

FINAL DRAFT APPENDICES
TO THE
SERVICE CONTRACT
FOR THE
FREDERICK COUNTY ENERGY RECOVERY FACILITY

BETWEEN

NORTHEAST MARYLAND WASTE DISPOSAL AUTHORITY

AND

[WHEELABRATOR PROJECT COMPANY]

DATED

_____, 2009

APPENDICES

- Appendix 1. Governmental Approvals
- Appendix 2. Performance Guarantees
- Appendix 3. Technical Specifications
- Appendix 4. Construction Requirements
- Appendix 5. Design-Build Quality Management Plan
- Appendix 6. Pre-Acceptance Testing Requirements and Acceptance Test Procedures and Standards
- Appendix 7. Design-Build Work Review Procedures and Submittals
- Appendix 8. Facility Operation, Maintenance, Repair and Replacement (Operation and Maintenance Plan)
- Appendix 9. Project Schedules
- Appendix 10. Milestone Payment and Construction Progress
- Appendix 11. Maximum Electricity, Chemicals, and Water Utilization and Wastewater Discharge Guarantee
- Appendix 12. Design-Build Price and Base Operation Fee Escalation Indices
- Appendix 13. Staffing Plan
- Appendix 14. Required Insurance
- Appendix 15. Asset Evaluation Protocol
- Appendix 16. Exit Test Procedures and Standards
- Appendix 17. Description of Site
- Appendix 18. Acceptable Sewage Sludge
- Appendix 19. Subsurface Condition Assumptions and Basis of Design
- Appendix 20. Annual Base Operation Fee Processing Thresholds
- Appendix 21. Tipper System
- Appendix 22. Allowances

TRANSACTION AGREEMENTS

- 1. Energy Recovery Agreements
- 2. Public Works Utility Agreement

TRANSACTION FORMS

- A. Form of Guaranty Agreement
- B. Forms of Construction Payment Bond and Construction Performance Bond
- C. Form of Letter of Credit
- D. Form of Technology Supply Agreement

APPENDIX 1
GOVERNMENTAL APPROVALS

APPENDIX 1

GOVERNMENTAL APPROVALS

1.1 GENERAL

This Appendix sets forth a list of the Governmental Approvals expected to be required for the design and Construction of the Facility.

1.2 COMPANY GOVERNMENTAL APPROVALS

Except as otherwise specifically set forth herein, the Company shall be responsible for obtaining all Governmental Approvals, including, but not limited to, those set forth in **Table 1-1**.

Table 1-1	
Company Governmental Approvals	
Governmental Approval	Issuing Body
1. Stormwater Permit a. General Permit for Construction Activity (NPDES) b. Industrial Storm Water General Discharge Permit	Maryland Department of Environment (“MDE”)
2. Air Permit a. Permits to Construction: - New Source Review (“NSR”) - Prevention of Significant Deterioration (“PSD”) - New Source Performance Standard Source (“NSPS”) including Material Separation Plan and Siting Analysis b. Permits to Operate: - Title V Operating Permit (which will include state only operating provisions)	MDE
3. Refuse Disposal Permit	MDE
4. Water Appropriation Permit (if needed)	MDE
5. Water and Sewerage Construction Permit	MDE – for lines that are 15” or larger. Frederick County DUSWM for lines that are less than 15”.
6. Section 404 Clean Water Act Dredge/Fill Permit (Projects impacting less than 1 acre are covered by the Joint MDE/ACOE Permit MDSPGP-3) / Waterway and 100-	U.S. Army Corps of Engineers / MDE

year Floodplain Permit (obtained through MDSPG-3 application and approval)	
7. Erosion/Sediment Control and Storm Water Management Plan Approvals	MDE and Frederick County
8. Threatened and Endangered Species Review	Maryland Natural Heritage Program
9. Archaeological and Historic Review	Maryland Historic Trust
10. Site Plan under Frederick County Planning requirements	Frederick County
11. Solid Waste Management Plan Consistency 12. Determination	Frederick County
13. Notice of Construction or Alteration for Combustion Stack	U.S. Department of Transportation Federal Aviation Administration
14. Endangered Species Act Compliance	U.S. Fish and Wildlife Service
15. Market-Based Rate Authorization	FERC
16. Interconnection Agreement Authorization	ISO-PJM

1.3 AUTHORITY GOVERNMENTAL APPROVALS

Except as otherwise provided herein, the Authority shall be responsible for obtaining during the Term only those Governmental Approvals as are set forth in **Table 1-2**.

