhere to requirements for SQGs including haz waste accumulation time and quantity limits, storage & handling, recordkeeping, etc.		WMBI	Earthshine & Arcadis / City		FDEP	
	Annual Fire Safety			Annually		WMBI	City		FDEP	
3	Title V Air Operation Permit No. 0570127-006-AV and PSD-FL-086(B) (PSD has no expiration)	1/5/17	1/5/2022	Title V Air Permit Renewal Application submitted 7/22/16. Received Title V Permit renewal 1/5/17	5/25/21	Earthshine/Arcadis	City/WMBI	N/A	FDEP, HCEPC	FDEP Tallahassee
	Reports and Forms to be submitted to FDEP as specified in the Title V Permit:									
3.a	Annual Operating Report (DEP eAOR electronic filing), summarizing operations for previous calendar year. Includes Annual Air Emissions Form and Fees.			Annually. Due by April 1st of the following year for the previous Calendar Year.		WMBI	Earthshine & Arcadis / City		FDEP, HCEPC	FDEP Tallahassee
3.b	Annual Statement of Compliance. FDEP Form 62-213.900(7)			Annually. Due within 60 days after the end of each year (i.e. by March 1st)		WMBI/City	Earthshine & Arcadis / City	N/A	FDEP, HCEPC	FDEP Tallahassee, cc to EPA
3.c	Semi-Annual Reports, as per 40 CFR 39b(a)/40 CFR 60.59(g).			Semi-Annually. Due each year by July 31st and January 31st		WMBI/City	Earthshine & Arcadis / City	N/A	FDEP, HCEPC	FDEP, HCEPC
3.d	Excess Emissions & Monitoring System Performance reports pursuant to 40 CFR 60.7c.			Due quarterly. Quarterly each Calendar Year		WMBI/City	Earthshine & Arcadis / City	N/A	FDEP, HCEPC	FDEP, HCEPC
3.e	Opacity Audit Report, 40 CFR 60 (Appendix B)			Due quarterly. Quarterly each Calendar Year		WMBI	City	N/A	FDEP, HCEPC	FDEP, HCEPC
3.f	Cylinder Gas Audit Report, 40 CFR 60 (Appendix F)			Due quarterly. Quarterly each Calendar Year		WMBI	City	N/A	FDEP, HCEPC	FDEP, HCEPC
3.g	Notification of excess emissions resulting from malfunctions (any unavoidable mechanical and/or electrical failure of air pollution control equipment or process equipment or a process resulting in operation in an abnormal or unusual manner) within one working day of the incident.			As needed		WMBI	Earthshine & Arcadis / City	N/A	FDEP, HCEPC	FDEP, HCEPC

McKay Bay Refuse-to-Energy Facility
Environmental Compliance Summary



Latest Revision: 1-26-17

No.	Permits	Issuance Date	Expiration Date	Submission Timeframe/ Submittal Date	Permit Renewal Due Date	Responsible Party		Permitting Fees	Regulatory Agency	
						Prepared By	Reviewed/ Submitted By		Required By	Submitted To
4	USEPA GHG Reporting Program. Mandatory GHG Reporting Rule (40 CFR 98) - Emissions testing to determine the biogenic/anthropogenic CO2 fraction of the waste stream			Due quarterly. Quarterly each Calendar Year		WMBI	Earthshine & Arcadis / City		EPA	EPA
4.a	Annual GHG Report, summarizing data from previous calendar year, submitted via the USEPA e-GGRT-PIN # Needed for submittal.			Annually, during first quarter of following year (CY 2015 report submitted 3/2016)		WMBI	Earthshine & Arcadis / City		EPA	EPA
5	Multi-Sector Generic Permit for Stormwater Discharge Associated with Industrial Activity, Sector 0 (Rule 62-621.300(5)) & (40 CFR Part 122.26(a)(ii)) Facility ID#FLR05B577-004	2/22/16	2/21/2021	"Notice of Intent to Use the Multi-Sector Generic Permit for Stormwater Discharge Assoc. with Industrial Activity", FDEP Form 62-621.300(5)(b).	2/19/21 (Two Days Prior to Expiration Date)				FDEP	FDEP Tallahassee
5.a	"Visual examination" of stormwater discharge quality, at least once each quarter for the duration of the permit. No submittal required, reports are to be maintained onsite in the Facility's Stormwater Pollution Prevention Plan (SWP3)		2/22/2021	Quarterly, for the entire duration of the permit. No submittal required, records retained onsite.			City performs monitoring as needed and maintains records onsite.		FDEP	
5.b	Quarterly Discharge Monitoring (includes sampling & analysis of "qualifying storm event" discharge) required in Years 2 and 4 of MSGP coverage (however if no exceedance in Year 2; Year 4 monitoring may by request be waived by FDEP). Sector 0 requires quarterly monitoring for subsequent iron analysis.			Perform Monitoring (Year 2) in 2017, beginning 1/1/17 & ending 12/31/17		City or WMBI if City not onsite for qualifying event	City/Earthshine-Arcadis	N/A	FDEP	
5.c	Discharge Monitoring Report			Forms must be postmarked to the FDEP no later than the 31st day of the following March. 3/31/2018 (Year 2 DMRs)		City	Earthshine & Arcadis / City	N/A	FDEP	FDEP
6	Surface Water Management System Operation 29-127374-002. Inspection Report required by FDEP using Form 62-343.900(6).	Last inspection - 9/14/2016 & inspection Report completed Sept 2016.	No expiration	Due every 2 years. P.E. inspects and submits form indicating that the stormwater management system is "functional".	Inspection Report due dates 10/2016, 10/2018, etc.	City	Earthshine & Arcadis / City	N/A	FDEP	FDEP
7	Transfer Station Operation Permit 126656-005-SO/31	2/28/14	2/28/2019	The Transfer Station Permit Renewal Application Package was submitted to the FDEP on December 13, 2013.	12/28/18	Earthshine/Arcadis	City	\$ 1,000.00	FDEP	FDEP Tallahassee
7.a	Transfer Station Permit renewal Notice of Intent to FDEP on Form 62-701.900(4)			Renewal due 3 months prior to expiration date. NOI submitted to FDEP 9/4/2013.		Earthshine/Arcadis	City	N/A	FDEP	FDEP Tallahassee
7.b	Fire Safety			Annually. Due by 8/1 of following year.		City	City	N/A		
8	Wastewater Discharge Permit #1054	12/1/15	11/30/2017	Permit valid for 2 years.	Before 11/30/2017	WMBI	City		City	City

McKay Bay Refuse-to-Energy Facility
Environmental Compliance Summary



Latest Revision: 1-26-17

No.	Permits	Issuance Date	Expiration Date	Submission Timeframe/ Submittal Date	Permit Renewal Due Date	Responsible Party		Permitting Fees	Regulatory Agency	
						Prepared By	Reviewed/ Submitted By		Required By	Submitted To
8.a	Semi-Annual wastewater monitoring reports			Semi-Annually. Submitted to City of Tampa Industrial Waste Section		WMBI	City	N/A	City	City of Tampa Industrial Waste Section
8.b	Monthly Sewer Flows			Monthly		WMBI	City	N/A	City	City of Tampa Industrial Waste Section

Table 4-1

McKay Bay Refuse-to-Energy Facility
FY 2016
Unit Downtime Summary

Month	Unit No. 1 Outages	Unit No. 2 Outages	Unit No. 3 Outages	Unit No. 4 Outages	Turbine Generator Outages	Outage Reason/Notes
	Downtime Hours	Downtime Hours	Downtime Hours	Downtime Hours	Downtime Hours	
Sep-16	0.07					Unscheduled Crane PLC Failure
Sep-16	43.58	30.57	48.48	29.55	40.35	Unscheduled Surface Condenser Build-Up and Cleaning
Aug-16			8.38			Unscheduled ID Fan Bearing Failure
Aug-16		1.70				Unscheduled Gate Communications Card Failure
Aug-16	67.48					Unscheduled Economizer and Waterwall Tube Failures
Aug-16	1.18				0.35	Unscheduled Turbine / Generator Low Vacuum Trip
Aug-16		117.67				Scheduled Outage
Aug-16	9.00					Unscheduled Economizer Tube Failure
Jul-16	20.33					Unscheduled Economizer Tube Failure
Jul-16	32.48					Unscheduled Auxiliary Burner Flame Scanner
Jul-16	16.72					Unscheduled Outage Overrun
Jul-16	120.00					Scheduled Outage
Jun-16		24.33				Unscheduled Plugged Ash Expeller Chute
Jun-16				11.33		Unscheduled Sifting Drag Chain Failure
Jun-16		3.57				Unscheduled Crane Failure
Jun-16	10.05					Unscheduled Sifting Drag Chain Failure
Jun-16			88.17			Unscheduled Auxiliary Burner Forced Draft Fan
May-16				75.82		Unscheduled Tube Rupture
May-16				7.50		Unscheduled Outage Overrun
May-16				120.00		Scheduled Outage
May-16	0.95					Unscheduled Steam Drum Transmitter Failure
Apr-16				1.63		Unscheduled Network Server Communication
Apr-16		0.47				Unscheduled Conveyor Motor Trip
Mar-16			30.40			Unscheduled Tube Rupture and Gas Burner Failure
Mar-16			7.51			Unscheduled Outage Overrun
Mar-16			120.00			Scheduled Outage
Feb-16		15.02				Unscheduled Outage Overrun
Feb-16		120.00				Scheduled Outage
Jan-16			0.05			Unscheduled Feed Chute Plug
Jan-16	6.40					Unscheduled Outage Overrun
Jan-16	120.00					Scheduled Outage
Jan-16				42.27		Unscheduled Water Wall Tube Leak
Dec-15		1.80				Unscheduled Clinker on Ram Feeder
Dec-15			6.37	2.68		Unscheduled B Condensate Pump Failure
Dec-15				51.22		Unscheduled Expeller Bearing Failure
Nov-15				0.33		Unscheduled Boiler Feed Pump Trip
Nov-15				0.05		Unscheduled Zone 2 Limit Switch Failure
Oct-15	11.47					Unscheduled Superheater Safety Failure
Oct-15		22.33				Unscheduled Loss of Primary Air Pressure Controller
Oct-15		31.12		29.28		Unscheduled Cold Iron Outage Overrun
Oct-15	95.88	96.00	96.25	96.00	105.85	Scheduled Cold Iron Outage
Oct-15				1.45		Unscheduled Crane Failure
TOTAL Downtime for 12 months	555.6	464.6	405.6	469.1	146.6	
Availability for 12 Month Period	93.7%	94.7%	95.4%	94.7%	98.3%	
Forced Outage BOP	44.8	65.3	54.9	64.9	40.7	
Forced Line Outage	174.9	65.7	134.5	188.2	0	
Scheduled Outage	335.9	333.7	216.3	216.0	105.9	
Standby Other	0	0	0	0	0	

**TABLE 5-1
CITY OF TAMPA MCKAY BAY FACILITY
DRAFT PUNCLIST - NOVEMBER 2016**

- Tier Definitions
 1 Safety issue or imminent problem exists.
 2 Environmental issue, potential safety problem or equipment problem exists.
 3 Rusting occurring, cosmetic work or contract requirement.
 4 Housekeeping required.

Inspection Area	Item Number / Picture Number (New)	Item Number / Picture Number (Old, for ref)	Tier	Equip / Unit #	Elevation / Location	Tag Number	Punchlist Item Description	WMBI Response	WMBI Status	WMBI Estimated Completion Date	WMBI WO Number	Arcadis Date Opened	Arcadis Date Last Verified as Open	Arcadis Verification Comment	Arcadis / City Estimated Cost	Arcadis Date Closed
A. Facility Site & Mobile Equipment	2015:A-002	A-5	3				Check and repair broken electrical plug on the lighting pole on the east side entrance ramp to the tipping floor.					6/15/2015	11/1/2016	Open		
A. Facility Site & Mobile Equipment	2015:A-003	A-6	3				Repair broken wheel stop in handicap spot and other parking spots in the employee parking area.					6/15/2015	11/1/2016	Open		
A. Facility Site & Mobile Equipment	2015:A-004	A-7	4				Remove abandoned and degraded temporary power panel from previous construction activities.					6/15/2015	11/1/2016	Open		
A. Facility Site & Mobile Equipment	2015:A-006	A-9	3				Fill the hole in the grassed area on the south side of the Facility Site (south of the parking lot) and repair the landscaping there.					10/19/2015	11/1/2016	Open		
A. Facility Site & Mobile Equipment	2015:A-008	A-11	3				Repair asphalt at the entrance of the lay down yard					10/19/2015	11/1/2016	Repairs performed, but patches are already failing.		
A. Facility Site & Mobile Equipment	2015:A-009	A-12	3				Repair curb at the entrance of the lay down yard					10/19/2015	11/1/2016	Repairs performed, but patches are already failing.		
A. Facility Site & Mobile Equipment	2016:A-001		3				Repair or replace missing or failing tags and labels on pipes, valves, and instruments throughout Facility.					10/20/2016				
A. Facility Site & Mobile Equipment	2016:A-002		2				Check all emergency lights and repair non operational lights. During inspections lights on the charging deck, TG island, and north stairwell were non operational.					10/20/2016				
A. Facility Site & Mobile Equipment	2016:A-003		2		Laydown Area		Drain and prevent rainwater collection in containers in laydown area to prevent mosquito breeding.					10/20/2016				
A. Facility Site & Mobile Equipment	2016:A-004		2				Repair hole and improper repair in perimeter fence on the northeast side of the employee parking lot along public trail.					10/20/2016				
B. Admin Building	2014:B-004	B-4	3				Repaint rusting fascia at administration building entrance.	Outside contractor	nc	12/31/2014		6/25/2014	11/1/2016	Open		
B. Admin Building	2014:B-008	B-8	3		3rd Floor		Clean/paint/update the men's room on 3 rd floor of the administration building.	Outside contractor	nc	12/31/2014		6/25/2014	11/1/2016	Open		
B. Admin Building	2015:B-001	B-9	3		1st and 2nd Floors		Clean registers of first and second floor HVAC ducts.					6/15/2015	11/1/2016	Open		
B. Admin Building	2015:B-002	B-10	3		2nd Floor		Install insulation on hot water heater in HVAC area.					6/15/2015	11/1/2016	Open		
B. Admin Building	2015:B-005	B-13	4		3rd Floor		Clean dirty entry way windows. Provide schedule for cleaning.					6/15/2015	11/1/2016	Provide Cleaning Schedule		
B. Admin Building	2015:B-006	B-14	3		4th Floor		Repair damaged ceiling tiles and leaks in lights.					6/15/2015	11/1/2016	Open		
B. Admin Building	2015:B-009	B-17	3		4th Floor		Repair corroded conduit and supports in north walkway.					6/15/2015	11/1/2016	Open		
B. Admin Building	2015:B-011	B-19	3		5th Floor		Fix loose railings in elevator foyer outside of the control room.					10/21/2015	11/1/2016	Open		
B. Admin Building	2015:B-012	B-20	3		5th Floor		Repair the broke tiles in the foyer and replace the mismatched tiles (ie the black ones).					10/21/2015	11/1/2016	Open		
B. Admin Building	2015:B-015	B-23	3		3rd Floor		Repair the baseboard by north entrance door.					10/21/2015	11/1/2016	Open		
B. Admin Building	2016:B-001		2		Control Room		Repair the non-functional lights on the boiler drum level indicators in the control room.					11/1/2016				
B. Admin Building	2016:B-002		4		2nd and 3rd Floors		Investigate and resolve the sewer backup smell in the 2nd and 3rd floor men's bathrooms.					11/1/2016				
C. Warehouse Bldg & Equip Storage	2015:C-001	C-2	4				Clean dirty HVAC vent and light in the break room and bathroom.					6/15/2015	11/1/2016	Open		
C. Warehouse Bldg & Equip Storage	2015:C-003	C-4	3				Replace missing ceiling tiles in locker room.					6/15/2015	11/1/2016	Open		
C. Warehouse Bldg & Equip Storage	2015:C-007	C-8	3				Clean the dirty ductwork and vents in the 2nd floor bathroom and offices					10/19/2015	11/1/2016	Offices Complete, Clean Bathroom Vents		
C. Warehouse Bldg & Equip Storage	2015:C-008	C-9	3				Repair the damaged siding on the exterior of the north wall.					10/19/2015	11/1/2016	Open		
C. Warehouse Bldg & Equip Storage	2015:C-009	C-10	3				Fix the sign and paint the bracket of the exterior eyewash on the north side.					10/19/2015	11/1/2016	Open		
C. Warehouse Bldg & Equip Storage	2015:C-010	C-11	3				Repair the damaged siding on the exterior of the south wall.					10/19/2015	11/1/2016	Open		
D. Tipping Bldg & Refuse Pit	2014:D-001	D-1	4				Provide the cleaning schedule for the tipping floor and building purlins.	Scheduled attached	c	7/15/2014		6/25/2014	11/1/2016	Provide the requested cleaning schedule		
D. Tipping Bldg & Refuse Pit	2014:D-002	D-2	4				Provide the cleaning schedule for the refuse pit and building purlins.	Scheduled attached	c	7/15/2014		6/25/2014	11/1/2016	Provide the requested cleaning schedule		
D. Tipping Bldg & Refuse Pit	2015:D-002	D-4	3				Repair damage to south metal push wall.					6/15/2015		Covered with refuse during inspections.		
D. Tipping Bldg & Refuse Pit	2015:D-004	D-6	3				Repair damaged concrete of bay trusses, rebar is exposed.					6/15/2015	11/1/2016	Open		
D. Tipping Bldg & Refuse Pit	2015:D-005	D-7	3				Repair damaged concrete on tipping floor at the center of floor at the expansion joint.					6/15/2015	11/1/2016	Open		
D. Tipping Bldg & Refuse Pit	2015:D-006	D-8	3				Repair damage to west push wall on the tipping floor.					6/15/2015		Covered with refuse during inspections.		
D. Tipping Bldg & Refuse Pit	2015:D-007	D-9	3				Verify water source of wash down hoses. Seem to be connected to potable water, same as fire hoses. Verify this is permissible.					6/15/2015	11/1/2016	Open		
D. Tipping Bldg & Refuse Pit	2015:D-009	D-11	3				Cover/bury irrigation line on north slope of tipping building or remove if not functional.					6/15/2015	11/1/2016	Open - North of parking area.		
D. Tipping Bldg & Refuse Pit	2015:D-010	D-12	3				Paint corroded northeast door to the tipping building.					6/15/2015	11/1/2016	Open		
D. Tipping Bldg & Refuse Pit	2015:D-011	D-13	4				Trim foliage around signs on exit ramp.					6/15/2015	11/1/2016	Open		
D. Tipping Bldg & Refuse Pit	2015:D-012	D-14	3				Repair exit ramp asphalt erosion around drain.					6/15/2015	11/1/2016	Open - Repairs do not control storm water flow as designed.		
D. Tipping Bldg & Refuse Pit	2015:D-013	D-15	4				Clean the mold on the northeast corner of the exterior of the tipping building and the downspout in that area.					10/19/2015	11/1/2016	Open		
D. Tipping Bldg & Refuse Pit	2015:D-014	D-16	4				Clean the mold and mildew off the exterior louvers on the north side of the tipping building.					10/19/2015	11/1/2016	Open		
D. Tipping Bldg & Refuse Pit	2015:D-015	D-17	4				Clean the mold and repair the chipped paint on the fire line along the north side of the tipping building.					10/19/2015	11/1/2016	Open		
D. Tipping Bldg & Refuse Pit	2015:D-017	D-19	3				Repair the crack in the floor near bays 4 and 5.					10/20/2015		Covered with refuse during inspections.		
D. Tipping Bldg & Refuse Pit	2015:D-018	D-20	4				Clean the spiders and webs off of the eyewash in the tipping building.					10/20/2015	11/1/2016	Open		

**CITY OF TAMPA MCKAY BAY FACILITY
DRAFT PUNCLIST - NOVEMBER 2016**

- Tier Definitions
- 1 Safety issue or imminent problem exists.
 - 2 Environmental issue, potential safety problem or equipment problem exists.
 - 3 Rusting occurring, cosmetic work or contract requirement.
 - 4 Housekeeping required.

Inspection Area	Item Number / Picture Number (New)	Item Number / Picture Number (Old, for ref)	Tier	Equip / Unit #	Elevation / Location	Tag Number	Punchlist Item Description	WMBI Response	WMBI Status	WMBI Estimated Completion Date	WMBI WO Number	Arcadis Date Opened	Arcadis Date Last Verified as Open	Arcadis Verification Comment	Arcadis / City Estimated Cost	Arcadis Date Closed
D. Tipping Bldg & Refuse Pit	2016:D-001		3		5th Floor		Repair hole in baseboard of north wall next to door onto charging deck.					10/20/2016				
D. Tipping Bldg & Refuse Pit	2016:D-002		2		5th Floor		Repair broken and clean all emergency lights on charging deck and west stairwell from the charging deck.					10/20/2016				
D. Tipping Bldg & Refuse Pit	2016:D-003		2		5th Floor		Repair hole in north side of Unit 2 charging hopper which is allowing waste to fall to floors below.					10/20/2016				
D. Tipping Bldg & Refuse Pit	2016:D-004		2		El. 10-6		Repair and return to operation the tipping floor exit ramp leachate sump which was non-functional, full, and not operational during inspection.					10/20/2016				
D. Tipping Bldg & Refuse Pit	2016:D-005		3		El. 10-6		Repair holes in tipping building gutter system.					10/20/2016				
D. Tipping Bldg & Refuse Pit	2016:D-006		2		Roof		Address the bubbling roof material in the refuse building roof.					11/1/2016				
E. Boiler Bldg & Equip	2014:E-001	E-1	3	4	El. 10-6		Repair the corroded transformer box for the Unit 4 SNCR skid at the ground floor of the boiler building.	Outside contractor	nc	12/31/2014		6/25/2014	11/1/2016	Open		
E. Boiler Bldg & Equip	2014:E-010	E-10	3	All	El. 10-6		Provide updated drawings and O&M manual revisions for the removal of the drain lines to the vibrating conveyor sump from the bottom ash sifting conveyors and expeller overflow on all units on the ground floor of the boiler building.	Attached	c	7/15/2014		6/25/2014	11/1/2016	Provide the requested drawings and manual revisions		
E. Boiler Bldg & Equip	2014:E-012	E-12	2		El. 10-6		Repair the covering and skirting over the ash vibrating pan conveyors. Skirting and covering should completely cover the conveyors to prevent water intrusion from exterior rain or wash down. Provide updated drawings and O&M manual procedures for the new aluminum covers and re-feed procedures of ash onto the conveyors.		nc	11/20/2014		6/25/2014	11/1/2016	Open. Work Initiated on Unit 2 during January Outage		
E. Boiler Bldg & Equip	2014:E-028	E-28	3	All	El. 10-6		Clean and paint the expeller diverter gates and support steel for all units which are corroded and covered in ash.	Outside contractor	nc	12/31/2014		6/25/2014	11/1/2016	Open		
E. Boiler Bldg & Equip	2014:E-029	E-29	2		El. 10-6		Evaluate the bottom ash being spilled off the bottom ash vibrating conveyors onto the floor of the boiler sump during normal operation. Provide an engineering assessment with recommended repairs, as appropriate.		nc	12/31/2014		6/25/2014	11/1/2016	Open		
E. Boiler Bldg & Equip	2014:E-036	E-36	3	3	El. 83-08		Replace the missing insulation and lagging on the piping to the drum sight glass level indicator for Unit 3, El. 83-08.	Discuss need for insulation on these pipes.	nc			6/25/2014	11/1/2016	Open		
E. Boiler Bldg & Equip	2014:E-038	E-38	3	3	El. 83-08		Provide a support for the Unit 3 E drum silencer drain line, El. 83-08.	This is an enhancement	nc			6/25/2014	11/1/2016	Open		
E. Boiler Bldg & Equip	2014:E-039	E-39	2	3	El. 83-08		Provide IR paperwork showing that the repaired rips in the Unit 3 economizer outlet expansion joint are working properly and not allowing untreated flue gas into the air.	Complete	c	7/8/2014		6/25/2014	11/1/2016	Provide the requested information.		
E. Boiler Bldg & Equip	2014:E-043	E-43	2	1	El. 83-08		Repair the broken drain line for the Unit 1 drum silencer drain line and install a pipe support to prevent future breaking, El. 83-08.	Complete	c	8/29/2014		6/25/2014	11/1/2016	Open - Pipe support not installed.		
E. Boiler Bldg & Equip	2014:E-048	E-48	3	4	El. 56-05		Repair the broken pipe clamps for the air and urea lines on the east Unit 4 SCNR distribution skid in the boiler building, El. 56-05.	Work order to be generated	nc	9/28/2014	RT028136	6/25/2014	11/1/2016	Open		
E. Boiler Bldg & Equip	2014:E-049	E-49	3	4	El. 56-05	VP-FG4	Repair or replace the corroded through flap gate valve control panel box (VP-FG4) for Unit 4 in the boiler building, El. 56-05.	To be completed during L4 scheduled outage	nc	11/7/2014		6/25/2014	11/1/2016	Open		
E. Boiler Bldg & Equip	2014:E-050	E-50	3	2	El. 56-05		Repair the broken pipe clamps for the air and urea lines on the east and west Unit 2 SCNR distribution skid in the boiler building, El. 56-05.	Work order generated	nc	9/28/2014	RT028137	6/25/2014	11/1/2016	Open		
E. Boiler Bldg & Equip	2014:E-051	E-51	3	1	El. 56-05		Repair the broken pipe clamps for the air and urea lines on the east and west Unit 1 SCNR distribution skid in the boiler building, El. 56-05.	Work order generated	nc	9/28/2014	RT028139	6/25/2014	11/1/2016	Open		
E. Boiler Bldg & Equip	2014:E-053	E-53	3	3	El. 35		Repair the broken pipe clamps for the air and urea lines on the Unit 3 SCNR distribution skids in the boiler building, El. 35.	Work order generated	nc	9/28/2014	RT028140	6/25/2014	11/1/2016	Open		
E. Boiler Bldg & Equip	2014:E-056	E-56	3	1	El. 25		Clean and paint the rusted steel by the expansion joint on the west side of the boiler, El. 25. Provide IR survey showing that the joint is not leaking at this location.	IR survey done	nc	9/30/2014		6/25/2014	11/1/2016	Provide completed IR survey		
E. Boiler Bldg & Equip	2015:E-002	E-60	3	4	El. 83-08		Repair snapped bolt on the east drum vent drain support.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-004	E-62	3	4	El. 83-08	03-TT-4021	Repair or replace broken temperature display instrument.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-005	E-63	3	4	El. 83-08		Install pipeline support clamp and pipe labels on the smaller wastewater line to the SDA.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-006	E-64	3	4,3	El. 83-08		Repair or paint severely corroded superheater east silencer drain line.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-014	E-72	3	1	El. 83-08		Repair insulation hot spot and rusted lagging near east side SDA inlet.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-016	E-74	3	1,2,3,4	El. 83-08		Check and repair latches on lagging to access doors, as many are broken or non-functional.					6/15/2015	11/1/2016	Open - Several repaired, but several are still broken or do not latch.		
E. Boiler Bldg & Equip	2015:E-018	E-76	3	1	El. 83-08		Repaint south feedwater control valve and pressure gauge.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-021	E-79	3	1	El. 83-08		Paint west side drum vent valves and insulate lines.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-022	E-80	3	3	El. 73-87	03-TT-3011	Repair or replace broken temperature display instrument.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-025	E-83	3	4	El. 73-87		Repaint corroded feed water line south of spring hangers.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-026	E-84	3	4	El. 73-87	03-TT-4011	Repair corroded instrument support, east side.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-027	E-85	3	2	El. 64-46	03-TT-2005	Repair or replace broken temperature display instrument, east side.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-028	E-86	3	1	El. 64-46	03-TT-1006	Repair or replace broken temperature display instrument, west side.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-033	E-92	3	3	El. 45-84	03-TT-3062B	Repair or replace broken temperature display instrument.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-034	E-93	3	4	El. 45-84		Paint access hatch to over fire air duct between 3 and 4 on the west side.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-038	E-97	2	2	El. 45-84		Cover floor grating gap (which is over 6" in size) on over fire air duct on the west side, between 1 and 2. Potential OSHA violation.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-040	E-100	2	1	El. 45-84		Cover floor grating gap (which is over 6" in size) on over fire air duct on the west side. Potential OSHA violation.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-041	E-101	3		El. 35		Repair corrosion on support steel over sump pump and stair.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-042	E-102	3		El. 35		Repair and repaint corroded supports, pipe, and valves on main steam bridge.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-043	E-103	3	2	El. 35		Repair or replace TT alarm sensors with bad displays or disconnected wires on TT grid.					6/15/2015	11/1/2016	Open - At least 4 non-functional during inspection.		
E. Boiler Bldg & Equip	2015:E-044	E-104	2	1	El. 35		Verify if feed chute alarm switch for radiation should be locked open or closed.					6/15/2015	11/1/2016	Provide a response.		
E. Boiler Bldg & Equip	2015:E-045	E-105	3	3	El. 35		Replace illegible tags and repair display grid of about five sensor alarms.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-046	E-106	3	3	El. 35		Repair, replace, or repaint SDA drain lines/gutters seen from the boiler.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-047	E-107	3	2	El. 35		Repair, replace, or repaint SDA drain lines/gutters seen from the boiler.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-048	E-108	3	4	El. 35		Replace illegible tags and repair display grid of about four sensor alarms.					6/15/2015	11/1/2016	Open - 2 are still broken.		

CITY OF TAMPA MCKAY BAY FACILITY
DRAFT PUNCLIST - NOVEMBER 2016

Tier Definitions

- 1 Safety issue or imminent problem exists.
- 2 Environmental issue, potential safety problem or equipment problem exists.
- 3 Rusting occurring, cosmetic work or contract requirement.
- 4 Housekeeping required.