Table 1-2	
Authority Governmental Approvals	
Governmental Approval	Issuing Body
1. Site Lease for Facility Site	Frederick County

APPENDIX 2
PERFORMANCE GUARANTEES

APPENDIX 2

PERFORMANCE GUARANTEES

2.1 PERFORMANCE GUARANTEES OVERVIEW.

This Appendix defines the Performance Guarantees that the Facility must meet to for the Acceptance and continuous operations of the Facility by identifying those elements of the Company’s proposed process, energy production rate, and environmental control standards that the Facility must meet

Table 2-1 sets forth the Performance Guarantees for the Facility. They are also described in detail in **Sections 2.3** through **2.9**.

Table 2-1: Performance Guarantees

Construction Period Guarantee:

Length of time from Notice to Proceed to Scheduled Acceptance Date (days): 1,186 days

Annual Facility Throughput Guarantee:¹

<u>Higher Heating Value</u>	<u>Annual Facility Throughput, MSW</u>
HHV 4,500 Btu/lb.	517,000 Tons
HHV 5,000 Btu/lb.	510,000 Tons
HHV 5,500 Btu/lb.	503,700 Tons
HHV 6,000 Btu/lb.	461,000 Tons

Billing Period Throughput Guarantee:

The Billing Period Throughput Guarantees shall have the values set forth in subsection 10.2(C).

Annual Electricity Production Guarantee:¹

¹ For Higher Heating Values which fall between the values provided in this Table, the Throughput Capacity Guarantee may be determined by linear interpolation utilizing the HHV values which are immediately above and immediately below the HHV, which shall be determined in accordance with Appendix 6.

The Facility shall generate on an annual average basis for each Ton of Municipal Solid Waste processed at the Facility, the following kilowatt hours of electricity:

<u>Higher Heating Value</u>	<u>Net Kilowatt hours per Ton (on an annual average basis)</u>
HHV 4,500 Btu/lb.	575
HHV 5,000 Btu/lb.	635
HHV 5,500 Btu/lb.	750
HHV 6,000 Btu/lb.	765

Environmental Guarantee:

Guaranteed Maximum Emission Factors, Corrected to 7% O₂.

Total Particulate Matter [mg/dscm]	12.0
Sulfur Dioxide [ppmv]	26 ppm or 80% Removal Efficiency
NOX [ppmv]	90 ppm (annually), 110 ppm (24 hour basis)
Carbon Monoxide [ppmv], specify 4-hour or 24-hour block average	<u>100 ppm 4-hour block average</u> 80 ppm 30 day <u>rolling</u> average
Non Methane VOC (EPA method 25, as CH ₄)	5 ppm
Hydrogen Chloride [ppmv]	25 ppm or 95% Removal Efficiency
Total PeCDD/PeCDF [ng/dscm]	13
Dioxins/Furans (EPA method toxic equiv.)	0.2
Cadmium [µg/dscm]	10
Lead [ug/dscm]	140

¹ For Higher Heating Values which fall between the values provided in this Table, the guarantee Kilowatt hours production may be determined by linear interpolation utilizing the HHV values which are immediately above and immediately below the HHV, which shall be determined in accordance with Appendix 6.

Mercury [ug/dscm]	28 ug/dsm or 85% Removal Efficiency
Ammonia Slip [ppmv]	15

Ferrous Recovery Guarantee:

Guaranteed Ferrous Metal Recovery

85 % by weight of the ferrous metal in the residue that does not pass a 3 inch screen

Non-Ferrous Recovery Guarantee:

Guaranteed Non-Ferrous Metal Recovery

85 % by weight of the non-ferrous metal in the residue that does not pass a 3/8 inch screen

Residue Guarantee:

Basis: 5,500 Btu/lb HHV, Facility running at MCR

Maximum % combustible matter (by dry weight)	3.0%
Maximum moisture content	25.0%
%Hazardous Material	0.0%

For Waste with a Btu/lb. HHV of less than or equal to 6000 Btu/lb., but greater than or equal to 4,500 Btu/lb., the Residue Quantity Guarantee will be adjusted in accordance with the following chart

Higher Heating Value ¹	Residue Quantity Guarantee (maximum % weight of solid waste processed)
HHV 4,500 Btu/lb.	33%
HHV 5,000 Btu/lb.	32%
HHV 5,500 Btu/lb.	30%
HHV 6,000 Btu/lb.	30%

¹ For Higher Heater Values which fall in between the values provided in this Table, the Residue Quantity Guarantee will be determined by linear interpolation utilizing the HHV values which are immediately above and immediately below the HHV, which shall be determined in accordance with Appendix 6.