Inspection Area	Item Number / Picture Number (New)	Item Number / Picture Number (Old, for ref)	Tier	Equip / Unit #	Elevation / Location	Tag Number	Punchlist Item Description	WMBI Response	WMBI Status	WMBI Estimated Completion Date	WMBI WO Number	Arcadis Date Opened	Arcadis Date Last Verified as Open	Arcadis Verification Comment	Arcadis / City Estimated Cost	Arcadis Date Closed
E. Boiler Bldg & Equip	2015:E-049	E-109	2	3	El. 35		Verify if feed chute alarm switch for radiation should be locked open or closed.					6/15/2015	11/1/2016	Provide a response.		
E. Boiler Bldg & Equip	2015:E-050	E-110	2	2	El. 35		Verify if feed chute alarm switch for radiation should be locked open or closed.					6/15/2015	11/1/2016	Provide a response.		
E. Boiler Bldg & Equip	2015:E-051	E-111	3		El. 35		Repair loose and unsecured cables in cable tray overhead at the northeast corner near the administration building.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-054	E-114	3	1	El. 35		Repair or replace non-functional sensors on TT grid.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-055	E-115	2		El. 45-84		Remove stored materials in Bowling Alley mechanical room, as per code, storage in a mechanical room is not allowed.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-056	E-116	3		El. 45-84		Repair leaking pipes and seal wall penetrations in Bowling Alley mechanical room.					6/15/2015	11/1/2016	Open - Wall penetration sealed, but pipes are still wet.		
E. Boiler Bldg & Equip	2015:E-058	E-118	3		El. 25		Repair corrosion on water lab emergency station.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-059	E-119	3		El. 25		Repair corrosion on conduit in water lab.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-060	E-120	3		El. 25		Repair hydraulic line leaks in hall on northwest side.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-061	E-121	3		El. 25		Repair damage and corrosion to the HVAC ducts, insulation, and supports in the SNCR lance room.					6/15/2015	10/8/2015	Locked during inspection.		
E. Boiler Bldg & Equip	2015:E-062	E-122	3	1	El. 25		Insulate superheater hopper poke holes.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-063	E-123	3	1	El. 25		Repair broken grate camera supports.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-064	E-124	3	2	El. 25		Repair broken north position indicator lever arm on the Plattco valve for the superheater screw conveyor A, south side.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-066	E-126	3	3	El. 25		Repair hole in support steel of the super heater main steam bridge south of Unit 3.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-068	E-130	3		El. 10-6		Paint water pipe near Unit 4 expeller.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-069	E-131	3	4	El. 10-6		Repair broken Gaitronic speaker east of the Unit 4 expeller near the vibrating conveyor.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-070	E-132	2	4	El. 10-6		Repair hand rail east of the Unit 4 sifting conveyor.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-071	E-133	3	1,2,3,4	El. 10-6		Install permanent drain lines on sifting and expeller drains currently draining to sump.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-073	E-135	3	4	El. 10-6		Repair or replace corroded electrical box on SNCR skid.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-074	E-136	3	4	El. 10-6		Replace missing water pipe supports on the Unit 4 expeller on the northeast side.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-075	E-137	3	4	El. 10-6		Paint and repair water pipe on west side of Unit 4 expeller.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-076	E-138	3	4	El. 10-6		Properly support flexible conduit to motor for vibrating conveyor south of the Unit 4 expeller.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-077	E-139	3	3	El. 10-6		Paint the side of the expeller and install supports for the water pipe on the northeast corner.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-078	E-140	3	3	El. 10-6		Properly ground SNCR skid metal cable tray.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-079	E-141	3	3	El. 10-6		Paint or insulate sifting conveyor access doors and rod outs.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-081	E-143	3	3	El. 10-6		Repair flexible conduit for under fire air instrument southeast of SCAH.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-082	E-144	3	3	El. 10-6		Paint and install label and flow direction on pipes above expeller.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-083	E-145	3	3	El. 10-6		Repair insulation and repaint instrument on urea piping on the west side of the expeller.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-084	E-146	3	2	El. 10-6		Repair urea skid metal cable tray and corroded transformer box. Investigate grounding of skid equipment.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-085	E-147	3	2	El. 10-6		Repair and repaint sifting chutes, access doors, and rod out ports.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-086	E-148	3	2	El. 10-6		Repair supports on expeller meter on northeast corner.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-090	E-152	3		El. 10-6		Repair urea lagging on pipe between Unit 1 and 2 expellers.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-091	E-153	3	2	El. 10-6		Paint siftings chute poke hole and access doors.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-092	E-154	3	2	El. 10-6		Repair water pipe supports on the northeast side of the expeller.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-093	E-155	3	1,2,3,4	El. 10-6		Repair or replace corroded expeller diverter hydraulics and arms for all units.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-095	E-157	3	2	El. 10-6		Repair corroded air lines below Unit 2 west sifting hopper. Replace line label.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-097	E-159	3		El. 10-6		Repair or replace corroded air lines under Unit 3 and 4 sifting hopper and over vibrating conveyor.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-098	E-160	3		El. 10-6		Replace missing conduit cap under Unit 4 sifting hopper.					6/15/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-100	E-163	3	4	El. 83-08		Repair gauge and provide proper supports for air actuator for feed water control valve.					11/1/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-101	E-164	2	4	El. 83-08		Replace permit confined space sign on the west side door.					11/1/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-102	E-165	3	4	El. 83-08		Repair rust stains and leaks on the northwest siding.					11/1/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-109	E-172	3	3	El. 45-84		Review the gas gun slide gate, during inspection the gate was open but the gas was not on.					11/1/2015		Unit not in operation during inspection.		
E. Boiler Bldg & Equip	2015:E-110	E-173	3	2	El. 45-84		Review the gas gun slide gate, during inspection the gate was open but the gas was not on.					11/1/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-112	E-175	3	1	El. 45-84		Review pressure gauge at gas gun. During inspection the gas gun is open to fire and the gauge is showing no positive pressure.					11/1/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-113	E-176	2	1	El. 35		Repair exit sign on wall north of boilers.					11/1/2015	11/1/2016	Open - Sign has been propped up on piping and item marked as complete.		
E. Boiler Bldg & Equip	2015:E-115	E-178	3	1	El. 35		Repair the cooling water line for the charging chute, which has been cut and is not used. Provide documentation of approved plant modification.					11/1/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-116	E-179	3	4	El. 35		Repair the cooling water line for the charging chute, which has been cut and is not used. Provide documentation of approved plant modification.					11/1/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-117	E-182	3	4	El. 25		Repair broken supports on Series I5S Adam Mass Flow computer and replace missing tag.					11/1/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-120	E-185	3		El. 10-6		Repair door to eclectic room on the way to the hydraulic room. During inspection the door was broken and would not close.					11/1/2015	11/1/2016	Open		

CITY OF TAMPA MCKAY BAY FACILITY
DRAFT PUNCLIST - NOVEMBER 2016

Tier Definitions

- 1 Safety issue or imminent problem exists.
- 2 Environmental issue, potential safety problem or equipment problem exists.
- 3 Rusting occurring, cosmetic work or contract requirement.
- 4 Housekeeping required.

Inspection Area	Item Number / Picture Number (New)	Item Number / Picture Number (Old, for ref)	Tier	Equip / Unit #	Elevation / Location	Tag Number	Punchlist Item Description	WMBI Response	WMBI Status	WMBI Estimated Completion Date	WMBI WO Number	Arcadis Date Opened	Arcadis Date Last Verified as Open	Arcadis Verification Comment	Arcadis / City Estimated Cost	Arcadis Date Closed
E. Boiler Bldg & Equip	2015:E-121	E-186	3	1,2,3,4	El. 10-6		Repair or reconnect disconnected electricity on all four primary air fans. Verify what this electrical connection is for.					11/11/2015	11/1/2016	Open - Some have been electrically changed. Provide a response and any appropriate O&M manual changes.		
E. Boiler Bldg & Equip	2015:E-122	E-187	3	1,2,3,4	El. 10-6		Repair hydraulic line supports on east side of expellers for all units.					11/11/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-125	E-190	3	3	El. 10-6		Repair broken conduit to expeller water box level sensor.					11/11/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-127	E-192	3	3	El. 10-6		Repair broken conduit support by primary air fan.					11/11/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2015:E-128	E-193	3	4	El. 10-6		Repair broken conduit for NOx out line.					11/11/2015	11/1/2016	Open		
E. Boiler Bldg & Equip	2016:E-001		2	1	El. 83-08		Repair confined space warning sign on Unit 1 northeast side access door.					10/31/2016				
E. Boiler Bldg & Equip	2016:E-002		2	1	El. 83-08		Repair holes in east side Unit 1 steam drum lagging.					10/31/2016				
E. Boiler Bldg & Equip	2016:E-003		3	1,2,3,4	All		Evaluate and repair insulation and lagging at boiler hot spots on all units, all elevations.					10/31/2016				
E. Boiler Bldg & Equip	2016:E-004		3	2	El. 83-08		Resecure pneumatic air regulator to the feed water control valve. New regulator installed but not connected to supports, south side of Unit 2, south of the walkway.					10/31/2016				
E. Boiler Bldg & Equip	2016:E-005		3	2	El. 83-08		Repair steam leak and broken casing on the east side steam drum sight glass.					10/31/2016				
E. Boiler Bldg & Equip	2016:E-006		3	3	El. 83-08		Repair or replace broken pressure gauge on the chemical injection line to the feed water/economizer, south of Unit 3, north of the walkway.					10/31/2016				
E. Boiler Bldg & Equip	2016:E-007		3	3	El. 83-08		Repaint corroding drum level indicator piping valve bases on the east side of Unit 3.					10/31/2016				
E. Boiler Bldg & Equip	2016:E-008		3	3	El. 83-08		Repair or replace corroded and broken conduit connection to Unit 3 east side drum metal thermocouple probes.					10/31/2016				
E. Boiler Bldg & Equip	2016:E-009		3	4	El. 83-08		Repair detached and separated lagging by the Unit 4 steam drum, west side.					10/31/2016				
E. Boiler Bldg & Equip	2016:E-010		3	3,4	El. 83-08		Prepare and paint corroded silencer support steel and drain piping on the west side of Unit 3 and 4.					10/31/2016				
E. Boiler Bldg & Equip	2016:E-011		3	4	El. 83-08		Repair leaking gutter near the tipping building on the west side of Unit 4. Clean staining on the siding and lagging.					10/31/2016				
E. Boiler Bldg & Equip	2016:E-012		3	1,2,3,4	El. 73-87 and others		Replace missing bolts on boiler access doors, all units, various elevations.					10/31/2016				
E. Boiler Bldg & Equip	2016:E-013		3	3	El. 73-87		Repair corroded instrument support bases on the west side of Unit 3 north of access hatches. Support visible from El. 73 but instrument located at El. 83.					10/31/2016				
E. Boiler Bldg & Equip	2016:E-014		3	2	El. 73-87		Repair missing lagging and leak on sight glass lines on the east side of Unit 2.					10/31/2016				
E. Boiler Bldg & Equip	2016:E-015		3	3	El. 73-87		Remove abandoned conduit south of the Unit 3 west view port.					10/31/2016				
E. Boiler Bldg & Equip	2016:E-016		3	1	El. 64-46		Paint corroded pressure instrument ports on the north and west side of Unit 1.					10/31/2016				
E. Boiler Bldg & Equip	2016:E-017		3	All	All Elevations		Reinstall missing foam plugs for boiler lagging on all elevations.					10/31/2016				
E. Boiler Bldg & Equip	2016:E-018		3		El. 64-46		Clean and paint the corroding and flaking common lime piping along the south side of the boilers.					10/31/2016				
E. Boiler Bldg & Equip	2016:E-019		3	All	All Elevations		Replace all missing stainless steel identification tags for valves, instruments, and equipment throughout the Facility.					10/31/2016				
E. Boiler Bldg & Equip	2016:E-020		2	All	All Elevations		Provide a review of boiler trams and steam/feedwater piping hangers and expected expansion. Many trams are broken/missing or no longer align when at cold settings.					10/31/2016				
E. Boiler Bldg & Equip	2016:E-021		2	3	El. 64-46		Repair the broken boiler instrument port on the east side of Unit 3 above the buckstay.					10/31/2016				
E. Boiler Bldg & Equip	2016:E-022		2	4	El. 56-05	TT-4018	Repair the broken screen on instrument TT-4018 which cannot be read.					10/31/2016				
E. Boiler Bldg & Equip	2016:E-023		2	4	El. 56-05	03-ZN-4400	Repair the broken flexible conduit and address the exposed wire ties for the Unit 4 camera 03-ZN-4400.					10/31/2016				
E. Boiler Bldg & Equip	2016:E-024		2	4	El. 45-84	TT-4981	Repair the broken screen on instrument TT-4981 for the Unit 4 natural gas flow temperature indication which is not able to be read.					11/1/2016				
E. Boiler Bldg & Equip	2016:E-025		3	4	El. 45-84		Address the corrosion and flaking paint on the Unit 4 natural gas supply lines, valves, and flanges.					11/1/2016				
E. Boiler Bldg & Equip	2016:E-026		3	3	El. 45-84		Replace the missing/broken conduit support for the ground wire next to the Unit 3 dryer switch at the natural gas gun.					11/1/2016				
E. Boiler Bldg & Equip	2016:E-027		2	3	El. 45-84	TT-3062B	Repair the broken screen on instrument TT-3062B.					11/1/2016				
E. Boiler Bldg & Equip	2016:E-028		2	2	El. 45-84		Repair the broken/missing cover for the electrical outlet on the West side of Unit 2.					11/1/2016				
E. Boiler Bldg & Equip	2016:E-029		1	1	El. 45-84		Replace the disconnected pneumatic air supply line (disconnected and spewing air) for the slide gate cylinder on the Unit 1 natural gas gun.					11/1/2016				
E. Boiler Bldg & Equip	2016:E-030		2	1	El. 35		Address the Unit 1 hydraulic oil leaks along the north side of the feed table by the north wall.					11/1/2016				
E. Boiler Bldg & Equip	2016:E-031		2	2	El. 35	TT-2015	Repair the broken screen on instrument TT-2015.					11/1/2016				
E. Boiler Bldg & Equip	2016:E-032		3	2	El. 35		Address the corroded drain piping on the East side of Unit 2.					11/1/2016				
E. Boiler Bldg & Equip	2016:E-033		3	All	All Elevations		Repair/replace the broken/missing cable ties in vertical sections of cable tray throughout the Facility.					11/1/2016				
E. Boiler Bldg & Equip	2016:E-034		2	All	El. 35		Provide a report addressing the cause of continued feed chute and feed table burn through along with steps to address issues going forward. Include tramp air sealing in the review in order to address continued positive pressure events observed in these areas.					11/1/2016				
E. Boiler Bldg & Equip	2016:E-035		2	1	El. 35		Repair the broken flexible conduit for the over fire air pressure instrument on the north side of Unit 1.					11/1/2016				
E. Boiler Bldg & Equip	2016:E-036		2	1	El. 35		Repair the broken enclosure door for the Series 155 ADAM mass flow computer on the north side of Unit 1.					11/1/2016				

**CITY OF TAMPA MCKAY BAY FACILITY
DRAFT PUNCHLIST - NOVEMBER 2016**

- Tier Definitions
- 1 Safety issue or imminent problem exists.
 - 2 Environmental issue, potential safety problem or equipment problem exists.
 - 3 Rusting occurring, cosmetic work or contract requirement.
 - 4 Housekeeping required.

Inspection Area	Item Number / Picture Number (New)	Item Number / Picture Number (Old, for ref)	Tier	Equip / Unit #	Elevation / Location	Tag Number	Punchlist Item Description	WMBI Response	WMBI Status	WMBI Estimated Completion Date	WMBI WO Number	Arcadis Date Opened	Arcadis Date Last Verified as Open	Arcadis Verification Comment	Arcadis / City Estimated Cost	Arcadis Date Closed
E. Boiler Bldg & Equip	2016:E-037		3	1, 3	El. 35	CCTV-C5 and C-7	Address the CCTV camera supports, equipment, and wiring on the north side of Units 2 and 3. Either repair and put back in service, or provide appropriate notice that they are abandoned, properly remove all pieces, and update the drawings, O&M manuals, and Operating Procedures to appropriately remove these items.					11/1/2016				
E. Boiler Bldg & Equip	2016:E-038		1	4	El. 35		Replace the missing safety signage at the feed chute and ram access doors on the north side of Unit 4.					11/1/2016				
E. Boiler Bldg & Equip	2016:E-039		1		El. 25		Repair the corroding stair tread edges on the east stairwell of the boiler.					11/1/2016				
E. Boiler Bldg & Equip	2016:E-040		2	4	El. 25		Repair the broken hand valves on the hydraulic lines on the west side of the Unit 4 boiler.					11/1/2016				
E. Boiler Bldg & Equip	2016:E-041		2	3	El. 25		Address the bent hydraulic line and missing supports on hydraulic lines on the west side of Unit 3.					11/1/2016				
E. Boiler Bldg & Equip	2016:E-042		2	2	El. 25		Address the broken/tilted hydraulic oil catch pan for the zone 1 hydraulic cylinder on the east side of Unit 2.					11/1/2016				
E. Boiler Bldg & Equip	2016:E-043		1	1	El. 25		Replace the guarding cap on the Unit 1 sifting conveyor head end rotor.					11/1/2016				
E. Boiler Bldg & Equip	2016:E-044		2	All	El. 25		Insulate the superheater hopper rod out ports (particularly the south side) for all units for personnel protection and to help prevent cold corrosion.					11/1/2016				
E. Boiler Bldg & Equip	2016:E-045		2	2, 3	El. 25		Investigate the cut/abandoned pipe south of Units 2 and 3. Repair and replace the broken pipe section or provide appropriate O&M Agreement notice and update the drawings, O&M manuals, and Operating Procedures if abandoned.					11/1/2016				
E. Boiler Bldg & Equip	2016:E-046		3	4	El. 10-6		Repair/replace the corroded sifting conveyor access doors on the Unit 4 sifting conveyor.					11/1/2016				
E. Boiler Bldg & Equip	2016:E-047		2	4	El. 10-6		Address the hole/gap in the northeast side of the sifting conveyor chain tension adjustment slot and the broken/corroded tension adjustment slots.					11/1/2016				
E. Boiler Bldg & Equip	2016:E-048		2	4	El. 10-6		Repair the broken flexible conduit to the Unit 4 under fire air pressure instrument on the west side of the Unit 4 sifting conveyor.					11/1/2016				
E. Boiler Bldg & Equip	2016:E-049		2	3	El. 10-6		Clean up hydraulic oil leaks dripping down from above onto conduit and repair the conduit support to the Unit 3 sifting conveyor.					11/1/2016				
E. Boiler Bldg & Equip	2016:E-050		3	2	El. 10-6		Replace the missing/removed lagging on the zone 2 and 3 dropout chutes to the sifting conveyor.					11/1/2016				
E. Boiler Bldg & Equip	2016:E-051		2	1	El. 10-6		Provide a conduit support for the conduit to the Unit 1 sifting conveyor west side sensor.					11/1/2016				
F. APC Bldg & Equip	2014:F-012	F - 12	3	2	SDA Penthouse		Clean and paint the Unit 2 SDA penthouse floor. Provide when the last UT readings of the floor were taken and their remaining thickness.	Assigned to Support Services to paint/Maintenance to provide UT	nc	9/30/2014		6/25/2014	11/1/2016	Open		
F. APC Bldg & Equip	2014:F-013	F - 13	3	3	SDA Penthouse		Clean and paint the Unit 3 SDA penthouse floor. Provide when the last UT readings of the floor were taken and their remaining thickness.	Assigned to Support Services to paint/Maintenance to provide UT	nc	9/30/2014		6/25/2014	11/1/2016	Open		
F. APC Bldg & Equip	2014:F-014	F - 14	3	4	SDA Penthouse		Clean and paint the Unit 4 SDA penthouse floor. Provide when the last UT readings of the floor were taken and their remaining thickness.	Assigned to Support Services to paint/Maintenance to provide UT	nc	9/30/2014		6/25/2014	11/1/2016	Open		
F. APC Bldg & Equip	2014:F-021	F - 21	3	2	SDA Penthouse		Inspect and repair the Unit 2 SDA penthouse north wall which is failing in the lower few feet behind the dilution and lime control valves. Clean and paint the structurally intact sections of the wall.	Work order to be generated/Clean and paint assigned to Support Services	nc	8/29/2014		6/25/2014	11/1/2016	Open		
F. APC Bldg & Equip	2014:F-022	F - 22	3	2	SDA Penthouse		Repair the hole in the valve support and clean and paint the rusted Unit 2 SDA penthouse dilution water valve and surrounding piping.	Work order to be generated/Clean and paint assigned to Support Services	nc	8/29/2014		6/25/2014	11/1/2016	Open		
F. APC Bldg & Equip	2014:F-023	F - 23	3	3	SDA Penthouse		Repair the holes in the Unit 3 SDA penthouse floor underneath the SDA access door and replace the missing toe plate between the floor and the SDA vessel.	Work order to be generated/Clean and paint assigned to Support Services	nc	8/29/2014		6/25/2014	11/1/2016	Open		
F. APC Bldg & Equip	2014:F-024	F - 24	2	3	SDA Penthouse		Repair or replace the valve support on the Unit 3 SDA penthouse dilution valve which is completely corroded through.	Work order to be generated/Clean and paint assigned to Support Services	nc	8/29/2014		6/25/2014	11/1/2016	Open		
F. APC Bldg & Equip	2014:F-025	F - 25	3	3	SDA Penthouse		Clean and paint the rusting Unit 3 SDA penthouse dilution and lime piping and valves.	Work order to be generated/Clean and paint assigned to Support Services	nc	8/29/2014		6/25/2014	11/1/2016	Open		
F. APC Bldg & Equip	2014:F-031	F - 31	3	4	SDA Penthouse		Repair or replace the broken toe plate around the Unit 4 SDA penthouse SDA vessel.	Work order to be generated/Clean and paint assigned to Support Services	nc	8/29/2014		6/25/2014	11/1/2016	Open		
F. APC Bldg & Equip	2014:F-032	F - 32	3	4	SDA Penthouse		Repair or replace the broken insulation and lagging around the Unit 4 SDA access door inside the penthouse.	Work order to be generated/Clean and paint assigned to Support Services	nc	8/29/2014		6/25/2014	11/1/2016	Open		
F. APC Bldg & Equip	2014:F-033	F - 33	3	3	SDA Penthouse		Repair or replace the failing lagging on the underside of the Unit 3 SDA penthouse floor (as seen from El. 73-87 boiler building walkway).	Work order to be generated/Clean and paint assigned to Support Services	nc	8/29/2014		6/25/2014	11/1/2016	Open		
F. APC Bldg & Equip	2014:F-034	F - 34	3	3	El. 45-84		Clean the rust stains from the Unit 3 SDA and common cable tray between the Unit 2 and 3 SDA vessels. As seen from boiler south walkway El. 45-84'.	Outside contractor	nc	12/31/2014		6/25/2014	11/1/2016	Open		
F. APC Bldg & Equip	2014:F-035	F - 35	3		El. 25		Clean and paint the corroded sections of the utility bridge for the steam piping along the south side of the superheater screws.	Outside contractor	nc	12/31/2014		6/25/2014	11/1/2016	Open		
F. APC Bldg & Equip	2014:F-037	F - 37	4		PAC Silos		Clean the inside of the A and B PAC silos. Provide a cleaning schedule for the inside of the silos.	Complete	c	7/8/2014		6/25/2014	11/1/2016	Provide the requested cleaning schedule		
F. APC Bldg & Equip	2014:F-040	F - 40	3		Lime Silos		Clean and paint the lime supply pipe and penetration into the lime silos on the second level.	Assigned to Support Services	nc	8/29/2014		6/25/2014	11/1/2016	Open		
F. APC Bldg & Equip	2014:F-046	F - 46	3		El. 10-6		Clean and paint the corroded sections of the tail end of the fly ash inclined drag conveyor in the east sump area of the APC building.	Assigned to Support Services	nc	9/5/2014		6/25/2014	11/1/2016	Open - Conveyor is now heavily corroded due to inaction.		
F. APC Bldg & Equip	2015:F-004	F-66	3	3	SDA Penthouse		Repaint/repair corroded eye wash and shower handles and base.					6/15/2015	11/1/2016	Open		
F. APC Bldg & Equip	2015:F-005	F-67	3	3,4	SDA Penthouse		Replace or paint corroded pipe support unistrut and conduit.					6/15/2015	11/1/2016	Open		
F. APC Bldg & Equip	2015:F-006	F-68	3	4	SDA Penthouse		Replace water drain pipe cap that has been removed.					6/15/2015	11/1/2016	Open		
F. APC Bldg & Equip	2015:F-007	F-69	3		El. 10-6		Repair leaking and corroding conveyor cover down in fly ash sump.					6/15/2015	11/1/2016	Open		
F. APC Bldg & Equip	2015:F-008	F-70	3	3	SDA Hopper		Repair corroded Gaitronics speaker and hanger at the SDA hopper level.					6/15/2015	11/1/2016	Open		
F. APC Bldg & Equip	2015:F-010	F-72	3	2	SDA Hopper		Repair broken Gaitronics speaker on the SDA hopper level.					6/15/2015	11/1/2016	Open		
F. APC Bldg & Equip	2015:F-012	F-74	3		El. 10-6		Paint sump valves on east side of the APC area.					6/15/2015	11/1/2016	Open		
F. APC Bldg & Equip	2015:F-013	F-75	3		Lime Silos		Replace missing conduit cap for alarm panel on A lime silo.					6/15/2015	11/1/2016	Open		

**CITY OF TAMPA MCKAY BAY FACILITY
DRAFT PUNCLIST - NOVEMBER 2016**

- Tier Definitions
 1 Safety issue or imminent problem exists.
 2 Environmental issue, potential safety problem or equipment problem exists.
 3 Rusting occurring, cosmetic work or contract requirement.
 4 Housekeeping required.