APPENDIX 3
TECHNICAL SPECIFICATIONS

APPENDIX 3

TECHNICAL SPECIFICATIONS

~~{As set forth in the RFP and to be modified and supplemented based on the Company's proposal}~~

|

APPENDIX 4
CONSTRUCTION REQUIREMENTS

APPENDIX 4

CONSTRUCTION REQUIREMENTS

4.1 GENERAL

This Appendix identifies and establishes minimum requirements for Facility construction, including verification of site conditions, demolition, safety and environmental controls, the Company's responsibilities related to maintenance of plant operations during construction, and restoration of disturbed areas.

4.2 SURVEYS/LIMITS OF CONSTRUCTION

The Company shall perform all work and services necessary for or incidental to the performance and completion of survey work necessary for construction. This work shall include surveys needed to establish and maintain benchmarks, to establish the limits of construction, and to make measurements to verify the location of completed construction.

The Authority shall supply the Company with a metes and bounds survey of the site showing property and parcel lines, and any established benchmarks. Prior to construction, the Company shall conduct surveys and other activities necessary to define the limits of the construction and lay out the work on the Site.

The Company shall adhere to the limits of construction as provided above and shall provide adequate worker training, flagging, staking, and monitoring to assure that the limits of construction are observed in the field. The Company shall be responsible for obtaining any modifications to existing easements across the Site.

For work potentially affecting existing easements, the Company shall comply with the requirements of **Appendix 1**. The Company shall provide the Authority with copies of all easements. It is recognized that the Company's Proposal does not include any costs or work associated with obtaining any required electrical interconnect easements. Furthermore, it is the Authority's responsibility to provide the Company, its Subcontractors, haulers and material supply vehicles with unhindered access to the Facility. The Company is not responsible for obtaining new easements for Site access to the extent none are available as further described in **Appendix 17**.

4.3 COORDINATION OF CONSTRUCTION PERIOD WORK

4.3.1 CONSTRUCTION TESTING

The Company shall be responsible for performing all inspections and tests as required to verify compliance with the Company's construction specifications and minimum requirements of the Service Contract. The Company shall engage the services of independent

inspection and testing agencies, including testing laboratories, which are pre-qualified as complying with “Recommended Requirements for Independent Laboratory Qualification” by the American Council of Independent Laboratories. The testing laboratory shall specialize in the types of inspections and tests to be performed, shall be authorized by authorities having jurisdiction to operate in the State of Maryland, and shall be approved by the Authority.

The Company shall provide the results of all inspections and tests to the Authority for review, including retests verifying that a subsequent test has passed for work previously identified as out of compliance with specified criteria.

4.4 MANAGEMENT OF ON-SITE WATER DURING CONSTRUCTION

4.4.1 SOURCES OF CONSTRUCTION WATER

The Company shall provide for the detention, treatment, and discharge of all water generated during construction. Construction water will include surface water runoff and water removed from excavated areas. The Company shall plan and schedule its construction activities to reduce the amount of construction water to be managed.

4.4.2 TEMPORARY DRAINAGE FEATURES

The Company shall conform to the requirements of its Stormwater Management Permit associated with Construction Activities. The Company’s design of temporary detention, and discharge facilities shall account for the maximum disturbed area and maximum amount of construction water to be generated. At a minimum, temporary features shall be sized on the basis of the 10-year storm.

4.4.3 SURFACE WATER QUALITY

The Company shall take no actions leading to a violation of surface water quality standards, including but not limited to any requirements that are made part of any permits or approvals for the Facility.

The Company shall reduce water quality impacts associated with construction by using appropriate measures to control erosion and sedimentation.

The Company shall be responsible for installing and maintaining adequate drainage to prevent soil erosion at construction areas. Prior to the beginning of construction, drainage/erosion control measures sufficient to properly manage runoff shall be installed. As construction progresses, soil erosion features shall be maintained with the changing Site conditions. Temporary erosion control and protection measures shall be in place at all times, and shall be inspected throughout the year. As permanent drainage structures are installed, the Company shall protect the intakes to avoid clogging. The Company shall monitor and

maintain the effectiveness of the runoff protection at all times, but particularly during and after anticipated rains. The Company shall maintain an adequate supply of erosion control materials on-site for immediate use.

Construction runoff shall be managed in an approved manner to prevent sediments and other pollutants from being transported from construction areas and to keep sediments and other material from being transported to the existing stormwater system. Discharges from detention facilities shall be routed through the existing on-site surface water drainage system.

Dirt loads shall be covered and secured during off-site travel.