Inspection Area	Item Number / Picture Number (New)	Item Number / Picture Number (Old, for ref)	Tier	Equip / Unit #	Elevation / Location	Tag Number	Punchlist Item Description	WMBI Response	WMBI Status	WMBI Estimated Completion Date	WMBI WO Number	Arcadis Date Opened	Arcadis Date Last Verified as Open	Arcadis Verification Comment	Arcadis / City Estimated Cost	Arcadis Date Closed
F. APC Bldg & Equip	2015:F-014	F-76	3		Lime Silos		Paint wastewater lines in B lime silo.					6/15/2015	11/1/2016	Open		
F. APC Bldg & Equip	2015:F-015	F-77	3		El. 10-6		Repair corrosion on settling basin steel around the pumps and valves.					6/15/2015	11/1/2016	Open		
F. APC Bldg & Equip	2015:F-016	F-78	3	1,2,3,4	El. 10-6		Paint strike plates and vibrators and insulate poke holes on all fabric filter house hopper units.					6/15/2015	11/1/2016	Open		
F. APC Bldg & Equip	2015:F-017	F-79	3	3A, 3B	El. 10-6		Repair corrosion on fabric filter house screw conveyor motor base plate, motor, and electrical boxes.					6/15/2015	11/1/2016	Open		
F. APC Bldg & Equip	2015:F-018	F-80	3	2A, 2B	El. 10-6		Repair corrosion on fabric filter house screw conveyor motor base plates.					6/15/2015	11/1/2016	Open		
F. APC Bldg & Equip	2015:F-020	E-98	3	1	El. 45-84		Repair holes in the APC area and corrosion on fabric filter house outlet flue duct expansion joint framing.					6/15/2015	11/1/2016	Open - Moved from Area E to F		
F. APC Bldg & Equip	2015:F-022	F-83	2		Lime Silos		Repair deformed grating by lime silos.					10/21/2015	11/1/2016	Open		
F. APC Bldg & Equip	2015:F-023	A-13	3				Restore permanent air drying system for Atlas Copco compressors.					10/19/2015	11/1/2016	Open - Moved from Area A to F		
F. APC Bldg & Equip	2015:F-024	F-84	3	All	El. 83-08		Repair corroding CEMS ports and bolts, check seals and paint stained parts in area above elevation 83' on the SDA upper platform of all units.					11/1/2015	11/1/2016	Open		
F. APC Bldg & Equip	2015:F-025	F-85	4	All	El. 83-08		Remove debris on top of SDA penthouse roofs of all units (bolts, wire, etc.).					11/1/2015	11/1/2016	Open		
F. APC Bldg & Equip	2015:F-026	F-86	4	1	El. 83-08		Remove debris from SDA penthouse gutter above elevation 83'.					11/1/2015	11/1/2016	Open		
F. APC Bldg & Equip	2015:F-028	F-88	3	3	El. 73-87		Remove light temporarily mounted on electrical conduit in SDA penthouse.					11/1/2015	11/1/2016	Open		
F. APC Bldg & Equip	2015:F-029	F-89	2	4	El. 73-87		Repair broken exit sign in SDA penthouse.					11/1/2015	11/1/2016	Open		
F. APC Bldg & Equip	2015:F-030	F-90	3	1	El. 10-6		Repair severe corrosion and holes in the chutes from the FFH conveyor to transfer conveyor.					11/1/2015	11/1/2016	Open		
F. APC Bldg & Equip	2015:F-031	F-91	3	1	El. 10-6		Repair cracked footer/support of the SDA fly ash conveyor support.					11/1/2015	11/1/2016	Open		
F. APC Bldg & Equip	2015:F-036	F-96	2	2	El. 10-6		Properly place fire hose into fire hose cabinet. During inspection, hose was out of cabinet and lying on the floor.					11/1/2015	11/1/2016	Open		
F. APC Bldg & Equip	2015:F-037	F-97	3		El. 10-6		Repair severe corrosion on the bottom of the transfer conveyors.					11/1/2015	11/1/2016	Open - Plating and repairs performed, but conveyors are still severely corroded and not all holes were repaired.		
F. APC Bldg & Equip	2015:F-038	F-98	3	3	El. 10-6		Repair severe corrosion and holes on the chute from the FFH screw conveyor to the transfer conveyor.					11/1/2015	11/1/2016	Open - Some repairs performed.		
F. APC Bldg & Equip	2015:F-039	F-99	2	3	El. 10-6		Replace missing fire hose by Unit 3 and 4 SDAs.					11/1/2015	11/1/2016	Open		
F. APC Bldg & Equip	2015:F-040	F-100	3	3, 4	El. 10-6		Replace conduit cover near light for Unit 3 and 4 SDA platform (seen on elevation 22' from ground).					11/1/2015	11/1/2016	Open		
F. APC Bldg & Equip	2015:F-041	F-101	3	4	El. 10-6		Repair hole in transfer conveyor, near Unit 4 FFH.					11/1/2015	11/1/2016	Open - Hole temporarily patched.		
F. APC Bldg & Equip	2015:F-042	F-102	3		El. 10-6		Repair hole/gap in grating by APC sump pumps. Potential OSHA violation.					11/1/2015	11/1/2016	Open		
F. APC Bldg & Equip	2015:F-044	F-104	3	4	El. 22		Repair severely corroded SDA outlet expansion joint flange.					11/1/2015	11/1/2016	Open		
F. APC Bldg & Equip	2015:F-045	F-105	3	1	El. 10-6		Repair or replace FFH hopper double-dump valve position indicators for valves 1-2, 1-4 and 1-6.					11/1/2015	11/1/2016	Open - 1-2 was completed both others were not and new issues with unlisted indicators.		
F. APC Bldg & Equip	2015:F-047	F-107	3	2	El. 10-6		Repair or replace FFH hopper double-dump valve position indicators for valve 2-2					11/1/2015	11/1/2016	Open		
F. APC Bldg & Equip	2015:F-048	F-108	3	2	El. 10-6		Repair hole in Unit 2-B FFH conveyor chute.					11/1/2015	11/1/2016	Open		
F. APC Bldg & Equip	2015:F-049	F-109	3				Repair corrosion on fill line at the top of lime silo A.					11/1/2015	11/1/2016	Open		
F. APC Bldg & Equip	2016:F-001		3	1,2	El. 83-08		SDA - Correctly secure stack test port covers as only two of eight bolts are secured at time of inspection.					10/31/2016				
F. APC Bldg & Equip	2016:F-002		1	1	El. 10-6		Address the vibrating/noisy Unit 1 SDA slide gate which is catching and having issues opening and closing.					11/1/2016				
F. APC Bldg & Equip	2016:F-003		2		El. 10-6		Address the holes, corrosion, and sealing on both common fly ash transfer conveyors sides and lids. Provide permanent repairs and an appropriate painting system.					11/1/2016				
F. APC Bldg & Equip	2016:F-004		2	4	El. 10-6		Provide a screw for the Unit 4 *A* (west) FFH screw conveyor motor fan guard which is currently held on by a zip tie.					11/1/2016				
F. APC Bldg & Equip	2016:F-005		3	3	El. 10-6		Repair the broken flexible conduit to the Unit 3 *B* (east) FFH middle fly ash hopper.					11/1/2016				
F. APC Bldg & Equip	2016:F-006		3	All	El. 10-6		Insulate the fabric filter hopper rod out ports for all units for personnel protection and to help prevent cold corrosion.					11/1/2016				
F. APC Bldg & Equip	2016:F-007		2	All	El. 10-6		Address corrosion and failing bottoms of SDA drag conveyors on all units.					11/1/2016				
F. APC Bldg & Equip	2016:F-008		3	4	El. 10-6		Address the corrosion on the Unit 4 SDA slide gate support steel.					11/1/2016				
F. APC Bldg & Equip	2016:F-009		3	1	El. 45-84		Address the corrosion and broken hinges on the Unit 1 SDA access door.					11/1/2016				
F. APC Bldg & Equip	2016:F-010		2	1	SDA Penthouse		Address the lime slurry leak on the lime slurry pipe along the north wall of the Unit 1 SDA penthouse.					11/1/2016				
F. APC Bldg & Equip	2016:F-011		2	1	SDA Penthouse		Repair the broken valve indicator and broken flexible conduit on the waste water line in the Unit 1 SDA penthouse.					11/1/2016				
F. APC Bldg & Equip	2016:F-012		3	1	SDA Penthouse		Reattach the broken supports for the electrical outlet by the SDA vessel in the SDA penthouse.					11/1/2016				
F. APC Bldg & Equip	2016:F-013		2	1	SDA Penthouse		Repair the water leak on the Unit 1 SDA penthouse eyewash station flexible supply line.					11/1/2016				
F. APC Bldg & Equip	2016:F-014		3	All	El. 83-08		Address the corrosion on the carbon injection ports into the SDA inlet duct for all units.					11/1/2016				
F. APC Bldg & Equip	2016:F-015		3	1	SDA Penthouse		Replace the fallen light cover for the light on the south side just outside of the SDA penthouse.					11/1/2016				
F. APC Bldg & Equip	2016:F-016		3	2	SDA Penthouse		Replace the missing lagging around the stack testing port above the SDA penthouse.					11/1/2016				
F. APC Bldg & Equip	2016:F-017		3	2	SDA Penthouse		Replace the broken handle on the SDA nozzle access door in the Unit 2 SDA penthouse.					11/1/2016				
F. APC Bldg & Equip	2016:F-018		4	All	SDA Penthouse		Clean the lime spatter, carbon, and other buildup off the equipment, area, and unreadable gauges throughout the SDA penthouses for all units.					11/1/2016				
F. APC Bldg & Equip	2016:F-019		2	3	SDA Penthouse		Remove the light fixture supported/mounted on the conduit in the Unit 3 SDA penthouse.					11/1/2016				

**CITY OF TAMPA MCKAY BAY FACILITY
DRAFT PUNCHLIST - NOVEMBER 2016**

- Tier Definitions
 1 Safety issue or imminent problem exists.
 2 Environmental issue, potential safety problem or equipment problem exists.
 3 Rusting occurring, cosmetic work or contract requirement.
 4 Housekeeping required.

Inspection Area	Item Number / Picture Number (New)	Item Number / Picture Number (Old, for ref)	Tier	Equip / Unit #	Elevation / Location	Tag Number	Punchlist Item Description	WMBI Response	WMBI Status	WMBI Estimated Completion Date	WMBI WO Number	Arcadis Date Opened	Arcadis Date Last Verified as Open	Arcadis Verification Comment	Arcadis / City Estimated Cost	Arcadis Date Closed
F. APC Bldg & Equip	2016:F-020		3	4	SDA Penthouse		Repair the broken lagging by the SDA vessel access door in the Unit 4 SDA penthouse.					11/1/2016				
G. Ash Handling Bldg & Equip	2014:G-001	G - 1	3				Repair or replace the ash building masonry wall. For any replacements that do not match current masonry design, provide updated drawings and specifications for approval prior to replacement.	Outside contractor	nc	12/31/2014		6/25/2014	11/1/2016	Open - Wall painted. Masonry not replaced per original design.		
G. Ash Handling Bldg & Equip	2014:G-006	G - 6	3		3rd Floor		Clean or paint the rusting stainless steel control panels for the ferrous equipment on the east wall of the 3rd floor of the ash building.	Assigned to Support Services	nc	9/5/2014		6/25/2014	11/1/2016	Open		
G. Ash Handling Bldg & Equip	2014:G-008	G - 8	2		3rd Floor		Clean and paint the rusted and replace the rusted through girts on the east side of the north wall of the ash building, 3rd floor.	Outside contractor	nc	12/31/2014		6/25/2014	11/1/2016	Open - Girts replaced with girts not per original design. Bolted connections welded without EOR approval. Girts not painted. Conduit/Piping supports not replaced.		
G. Ash Handling Bldg & Equip	2014:G-010	G - 10	4		3rd Floor		Clean the ash building inside the girts and along the east wall of the ash building, 3rd floor. Provide a cleaning schedule for how often this area is cleaned.	Assigned to Support Services	nc	12/31/2014		6/25/2014	11/1/2016	Open		
G. Ash Handling Bldg & Equip	2014:G-011	G - 11	3		3rd Floor		Replace the rusted through support for the Gaitronics speaker on the northeast wall of the ash building, 3rd floor.	Work order to be generated	nc	9/5/2014		6/25/2014	11/1/2016	Open		
G. Ash Handling Bldg & Equip	2014:G-012	G - 12	3		3rd Floor		Replace the siding at the transition point from the inclined ash conveyor into the ash building that is corroded and has holes through it.	Outside contractor	nc	12/31/2014		6/25/2014	11/1/2016	Open - Covered from the outside, but not properly repaired.		
G. Ash Handling Bldg & Equip	2014:G-015	G - 15	3		Gallery		Repair or replace the holes in the spill skid underneath the inclined conveyor belt.	Outside contractor	nc	12/31/2014		6/25/2014	11/1/2016	Open		
G. Ash Handling Bldg & Equip	2014:G-018	G - 18	3		Gallery		Repair the spalling concrete on the east side of the inclined conveyor gallery near the bottom of the inclined conveyor.	Outside contractor	nc	12/31/2014		6/25/2014	11/1/2016	Open		
G. Ash Handling Bldg & Equip	2014:G-020	G - 20	3		3rd Floor		Replace and keep closed the observation door at the hood of the head end of the inclined conveyor belt that has been removed.	Work order to be generated	nc	12/31/2014		6/25/2014	11/1/2016	Open		
G. Ash Handling Bldg & Equip	2014:G-023	G - 23	3		2nd Floor		Repair or replace the corroded and broken girts along the north and east walls of the ash building, near the northeast door, 2nd floor. Repair the broken conduit and pipe supports running along these girts.	Outside contractor	nc	12/31/2014		6/25/2014	11/1/2016	Open - Girts replaced with girts not per original design. Bolted connections welded without EOR approval. Girts not painted. Conduit/Piping supports not replaced.		
G. Ash Handling Bldg & Equip	2014:G-024	G - 24	4		2nd Floor		Clean the ash building inside the girts and along the east wall of the ash building, 2nd floor. Provide a cleaning schedule for how often this area is cleaned.		nc	12/31/2014		6/25/2014	11/1/2016	Open - Provide requested information.		
G. Ash Handling Bldg & Equip	2014:G-026	G - 26	3		2nd Floor		Paint the rusting and corroded ash conveying equipment underneath the ferrous magnet in the ash building, 2nd floor.	Outside contractor	nc	12/31/2014		6/25/2014	11/1/2016	Open		
G. Ash Handling Bldg & Equip	2014:G-030	G - 30	3		2nd Floor		Repair the damage to the structural beams, handrail, grating, and toe plates on the southwest side of the non-ferrous recovery equipment that is being damaged due to vibration on the 2nd floor of the ash building.	Work order to be generated	nc	9/28/2014		6/25/2014	11/1/2016	Open		
G. Ash Handling Bldg & Equip	2014:G-031	G - 31	2		2nd Floor		Perform an engineering assessment to research and mitigate or eliminate the vibration on the 2nd floor of the ash building due to the addition of the non-ferrous vibrating conveyors.	Outside contractor	nc	12/31/2014		6/25/2014	11/1/2016	Open		
G. Ash Handling Bldg & Equip	2014:G-033	G - 33	3		2nd Floor		Repair the failed pipe and conduit supports along the north wall of the ash building, 2nd floor.	Outside contractor	nc	12/31/2014		6/25/2014	11/1/2016	Open		
G. Ash Handling Bldg & Equip	2014:G-035	G - 35	3		2nd Floor		Repair the broken conduit support into the control box for the wet scrubber on the north side of the scrubber in the ash building, 2nd floor.	Work order to be generated	nc	9/28/2014		6/25/2014	11/1/2016	Open		
G. Ash Handling Bldg & Equip	2015:G-001	G-36	3				Repair metal flashing below siding on the north side of the ash building.					6/15/2015	11/1/2016	Open		
G. Ash Handling Bldg & Equip	2015:G-002	G-37	2				Repair hand protection on head end on the west side of the conveyor motor.					6/15/2015	11/1/2016	Open		
G. Ash Handling Bldg & Equip	2015:G-003	G-38	3		2nd Floor		Repair corrosion on steel supports for platform on the west end, second level.					6/15/2015	11/1/2016	Open		
G. Ash Handling Bldg & Equip	2015:G-004	G-39	3				Evaluate and repair conveyor edges to ferrous magnet which is allowing material spill over.					6/15/2015	11/1/2016	Open		
G. Ash Handling Bldg & Equip	2015:G-005	G-40	3				Install skirting around hood on ferrous conveyor so that it goes all around the hood.					6/15/2015	11/1/2016	Open		
G. Ash Handling Bldg & Equip	2015:G-006	G-41	2				Attach or repair safety chain on conveyor under the ferrous conveyor.					6/15/2015	11/1/2016	Open		
G. Ash Handling Bldg & Equip	2015:G-007	G-42	2				Evaluate and repair thinned floor on north side screens by conveyor.					6/15/2015	11/1/2016	Open		
G. Ash Handling Bldg & Equip	2015:G-012	G-47	3		Roof		Repair bent lightning protection rods on the roof of the ash building.					6/15/2015	11/1/2016	Open - And broken grounding clips on roof.		
G. Ash Handling Bldg & Equip	2015:G-013	G-48	3		Gallery		Replace missing valve handle on air line in incline conveyor south of west door.					6/15/2015	11/1/2016	Open		
G. Ash Handling Bldg & Equip	2015:G-014	G-49	3		Gallery		Replace missing valve handles on air and water lines near the top of the conveyor.					6/15/2015	11/1/2016	Open		
G. Ash Handling Bldg & Equip	2015:G-015	G-50	3		El. 10-6		Repair corroded siding north of the east roll up door.					6/15/2015	10/8/2015	Siding color does not match existing siding.		
G. Ash Handling Bldg & Equip	2015:G-017	G-52	3				Repair concrete spalling on south wall under louvers.					6/15/2015	11/1/2016	Open - Patched, but patches already failing.		
G. Ash Handling Bldg & Equip	2015:G-018	G-53	3		3rd Floor		Install proper fasteners to west door light cover. Currently zip tied.					6/15/2015	11/1/2016	Open		
G. Ash Handling Bldg & Equip	2015:G-019	G-54	3		El. 10-6		Replace broken water and air valves on the west wall of the ash building.					6/15/2015	11/1/2016	Open		
G. Ash Handling Bldg & Equip	2015:G-022	G-57	3				Repair or replace damaged and eroding center roof louvers.					6/15/2015	11/1/2016	Open		
G. Ash Handling Bldg & Equip	2015:G-023	G-58	2				Investigate building vibrations which now extend to the northeast outside stairwell.					6/15/2015	11/1/2016	Open		
G. Ash Handling Bldg & Equip	2015:G-024	G-59	3		2nd Floor		Provide support to flexible conduit to #1 and #3 speed switch.					6/15/2015	11/1/2016	Open		
G. Ash Handling Bldg & Equip	2016:G-001		2		Ash Conveyor		Repair severely corroded grating on the west side walkway near the fourth or fifth light from the top.					10/21/2016				
G. Ash Handling Bldg & Equip	2016:G-002		2		Ash Conveyor		Repair non operational lights near the top of the ash conveyor. Four lights were non operational during inspection.					10/21/2016				

**CITY OF TAMPA MCKAY BAY FACILITY
DRAFT PUNCLIST - NOVEMBER 2016**

Tier Definitions

- 1 Safety issue or imminent problem exists.
- 2 Environmental issue, potential safety problem or equipment problem exists.
- 3 Rusting occurring, cosmetic work or contract requirement.
- 4 Housekeeping required.

Inspection Area	Item Number / Picture Number (New)	Item Number / Picture Number (Old, for ref)	Tier	Equip / Unit #	Elevation / Location	Tag Number	Punchlist Item Description	WMBI Response	WMBI Status	WMBI Estimated Completion Date	WMBI WO Number	Arcadis Date Opened	Arcadis Date Last Verified as Open	Arcadis Verification Comment	Arcadis / City Estimated Cost	Arcadis Date Closed
G. Ash Handling Bldg & Equip	2016:G-003		3		3rd Floor		Repair detached duct support and severely corroded support truss on west side of ash conveyor, 3rd floor.					10/21/2016				
G. Ash Handling Bldg & Equip	2016:G-004		3		3rd Floor		Repair or replace severely corroded roof purlins in the Ash Building, especially in the northwest area near the end of the conveyor.					10/21/2016				
G. Ash Handling Bldg & Equip	2016:G-005		3		3rd Floor		Repair roof truss structural steel support plate for steel just outside of the southeast corner of the 3rd floor platform.					10/21/2016				
G. Ash Handling Bldg & Equip	2016:G-006		3		2nd Floor		Repair second floor door close mechanism for both doors on the second floor. During inspection, doors held close by bungee cords.					10/21/2016				
G. Ash Handling Bldg & Equip	2016:G-007		3		2nd Floor		Repair broken belt tension guard of the ash load out belt on the second floor.					10/21/2016				
G. Ash Handling Bldg & Equip	2016:G-008		3		El. 10-6		Repair severely corroded conduit in the exterior of the north wall of the ash building.					10/21/2016				
G. Ash Handling Bldg & Equip	2016:G-009		3		2nd Floor		Repair holes in siding on the east wall of the ash building, mainly at the 2nd level.					10/21/2016				
H. Scalper Bldg & Equip	2014:H-004	H - 4	3		El. 10-6		Repair the lighting conduit which is missing a cover on the north side of the scalper building, El. 10-6.	Work order to be generated	nc	9/28/2014		6/25/2014	11/1/2016	Open		
H. Scalper Bldg & Equip	2014:H-005	H - 5	3		El. 10-6		Repair or replace the corroded supports for the scalper building wet scrubber exhaust fan on the inside and outside of the scalper building, El. 10-6.	Work order to be generated	nc	9/28/2014		6/25/2014	11/1/2016	Open		
H. Scalper Bldg & Equip	2014:H-009	H - 9	4		El. 45-84		Clean the dirty fly ash transfer conveyors at the top level of the scalper building, El. 45-84.	Assigned to Support Services	nc	9/28/2014		6/25/2014	11/1/2016	Open		
H. Scalper Bldg & Equip	2014:H-010	H - 10	3		El. 35		Clean and paint the rusted lip of the fly ash inclined conveyors inside the scalper building, El. 35.	Assigned to Support Services	nc	9/28/2014		6/25/2014	11/1/2016	Open		
H. Scalper Bldg & Equip	2015:H-002	H-12	2		El. 10-6		Clean exit sign at north side.					6/15/2015	11/1/2016	Open - Sign missing.		
H. Scalper Bldg & Equip	2015:H-003	H-13	3		El. 10-6		Repair and keep closed the skirting on the wet scrubber hood over the scalper.					6/15/2015	11/1/2016	Open		
H. Scalper Bldg & Equip	2015:H-004	H-14	3		El. 10-6		Clean, repair, and paint corroded water pipe.					6/15/2015	11/1/2016	Open		
H. Scalper Bldg & Equip	2015:H-005	H-15	3		El. 10-6		Replace missing lighting conduit caps on north side.					6/15/2015	11/1/2016	Open		
H. Scalper Bldg & Equip	2015:H-006	H-16	3		El. 10-6		Repair broken valve handles on air and water lines.					6/15/2015	11/1/2016	Open		
H. Scalper Bldg & Equip	2015:H-007	H-17	4		El. 10-6		Confirm operation and cleaning schedule of camera on the east end over the scalper. Replace missing conduit caps on camera conduit.					6/15/2015	11/1/2016	Open		
H. Scalper Bldg & Equip	2015:H-009	E-90	3		El. 45-84		Replace broken and corroded valves on service water line in the scalper area.					6/15/2015	11/1/2016	Open		
H. Scalper Bldg & Equip	2015:H-010	E-128	3		El. 20		Repair corroded air and water pipes in the scalper area, south side.					6/15/2015	11/1/2016	Open		
H. Scalper Bldg & Equip	2015:H-011	E-129	3		El. 20		Replace conduit caps in the scalper area, south side, and water piping.					6/15/2015	11/1/2016	Open		
H. Scalper Bldg & Equip	2015:H-012	E-161	3		El. 10-6		Repair corroded instrument air line under Unit 4 sifting hopper into west side of scalper building.					6/15/2015	11/1/2016	Open		
H. Scalper Bldg & Equip	2015:H-014	H-20	3		El. 10-6		Repair and repaint corroded water line on the exterior of the south wall.					10/19/2015	11/1/2016	Open		
H. Scalper Bldg & Equip	2015:H-015	H-21	3		El. 10-6		Tighten loose siding screws, repair loose siding panels, replace missing siding screws, and patch the hole (6ft up, no picture of hole available) in the northeast corner of the scalper building.					10/19/2015	11/1/2016	Open		
H. Scalper Bldg & Equip	2015:H-016	H-22	3		El. 10-6		Repair and repaint corroded water line and repair broken hanger on the first floor east side.					10/19/2015	11/1/2016	Open		
H. Scalper Bldg & Equip	2015:H-017	H-23	3		El. 10-6		Repair the broken light fixture between the conveyors just before the scalper.					10/19/2015	11/1/2016	Open		
H. Scalper Bldg & Equip	2015:H-018	E-180	3		El. 30		Repair broken grating by north scalper.					11/11/2015	11/1/2016	Open		
H. Scalper Bldg & Equip	2016:H-001		4		All Elevations		Clean all elevations of the scalper building area and provide a cleaning schedule (frequency and type of cleaning).					11/1/2016				
H. Scalper Bldg & Equip	2016:H-002		1		El. 45-84		Repair the broken emergency light on the east wall of the scalper building.					11/1/2016				
H. Scalper Bldg & Equip	2016:H-003		2		El. 45-84		Replace the missing inspection hatch on the "A" (east) fly ash transfer conveyor belt guard in the scalper building.					11/1/2016				
H. Scalper Bldg & Equip	2016:H-004		3		El. 45-84		Clean and paint or replace the severely corroded fly ash transfer conveyor motors in the scalper building.					11/1/2016				
H. Scalper Bldg & Equip	2016:H-005		1		El. 30		Repair the broken/dead emergency light on the west wall of the scalper building.					11/1/2016				
H. Scalper Bldg & Equip	2016:H-006		3		El. 30		Address the corroding conduit supports along the west wall of the scalper building.					11/1/2016				
H. Scalper Bldg & Equip	2016:H-007		3		El. 30		Repair the broken conduit and instrument box on the west wall in the scalper building.					11/1/2016				
H. Scalper Bldg & Equip	2016:H-008		3		El. 25		Repair the broken door closer on the southwest door of the scalper building.					11/1/2016				
H. Scalper Bldg & Equip	2016:H-009		3		El. 25		Address the broken siding and holes in siding on the north wall of the scalper building.					11/1/2016				
H. Scalper Bldg & Equip	2016:H-010		3		El. 25		Replace the missing eyewash sign and remove the materials stored in front of the eyewash on the north wall of the scalper building.					11/1/2016				
H. Scalper Bldg & Equip	2016:H-011		3		All Elevations		Address the corroding structural steel, support steel, girts, and purlins throughout the scalper building.					11/1/2016				
H. Scalper Bldg & Equip	2016:H-012		2		El. 25		Address the broken automatic fill mechanism on the wet scrubber in the scalper building. Both supply valves were shut and water level was not evident during inspection.					11/1/2016				
H. Scalper Bldg & Equip	2016:H-013		1		El. 30		Repair the broken grating in the southeast corner of the scalper building.					11/1/2016				
H. Scalper Bldg & Equip	2016:H-014		1		All Elevations		Repair the broken toe plate and corroded/broken handrails and handrail supports throughout the scalper building.					11/1/2016				
H. Scalper Bldg & Equip	2016:H-015		1		El. 25		Repair the broken grating and corroded handrails outside the north door of the scalper building.					11/1/2016				
H. Scalper Bldg & Equip	2016:H-016		3		El. 10-6		Repair the broken door closers on the north and east doors of the scalper building.					11/1/2016				
H. Scalper Bldg & Equip	2016:H-017		2		El. 10-6		Repair the broken conduit support for the camera above the east door of the scalper building.					11/1/2016				

**CITY OF TAMPA MCKAY BAY FACILITY
DRAFT PUNCHLIST - NOVEMBER 2016**

Tier Definitions

- 1 Safety issue or imminent problem exists.
- 2 Environmental issue, potential safety problem or equipment problem exists.
- 3 Rusting occurring, cosmetic work or contract requirement.
- 4 Housekeeping required.

Inspection Area	Item Number / Picture Number (New)	Item Number / Picture Number (Old, for ref)	Tier	Equip / Unit #	Elevation / Location	Tag Number	Punchlist Item Description	WMBI Response	WMBI Status	WMBI Estimated Completion Date	WMBI WO Number	Arcadis Date Opened	Arcadis Date Last Verified as Open	Arcadis Verification Comment	Arcadis / City Estimated Cost	Arcadis Date Closed
H. Scalper Bldg & Equip	2016:H-018		1		El. 10-6		Replace the missing exit signs at the north and east doors of the scalper building.					11/1/2016				
H. Scalper Bldg & Equip	2016:H-019		3		El. 10-6		Repair the crumbling concrete foundation on the south side of the grizzly scalper.					11/1/2016				
H. Scalper Bldg & Equip	2016:H-020		2		El. 10-6		Properly clean out the rated sump pump panel control enclosure on the north side of the scalper.					11/1/2016				
H. Scalper Bldg & Equip	2016:H-021		1		El. 10-6		Replace the missing/removed light fixture on the north side of the scalper building.					11/1/2016				
H. Scalper Bldg & Equip	2016:H-022		1		El. 10-6		Repair the broken light on the south side of the scalper building.					11/1/2016				
I. Cooling Tower & Water Treatment Area	2014:I-003	I - 3	3		El. 10-6		Paint rusted rungs on the access ladder on the north side of the cooling tower.	Assigned to Support Services	nc	9/28/2014		6/25/2014	11/1/2016	Open		
I. Cooling Tower & Water Treatment Area	2014:I-005	I - 5	2		Top of Tower		Repair fire water deluge activation boxes on the north and south sides of the top of the cooling tower that are rusted and flaking.	Outside contractor	nc	12/31/2014		6/25/2014	11/1/2016	Open		
I. Cooling Tower & Water Treatment Area	2014:I-007	I - 7	3		Top of Tower		Repair the southwest cooling tower valve box seal which is allowing water to leak by on top of the valve box.	Scheduled for repair during cold iron outage	nc	11/21/2014		6/25/2014	10/8/2015	Tower not in operation during inspection.		
I. Cooling Tower & Water Treatment Area	2014:I-010	I - 10	3		El. 10-6		Repair or replace the broken Fisher controller box on the south side of the cooling tower which does not latch or close properly.	Scheduled for repair during cold iron outage	nc	10/29/2014		6/25/2014	11/1/2016	Open - Cover is now broken off.		
I. Cooling Tower & Water Treatment Area	2014:I-012	I - 12	3		Halfway Up Tower		Clean the cooling tower and seal the leaking penetrations from the screws holding the cable tray unistrut in place on the south side of the cooling tower.	Work order to be generated	nc	9/5/2014		6/25/2014	11/1/2016	Open		
I. Cooling Tower & Water Treatment Area	2014:I-018	I - 18	3				Replace the corroded steel and grout bases on the hot demineralized water tank.	Outside contractor	nc	12/31/2014		6/25/2014	11/1/2016	Open		
I. Cooling Tower & Water Treatment Area	2014:I-020	I - 20	3			Pump A	Replace the pipe supports and clean up the old piping on the chemical supply line to the A circulating water pump.	Work order to be generated	nc	10/25/2014		6/25/2014	11/1/2016	Open - Lines abandoned in place. Provide documentation of an approved plant change and updates to drawings/O&M manuals.		
I. Cooling Tower & Water Treatment Area	2014:I-024	I - 24	3			Pump A	Clean and paint the bulging and peeling paint on the A circulating water pump motor and surrounding supports.	Assigned to Support Services	nc	10/15/2014		6/25/2014	11/1/2016	Open		
I. Cooling Tower & Water Treatment Area	2014:I-025	I - 25	3				Clean and paint the rusted and flaking pumps and support bases for the wastewater pumps east of the water treatment building.	Assigned to Support Services	nc	10/15/2014		6/25/2014	11/1/2016	Open - One pump is new.		
I. Cooling Tower & Water Treatment Area	2014:I-029	I - 29	3				Replace the heavily corroded pipe support for the wastewater outlet piping east of the water treatment building.	Assigned to Support Services	nc	10/15/2014		6/25/2014	11/1/2016	Open		
I. Cooling Tower & Water Treatment Area	2014:I-030	I - 30	4				Confirm if the new GE water treatment control panel in the water treatment building is permanent and remove the no longer operating panel and piping and permanently mount the new panel if so.	Not until proven reliable	nc			6/25/2014	11/1/2016	Open		
I. Cooling Tower & Water Treatment Area	2014:I-035	I - 35	3				Replace the missing and rusted supports and pipe clamps typical for the pipes running along the ground east of the water treatment building.	Work order to be generated	nc	10/29/2014		6/25/2014	11/1/2016	Open		
I. Cooling Tower & Water Treatment Area	2015:I-002	I-37	3				Repair severe corrosion throughout building such as at the east wall girt and column, north wall, and siding angle at base.					6/15/2015	11/1/2016	Open		
I. Cooling Tower & Water Treatment Area	2015:I-003	I-38	3				Repair and repaint with coal tar epoxy corroded demineralizer skid and metal supports.					6/15/2015	11/1/2016	Open		
I. Cooling Tower & Water Treatment Area	2015:I-005	I-40	3				Repair corroding conduit to outside lights in the southwest corner inside the building.					6/15/2015	11/1/2016	Open		
I. Cooling Tower & Water Treatment Area	2015:I-006	I-41	3				Replace corroded ground clips on sulfuric acid tank.					6/15/2015	11/1/2016	Open		
I. Cooling Tower & Water Treatment Area	2015:I-007	I-42	3				Repair corroded flanges on top of sulfuric acid tank.					6/15/2015	11/1/2016	Open		
I. Cooling Tower & Water Treatment Area	2015:I-008	I-43	3				Repair corroded platform, handrail, and steel between acid and caustic tank.					6/15/2015	11/1/2016	Open		
I. Cooling Tower & Water Treatment Area	2015:I-009	I-44	3				Repair corrosion and clean or repaint rust stains on caustic tank.					6/15/2015	11/1/2016	Open		
I. Cooling Tower & Water Treatment Area	2015:I-010	I-45	3				Repair corrosion on AWT water piping and irrigation pump on southwest side of cooling tower.					10/19/2015	11/1/2016	Open		
I. Cooling Tower & Water Treatment Area	2015:I-011	I-46	3				Repair broken indicator light for north tower fan motor.					10/20/2015	11/1/2016	Open		
I. Cooling Tower & Water Treatment Area	2015:I-012	I-47	3				Properly fasten condulet cover for south fan electrical conduit cover. During inspection, cover was zip tied.					10/20/2015	11/1/2016	Open		
I. Cooling Tower & Water Treatment Area	2015:I-013	I-48	1				Properly mount the sulfuric acid line valve in the water treatment building chemical feed area, which was detached from support during the inspection.					10/20/2015	11/1/2016	Open - Impromptu support installed, but pipe is now leaking.		
I. Cooling Tower & Water Treatment Area	2015:I-014	I-49	3				Clean and paint corroded support legs and steel throughout the water treatment skid.					10/20/2015	11/1/2016	Open		
I. Cooling Tower & Water Treatment Area	2015:I-015	I-50	3				Provide updated drawings and control statements for removal of the chemical feed lines on circulating water lines.					10/20/2015	11/1/2016	Open		
I. Cooling Tower & Water Treatment Area	2015:I-016	I-51	3				Paint corroded valve and handle between acid and caustic tank spill enclosures.					10/20/2015	11/1/2016	Open		
I. Cooling Tower & Water Treatment Area	2016:I-001		3				Repair missing conduit cover and disconnected conduit on line west side of sump between wastewater holdup tank and neutralization tank.					10/19/2016				
I. Cooling Tower & Water Treatment Area	2016:I-002		2				Water Treatment Building - Repair sulfuric line leak at regulator after tee on north side of chemical skid, during inspection leaking acid was diverted to skid containment area.					10/19/2016				
J. Common Water, WW and Sump Sys	2014:J-001	J - 1	3				Replace the severely corroded conduit going into the wastewater holdup tank control box west of the T/G Building.	Work order to be generated	nc	12/31/2014		6/25/2014	11/1/2016	Open		
J. Common Water, WW and Sump Sys	2014:J-003	J - 3	3				Provide an update on the operability of the settling basin pumps. Only a portable pump with flexible hosing has been observed operating.	Update drawing	nc	10/29/2014		6/25/2014	11/1/2016	Open		
J. Common Water, WW and Sump Sys	2014:J-008	J - 8	3				Provide O&M manual updates for the new wastewater holdup pump model installed by the wastewater holdup tanks.	Insert new data in O&M manual	nc	9/25/2014		6/25/2014	11/1/2016	Provide the requested O&M manual updates		
J. Common Water, WW and Sump Sys	2015:J-001	J-9	3				Repair or replace corroded conduit on wastewater holdup pump.					6/15/2015	11/1/2016	Open		

CITY OF TAMPA MCKAY BAY FACILITY
DRAFT PUNCHLIST - NOVEMBER 2016

Tier Definitions

- 1 Safety issue or imminent problem exists.
- 2 Environmental issue, potential safety problem or equipment problem exists.
- 3 Rusting occurring, cosmetic work or contract requirement.
- 4 Housekeeping required.

Inspection Area	Item Number / Picture Number (New)	Item Number / Picture Number (Old, for ref)	Tier	Equip / Unit #	Elevation / Location	Tag Number	Punchlist Item Description	WMBI Response	WMBI Status	WMBI Estimated Completion Date	WMBI WO Number	Arcadis Date Opened	Arcadis Date Last Verified as Open	Arcadis Verification Comment	Arcadis / City Estimated Cost	Arcadis Date Closed
J. Common Water, WW and Sump Sys	2015:J-002	J-10	3				Repair leak at condensate drip on wastewater holdup pump B.					6/15/2015	11/1/2016	Open		
J. Common Water, WW and Sump Sys	2015:J-004	J-12	3				Connect makeup pump seal water drain lines to the pump drains.					10/20/2015	11/1/2016	Open - Seal water drains removed. Provide drawing and O&M manual updates.		
J. Common Water, WW and Sump Sys	2015:J-005	J-13	3				Repair/tighten loose bollard by the makeup water pumps.					10/20/2015	11/1/2016	Open		
J. Common Water, WW and Sump Sys	2015:J-006	J-14	3				Repair severe corrosion of and replace illegible label on electrical box on the northeast side of the wastewater holdup tank.					10/20/2015	11/1/2016	Open		
J. Common Water, WW and Sump Sys	2015:J-007	J-15	3				Repair leaking wastewater pipe to valve connection on the northeast side of the wastewater holdup tank and clean and repaint corrosion stains.					10/20/2015	11/1/2016	Open		
J. Common Water, WW and Sump Sys	2015:J-008	J-16	3			ADBSOVO42 & ADBLSO42	Repair/replace corroded terminal box covers (no. ADBSOVO42 and ADBLSO42) located southwest of makeup tank.					10/20/2015	11/1/2016	Open		
J. Common Water, WW and Sump Sys	2015:J-009	J-17	3		Fire Pump House		Repair corroded unistrut and clamps on the fire pump motor power cable.					10/19/2015	11/1/2016	Open		
J. Common Water, WW and Sump Sys	2015:J-011	J-19	2		Fire Pump House		Repair emergency light on the northeast corner of the fire pump house, which did not work when tested during inspection.					10/19/2015	11/1/2016	Open		
J. Common Water, WW and Sump Sys	2015:J-012	J-20	3		Fire Pump House		Install or replace missing support on new PVC line in the fire pump house.					10/19/2015	11/1/2016	Open		
J. Common Water, WW and Sump Sys	2015:J-013	J-21	3		Fire Pump House		Repair broken fire pump drain line supports on the south and west side of the fire pump house.					10/19/2015	11/1/2016	Open		
J. Common Water, WW and Sump Sys	2016:J-001		3				Repair leaking regulator to the wastewater pump seal, as water has been leaking near the eyewash station and wastewater tank.					10/20/2016				
K. Turbine Bldg & Equip	2014:K-006	K - 6	3		2nd Floor		Clean and paint/repair the rusted drain valve and insulation and lagging on the northeast side of the 2nd level of the T/G building.	Assigned to Support Services	nc	10/25/2014		6/25/2014	11/1/2016	Open		
K. Turbine Bldg & Equip	2015:K-001	K-7	3		El. 10-6		Repair and paint leaking unpainted pipe at steam feed water pump.					6/15/2015	11/1/2016	Open		
K. Turbine Bldg & Equip	2015:K-002	K-8	3		El. 10-6		Paint unpainted valves on extraction steam line.					6/15/2015	11/1/2016	Open		
K. Turbine Bldg & Equip	2015:K-005	K-11	3		El. 10-6		Repair or replace corroded base plates around condensate pumps.					6/15/2015	11/1/2016	Open		
K. Turbine Bldg & Equip	2015:K-006	K-12	3		El. 10-6		Repair broken motor cover on the closed cooling water loop pump fan.					6/15/2015	11/1/2016	Open		
K. Turbine Bldg & Equip	2015:K-007	K-13	3		El. 10-6		Repair leak in cooling water heat exchanger shell.					6/15/2015	11/1/2016	Open		
K. Turbine Bldg & Equip	2015:K-008	K-14	3		El. 10-6		Repair oil leak on Kaiser compressors.					6/15/2015	11/1/2016	Open		
K. Turbine Bldg & Equip	2015:K-009	K-15	2		Turbine MCC		South cable tray penetration to Turbine MCC room needs to be sealed with fire bags.					6/15/2015	11/1/2016	Open		
K. Turbine Bldg & Equip	2015:K-010	K-16	3		2nd Floor		Replace missing grounding cable on metal conduit into cable tray on east side of low pressure steam piping.					6/15/2015	11/1/2016	Open		
K. Turbine Bldg & Equip	2015:K-011	K-17	3		2nd Floor		Paint valves on east side of low pressure steam piping.					6/15/2015	11/1/2016	Open		
K. Turbine Bldg & Equip	2015:K-012	K-18	3		2nd Floor		Replace nonfunctional lights on the A and B extraction valve controller, east side.					6/15/2015	11/1/2016	Open		
K. Turbine Bldg & Equip	2015:K-014	K-20	3		3rd Floor		Repair and repaint corroded deaerator piping and valves.					6/15/2015	11/1/2016	Open		
K. Turbine Bldg & Equip	2015:K-015	K-21	3		3rd Floor		Repair nonfunctional AC and DC lube oil control lights in the Turbine Generator enclosure.					6/15/2015	11/1/2016	Open		
K. Turbine Bldg & Equip	2015:K-016	K-22	3		3rd Floor		Repair or replace corroded electrical outlet on the west side of the Turbine Generator deck.					6/15/2015	11/1/2016	Open		
K. Turbine Bldg & Equip	2015:K-017	K-23	3		El. 10-6		Reconnect the instrument tubing to electric boiler feed pump A outlet pressure instrument.					10/20/2015	11/1/2016	Open		
K. Turbine Bldg & Equip	2015:K-019	K-25	3		El. 10-6		Replace missing valve handle on line on top of boiler feed pump A.					10/20/2015	11/1/2016	Open		
K. Turbine Bldg & Equip	2015:K-020	K-26	3		El. 10-6		Repair Kaiser temporary plant air compressor and temporary electric hookups or permanently remove and install new compressors.					10/20/2015	11/1/2016	Open - Temporary compressors and dryers have been in place for over a year without permanent hook ups.		
K. Turbine Bldg & Equip	2015:K-021	K-27	2		2nd Floor MCC		Provide permanent power supply to the emergency light on the north wall of the MCC room. During inspection, the light was plugged into outlet rather than being wired into the room electrical system.					10/20/2015	11/1/2016	Open		
K. Turbine Bldg & Equip	2015:K-022	K-28	3		El. 10-6		Repair corroded piping near the dump condenser, as pictured.					10/20/2015	11/1/2016	Open		
K. Turbine Bldg & Equip	2016:K-001		3		3rd Floor		Repair or properly remove TG hood temperature indicator open ended seal tight conduit and wires by hood between turbine and generator houses.					10/20/2016				
L. Electrical Rooms	2014:L-001	L-1	3		322 MCC		Seal the cable tray penetration on the south wall of the 322 MCC room.	Work order to be generated	nc	10/29/2014		6/25/2014	11/1/2016	Open		
L. Electrical Rooms	2015:L-001	L-2	3				Repair or replace severely corroded exhaust fan assembly in vent of E&I storage room.					10/21/2015	11/1/2016	Open		
L. Electrical Rooms	2016:L-001		3		Turbine MCC		Correctly cap cable in cable tray near the turbine generator island building penetration on northeast corner of north wall.					10/20/2016				
L. Electrical Rooms	2016:L-002		3		Turbine MCC		Correctly install permanent line for power to outage/contractor trailers.					10/20/2016				



2014;E-001.JPG



2014;E-010a.JPG



2014;E-010b.JPG



2014;E-010c.JPG



2014;E-010d.JPG



2014;E-010e.JPG



2014;E-012.JPG



2014;E-028a.JPG



2014;E-028b.JPG



2014;E-036.JPG



2014;E-038.JPG



2014;E-039.JPG



2014;E-043.JPG



2014;E-048a.JPG



2014;E-048b.JPG



2014;E-049.JPG



2014;E-050a.JPG



2014;E-050b.JPG



2014;E-051a.JPG



2014;E-051b.JPG



2014;E-053.JPG



2014;E-056.JPG



2014;F-012 & F-013.JPG



2014;F-014.JPG



2014;F-021.JPG



2014;F-022.JPG



2014;F-023a.JPG



2014;F-023b.JPG



2014;F-024.JPG



2014;F-031.JPG



2014;F-032a.JPG



2014;F-032b.JPG



2014;F-033.JPG



2014;F-034.JPG



2014;F-035a.JPG



2014;F-035b.JPG



2014;F-037a.JPG



2014;F-037b.JPG



2014;F-040.JPG



2014;F-046.JPG



2014;G-001a.JPG



2014;G-001b.JPG



2014;G-006.JPG



2014;G-008a.JPG



2014;G-008b.JPG



2014;G-008c.JPG



2014;G-008d.JPG



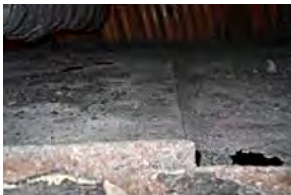
2014;G-010.JPG



2014;G-011.JPG



2014;G-012.JPG



2014;G-015.JPG



2014;G-018.JPG



2014;G-020.JPG



2014;G-023a.JPG



2014;G-023b.JPG



2014;G-023c.JPG



2014;G-023d.JPG



2014;G-023e.JPG



2014;G-024a.JPG



2014;G-024b.JPG



2014;G-026.JPG



2014;G-030a.JPG



2014;G-030b.JPG



2014;G-030c.JPG



2014;G-033a.JPG



2014;G-033b.JPG



2014;G-035.JPG



2014;H-004.JPG



2014;H-005a.JPG



2014;H-005b.JPG



2014;H-009.JPG



2014;H-010.JPG



2014;I-003.JPG



2014;I-007.JPG



2014;I-012.JPG



2014;I-018a.JPG



2014;I-018b.JPG



2014;I-020a.JPG



2014;I-020b.JPG



2014;I-024.JPG



2014;I-029.JPG



2014;I-030.JPG



2014;I-035a.JPG



2014;I-035b.JPG



2014;J-001.JPG



2014;J-003.JPG



2014;J-008.JPG



2014;K-006.JPG



2014;L-001.JPG



2015;A-002.JPG



2015;A-003a.JPG



2015;A-003b.JPG



2015;A-004a.JPG



2015;A-004b.JPG



2015;A-006.JPG



2015;A-008a.JPG



2015;A-008b.JPG



2015;A-009.JPG



2015;B-001.JPG



2015;B-005.JPG



2015;B-006a.JPG



2015;B-006b.JPG



2015;B-009.JPG



2015;B-011a.JPG



2015;B-011b.JPG



2015;B-012.JPG



2015;B-015.JPG



2015;C-001.JPG



2015;C-003.JPG



2015;C-007.JPG



2015;C-008.JPG



2015;C-009.JPG



2015;C-010a.JPG



2015;C-010b.JPG



2015;D-002a.JPG



2015;D-002b.JPG



2015;D-004.JPG



2015;D-005.JPG



2015;D-006.JPG



2015;D-009a.JPG



2015;D-009b.JPG



2015;D-010.JPG



2015;D-011.JPG



2015;D-012.JPG



2015;D-013.JPG



2015;D-014.JPG



2015;D-015.JPG



2015;D-017.JPG



2015;D-018.JPG



2015;E-002.JPG



2015;E-005.JPG



2015;E-006a.JPG



2015;E-006b.JPG



2015;E-006c.JPG



2015;E-014.JPG



2015;E-016a.JPG



2015;E-016b.JPG



2015;E-018.JPG



2015;E-021.JPG



2015;E-025.JPG



2015;E-026.JPG



2015;E-033.JPG



2015;E-034.JPG



2015;E-038.JPG



2015;E-040.JPG



2015;E-041.JPG



2015;E-042.JPG



2015;E-043.JPG



2015;E-044.JPG



2015;E-045.JPG



2015;E-046.JPG



2015;E-047.JPG



2015;E-049.JPG



2015;E-050.JPG



2015;E-051.JPG



2015;E-055.JPG



2015;E-056.JPG



2015;E-058.JPG



2015;E-059a.JPG



2015;E-059b.JPG



2015;E-060.JPG



2015;E-061a.JPG



2015;E-061b.JPG



2015;E-062.JPG



2015;E-063.JPG



2015;E-064.JPG



2015;E-066.JPG



2015;E-068.JPG



2015;E-069.JPG



2015;E-070.JPG



2015;E-073.JPG



2015;E-074.JPG



2015;E-075.JPG



2015;E-076.JPG



2015;E-077.JPG



2015;E-078.JPG



2015;E-079.JPG



2015;E-081.JPG



2015;E-082.JPG



2015;E-083.JPG



2015;E-084a.JPG



2015;E-084b.JPG



2015;E-085.JPG



2015;E-086.JPG



2015;E-090.JPG



2015;E-091.JPG



2015;E-092.JPG



2015;E-093.JPG



2015;E-095a.JPG



2015;E-095b.JPG



2015;E-097.JPG



2015;E-098.JPG



2015;E-100.jpg



2015;E-101.jpg



2015;E-102.jpg



2015;E-109a.jpg



2015;E-109b.jpg



2015;E-110.jpg



2015;E-112.jpg



2015;E-113.jpg



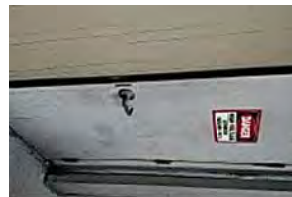
2015;E-115.jpg



2015;E-116.jpg



2015;E-117.jpg



2015;E-120.jpg



2015;E-121.jpg



2015;E-122a.jpg



2015;E-122b.jpg



2015;E-125.jpg



2015;E-127.jpg



2015;E-128.jpg



2015;F-004.JPG



2015;F-005a.JPG



2015;F-005b.JPG



2015;F-006.JPG



2015;F-007.JPG



2015;F-008.JPG



2015;F-010.JPG



2015;F-012.JPG



2015;F-013.JPG



2015;F-014a.JPG



2015;F-014b.JPG



2015;F-015.JPG



2015;F-016.JPG



2015;F-017a.JPG



2015;F-017b.JPG



2015;F-018.JPG



2015;F-020.JPG



2015;F-024a.jpg



2015;F-024b.jpg



2015;F-024c.jpg



2015;F-025a.jpg



2015;F-025b.jpg



2015;F-026.JPG



2015;F-028.jpg



2015;F-029.jpg



2015;F-030a.jpg



2015;F-030b.jpg



2015;F-031a.jpg



2015;F-031b.jpg



2015;F-036a.jpg



2015;F-036b.jpg



2015;F-037a.jpg



2015;F-037b.jpg



2015;F-037c.jpg



2015;F-038a.jpg



2015;F-038b.jpg



2015;F-039.jpg



2015;F-040a.jpg



2015;F-040b.jpg



2015;F-041a.jpg



2015;F-041b.jpg



2015;F-042a.jpg



2015;F-042b.jpg



2015;F-044a.jpg



2015;F-044b.jpg



2015;F-045a.jpg



2015;F-045b.jpg



2015;F-047a.jpg



2015;F-047b.jpg



2015;F-048.jpg



2015;F-049.jpg



2015;G-001.JPG



2015;G-002.JPG



2015;G-003.JPG



2015;G-004.JPG



2015;G-005.JPG



2015;G-006.JPG



2015;G-007.JPG



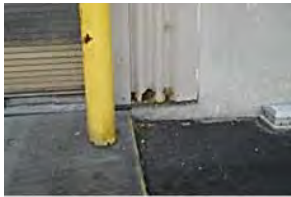
2015;G-012.JPG



2015;G-013.JPG



2015;G-014.JPG



2015;G-015.JPG



2015;G-017.JPG



2015;G-018.JPG



2015;G-019.JPG



2015;G-022.JPG



2015;G-024a.JPG



2015;G-024b.JPG



2015;G-024c.JPG



2015;H-002.JPG



2015;H-003.JPG



2015;H-004.JPG



2015;H-005.JPG



2015;H-006.JPG



2015;H-007.JPG



2015;H-009.JPG



2015;H-010.JPG



2015;H-011a.JPG



2015;H-011b.JPG



2015;H-011c.JPG



2015;H-012.JPG



2015;H-014.JPG



2015;H-015.JPG



2015;H-016.JPG



2015;H-017.JPG



2015;H-018.jpg



2015;I-002.JPG



2015;I-003.JPG



2015;I-005a.JPG



2015;I-005b.JPG



2015;I-006.JPG



2015;I-007.JPG



2015;I-008.JPG



2015;I-009.JPG



2015;I-010.JPG



2015;I-011.JPG



2015;I-012.JPG



2015;I-013.JPG



2015;I-014a.JPG



2015;I-014b.JPG



2015;I-015a.JPG



2015;I-015b.JPG



2015;I-016.JPG



2015;J-001.JPG



2015;J-002.JPG



2015;J-004.JPG



2015;J-005.JPG



2015;J-006.JPG



2015;J-007.JPG



2015;J-008.JPG



2015;J-009a.JPG



2015;J-009b.JPG



2015;J-011.JPG



2015;J-012.JPG



2015;J-013a.JPG



2015;J-013b.JPG



2015;K-001.JPG



2015;K-002.JPG



2015;K-005.JPG



2015;K-006.JPG



2015;K-007.JPG



2015;K-008.JPG



2015;K-009.JPG



2015;K-010.JPG



2015;K-011.JPG



2015;K-012.JPG



2015;K-014.JPG



2015;K-015.JPG



2015;K-016.JPG



2015;K-017.JPG



2015;K-019.JPG



2015;K-020.JPG



2015;K-021.JPG



2015;K-022.JPG



2015;L-001.JPG



2016;A-002a.JPG



2016;A-002b.JPG



2016;A-003a.JPG



2016;A-003b.JPG



2016;A-004a.JPG



2016;A-004b.JPG



2016;B-001.jpg



2016;D-001a.JPG



2016;D-001b.JPG



2016;D-002a.JPG



2016;D-002b.JPG



2016;D-003.JPG



2016;D-004a.JPG



2016;D-004b.JPG



2016;D-005a.JPG



2016;D-005b.JPG



2016;D-006.jpg



2016;E-001.JPG



2016;E-002.JPG



2016;E-004.JPG



2016;E-005.JPG



2016;E-006.JPG



2016;E-007.JPG



2016;E-008a.JPG



2016;E-008b.JPG



2016;E-009.JPG



2016;E-010.JPG



2016;E-011.JPG



2016;E-012a.JPG



2016;E-012b.JPG



2016;E-013.JPG



2016;E-015.JPG



2016;E-018a.jpg



2016;E-018b.jpg



2016;E-021.jpg



2016;E-022.jpg



2016;E-023a.jpg



2016;E-023b.jpg



2016;E-024.jpg



2016;E-025a.jpg



2016;E-025b.jpg



2016;E-026.jpg



2016;E-027.jpg



2016;E-028.jpg



2016;E-029.jpg



2016;E-030.jpg



2016;E-031.jpg



2016;E-032.jpg



2016;E-034a.jpg



2016;E-034b.jpg



2016;E-034c.jpg



2016;E-034d.jpg



2016;E-034e.jpg



2016;E-035.jpg



2016;E-036.jpg



2016;E-037a.jpg



2016;E-037b.jpg



2016;E-038a.jpg



2016;E-038b.jpg



2016;E-038c.jpg



2016;E-039.jpg



2016;E-040a.jpg



2016;E-040b.jpg



2016;E-041a.jpg



2016;E-041b.jpg



2016;E-042.jpg



2016;E-043.jpg



2016;E-044.jpg



2016;E-045.jpg



2016;E-046.jpg



2016;E-047.jpg



2016;E-048.jpg



2016;E-049a.jpg



2016;E-049b.jpg



2016;E-050a.jpg



2016;E-050b.jpg



2016;E-050c.jpg



2016;E-051.jpg



2016;F-003a.jpg



2016;F-003b.jpg



2016;F-004.jpg



2016;F-005.jpg



2016;F-006a.jpg



2016;F-006b.jpg



2016;F-007a.jpg



2016;F-007b.jpg



2016;F-008.jpg



2016;F-009.jpg



2016;F-010.jpg



2016;F-011.jpg



2016;F-012.jpg



2016;F-013.jpg



2016;F-014.jpg



2016;F-015.jpg



2016;F-016.jpg



2016;F-017.jpg



2016;F-018a.jpg



2016;F-018b.jpg



2016;F-018c.jpg



2016;F-019.jpg



2016;F-020.jpg



2016;G-001.JPG



2016;G-003a.JPG



2016;G-003b.JPG



2016;G-004a.JPG



2016;G-004b.JPG



2016;G-004c.JPG



2016;G-005.JPG



2016;G-006.JPG



2016;G-007.JPG



2016;G-008.JPG



2016;G-009.JPG



2016;H-002.jpg



2016;H-003.jpg



2016;H-004a.jpg



2016;H-004b.jpg



2016;H-005.jpg



2016;H-006.jpg



2016;H-007.jpg



2016;H-008.jpg



2016;H-009.jpg



2016;H-010.jpg



2016;H-011a.jpg



2016;H-011b.jpg



2016;H-012.jpg



2016;H-013.jpg



2016;H-014a.jpg



2016;H-014b.jpg



2016;H-015a.jpg



2016;H-015b.jpg



2016;H-016.jpg



2016;H-017.jpg



2016;H-019.jpg



2016;H-020.jpg



2016;H-021.jpg



2016;H-022.jpg



2016;I-001.JPG



2016;I-002.JPG



2016;K-001.JPG



2016;L-001.JPG



2016;L-002a.JPG



2016;L-002b.JPG



2016;L-002c.JPG



2016;L-002d.JPG

APPENDIX B

Figures



Figure 3-1 McKay Bay FY 2012 - 2016 Comparisons

5 Year Comparison

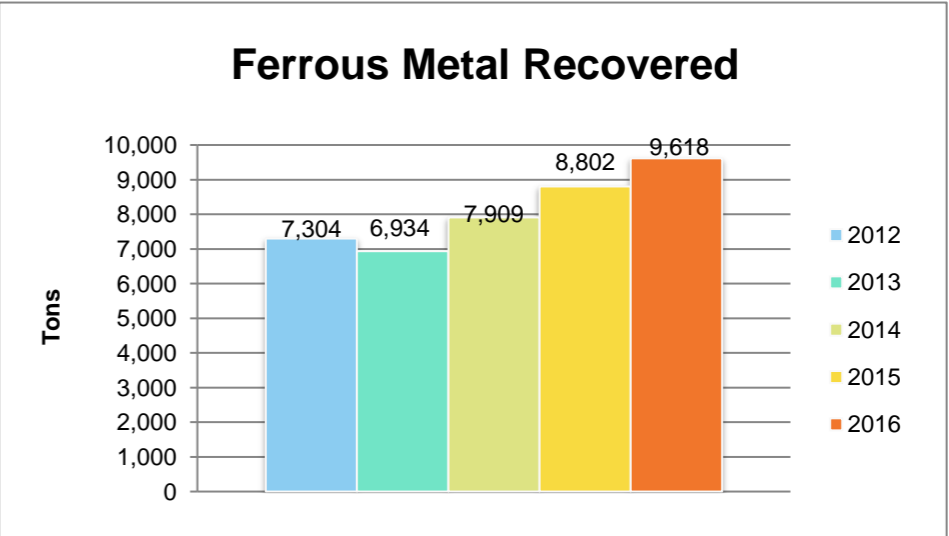
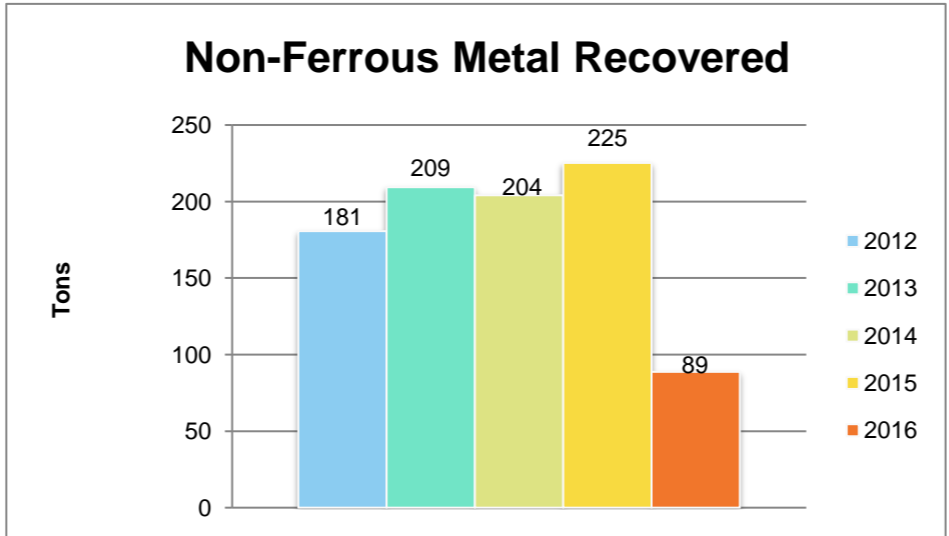
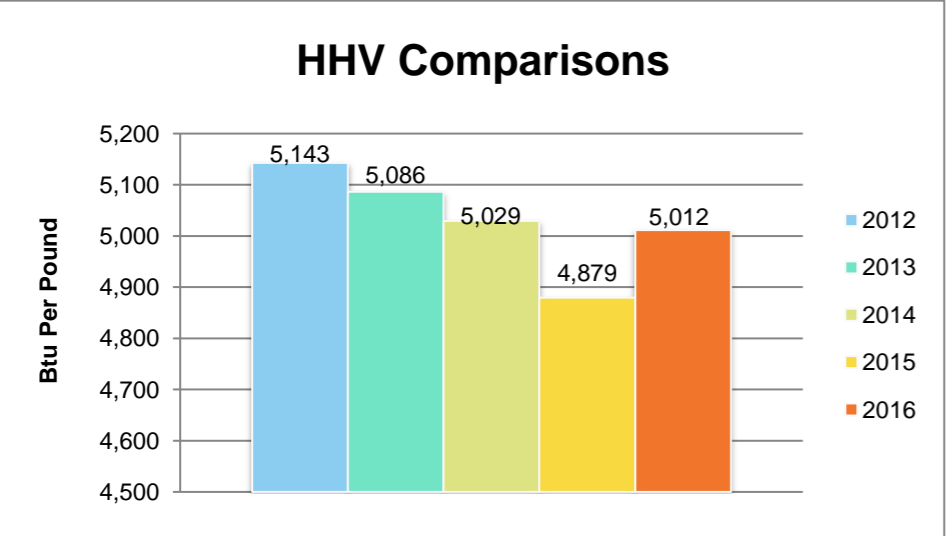
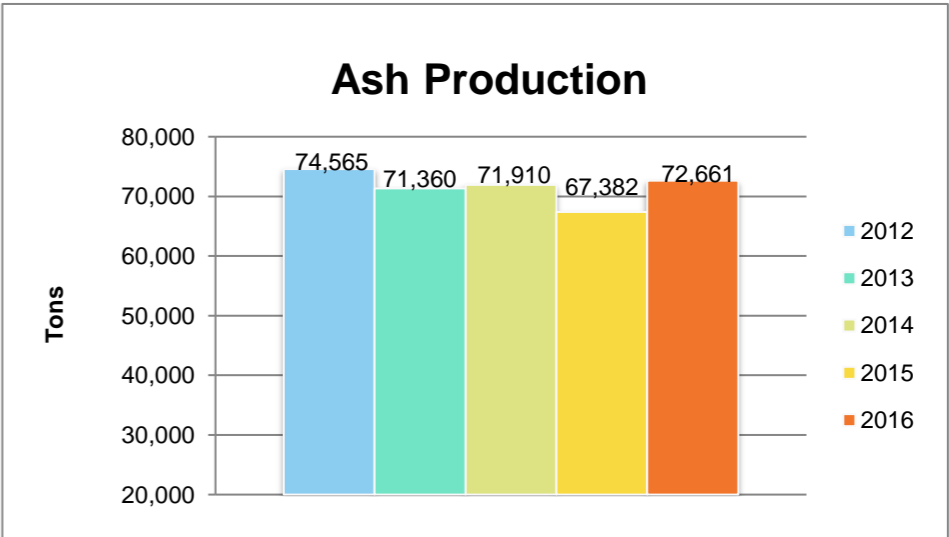
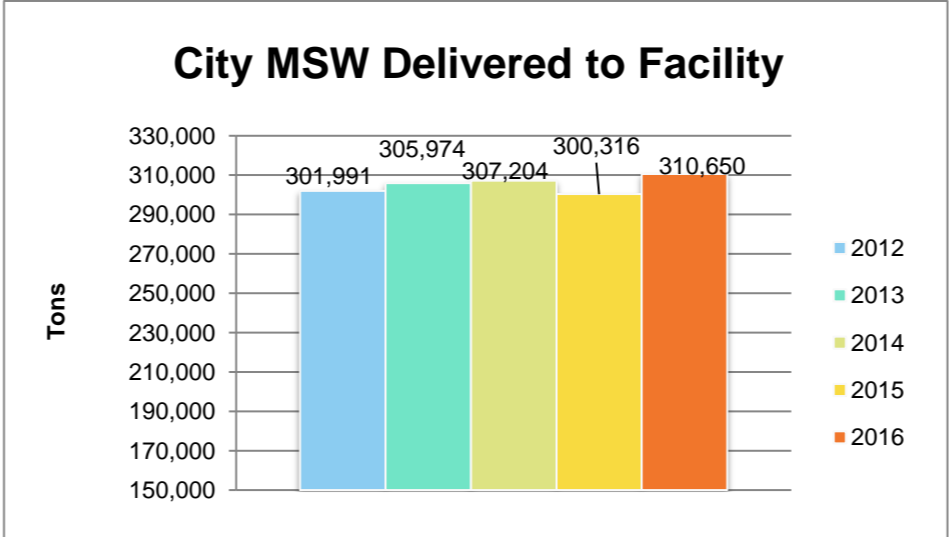
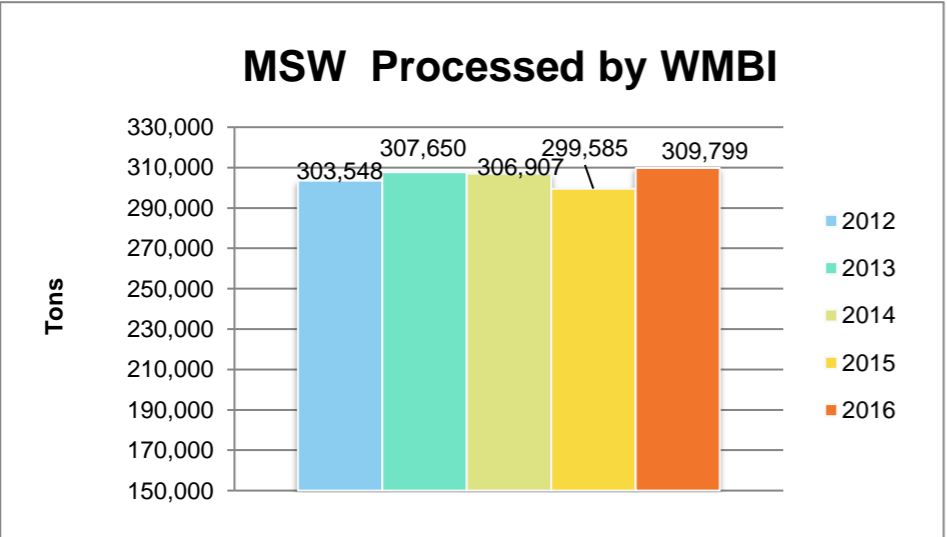
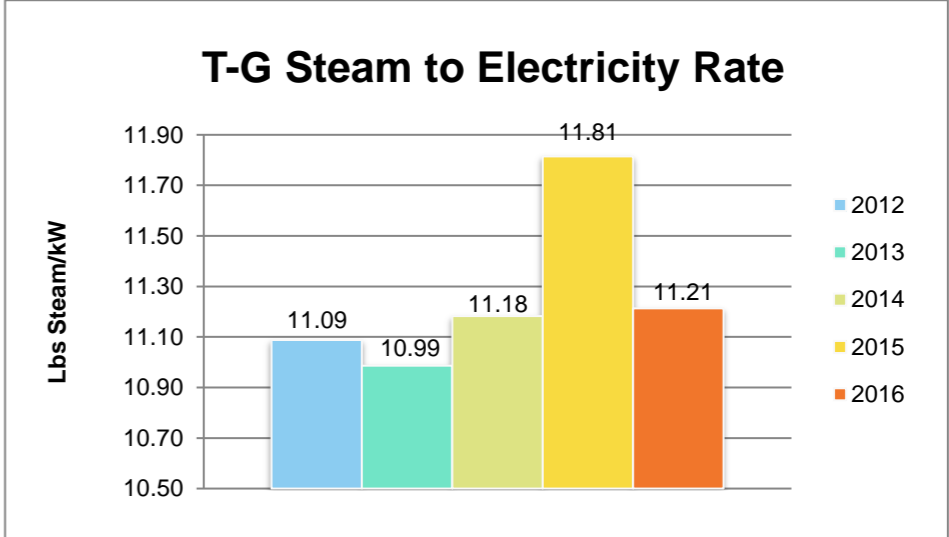
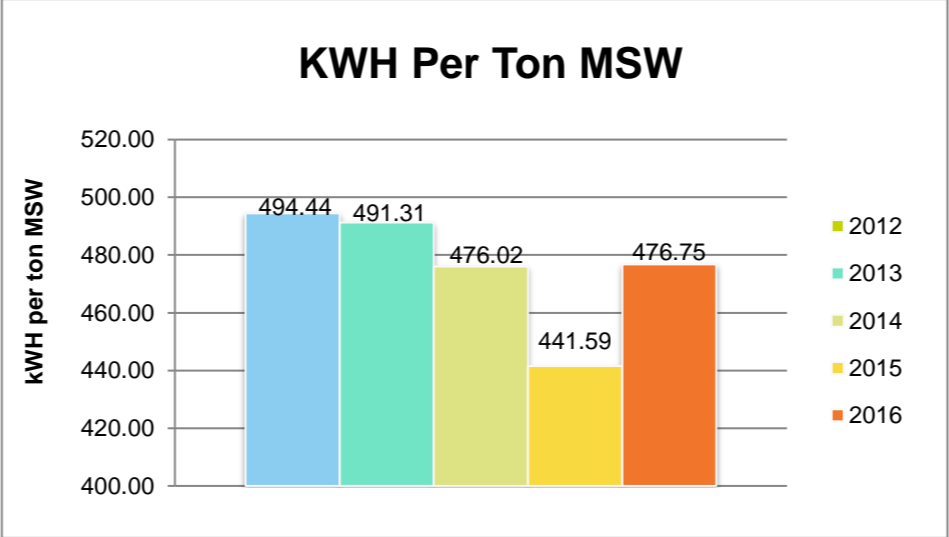
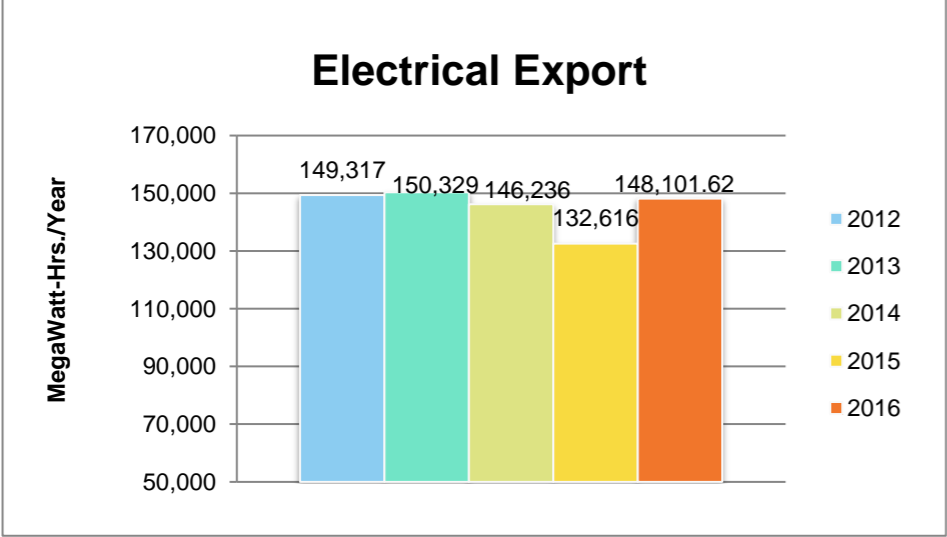


Figure 3-2

FY 2016 Breakdown of Materials Entering the Refuse-to-Energy Facility

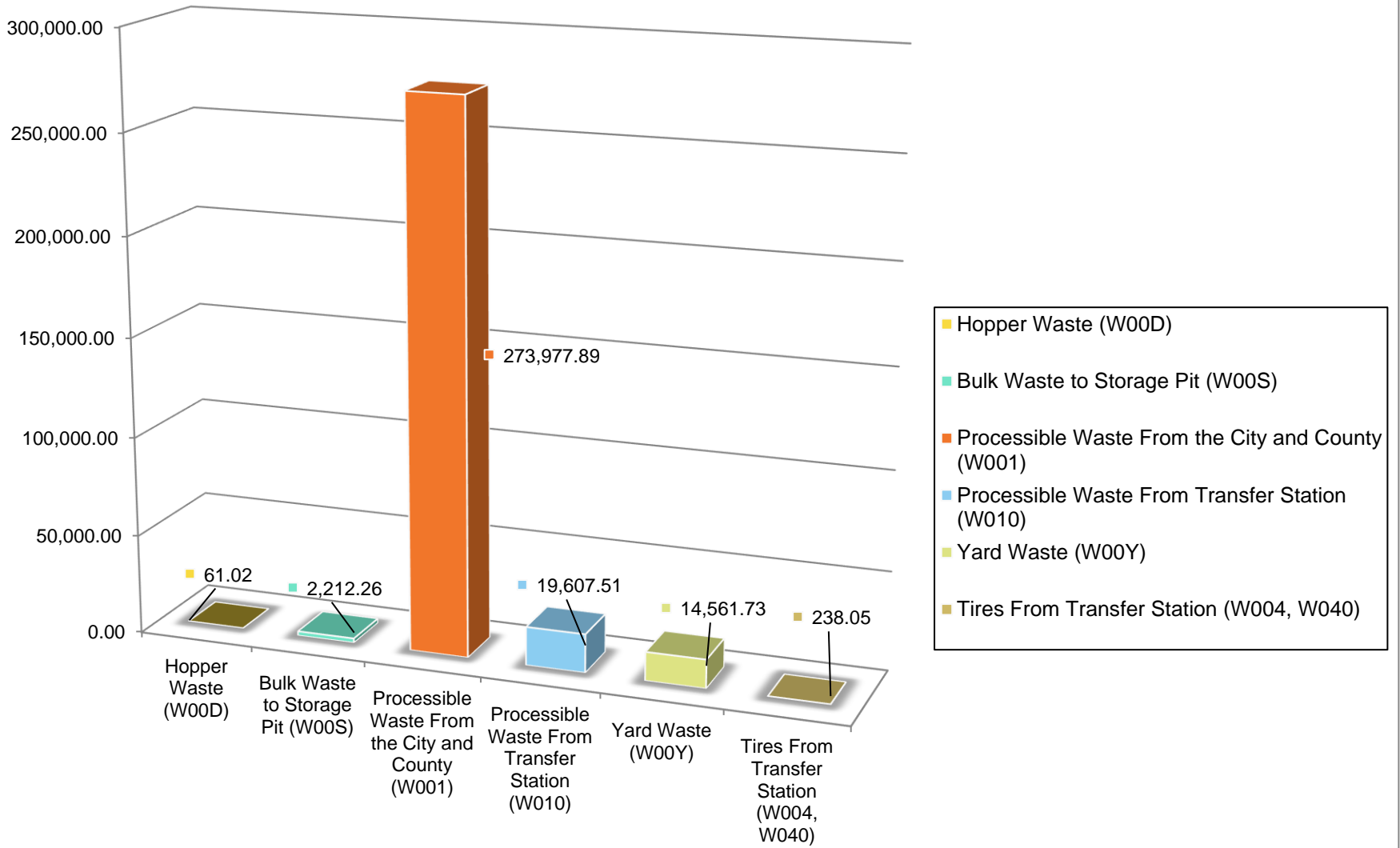


Figure 3-3

FY 2016 McKay Bay Refuse-to-Energy Facility Waste Processing Data

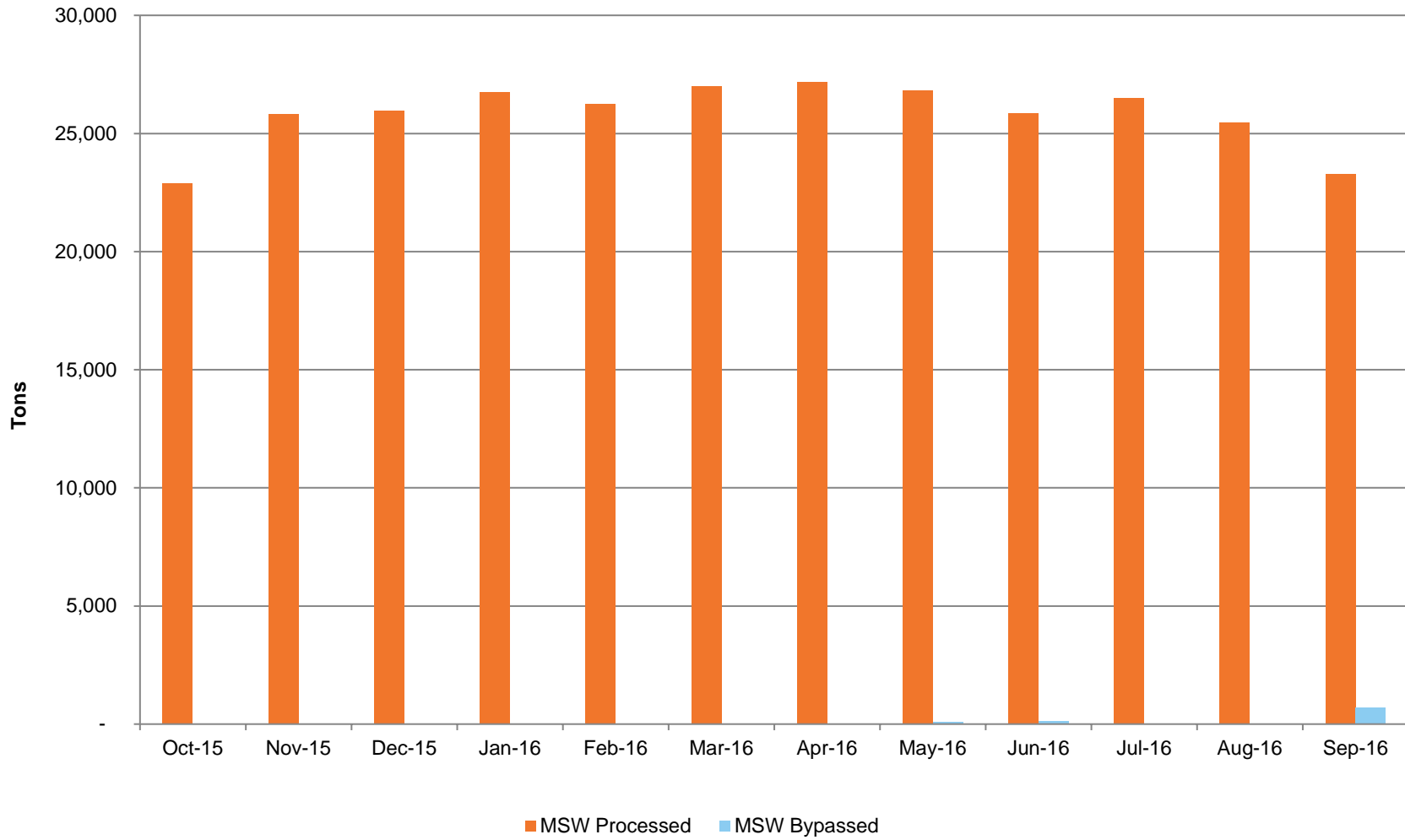


Figure 3-4A

FY 2016 McKay Bay Refuse-to-Energy Facility MSW / Ash Production

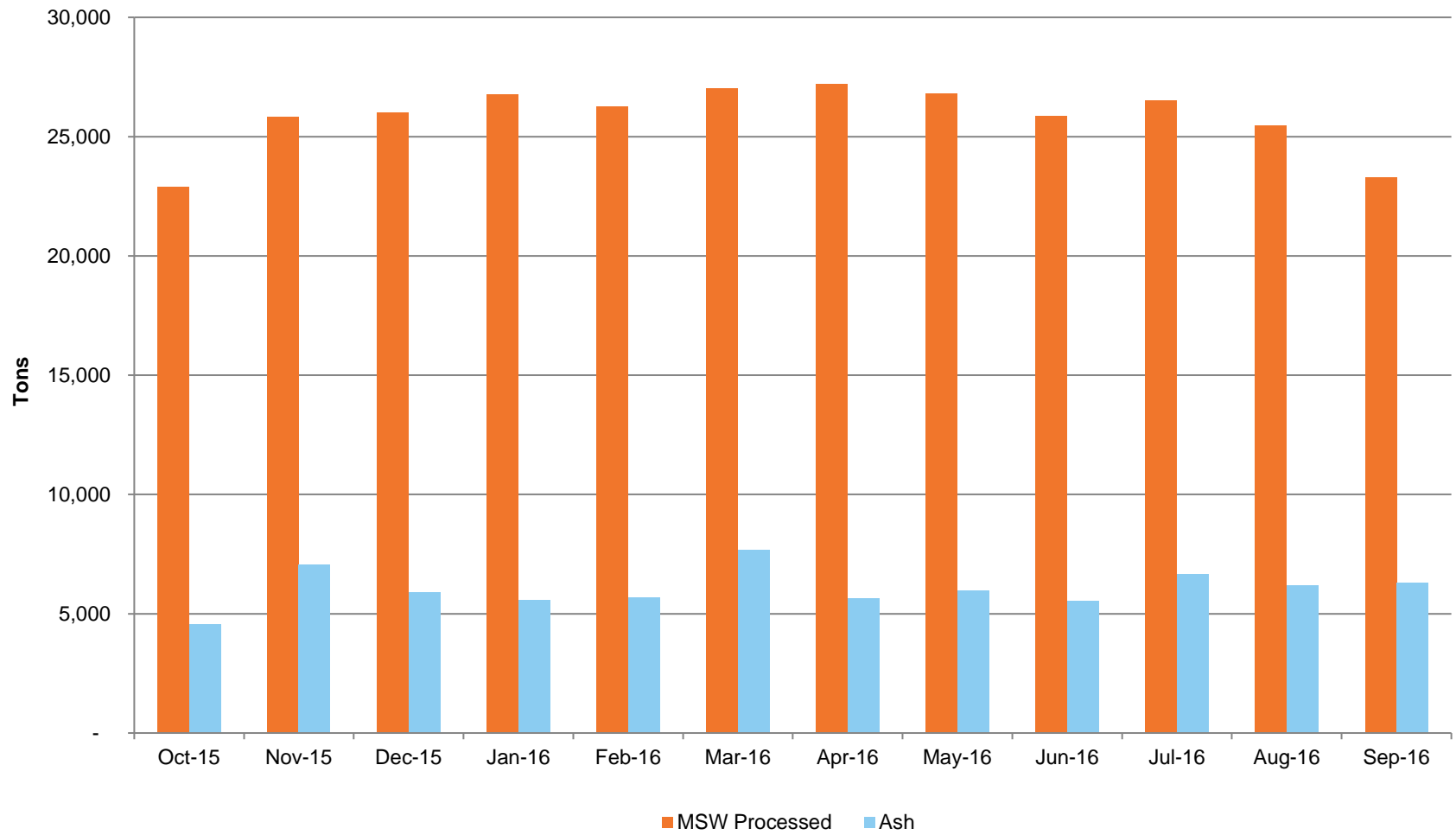


Figure 3-4B

FY 2016 McKay Bay Refuse-to-Energy Facility Ferrous / Non-Ferrous Production

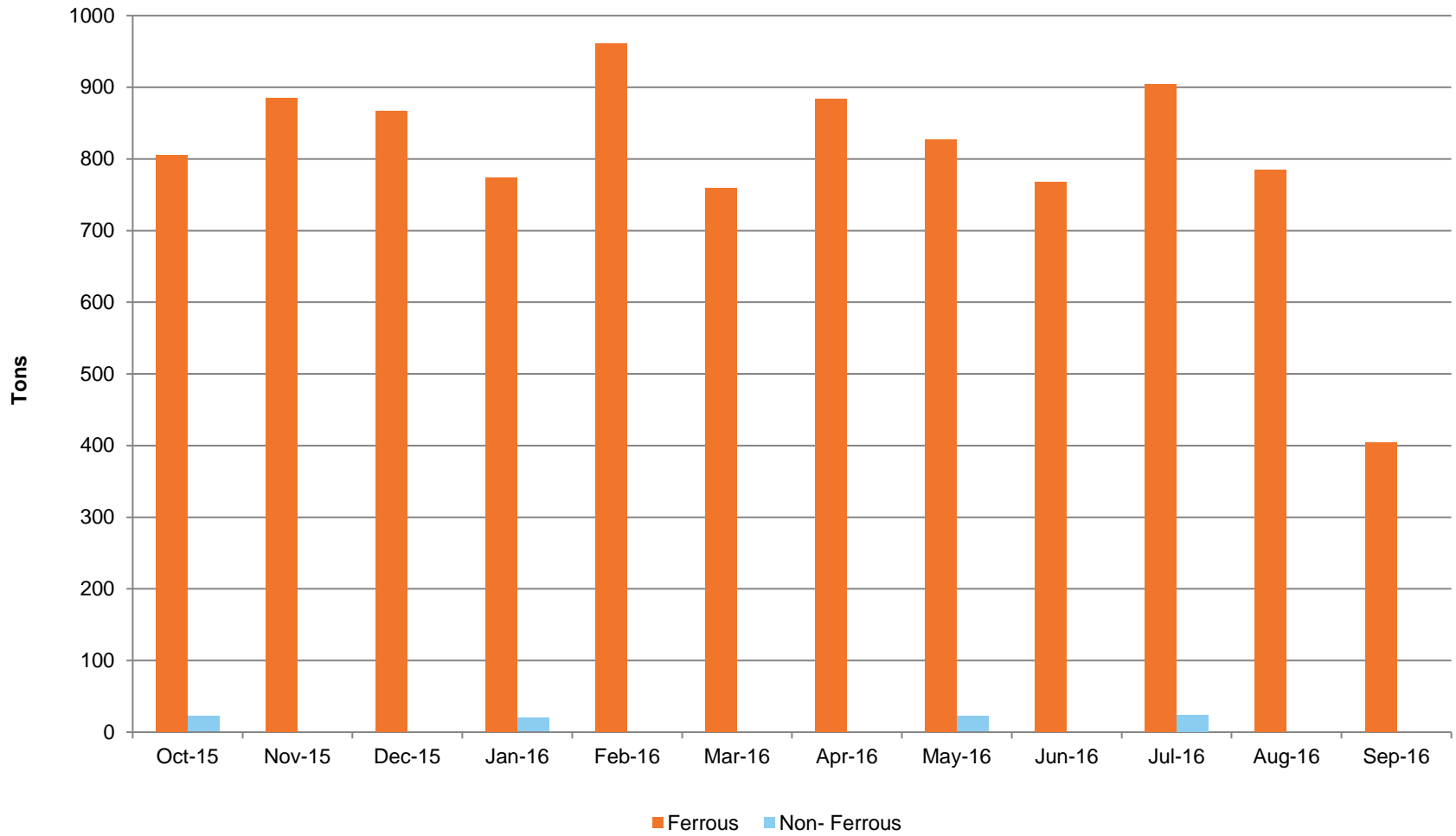


Figure 3-5

FY 2016 McKay Bay Refuse-to-Energy Facility Electrical Production Efficiency

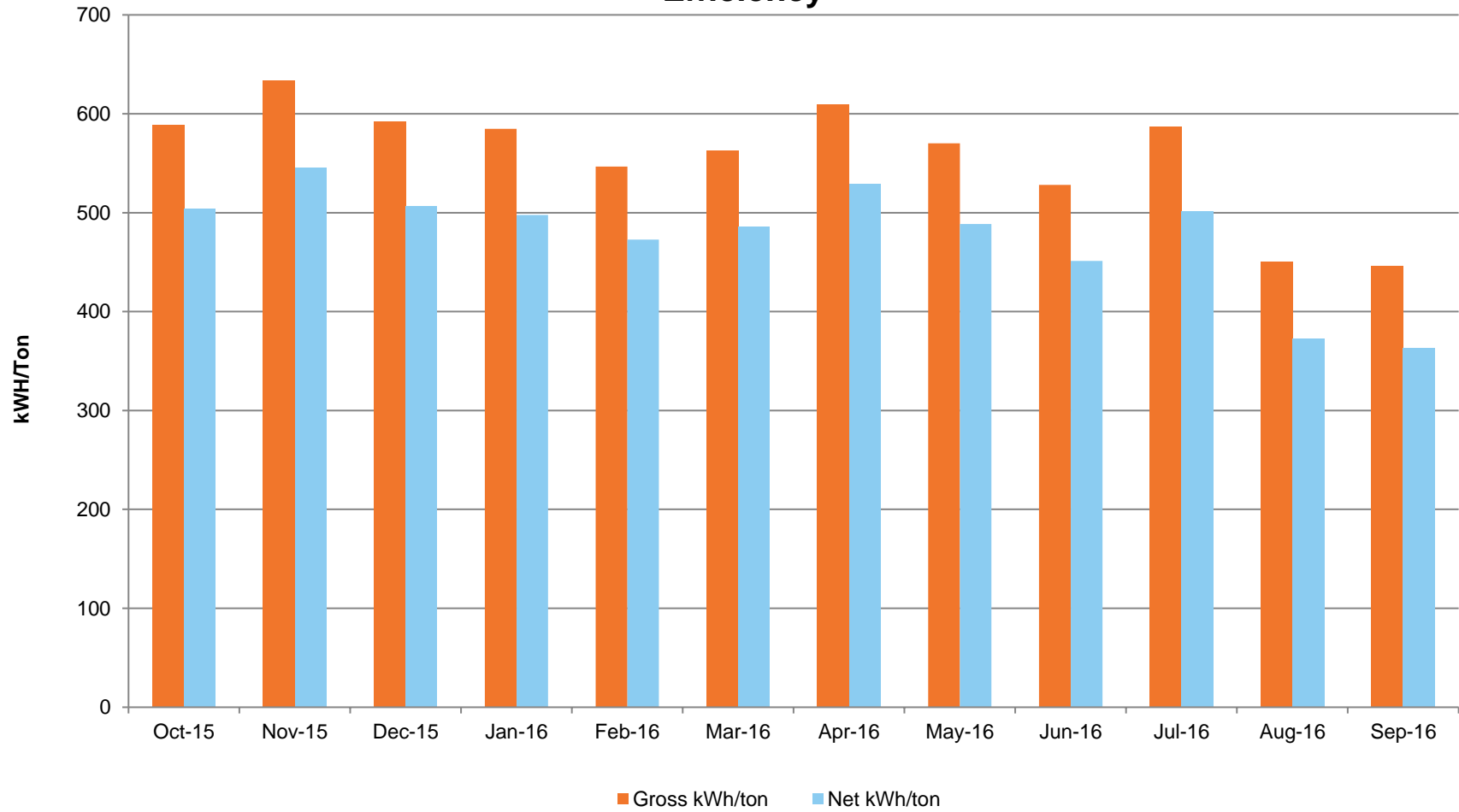


Figure 3-6A

FY 2016 McKay Bay Refuse-to-Energy Facility Average Boiler Availability

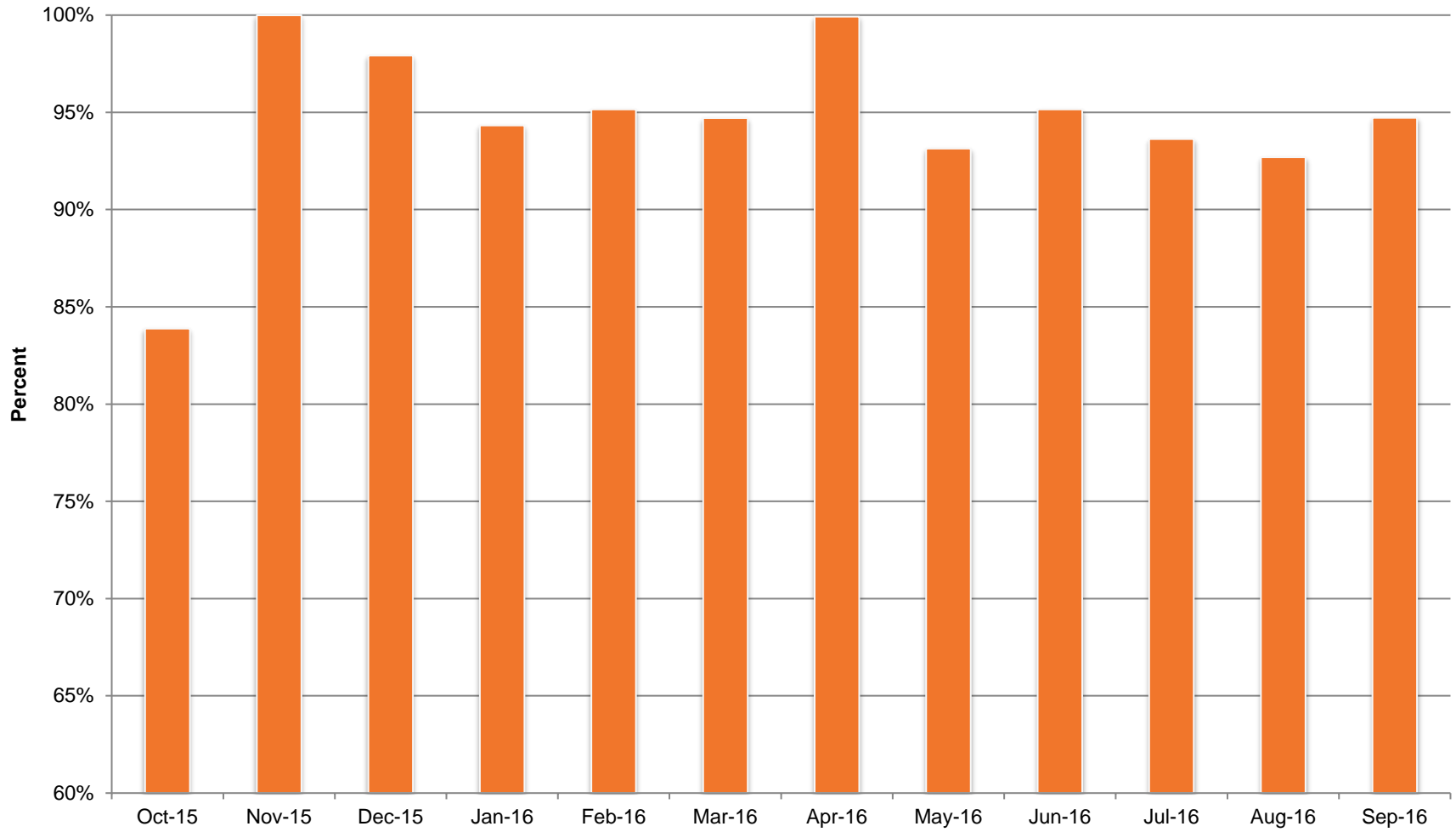


Figure 3-6B

FY 2012-2016 McKay Bay Refuse-to-Energy Facility Average Boiler Availability

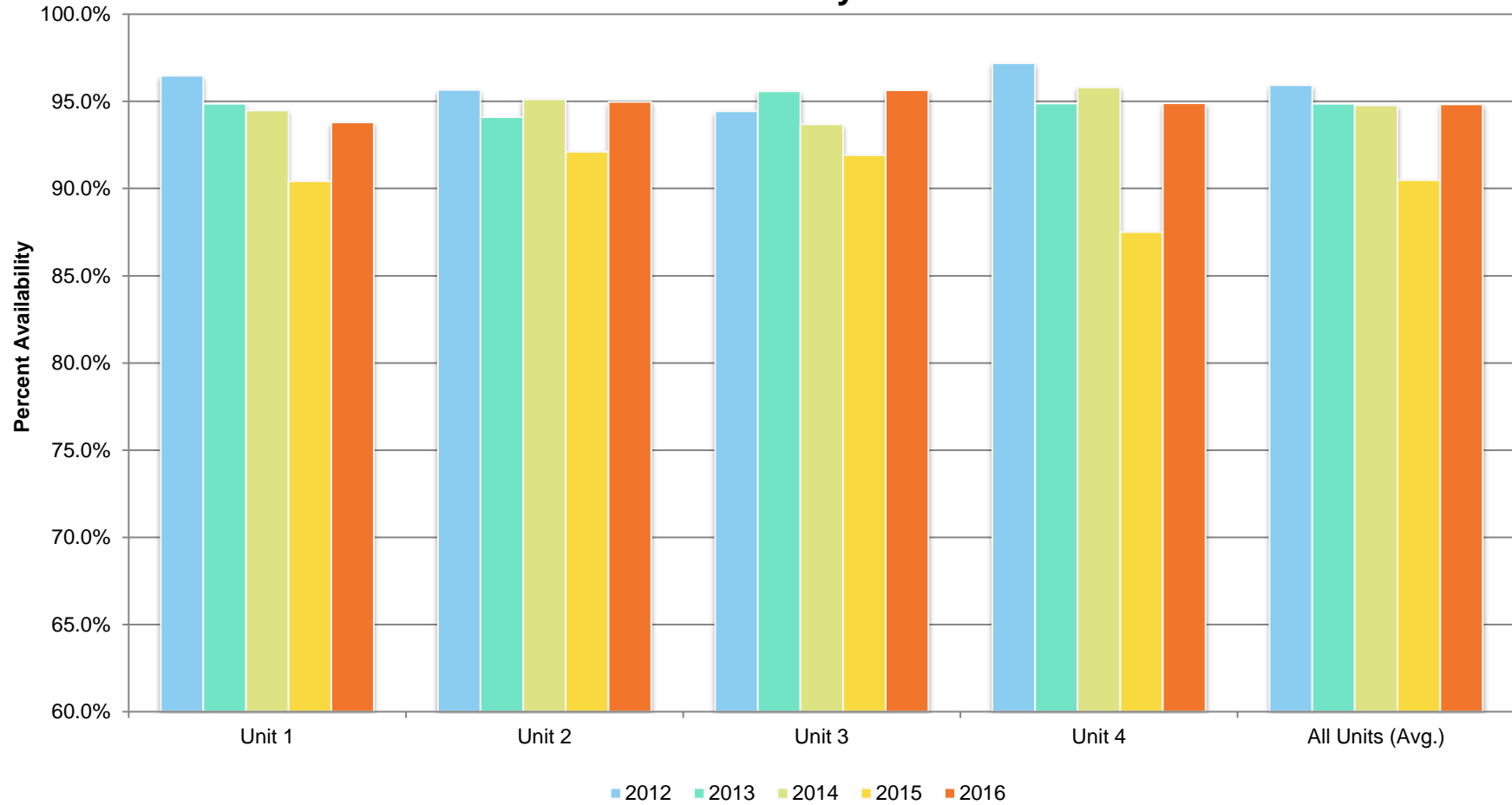


Figure 3-7

FY 2012-2016 McKay Bay Refuse-to-Energy Facility
Heat-based Refuse Processing Capacity - Heat Input per Unit as Percent of
Design Maximum

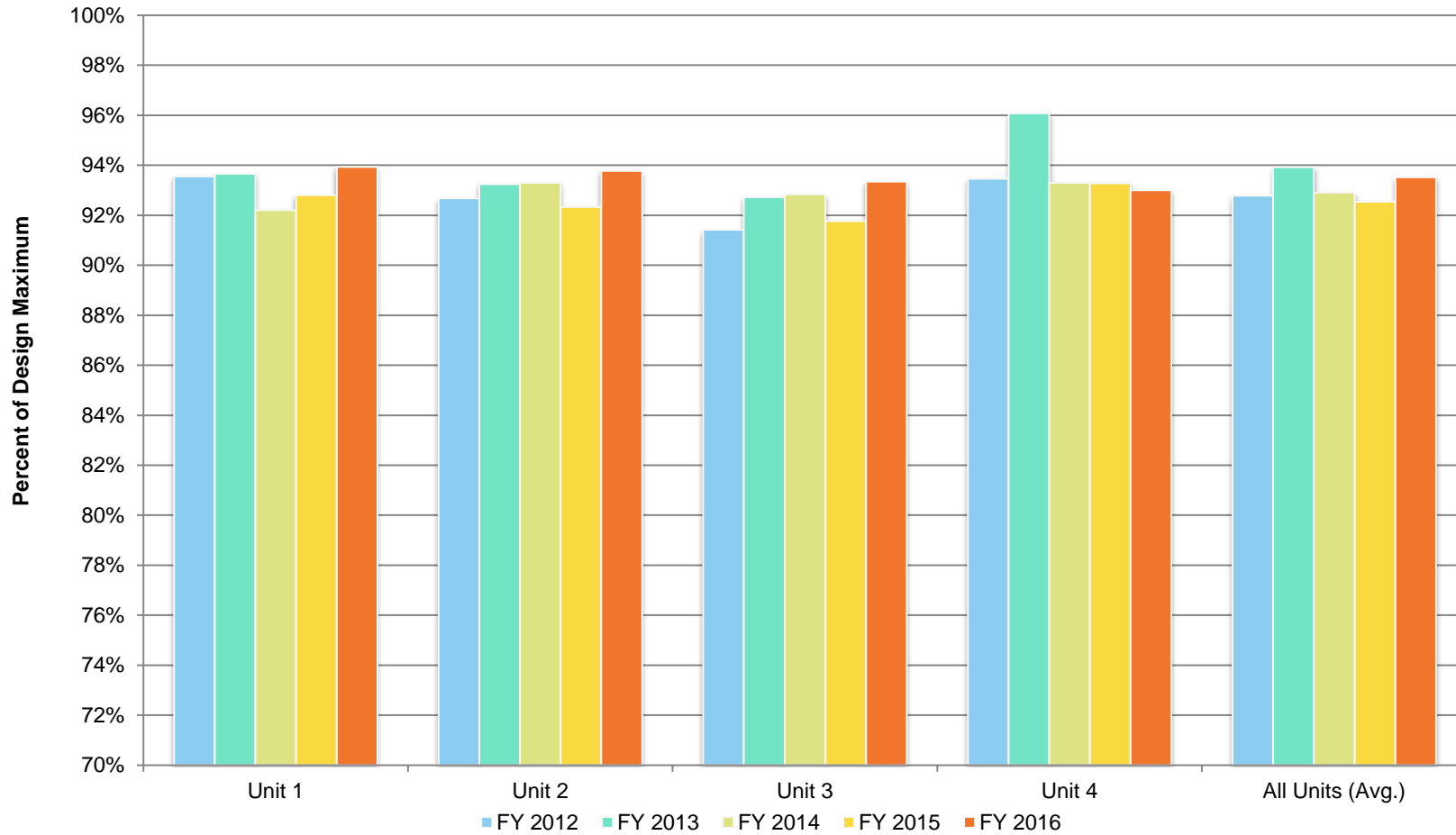


Figure 3-8

**FY 2012-2016 McKay Bay Refuse-to-Energy Facility
Steam Generating Capacity - Steam Produced per Unit as Percent of
Design Capacity**

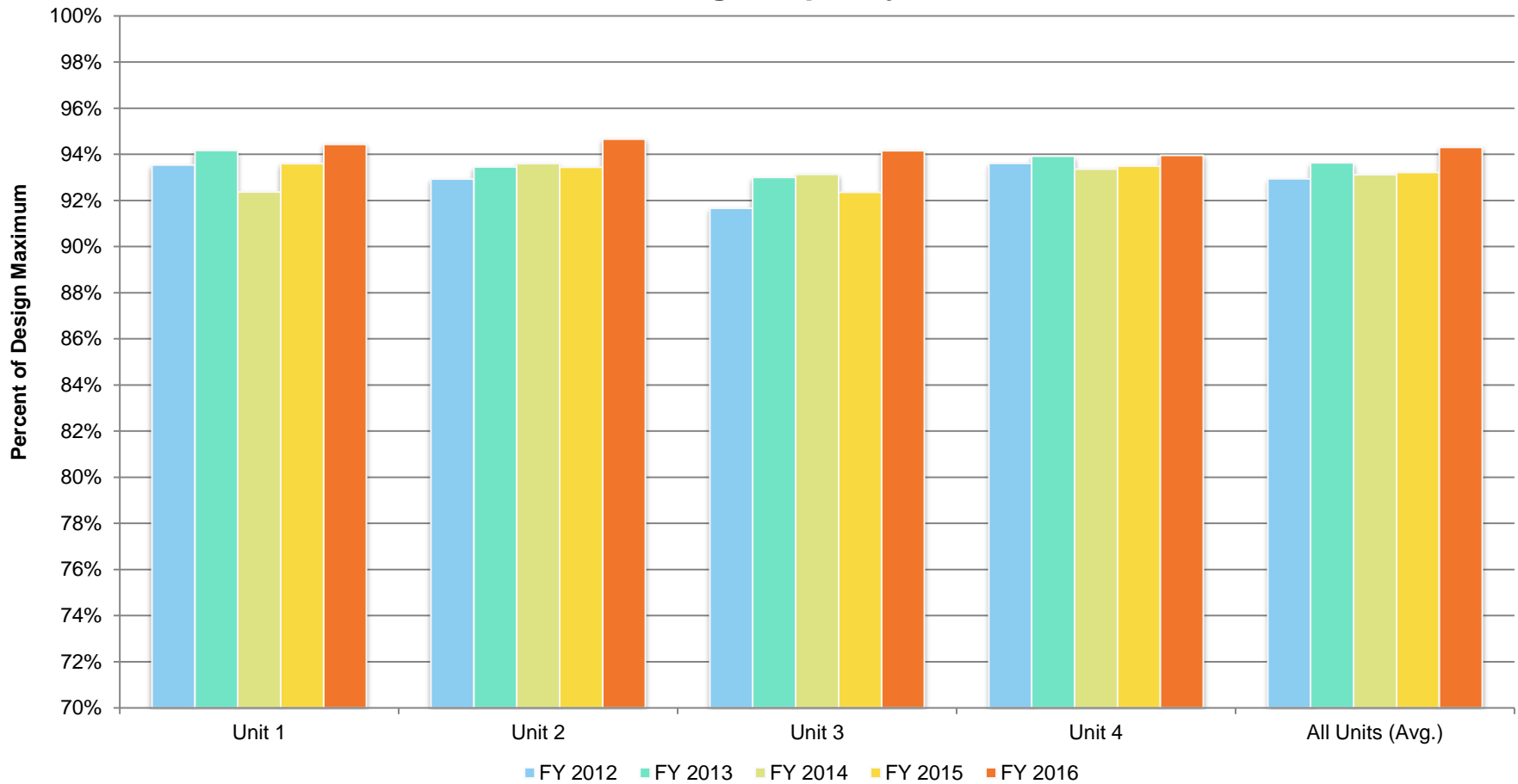


Figure 3-9

**FY 2012-2016 McKay Bay Refuse-to-Energy Facility
Tonnage-based Refuse Processing Capacity - Refuse Throughput per Unit
as a Percent of Design Capacity**

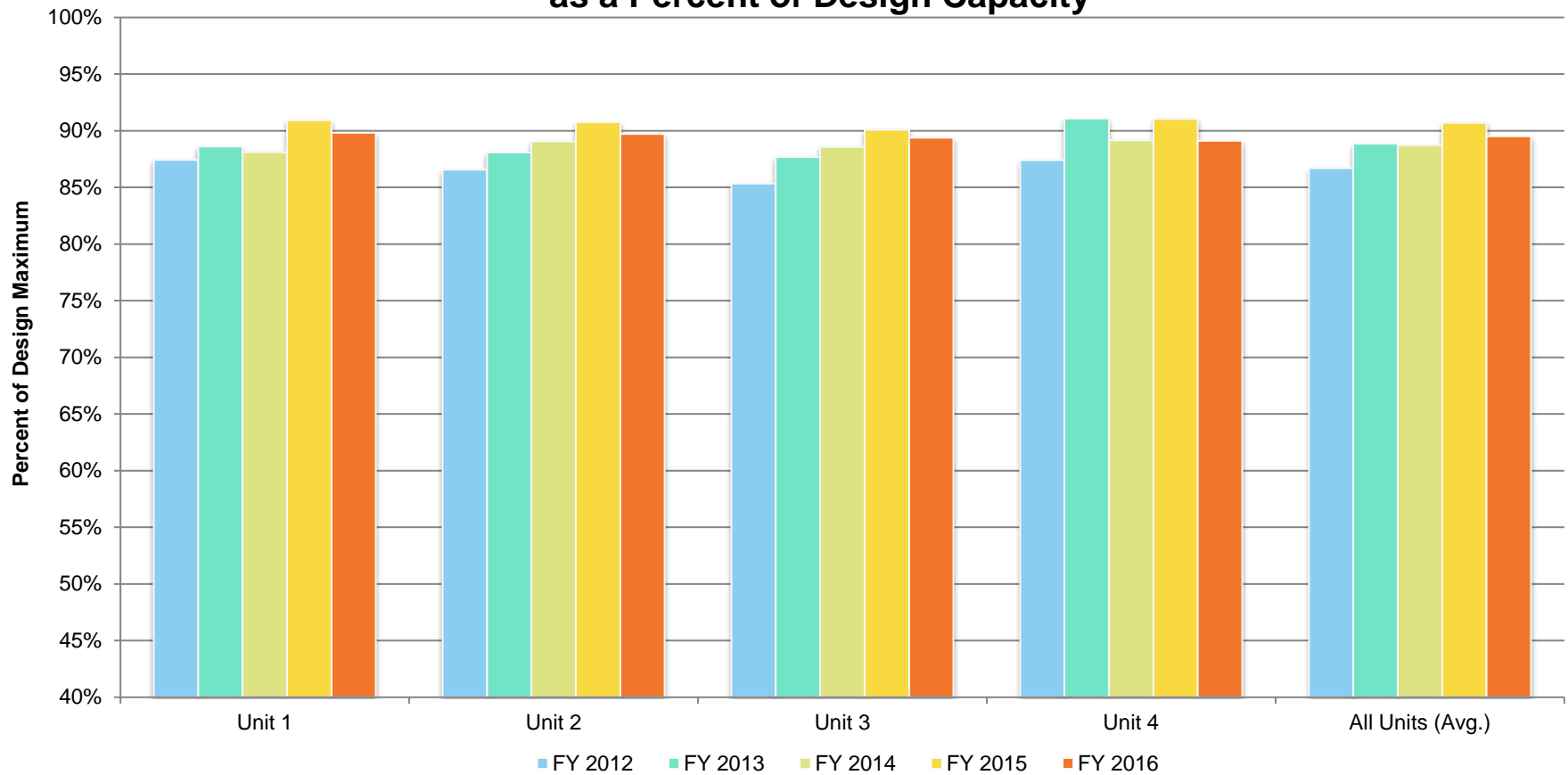


Figure 3-10
McKay Bay Refuse-to-Energy Facility
Emission Test Results Oct. 2015 (FY 2016)
Reported as a Percent of the Allowable Level (Contractual)

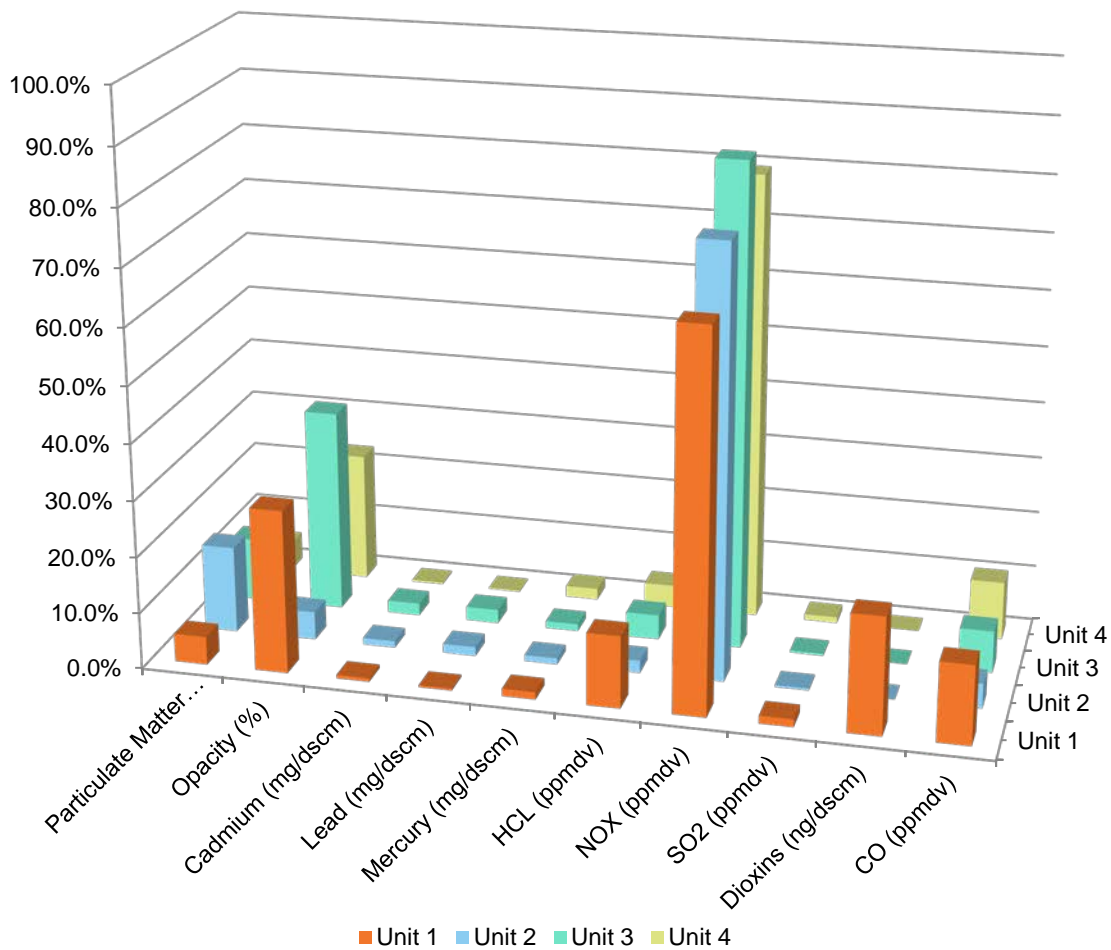


Figure 3-11
McKay Bay Refuse-to-Energy Facility
Emission Test Results Dec. 2016 (FY 2017)
Reported as a Percent of the Allowable Level (Contractual)

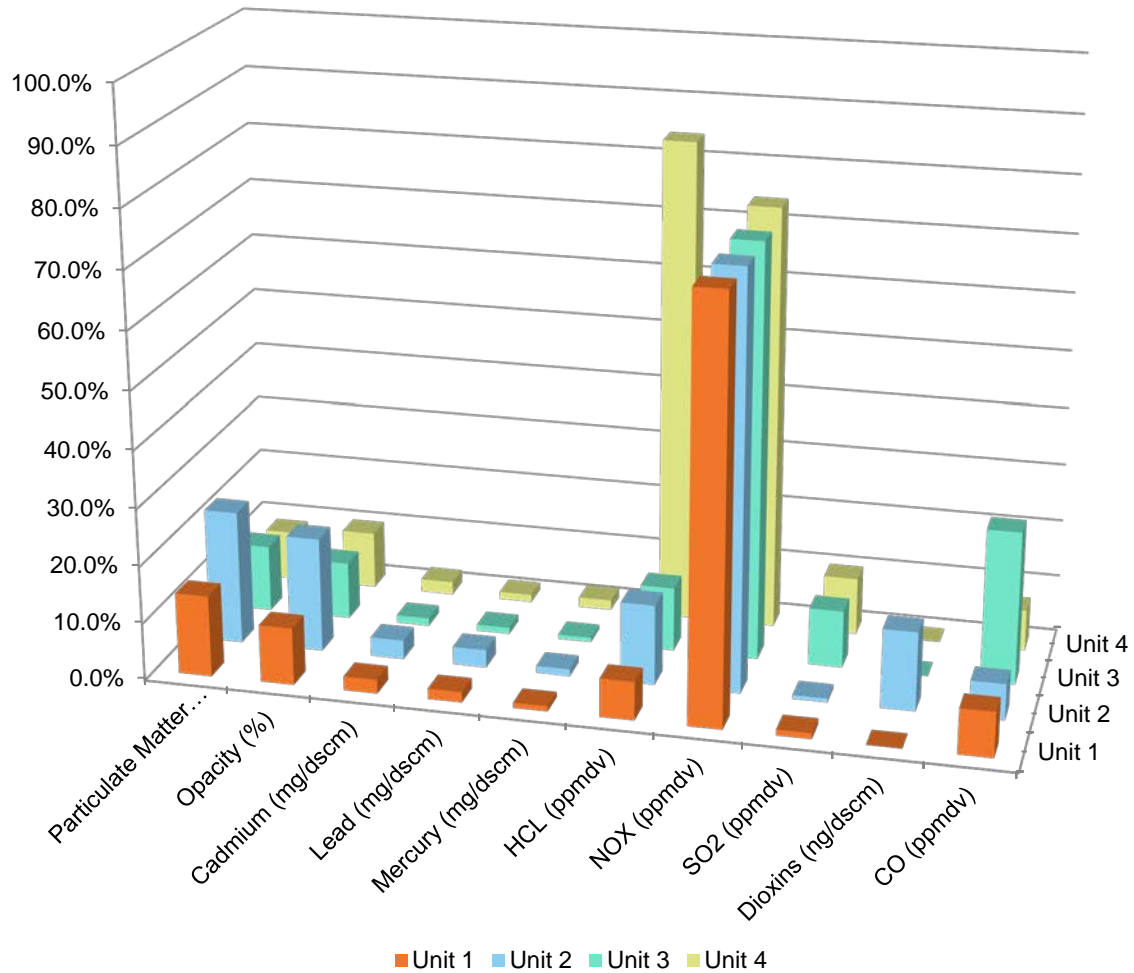
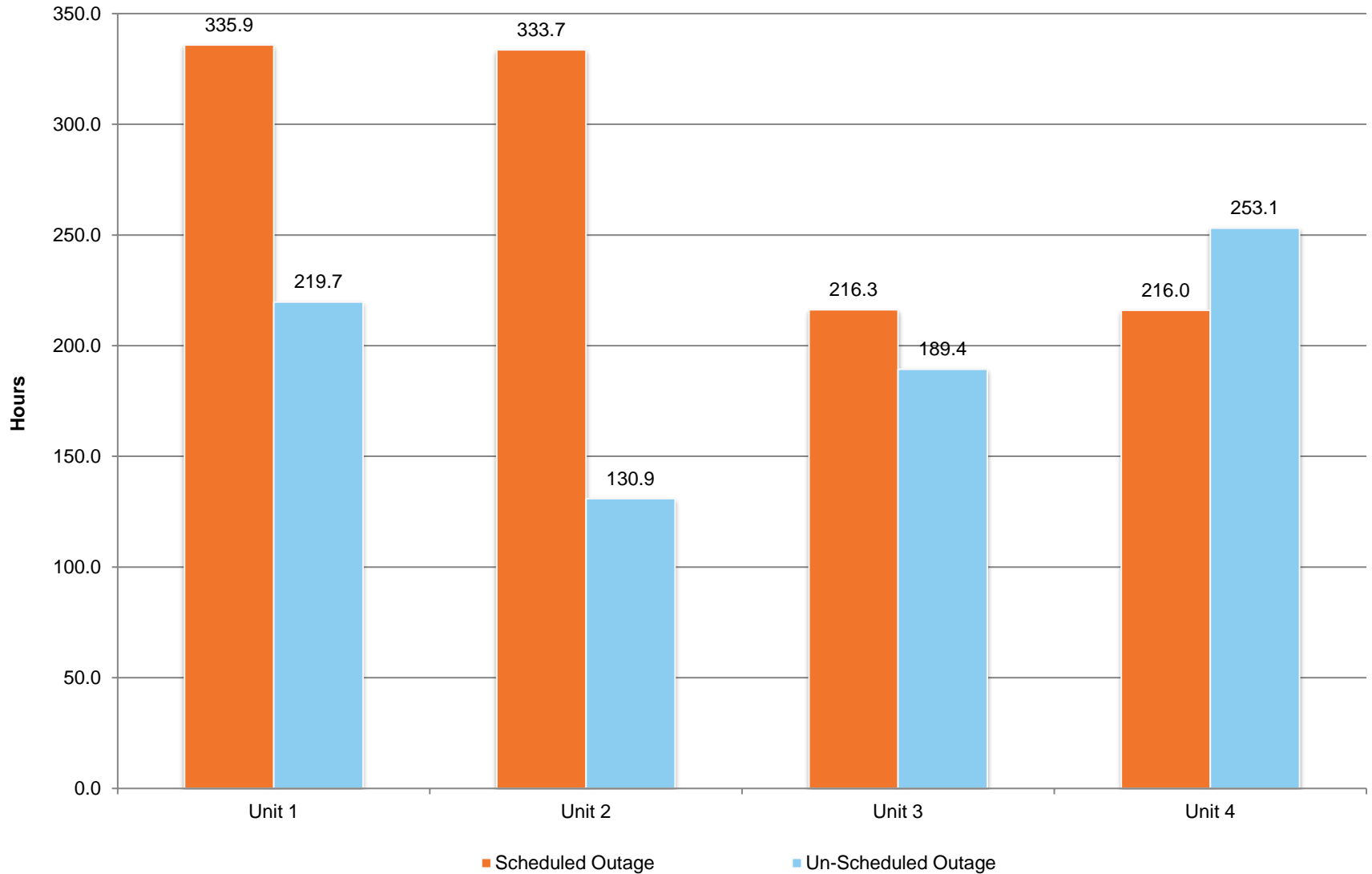


Figure 4-1

FY 2016 McKay Bay Refuse-to-Energy Facility Downtime Analysis



APPENDIX C

Facility Inspection Sheets



Arcadis US, Inc.
 3109 West Dr. Martin Luther King Jr. Blvd
 Suite 350
 Tampa, FL 33607
 (813) 903-3100

**CITY OF TAMPA
 McKAY BAY REFUSE-TO-ENERGY FACILITY
 INSPECTION REPORT BY ARCADIS**

PROJECT NUMBER: 0043055.0000 CONTRACT: Annual Report Assessment LOCATION: Tampa, Florida PLANT OWNER: City of Tampa PLANT OPERATOR: Wheelabrator McKay Bay, Inc.	INSPECTION DATE: October 19-20 & 31, 2016 and November 1, 2016 INSPECTORS: Michael DeLoach (AUS), Cindy Eckert (AUS) & Ray Horner (RHCA) COMMERCIAL OPERATION: 1965, 1985, 2002
---	--

REPORT FORM: 1. FACILITY SITE

ITEM	- OVERALL CONDITION -			COMMENTS
	GOOD	FAIR	POOR	
PAVEMENT SURFACES/ MARKINGS		X		<ul style="list-style-type: none"> Pavement worn at exit of tipping building stormwater drain grate. Pavement work at other areas throughout Facility. Asphalt throughout Facility is cracking and needs resurfacing.
CURBING/GUARDRAILS		X		
TRAFFIC SIGNS		X		<ul style="list-style-type: none"> Slippery sign at tip floor exit is bent and appears to have been hit. Overgrown trees blocking speed limit sign at tipping floor exit.
LIGHTING		X		<ul style="list-style-type: none"> Minor lighting issues throughout Facility. Lighting timers and solar dusk/dawn controllers need tuning.
FENCING		X		
LANDSCAPING/ GROUNDSKEEPING		X		<ul style="list-style-type: none"> Some erosion apparent on east side of slope up to and around Administration Building parking area.
DRAINAGE BASINS/ DETENTION PONDS		X		
STRUCTURAL		X		<ul style="list-style-type: none"> Painting of concrete columns and walls is flaking.
IRRIGATION			X	<ul style="list-style-type: none"> Irrigation system seems abandoned in place and non-functional, remove abandoned system.
GENERAL NOTES: Additional comments and issues can be seen in the Facility Punchlist, which is incorporated in the FY 2016 Annual Report. New items identified by RED font.				

Arcadis US, Inc.
 3109 West Dr. Martin Luther King Jr. Blvd
 Suite 350
 Tampa, FL 33607
 (813) 903-3100

**CITY OF TAMPA
 McKAY BAY REFUSE-TO-ENERGY FACILITY
 INSPECTION REPORT BY ARCADIS**

PROJECT NUMBER: 0043055.0000 CONTRACT: Annual Report Assessment LOCATION: Tampa, Florida PLANT OWNER: City of Tampa PLANT OPERATOR: Wheelabrator McKay Bay, Inc.	INSPECTION DATE: October 19-20 & 31, 2016 and November 1, 2016 INSPECTORS: Michael DeLoach (AUS), Cindy Eckert (AUS) & Ray Horner (RHCA) COMMERCIAL OPERATION: 1965, 1985, 2002
---	--

REPORT FORM: 2. WASTE RECEIVING TIPPING FLOOR

ITEM	- OVERALL CONDITION -			COMMENTS
	GOOD	FAIR	POOR	
BUILDING/STRUCTURES		X		<ul style="list-style-type: none"> Backstop on Bay 7 in need of repair. Significant mildew on louvers, downspouts, and siding on the north side. Gutters, scuppers, and downspouts rusting through on northwest corner.
ROOF		X		<ul style="list-style-type: none"> Bubbling evident in building roof.
FLOORS/WALLS		X		<ul style="list-style-type: none"> Spalling and cracking observed at expansion joint. Exposed rebar apparent on truck bay wall.
TRUCK STOPS/BOLLARDS	X			
FIRE PROTECTION SYSTEM	X			<ul style="list-style-type: none"> Some new fire protection equipment installed when new IR scanners were installed for the tipping floor.
LIGHTING		X		<ul style="list-style-type: none"> 6 lights out during inspection.
HOUSEKEEPING		X		
SIGNAGE		X		<ul style="list-style-type: none"> Sign for bays 2, 6, and 7 are missing and others are dirty and illegible.
EXIT RAMP		X		<ul style="list-style-type: none"> Foliage build-up around signage causes signs to be illegible. Exit ramp sump appears non-functional.
GENERAL NOTES: Additional comments and issues can be seen in the Facility Punchlist, which is incorporated in the FY 2016 Annual Report. New items identified by RED font.				

Arcadis US, Inc.
 3109 West Dr. Martin Luther King Jr. Blvd
 Suite 350
 Tampa, FL 33607
 (813) 903-3100

**CITY OF TAMPA
 McKAY BAY REFUSE-TO-ENERGY FACILITY
 INSPECTION REPORT BY ARCADIS**

PROJECT NUMBER: 0043055.0000 CONTRACT: Annual Report Assessment LOCATION: Tampa, Florida PLANT OWNER: City of Tampa PLANT OPERATOR: Wheelabrator McKay Bay, Inc.	INSPECTION DATE: October 19-20 & 31, 2016 and November 1, 2016 INSPECTORS: Michael DeLoach (AUS), Cindy Eckert (AUS) & Ray Horner (RHCA) COMMERCIAL OPERATION: 1965, 1985, 2002
---	--

REPORT FORM: 3. REFUSE STORAGE BUILDING

ITEM	- OVERALL CONDITION -			COMMENTS
	GOOD	FAIR	POOR	
STEEL STRUCTURES	X			
FLOORS/COLUMNS/WALKWAYS		X		<ul style="list-style-type: none"> Walkways and trash chute walls gouged.
PIT WALLS		X		<ul style="list-style-type: none"> Cracking and spalling observed below the feed hoppers on the pit walls.
ROOF	X			
SIDING/FLASHING		X		
FIRE PROTECTION SYSTEM	X			
LIGHTING		X		<ul style="list-style-type: none"> Emergency light broken and other lights with significant debris buildup.
HOUSEKEEPING		X		<ul style="list-style-type: none"> Bathroom/storage areas need cleaning. Charging deck has refuse spilling over western edges during inspection.
EAST CRANE		X		
WEST CRANE		X		
GRAPPLES		X		
CRANE CONTROL SYSTEM		X		
PIT MANAGEMENT		X		<ul style="list-style-type: none"> Pit is extremely full during the outage and spilling over to the charging deck on the west side.

GENERAL NOTES: Additional comments and issues can be seen in the Facility Punchlist, which is incorporated in the FY 2016 Annual Report. **New items identified by RED font.**

Arcadis US, Inc.
 3109 West Dr. Martin Luther King Jr. Blvd
 Suite 350
 Tampa, FL 33607
 (813) 903-3100

**CITY OF TAMPA
 McKAY BAY REFUSE-TO-ENERGY FACILITY
 INSPECTION REPORT BY ARCADIS**

PROJECT NUMBER: 0043055.0000 CONTRACT: Annual Report Assessment LOCATION: Tampa, Florida PLANT OWNER: City of Tampa PLANT OPERATOR: Wheelabrator McKay Bay, Inc.	INSPECTION DATE: October 19-20 & 31, 2016 and November 1, 2016 INSPECTORS: Michael DeLoach (AUS), Cindy Eckert (AUS) & Ray Horner (RHCA) COMMERCIAL OPERATION: 1965, 1985, 2002
---	--

REPORT FORM: 4. ADMINISTRATION BUILDING

ITEM	- OVERALL CONDITION -			COMMENTS
	GOOD	FAIR	POOR	
BUILDING/STRUCTURES		X		
ROOF		X		
FLOORS		X		<ul style="list-style-type: none"> Floors are old and look dingy even after cleaning.
GROUND FLOOR		X		
SECOND FLOOR		X		<ul style="list-style-type: none"> Walls are dirty and need to be cleaned, especially near hard hat hanger.
THIRD FLOOR	X			<ul style="list-style-type: none"> Significant improvement to ceiling tiles and HVAC.
FIRE PROTECTION	X			
FOURTH FLOOR E/W		X		<ul style="list-style-type: none"> Ceiling tiles broken and stained.
FIFTH FLOOR		X		
ELEVATOR/CONTROLS		X		<ul style="list-style-type: none"> Some buttons do not illuminate when pressed.
LIGHTING		X		<ul style="list-style-type: none"> Several lights out in the north stairwell
HVAC SYSTEMS		X		<ul style="list-style-type: none"> Dirty HVAC vents on the 2nd floor.
HOUSEKEEPING	X			
SIGNAGE		X		
ELECTRICAL		X		
SNCR CLEANING ROOM		X		<ul style="list-style-type: none"> HVAC duct severely corroding.
OPERATIONS TOOL ROOM		X		
WATER LAB		X		
HYDRAULIC ROOM		X		
I&E ROOM/STORAGE		X		<ul style="list-style-type: none"> Missing ceiling tiles. Fan in I&E Storage extremely corroded.

GENERAL NOTES: Additional comments and issues can be seen in the Facility Punchlist, which is incorporated in the FY 2016 Annual Report. **New items identified by RED font.**

Arcadis US, Inc.
 3109 West Dr. Martin Luther King Jr. Blvd
 Suite 350
 Tampa, FL 33607
 (813) 903-3100

**CITY OF TAMPA
 McKAY BAY REFUSE-TO-ENERGY FACILITY
 INSPECTION REPORT BY ARCADIS**

PROJECT NUMBER: 0043055.0000 CONTRACT: Annual Report Assessment LOCATION: Tampa, Florida PLANT OWNER: City of Tampa PLANT OPERATOR: Wheelabrator McKay Bay, Inc.	INSPECTION DATE: October 19-20 & 31, 2016 and November 1, 2016 INSPECTORS: Michael DeLoach (AUS), Cindy Eckert (AUS) & Ray Horner (RHCA) COMMERCIAL OPERATION: 1965, 1985, 2002
---	--

REPORT FORM: 5. MAINTENANCE/WAREHOUSE BUILDING AND INVENTORY CONTROL SYSTEM

ITEM	- OVERALL CONDITION -			COMMENTS
	GOOD	FAIR	POOR	
BUILDING STRUCTURES		X		<ul style="list-style-type: none"> Damaged siding on north and south sides of the building.
ROOF		X		
FLOORS		X		<ul style="list-style-type: none"> Floors need cleaning or replacement.
DOORS		X		
OFFICES	X			
STORAGE AREA	X			
MAINTENANCE AREA		X		
ELECTRICAL	X			
HVAC		X		<ul style="list-style-type: none"> Ductwork registers dirty indicating ductwork likely needs to be cleaned.
FIRE PROTECTION		X		<ul style="list-style-type: none"> Sprinkler placement up against tiles is not to code.
FABRICATION AREA		X		
GENERAL NOTES: Additional comments and issues can be seen in the Facility Punchlist, which is incorporated in the FY 2016 Annual Report. New items identified by RED font.				

Arcadis US, Inc.
 3109 West Dr. Martin Luther King Jr. Blvd
 Suite 350
 Tampa, FL 33607
 (813) 903-3100

**CITY OF TAMPA
 McKAY BAY REFUSE-TO-ENERGY FACILITY
 INSPECTION REPORT BY ARCADIS**

PROJECT NUMBER: 0043055.0000 CONTRACT: Annual Report Assessment LOCATION: Tampa, Florida PLANT OWNER: City of Tampa PLANT OPERATOR: Wheelabrator McKay Bay, Inc.	INSPECTION DATE: October 19-20 & 31, 2016 and November 1, 2016 INSPECTORS: Michael DeLoach (AUS), Cindy Eckert (AUS) & Ray Horner (RHCA) COMMERCIAL OPERATION: 1965, 1985, 2002
---	--

REPORT FORM: 6A. COMBUSTION/STEAM GENERATING EQUIPMENT – UNIT 1

ITEM	- OVERALL CONDITION -			COMMENTS
	GOOD	FAIR	POOR	
STRUCTURAL STEEL/ PLATFORMS		X		<ul style="list-style-type: none"> Cleaning and repainting needed, especially on the north side. Corrosion apparent on instrument air supports and chemical feed line supports.
FURNACE EXTERNALS/ BOILER EXTERNALS		X		<ul style="list-style-type: none"> Boiler lagging needs cleaning throughout. Ash dust apparent on equipment, lines, handrails, and structural steel throughout.
STEAM DRUM & APPURTENCES		X		<ul style="list-style-type: none"> Leaking oxygen scavenger valves. Drum level and sight glass in disrepair.
PRIMARY AIR FAN		X		
SECONDARY AIR FAN		X		<ul style="list-style-type: none"> Corrosion apparent on motor fan casing.
COMBUSTION AIR SYSTEM		X		
SOOTBLOWER		X		<ul style="list-style-type: none"> Corrosion evident on sootblower motors.
AUXILIARY BURNER			X	<ul style="list-style-type: none"> Burner units/slide gates are old and require frequent repairs. Burner casing needs to be repainted.
STOKER/GRATE DRIVE		X		
SIFTINGS CONVEYOR SYSTEM		X		<ul style="list-style-type: none"> Belt guard at head end of conveyor is broken. Holes evident for siftings screw conveyor. Sifting chain and wear plate looks worn.
BOILER FLYASH CONVEYOR SYSTEM		X		<ul style="list-style-type: none"> Expansion joints into conveyor are very worn. Broken Plattco position levers.
HYDRAULIC SYSTEM		X		<ul style="list-style-type: none"> Minor leaks observed.
ASH EXPELLER			X	<ul style="list-style-type: none"> Considerable rust is evident. Overflow/level control issues at water box. Holes/corrosion in drain piping.
FEED CHUTES		X		<ul style="list-style-type: none"> Charring evident.
LIGHTING		X		

GENERAL NOTES: Additional comments and issues can be seen in the Facility Punchlist, which is incorporated in the FY 2016 Annual Report. **New items identified by RED font.**

Arcadis US, Inc.
 3109 West Dr. Martin Luther King Jr. Blvd
 Suite 350
 Tampa, FL 33607
 (813) 903-3100

**CITY OF TAMPA
 McKAY BAY REFUSE-TO-ENERGY FACILITY
 INSPECTION REPORT BY ARCADIS**

PROJECT NUMBER: 0043055.0000 CONTRACT: Annual Report Assessment LOCATION: Tampa, Florida PLANT OWNER: City of Tampa PLANT OPERATOR: Wheelabrator McKay Bay, Inc.	INSPECTION DATE: October 19-20 & 31, 2016 and November 1, 2016 INSPECTORS: Michael DeLoach (AUS), Cindy Eckert (AUS) & Ray Horner (RHCA) COMMERCIAL OPERATION: 1965, 1985, 2002
---	--

REPORT FORM: 6B. COMBUSTION/STEAM GENERATING EQUIPMENT – UNIT 2

ITEM	- OVERALL CONDITION -			COMMENTS
	GOOD	FAIR	POOR	
STRUCTURAL STEEL/ PLATFORMS		X		<ul style="list-style-type: none"> Cleaning and repainting needed. Corrosion apparent on instrument air supports and chemical feed line supports.
FURNACE EXTERNALS/ BOILER EXTERNALS		X		<ul style="list-style-type: none"> Ash dust apparent on equipment, lines, handrails, and structural steel throughout.
STEAM DRUM & APPURTENCES		X		<ul style="list-style-type: none"> Drum level and sight glass in disrepair.
PRIMARY AIR FAN		X		
SECONDARY AIR FAN		X		
COMBUSTION AIR SYSTEM		X		
SOOTBLOWERS		X		<ul style="list-style-type: none"> Corrosion evident on sootblower motors.
AUXILIARY BURNER			X	<ul style="list-style-type: none"> Burner units/slide gates are old and require frequent repairs. Burner casing needs repainting. Burner box pressure gauges not working.
STOKER/GRATE DRIVE		X		
SIFTINGS CONVEYOR SYSTEM		X		<ul style="list-style-type: none"> Sifting chain and wear plate looks worn.
BOILER FLYASH CONVEYOR SYSTEM		X		<ul style="list-style-type: none"> Broken Plattco position levers.
HYDRAULIC SYSTEM		X		
ASH EXPELLER			X	<ul style="list-style-type: none"> Considerable rust is evident. Overflow/level control issues at water box. Holes/corrosion in drain piping.
FEED CHUTES		X		<ul style="list-style-type: none"> Charring evident.
LIGHTING		X		
GENERAL NOTES: Additional comments and issues can be seen in the Facility Punchlist, which is incorporated in the FY 2016 Annual Report. New items identified by RED font.				

Arcadis US, Inc.
 3109 West Dr. Martin Luther King Jr. Blvd
 Suite 350
 Tampa, FL 33607
 (813) 903-3100

**CITY OF TAMPA
 McKAY BAY REFUSE-TO-ENERGY FACILITY
 INSPECTION REPORT BY ARCADIS**

PROJECT NUMBER: 0043055.0000 CONTRACT: Annual Report Assessment LOCATION: Tampa, Florida PLANT OWNER: City of Tampa PLANT OPERATOR: Wheelabrator McKay Bay, Inc.	INSPECTION DATE: October 19-20 & 31, 2016 and November 1, 2016 INSPECTORS: Michael DeLoach (AUS), Cindy Eckert (AUS) & Ray Horner (RHCA) COMMERCIAL OPERATION: 1965, 1985, 2002
---	--

REPORT FORM: 6C. COMBUSTION/STEAM GENERATING EQUIPMENT – UNIT 3

ITEM	- OVERALL CONDITION -			COMMENTS
	GOOD	FAIR	POOR	
STUCTURAL STEEL/ PLATFORMS		X		<ul style="list-style-type: none"> Cleaning and repainting needed. Corrosion apparent on instrument air supports and chemical feed line supports.
FURNACE EXTERNALS/ BOILER EXTERNALS		X		<ul style="list-style-type: none"> Ash dust apparent on equipment, lines, handrails, and structural steel throughout.
STEAM DRUM & APPURTENCES		X		<ul style="list-style-type: none"> Drum level and sight glass in disrepair. Heat escaping from gap in steam drum insulation and lagging.
PRIMARY AIR FAN		X		
SECONDARY AIR FAN		X		
COMBUSTION AIR SYSTEM		X		
SOOTBLOWERS		X		<ul style="list-style-type: none"> Sootblower control panel is rusted. Corrosion evident on sootblower motors.
AUXILIARY BURNER			X	<ul style="list-style-type: none"> Burner units/slide gates are old and require frequent repairs. Slide gate casing and burner box needs repainting. Burner box pressure gauge not working.
STOKER/GRATE DRIVE		X		
SIFTINGS CONVEYOR SYSTEM		X		<ul style="list-style-type: none"> Areas of missing lagging on chutes. Sifting chain and wear plate looks worn.
BOILER FLYASH CONVEYOR SYSTEM		X		<ul style="list-style-type: none"> Hole in conveyor casing near expeller. Broken Plattco position levers.
HYDRAULIC SYSTEM		X		<ul style="list-style-type: none"> Minor leaks around grate and ground level.
ASH EXPELLER			X	<ul style="list-style-type: none"> Considerable rust is evident. Overflow/level control issues at water box. Holes/corrosion in drain piping.
FEED CHUTES		X		<ul style="list-style-type: none"> Charring evident.
LIGHTING		X		

GENERAL NOTES: Additional comments and issues can be seen in the Facility Punchlist, which is incorporated in the FY 2016 Annual Report. New items identified by RED font.

Arcadis US, Inc.
 3109 West Dr. Martin Luther King Jr. Blvd
 Suite 350
 Tampa, FL 33607
 (813) 903-3100

**CITY OF TAMPA
 McKAY BAY REFUSE-TO-ENERGY FACILITY
 INSPECTION REPORT BY ARCADIS**

PROJECT NUMBER: 0043055.0000 CONTRACT: Annual Report Assessment LOCATION: Tampa, Florida PLANT OWNER: City of Tampa PLANT OPERATOR: Wheelabrator McKay Bay, Inc.	INSPECTION DATE: October 19-20 & 31, 2016 and November 1, 2016 INSPECTORS: Michael DeLoach (AUS), Cindy Eckert (AUS) & Ray Horner (RHCA) COMMERCIAL OPERATION: 1965, 1985, 2002
---	--

REPORT FORM: 6D. COMBUSTION/STEAM GENERATING EQUIPMENT – UNIT 4

ITEM	- OVERALL CONDITION -			COMMENTS
	GOOD	FAIR	POOR	
STRUCTURAL STEEL/ PLATFORMS		X		<ul style="list-style-type: none"> Cleaning and repainting needed. Corrosion apparent on instrument air supports and chemical feed line supports.
FURNACE EXTERNALS/ BOILER EXTERNALS		X		<ul style="list-style-type: none"> Ash dust apparent on equipment, lines, handrails, and structural steel throughout. SNCR skid portions of piping insulation broken and electrical box leaking.
STEAM DRUM & APPURTENCES		X		<ul style="list-style-type: none"> Drum level sight glass in disrepair.
PRIMARY AIR FAN		X		
SECONDARY AIR FAN		X		
COMBUSTION AIR SYSTEM		X		
SOOTBLOWERS		X		<ul style="list-style-type: none"> Corrosion evident on sootblower motors.
AUXILIARY BURNER			X	<ul style="list-style-type: none"> Burner units/slide gates are old and require frequent repairs.
STOKER/GRATE DRIVE		X		
SIFTINGS CONVEYOR SYSTEM		X		<ul style="list-style-type: none"> Areas of missing lagging on chutes. Sifting chain and wear plate looks worn.
BOILER FLYASH CONVEYOR SYSTEM		X		<ul style="list-style-type: none"> Broken Plattco position levers.
HYDRAULIC SYSTEM		X		
ASH EXPELLER			X	<ul style="list-style-type: none"> Considerable rust is evident. Overflow/level control issues at water box. Holes/corrosion in drain piping.
FEED CHUTES		X		<ul style="list-style-type: none"> Charring evident.
LIGHTING		X		
GENERAL NOTES: Additional comments and issues can be seen in the Facility Punchlist, which is incorporated in the FY 2016 Annual Report. New items identified by RED font.				

Arcadis US, Inc.
 3109 West Dr. Martin Luther King Jr. Blvd
 Suite 350
 Tampa, FL 33607
 (813) 903-3100

**CITY OF TAMPA
 McKAY BAY REFUSE-TO-ENERGY FACILITY
 INSPECTION REPORT BY ARCADIS**

PROJECT NUMBER: 0043055.0000 CONTRACT: Annual Report Assessment LOCATION: Tampa, Florida PLANT OWNER: City of Tampa PLANT OPERATOR: Wheelabrator McKay Bay, Inc.	INSPECTION DATE: October 19-20 & 31, 2016 and November 1, 2016 INSPECTORS: Michael DeLoach (AUS), Cindy Eckert (AUS) & Ray Horner (RHCA) COMMERCIAL OPERATION: 1965, 1985, 2002
---	--

REPORT FORM: 7A. AIR POLLUTION CONTROL EQUIPMENT – UNIT 1

ITEM	- OVERALL CONDITION -			COMMENTS
	GOOD	FAIR	POOR	
STRUCTURAL STEEL/ PLATFORMS		X		<ul style="list-style-type: none"> Debris on top platform of SDA inlet.
SPRAY DRYER ABSORBER		X		<ul style="list-style-type: none"> Sections of lagging missing on live bottom. Staining on SDA lagging, drain piping, and structural steel.
SDA PIPING/CONTROLS			X	<ul style="list-style-type: none"> Lime slurry and rust evident on piping and valves. Many control valves appear nonfunctional.
BAGHOUSE		X		<ul style="list-style-type: none"> Outlet duct rusted through after expansion joint.
FLY ASH COLLECTION SYSTEM			X	<ul style="list-style-type: none"> Rust evident on conveyors and supports, including the underside of the conveyor. Significant holes on SDA chute to ash conveyor and other areas. SDA support steel severely corroding.
LAGGING/INSULATION		X		<ul style="list-style-type: none"> Rust stained and dirty lagging.
INDUCED DRAFT FAN		X		<ul style="list-style-type: none"> Damper actuator rusting.
EMISSIONS MONITORING ANALYZERS		X		
DUCTWORK/EXPANSION JOINTS		X		<ul style="list-style-type: none"> Bolts missing on expansion joints.
ELECTRICAL SYSTEM		X		
LIGHTING		X		
GENERAL NOTES: Additional comments and issues can be seen in the Facility Punchlist, which is incorporated in the FY 2016 Annual Report. New items identified by RED font.				

Arcadis US, Inc.
 3109 West Dr. Martin Luther King Jr. Blvd
 Suite 350
 Tampa, FL 33607
 (813) 903-3100

**CITY OF TAMPA
 McKAY BAY REFUSE-TO-ENERGY FACILITY
 INSPECTION REPORT BY ARCADIS**

PROJECT NUMBER: 0043055.0000 CONTRACT: Annual Report Assessment LOCATION: Tampa, Florida PLANT OWNER: City of Tampa PLANT OPERATOR: Wheelabrator McKay Bay, Inc.	INSPECTION DATE: October 19-20 & 31, 2016 and November 1, 2016 INSPECTORS: Michael DeLoach (AUS), Cindy Eckert (AUS) & Ray Horner (RHCA) COMMERCIAL OPERATION: 1965, 1985, 2002
---	--

REPORT FORM: 7B. AIR POLLUTION CONTROL EQUIPMENT – UNIT 2

ITEM	- OVERALL CONDITION -			COMMENTS
	GOOD	FAIR	POOR	
STRUCTURAL STEEL/ PLATFORMS		X		
SPRAY DRYER ABSORBER		X		<ul style="list-style-type: none"> • Live bottom coated in ash. • Staining on SDA lagging, drain piping, and structural steel.
SDA PIPING/CONTROLS			X	<ul style="list-style-type: none"> • Electrical boxes corroding near live bottom. • Many control valves appear nonfunctional.
BAGHOUSE		X		
FLY ASH COLLECTION SYSTEM			X	<ul style="list-style-type: none"> • Rust evident on conveyors and supports, including the underside of the conveyor. • Significant holes on SDA chute to ash conveyor and other areas. • SDA support steel severely corroding.
LAGGING/INSULATION		X		<ul style="list-style-type: none"> • Rust stained and dirty lagging.
INDUCED DRAFT FAN		X		<ul style="list-style-type: none"> • Damper actuator rusting.
EMISSIONS MONITORING ANALYZERS		X		<ul style="list-style-type: none"> • Issues with Inlet CEMS.
DUCTWORK/EXPANSION JOINTS		X		
ELECTRICAL SYSTEM		X		
LIGHTING		X		
GENERAL NOTES: Additional comments and issues can be seen in the Facility Punchlist, which is incorporated in the FY 2016 Annual Report. New items identified by RED font.				

Arcadis US, Inc.
 3109 West Dr. Martin Luther King Jr. Blvd
 Suite 350
 Tampa, FL 33607
 (813) 903-3100

**CITY OF TAMPA
 McKAY BAY REFUSE-TO-ENERGY FACILITY
 INSPECTION REPORT BY ARCADIS**

PROJECT NUMBER: 0043055.0000 CONTRACT: Annual Report Assessment LOCATION: Tampa, Florida PLANT OWNER: City of Tampa PLANT OPERATOR: Wheelabrator McKay Bay, Inc.	INSPECTION DATE: October 19-20 & 31, 2016 and November 1, 2016 INSPECTORS: Michael DeLoach (AUS), Cindy Eckert (AUS) & Ray Horner (RHCA) COMMERCIAL OPERATION: 1965, 1985, 2002
---	--

REPORT FORM: 7C. AIR POLLUTION CONTROL EQUIPMENT – UNIT 3

ITEM	- OVERALL CONDITION -			COMMENTS
	GOOD	FAIR	POOR	
STRUCTURAL STEEL/ PLATFORMS		X		
SPRAY DRYER ABSORBER		X		<ul style="list-style-type: none"> Lagging rust stained as well as nearby cable tray covers and pipe bridge. Lagging edge severely corroded on the north side of the penthouse near the door SDA outlet joint to baghouse is severely corroded.
SDA PIPING/CONTROLS			X	<ul style="list-style-type: none"> Lime slurry and rust evident on piping and valves. Many control valves appear nonfunctional.
BAGHOUSE		X		
FLY ASH COLLECTION SYSTEM			X	<ul style="list-style-type: none"> Rust evident on conveyors and supports, including the underside of the conveyor. Significant holes on SDA chute to ash conveyor and other areas. SDA support steel severely corroding.
LAGGING/INSULATION		X		<ul style="list-style-type: none"> Rust stained and dirty lagging.
INDUCED DRAFT FAN		X		<ul style="list-style-type: none"> Damper actuator rusting.
EMISSIONS MONITORING ANALYZERS		X		
DUCTWORK/EXPANSION JOINTS		X		
ELECTRICAL SYSTEM		X		<ul style="list-style-type: none"> Condulet pull box cover missing on live bottom platform.
LIGHTING		X		
GENERAL NOTES: Additional comments and issues can be seen in the Facility Punchlist, which is incorporated in the FY 2016 Annual Report. New items identified by RED font.				

Arcadis US, Inc.
 3109 West Dr. Martin Luther King Jr. Blvd
 Suite 350
 Tampa, FL 33607
 (813) 903-3100

**CITY OF TAMPA
 McKAY BAY REFUSE-TO-ENERGY FACILITY
 INSPECTION REPORT BY ARCADIS**

PROJECT NUMBER: 0043055.0000 CONTRACT: Annual Report Assessment LOCATION: Tampa, Florida PLANT OWNER: City of Tampa PLANT OPERATOR: Wheelabrator McKay Bay, Inc.	INSPECTION DATE: October 19-20 & 31, 2016 and November 1, 2016 INSPECTORS: Michael DeLoach (AUS), Cindy Eckert (AUS) & Ray Horner (RHCA) COMMERCIAL OPERATION: 1965, 1985, 2002
---	--

REPORT FORM: 7D. AIR POLLUTION CONTROL EQUIPMENT – UNIT 4

ITEM	- OVERALL CONDITION -			COMMENTS
	GOOD	FAIR	POOR	
STRUCTURAL STEEL/ PLATFORMS		X		
SPRAY DRYER ABSORBER		X		<ul style="list-style-type: none"> • SDA outlet joint to baghouse is severely corroded.
SDA PIPING/CONTROLS			X	<ul style="list-style-type: none"> • Lime slurry and rust evident on piping and valves. • Many control valves appear nonfunctional.
BAGHOUSE		X		
FLY ASH COLLECTION SYSTEM			X	<ul style="list-style-type: none"> • Rust evident on conveyors and supports, including the underside of the conveyor. • Large hole on side of south fly ash conveyor. • Significant holes on SDA chute to ash conveyor and other areas. • SDA support steel severely corroding.
LAGGING/INSULATION		X		<ul style="list-style-type: none"> • Rust stained and dirty lagging.
INDUCED DRAFT FAN		X		<ul style="list-style-type: none"> • Damper actuator rusting.
EMISSIONS MONITORING ANALYZERS		X		
DUCTWORK/EXPANSION JOINTS		X		
ELECTRICAL SYSTEM		X		<ul style="list-style-type: none"> • Condulet pull box cover missing on live bottom platform.
LIGHTING		X		
GENERAL NOTES: Additional comments and issues can be seen in the Facility Punchlist, which is incorporated in the FY 2016 Annual Report. New items identified by RED font.				

Arcadis US, Inc.
 3109 West Dr. Martin Luther King Jr. Blvd
 Suite 350
 Tampa, FL 33607
 (813) 903-3100

**CITY OF TAMPA
 McKAY BAY REFUSE-TO-ENERGY FACILITY
 INSPECTION REPORT BY ARCADIS**

PROJECT NUMBER: 0043055.0000 CONTRACT: Annual Report Assessment LOCATION: Tampa, Florida PLANT OWNER: City of Tampa PLANT OPERATOR: Wheelabrator McKay Bay, Inc.	INSPECTION DATE: October 19-20 & 31, 2016 and November 1, 2016 INSPECTORS: Michael DeLoach (AUS), Cindy Eckert (AUS) & Ray Horner (RHCA) COMMERCIAL OPERATION: 1965, 1985, 2002
---	--

REPORT FORM: 8. COMMON EMISSION SUPPORT EQUIPMENT

ITEM	- OVERALL CONDITION -			COMMENTS
	GOOD	FAIR	POOR	
LIME STORAGE SILO A		X		<ul style="list-style-type: none"> General cleanliness and corrosion.
LIME SLURRY FEED SYSTEM A		X		<ul style="list-style-type: none"> General cleanliness and corrosion.
LIME STORAGE SILO B		X		<ul style="list-style-type: none"> General cleanliness and corrosion.
LIME SLURRY FEED SYTEM B		X		<ul style="list-style-type: none"> General cleanliness and corrosion.
P.A. CARBON SYSTEM A		X		<ul style="list-style-type: none"> Lines between silos corroding.
P.A. CARBON SYSTEM B		X		<ul style="list-style-type: none"> Dilution water tank pump casing worn.
UREA FEED SYSTEM		X		<ul style="list-style-type: none"> Missing clips on distribution skid piping.
ELECTRICAL SYSTEMS		X		<ul style="list-style-type: none"> Broken electrical outlet covers in silos.
PIPING SYSTEMS		X		<ul style="list-style-type: none"> Chipped and missing paint on piping. Leaking fittings on slurry piping.
LIGHTING		X		
AIR COMPRESSORS			X	<ul style="list-style-type: none"> Kaiser compressors are broken. Temporary/permanent Atlas Copco compressor used to replace the Kaiser compressors, but not permanently piped or electrically connected.
GLYCOL COOLERS	X			
COMPRESSED AIR DRYERS/RECEIVERS			X	<ul style="list-style-type: none"> Temporary dryer still in use. Permanent dryers are non-functional.
STACK/FLUES/LIGHTING		X		
STRUCTURAL STEEL/ PLATFORMS		X		<ul style="list-style-type: none"> Drain grating between lime silos bent posing a trip hazard.
GENERAL NOTES: Additional comments and issues can be seen in the Facility Punchlist, which is incorporated in the FY 2016 Annual Report. New items identified by RED font.				

Arcadis US, Inc.
 3109 West Dr. Martin Luther King Jr. Blvd
 Suite 350
 Tampa, FL 33607
 (813) 903-3100

**CITY OF TAMPA
 McKAY BAY REFUSE-TO-ENERGY FACILITY
 INSPECTION REPORT BY ARCADIS**

PROJECT NUMBER: 0043055.0000 CONTRACT: Annual Report Assessment LOCATION: Tampa, Florida PLANT OWNER: City of Tampa PLANT OPERATOR: Wheelabrator McKay Bay, Inc.	INSPECTION DATE: October 19-20 & 31, 2016 and November 1, 2016 INSPECTORS: Michael DeLoach (AUS), Cindy Eckert (AUS) & Ray Horner (RHCA) COMMERCIAL OPERATION: 1965, 1985, 2002
---	--

REPORT FORM: 9. POWER GENERATION SYSTEM

ITEM	- OVERALL CONDITION -			COMMENTS
	GOOD	FAIR	POOR	
TURBINE - GENERATOR ENCLOSURE			X	<ul style="list-style-type: none"> • Doors still do not close properly. • Corrosion apparent in many places. • No lights functioning inside the enclosure.
TURBINE FRONT STANDARD		X		
TURBINE - GENERATOR COUPLING		X		
GENERATOR/HOUSING		X		<ul style="list-style-type: none"> • Corrosion apparent in many places.
EXCITER		X		
LUBE OIL SYSTEM		X		<ul style="list-style-type: none"> • Waste oil system needs cleaning.
VACUUM PUMPS		X		<ul style="list-style-type: none"> • Leaking packing.
SWITCHGEAR/ENCLOSURES		X		
NON-SEG BUSS ENCLOSURES		X		
STATION SERVICE XFORMER		X		
MAIN TRANSFORMER		X		
MAIN CONDENSER/HOTWELL		X		
LOCAL CONTROLS		X		
LOCAL INSTRUMENTATION		X		
GENERAL NOTES: Entire system is very old and while in functional condition, is nearing the end of its useful life. Additional comments and issues can be seen in the Facility Punchlist, which is incorporated in the FY 2016 Annual Report. New items identified by RED font.				

Arcadis US, Inc.
 3109 West Dr. Martin Luther King Jr. Blvd
 Suite 350
 Tampa, FL 33607
 (813) 903-3100

**CITY OF TAMPA
 McKAY BAY REFUSE-TO-ENERGY FACILITY
 INSPECTION REPORT BY ARCADIS**

PROJECT NUMBER: 0043055.0000 CONTRACT: Annual Report Assessment LOCATION: Tampa, Florida PLANT OWNER: City of Tampa PLANT OPERATOR: Wheelabrator McKay Bay, Inc.	INSPECTION DATE: October 19-20 & 31, 2016 and November 1, 2016 INSPECTORS: Michael DeLoach (AUS), Cindy Eckert (AUS) & Ray Horner (RHCA) COMMERCIAL OPERATION: 1965, 1985, 2002
---	--

REPORT FORM: 10. ASH HANDLING SYSTEM

ITEM	- OVERALL CONDITION -			COMMENTS
	GOOD	FAIR	POOR	
ASH BUILDING STRUCTURE			X	<ul style="list-style-type: none"> • Plaster panels failing. • Severely rusting door frames, girts, purlins, conduit, etc. • Needs more frequent cleaning. • Floor grating has severe corrosion throughout. • Multiple lights out in the ash building.
SCALPER BUILDING STRUCTURE		X		<ul style="list-style-type: none"> • Siding at NE corner ground floor is detaching. • Some lights out during inspection. • Needs more frequent cleaning.
INCLINED CONVEYOR SYSTEM		X		<ul style="list-style-type: none"> • Belt tensioner and take up area needs more frequent cleaning.
COLLECTING CONVEYORS (2)			X	<ul style="list-style-type: none"> • Considerable rusting observed.
TRANSFER CONVEYORS			X	<ul style="list-style-type: none"> • Considerable rusting observed.
FLYASH COLLECTION SYSTEM			X	<ul style="list-style-type: none"> • Considerable rusting observed.
BOTTOM ASH COLLECTION SYSTEM			X	<ul style="list-style-type: none"> • Considerable rusting observed. • Vibrating conveyor ash movement issues.
ASH BUILDING EQUIPMENT			X	<ul style="list-style-type: none"> • Needs more frequent cleaning. • Considerable rusting observed.
ASH BUILDING MAINTENANCE AREA		X		<ul style="list-style-type: none"> • Chemical cabinets north of the building appear abandoned in place.
SCALPER BUILDING/ EQUIPMENT			X	<ul style="list-style-type: none"> • Considerable rusting observed. • Needs more frequent cleaning.
FERROUS RECOVERY EQUIPMENT			X	<ul style="list-style-type: none"> • Considerable rusting observed.
NON-FERROUS RECOVERY EQUIPMENT			X	<ul style="list-style-type: none"> • Considerable rusting observed. • Belt speed, magnet strength, and separator distance all need to be reviewed and adjusted. Eddy current did not successfully separate a penny when tested.
GENERAL NOTES: All the ash handling equipment has serious corrosion and concerns, particularly the northeast corner of the ash building and many of the fly ash transfer conveyors. Additional comments and issues can be seen in the Facility Punchlist, which is incorporated in the FY 2016 Annual Report. New items identified by RED font.				

Arcadis US, Inc.
 3109 West Dr. Martin Luther King Jr. Blvd
 Suite 350
 Tampa, FL 33607
 (813) 903-3100

**CITY OF TAMPA
 McKAY BAY REFUSE-TO-ENERGY FACILITY
 INSPECTION REPORT BY ARCADIS**

PROJECT NUMBER: 0043055.0000 CONTRACT: Annual Report Assessment LOCATION: Tampa, Florida PLANT OWNER: City of Tampa PLANT OPERATOR: Wheelabrator McKay Bay, Inc.	INSPECTION DATE: October 19-20 & 31, 2016 and November 1, 2016 INSPECTORS: Michael DeLoach (AUS), Cindy Eckert (AUS) & Ray Horner (RHCA) COMMERCIAL OPERATION: 1965, 1985, 2002
---	--

REPORT FORM: 11. CIRCULATING WATER SYSTEM AND COOLING TOWER

ITEM	- OVERALL CONDITION -			COMMENTS
	GOOD	FAIR	POOR	
WOOD STRUCTURE/DECK		X		<ul style="list-style-type: none"> Repairs performed during outage. Structural assessment performed during Fall outage.
TOWER PACKING		X		<ul style="list-style-type: none"> Some areas missing packing.
CONCRETE BASIN		X		<ul style="list-style-type: none"> Basin is not level by approx. 1/4". Concrete worn at area near chloride injection.
FIBERGLASS DRIFT ELIMINATORS		X		
FIBERGLASS SIDE PANELS		X		<ul style="list-style-type: none"> Warping panels and corner pieces.
LIGHTNING PROTECTION			X	<ul style="list-style-type: none"> Lighting protection terminals are falling off.
FANS/FAN MOTORS DRIVES		X		<ul style="list-style-type: none"> Rusting observed.
ELECTRICAL/LIGHTING		X		
CIRCULATING WATER PUMPS		X		<ul style="list-style-type: none"> Circulating water pumps sound like they are cavitating.
PIPING			X	<ul style="list-style-type: none"> Clamps are broken. Piping is rusted. Calcium phosphate buildup in circulating water piping and large iron flaking during October outage.
TOWER FIRE PROTECTION		X		<ul style="list-style-type: none"> Loose fire lines, and pull boxes are corroded off.
GENERAL NOTES: Additional comments and issues can be seen in the Facility Punchlist, which is incorporated in the FY 2016 Annual Report. <i>New items identified by RED font.</i>				

Arcadis US, Inc.
 3109 West Dr. Martin Luther King Jr. Blvd
 Suite 350
 Tampa, FL 33607
 (813) 903-3100

**CITY OF TAMPA
 McKAY BAY REFUSE-TO-ENERGY FACILITY
 INSPECTION REPORT BY ARCADIS**

PROJECT NUMBER: 0043055.0000 CONTRACT: Annual Report Assessment LOCATION: Tampa, Florida PLANT OWNER: City of Tampa PLANT OPERATOR: Wheelabrator McKay Bay, Inc.	INSPECTION DATE: October 19-20 & 31, 2016 and November 1, 2016 INSPECTORS: Michael DeLoach (AUS), Cindy Eckert (AUS) & Ray Horner (RHCA) COMMERCIAL OPERATION: 1965, 1985, 2002
---	--

REPORT FORM: 12. CONDENSATE/BOILER FEEDWATER

ITEM	- OVERALL CONDITION -			COMMENTS
	GOOD	FAIR	POOR	
MAIN CONDENSER			X	<ul style="list-style-type: none"> Cleaned and eddy current tested during outage. Several plugs added. Calcium phosphate buildup in condenser and large iron flakes during October outage. Downtime due to plugging.
DUMP CONDENSER			X	<ul style="list-style-type: none"> Cleaned and eddy current tested during outage. Several plugs added. Moderate corrosion on drain or vent line on the east side of condenser. Calcium phosphate buildup in condenser and large iron flakes during October outage. Downtime due to plugging.
CONDENSATE PUMPS		X		<ul style="list-style-type: none"> Base of pumps corroding.
LP FEEDWATER HEATER		X		
DEAERATOR AND STORAGE TANK		X		<ul style="list-style-type: none"> Paint is peeling and apparent corrosion on piping in the area.
ELECTRIC BOILER FEED PUMPS (2)		X		<ul style="list-style-type: none"> Insulation on pump B is deteriorating.
TURBINE DRIVEN BOILER FEED PUMP		X		
CONDENSATE STORAGE TANK		X		
DA MAKE-UP PUMPS		X		<ul style="list-style-type: none"> New concrete pump pad finished during inspection, but aggregate is exposed and edges are not even. 1 pump is new.
DUMP CONDENSER PUMP		X		<ul style="list-style-type: none"> The base plate and outboard bearing side of the pump is corroding. Pump is leaking oil.
GENERAL NOTES: Additional comments and issues can be seen in the Facility Punchlist, which is incorporated in the FY 2016 Annual Report. New items identified by RED font.				

Arcadis US, Inc.
 3109 West Dr. Martin Luther King Jr. Blvd
 Suite 350
 Tampa, FL 33607
 (813) 903-3100

**CITY OF TAMPA
 McKAY BAY REFUSE-TO-ENERGY FACILITY
 INSPECTION REPORT BY ARCADIS**

PROJECT NUMBER: 0043055.0000 CONTRACT: Annual Report Assessment LOCATION: Tampa, Florida PLANT OWNER: City of Tampa PLANT OPERATOR: Wheelabrator McKay Bay, Inc.	INSPECTION DATE: October 19-20 & 31, 2016 and November 1, 2016 INSPECTORS: Michael DeLoach (AUS), Cindy Eckert (AUS) & Ray Horner (RHCA) COMMERCIAL OPERATION: 1965, 1985, 2002
---	--

REPORT FORM: 13. WATER TREATMENT SYSTEM

ITEM	- OVERALL CONDITION -			COMMENTS
	GOOD	FAIR	POOR	
DEMINERALIZER TRAINS			X	<ul style="list-style-type: none"> • Buildup on floor and structural steel corroding. • Control valves are falling off. • Leaking acid and water are occurring in several spots.
DEMIN HOT WATER TANK		X		<ul style="list-style-type: none"> • Insulation falling off. • Corrosion and rusted supports.
REVERSE OSMOSIS SYSTEM		X		<ul style="list-style-type: none"> • Minor leaks. • Steel of skid corroded on west side.
ACID STORAGE TANK		X		<ul style="list-style-type: none"> • Significant rust stains. • Basin missing some tiles.
CAUSTIC STORAGE TANK		X		<ul style="list-style-type: none"> • Significant rust stains. • Missing tiles in basin.
PHOSPHATE FEED PUMP/ TANKS (2)		X		
CHLORINE FEED SYSTEM		X		
NEUTRALIZATION TANK/PUMPS			X	<ul style="list-style-type: none"> • Areas of corrosion on tank and pumps.
WASTEWATER HOLD UP TANK/PUMPS		X		<ul style="list-style-type: none"> • 1 new pump motor installed. • Conduit for controls is corroded.
SETTLING BASIN/PUMPS		X		
R/O STORAGE TANKS/PUMP		X		<ul style="list-style-type: none"> • Packing drain leaking. • Storage tank rusting at top.
SUMPS/DRAINS/PUMPS		X		<ul style="list-style-type: none"> • Conduit and supports for controls are rusted.
LOCL CONTROLS/ INSTRUMENTATION		X		<ul style="list-style-type: none"> • Outside conduit corroding in multiple places.
BUILDING			X	<ul style="list-style-type: none"> • Severely corroding girt on northeast wall. • GE panel still only on temporary supports. Install permanent supports or enclosure.
GENERAL NOTES: Additional comments and issues can be seen in the Facility Punchlist, which is incorporated in the FY 2016 Annual Report. New items identified by RED font.				

Arcadis US, Inc.
 3109 West Dr. Martin Luther King Jr. Blvd
 Suite 350
 Tampa, FL 33607
 (813) 903-3100

**CITY OF TAMPA
 McKAY BAY REFUSE-TO-ENERGY FACILITY
 INSPECTION REPORT BY ARCADIS**

PROJECT NUMBER: 0043055.0000 CONTRACT: Annual Report Assessment LOCATION: Tampa, Florida PLANT OWNER: City of Tampa PLANT OPERATOR: Wheelabrator McKay Bay, Inc.	INSPECTION DATE: October 19-20 & 31, 2016 and November 1, 2016 INSPECTORS: Michael DeLoach (AUS), Cindy Eckert (AUS) & Ray Horner (RHCA) COMMERCIAL OPERATION: 1965, 1985, 2002
---	--

REPORT FORM: 14. WASTEWATER TREATMENT SYSTEM

ITEM	- OVERALL CONDITION -			COMMENTS
	GOOD	FAIR	POOR	
SETTLING BASIN & PUMPS		X		<ul style="list-style-type: none"> • Motor guard corroded on settling basin pumps.
PUMPS (2)		X		
TANK	X			
CONTAINMENT	X			
PIPING/VALVES		X		<ul style="list-style-type: none"> • Rusting evident, needs paint.
GENERAL NOTES: Additional comments and issues can be seen in the Facility Punchlist, which is incorporated in the FY 2016 Annual Report. New items identified by RED font.				

Arcadis US, Inc.
 3109 West Dr. Martin Luther King Jr. Blvd
 Suite 350
 Tampa, FL 33607
 (813) 903-3100

**CITY OF TAMPA
 McKAY BAY REFUSE-TO-ENERGY FACILITY
 INSPECTION REPORT BY ARCADIS**

PROJECT NUMBER: 0043055.0000 CONTRACT: Annual Report Assessment LOCATION: Tampa, Florida PLANT OWNER: City of Tampa PLANT OPERATOR: Wheelabrator McKay Bay, Inc.	INSPECTION DATE: October 19-20 & 31, 2016 and November 1, 2016 INSPECTORS: Michael DeLoach (AUS), Cindy Eckert (AUS) & Ray Horner (RHCA) COMMERCIAL OPERATION: 1965, 1985, 2002
---	--

REPORT FORM: 15. FIRE PROTECTION SYSTEM

ITEM	- OVERALL CONDITION -			COMMENTS
	GOOD	FAIR	POOR	
FIRE WATER PUMP HOUSE		X		<ul style="list-style-type: none"> Piping supports and clips moderately corroded. Pump seals leaking causing corrosion of motor casing and pump base. Lights and emergency exit lights both do not work during inspection.
ELECTRIC FIRE WATER PUMP/MOTOR		X		<ul style="list-style-type: none"> New pump installed, but still leaking.
ELECTRIC TRANSFER SYSTEM		X		<ul style="list-style-type: none"> Broken indicating light covers.
JOCKEY PUMP	X			<ul style="list-style-type: none"> Jockey pump newly replaced.
IR DETECTION	X			<ul style="list-style-type: none"> Newly installed IR detection in refuse pit.
STANDPIPES/RISERS		X		
FIRE HYDRANTS		X		
HOSE STATIONS		X		
HOSE STATION CABINETS		X		
SPRINKLER SYSTEM		X		
DETECTION SYSTEM		X		<ul style="list-style-type: none"> Newly installed alarm panel.
FIRE EXTINGUISHERS		X		
COOLING TOWER AREA		X		<ul style="list-style-type: none"> Rusting of standpipes and valves.
GENERAL NOTES: Additional comments and issues can be seen in the Facility Punchlist, which is incorporated in the FY 2016 Annual Report. New items identified by RED font.				

Arcadis US, Inc.
 3109 West Dr. Martin Luther King Jr. Blvd
 Suite 350
 Tampa, FL 33607
 (813) 903-3100

**CITY OF TAMPA
 McKAY BAY REFUSE-TO-ENERGY FACILITY
 INSPECTION REPORT BY ARCADIS**

PROJECT NUMBER: 0043055.0000 CONTRACT: Annual Report Assessment LOCATION: Tampa, Florida PLANT OWNER: City of Tampa PLANT OPERATOR: Wheelabrator McKay Bay, Inc.	INSPECTION DATE: October 19-20 & 31, 2016 and November 1, 2016 INSPECTORS: Michael DeLoach (AUS), Cindy Eckert (AUS) & Ray Horner (RHCA) COMMERCIAL OPERATION: 1965, 1985, 2002
---	--

REPORT FORM: 16. COMMON PLANT PIPING/VALVES

ITEM	- OVERALL CONDITION -			COMMENTS
	GOOD	FAIR	POOR	
HIGH PRESSURE STEAM		X		
MEDIUM PRESSURE STEAM TO DA		X		
LOW PRESSURE STEAM TO DA		X		
CONDENSATE/FEEDWATER		X		<ul style="list-style-type: none"> Piping insulation failures.
CIRCULATING WATER		X		<ul style="list-style-type: none"> Piping is old and may require replacement in a few years. Circulating water piping labels are peeling and fading. Corrosion/build-up issues due to insufficient phosphate controls is evident.
POTABLE WATER		X		
CHEMICAL FEED		X		<ul style="list-style-type: none"> Bottom of sump full of algae and muck.
DEMINERALIZER			X	<ul style="list-style-type: none"> Multiple leaks observed in piping and valves for the demin system. Several control valves are broken. Most of the demin control panels and gauges are abandoned in place and non-functional.
COMPRESSED AIR			X	<ul style="list-style-type: none"> Portable compressor and rental dryers still in use.
BOILER BLOWDOWN DRAIN PIPING		X		
FIRE PROTECTION		X		
GENERAL NOTES: Additional comments and issues can be seen in the Facility Punchlist, which is incorporated in the FY 2016 Annual Report. New items identified by RED font.				

Arcadis US, Inc.
 3109 West Dr. Martin Luther King Jr. Blvd
 Suite 350
 Tampa, FL 33607
 (813) 903-3100

**CITY OF TAMPA
 McKAY BAY REFUSE-TO-ENERGY FACILITY
 INSPECTION REPORT BY ARCADIS**

PROJECT NUMBER: 0043055.0000 CONTRACT: Annual Report Assessment LOCATION: Tampa, Florida PLANT OWNER: City of Tampa PLANT OPERATOR: Wheelabrator McKay Bay, Inc.	INSPECTION DATE: October 19-20 & 31, 2016 and November 1, 2016 INSPECTORS: Michael DeLoach (AUS), Cindy Eckert (AUS) & Ray Horner (RHCA) COMMERCIAL OPERATION: 1965, 1985, 2002
---	--

REPORT FORM: 17. ELECTRICAL/INSTRUMENTATION AND CONTROL SYSTEMS

ITEM	- OVERALL CONDITION -			COMMENTS
	GOOD	FAIR	POOR	
BAILEY CONTROL SYSTEM		X		
BAILEY CONTROL PANEL		X		
CEM SYSTEM			X	<ul style="list-style-type: none"> • Inlet CEMS for Unit 2 is non-functional. • Other inlet CEMS have reliability issues. • CEMS equipment is old and out-of-date.
UPS SYSTEM/BATTERIES/CHARGER		X		
CONTROL ROOM		X		
BOP CONTROL SYSTEM		X		
GAS BURNER CONTROL SYSTEM			X	<ul style="list-style-type: none"> • Multiple alarms showing on control panels.
VON-ROLL CONTROL SYSTEM		X		
13.8 KV SYSTEM		X		
4.16 KV MCC'S/TRANSFORMERS		X		
T-G ISLAND MCC		X		
ROOM 115 MCC		X		
ROOM 322 MCC		X		<ul style="list-style-type: none"> • Raceway penetrations into room are not properly sealed. • HVAC registers are dirty.
EAST ELECTRICAL MCC	X			<ul style="list-style-type: none"> • Very clean.
WEST ELECTRICAL MCC	X			<ul style="list-style-type: none"> • Very clean.
WATER TREATMENT AREA MCC		X		
CRANE MCC		X		<ul style="list-style-type: none"> • Flammable materials stored in an electrical/mechanical room.
125 DC BATTERIES/CHARGER		X		
RACEWAYS/CONDUITS ETC.		X		<ul style="list-style-type: none"> • Raceways are dirty and stained. • Cable ties are broken.

GENERAL NOTES: Additional comments and issues can be seen in the Facility Punchlist, which is incorporated in the FY 2016 Annual Report. **New items identified by RED font.**



Arcadis US, Inc.
 3109 West Dr. Martin Luther King Jr. Blvd
 Suite 350
 Tampa, FL 33607
 (813) 903-3100

**CITY OF TAMPA
 McKAY BAY REFUSE-TO-ENERGY FACILITY
 INSPECTION REPORT BY ARCADIS**

PROJECT NUMBER: 0043055.0000 CONTRACT: Annual Report Assessment LOCATION: Tampa, Florida PLANT OWNER: City of Tampa PLANT OPERATOR: Wheelabrator McKay Bay, Inc.	INSPECTION DATE: October 19-20 & 31, 2016 and November 1, 2016 INSPECTORS: Michael DeLoach (AUS), Cindy Eckert (AUS) & Ray Horner (RHCA) COMMERCIAL OPERATION: 1965, 1985, 2002
---	--

REPORT FORM: 18. MOBILE SERVICE EQUIPMENT

ITEM	- OVERALL CONDITION -			COMMENTS
	GOOD	FAIR	POOR	
FRONT END LOADER(S)		X		<ul style="list-style-type: none"> • Volvo L120F in disrepair in laydown yard. • Volvo L120E under repair in laydown yard. • Mini bobcat (rental) in fair condition in laydown yard.
ROLL OFF TRUCK(S)			X	<ul style="list-style-type: none"> • WM truck (412158) in laydown is old, has flat tires, and in general disrepair. • Metro Waste 402 in serious disrepair in laydown yard. • New roll-off in scalper is in fair condition.
FORKLIFTS			X	<ul style="list-style-type: none"> • Forklift (856892) in disrepair in laydown yard.
PICKUP TRUCK (WHITE FORD)		X		<ul style="list-style-type: none"> • Truck (602939) in fair condition in parking lot.
SWEEPER	X			<ul style="list-style-type: none"> • Sweeper was purchased new and remains in good condition.
PORTABLE HYDRAULIC SUMP PUMP		X		
MANLIFT(S)		X		<ul style="list-style-type: none"> • Rental in laydown yard is in fair condition.
GENERAL NOTES: Additional comments and issues can be seen in the Facility Punchlist, which is incorporated in the FY 2016 Annual Report. <i>New items identified by RED font.</i>				

Arcadis U.S., Inc.

3109 West Dr. Martin Luther King Jr. Boulevard

Suite 350

Tampa

Florida 33607

Tel 813 903 3100

Fax 813 903 9115

www.arcadis.com

A decorative graphic consisting of three thin orange lines: one horizontal line extending across the width of the page, and two diagonal lines starting from the bottom left and extending towards the top right.