4.5 MEETINGS AND REPORTS

4.5.1 PRECONSTRUCTION CONFERENCE

The Company shall hold a preconstruction conference prior to commencement of the Construction Period. The Company shall prepare an agenda which will be reviewed with the Authority, and shall preside at the conference, contribute appropriate items for discussion, provide any data requested, record minutes to summarize significant proceedings and decisions, and distribute the minutes to all parties in attendance. The agenda shall include, but will not necessarily be limited to, the following:

1. Designation of responsible personnel during the Facility construction.
2. Subcontractors and their roles on the Design-Build Work.
3. Affirmative Action and MBE/WBE Requirements.
4. Coordination with other contractors and projects.
5. Progress Schedule.
6. Procedures for Company submittals and Authority review.
7. Schedule of Company submittals.
8. Processing of Requests for Information and Clarification.
9. Extra Design-Build Work.
10. Required Design-Build Period Insurance.
11. Schedule of Values.
12. Processing and Schedule of Payments.
13. Company's site-specific Health and Safety Plan.
14. Security.

15. Housekeeping.
16. Field Offices.
17. Record Drawings.
18. Proposed Construction Date.
19. Governmental Approvals.
20. Emergency Telephone Numbers.
21. Temporary Utilities/Utilities Coordination.
22. Any other Design-Build Work-related items.

The preconstruction conference will be scheduled by the Company at a time acceptable to the Authority and shall be attended by the Company's Project Manager, its Senior Supervisors (if requested by the Authority), the Company Construction Superintendent, the Lead Design Firm, the Design Firm directing construction oversight, and the Company's principal Subcontractors and suppliers as the Company deems appropriate. Other attendees may include representatives of the Authority, the Counties, the MDE and other Governmental Bodies with jurisdiction over the Design-Build Work, and other contractors whose work affects or is affected by construction of the Facility, and others as deemed appropriate by these parties.

4.5.2 **Construction Progress Meetings**

The Company shall schedule, hold, and facilitate regular monthly progress meetings and at other times if requested by the Authority, or as the Company deems necessary. Progress meetings shall be held from the Construction Commencement Date through Final Completion. The progress meetings shall be attended by the Company's Project Manager, its Senior Supervisors (if requested by the Authority), the Company Construction Superintendent, the Lead Design Firm, the Design Firm directing construction oversight, the Construction Subcontractor, and the Company's other principal Subcontractors and suppliers, as the Company deems appropriate. Other attendees may include any other contractors whose work affects or is affected by construction of the Facility, and others deemed appropriate by those parties. The Authority will attend the monthly progress meetings. The Authority shall be notified of the additional progress meetings, which the Authority will attend at their option. Construction progress meetings shall be held at the Site or at a convenient site located in Frederick County.

At such meetings, discussions will be held concerning all aspects of the Design-Build Work including, but not limited to, schedule of work, coordination of work with others,

progress payments, Extra Design-Build Work, permits and design and construction submittals, and any test results. The Company shall prepare an agenda, preside at meetings, record minutes to include significant proceedings and decisions, and distribute the minutes to all parties in attendance within 14 days of the meeting. The agenda shall include but will not necessarily be limited to, the following:

1. Transcript of previous meeting.
2. Progress since last meeting (Company and Subcontractors).
3. Planned progress and schedule for next six weeks.
4. Problems, conflicts and observations.
5. Change Orders.
6. Status of punch list items and other construction issues.
7. Status of submittals.
8. Quality standards and control.
9. Schedules, including off-site fabrication and delivery schedules; corrective measures, if required.
10. Coordination between parties.
11. Safety concerns.
12. Construction photographs.
13. Record drawings.
14. Other business.
15. Next meeting date.

4.5.3 **Monthly Progress Reports**

Monthly progress reports required to be submitted by the Company pursuant to **Section 7.3** of the Service Contract and **Section 7.2.2** of **Appendix 7** shall be submitted at least 7 days prior to the monthly management meeting, but in any event no later than the 15th of every month and shall include:

A summary of Design-Build Work activities during the reporting month;

A schedule of upcoming Design-Build Work activities;

A listing of major submittals delivered during the reporting month and their status;

A listing of major submittals scheduled for delivery the following month;

The Company's verification that the record documents have been updated in accordance with the requirements of this Appendix;

A listing of any violations of Governmental Approvals or Applicable Law and actions taken or to be taken to eliminate any subsequent violations;

A listing of the Company's labor force requirements for the following three months, including identification of positions to be filled and approach to filling the positions;

A listing of issues needing resolution;

Progress Schedule update; and

The Company's plan for accelerating the schedule to meet the Scheduled Acceptance Date should the Company's progress-to-date indicate that the Company's Design-Build Work is behind schedule.

The monthly progress report shall also provide a description of any concerns or issues raised regarding the Design-Build Work and the Company's approach to promptly address the issue. The monthly progress report shall also include a section containing health and safety statistics. The format of the report shall be approved by the Authority.

4.6 ENVIRONMENTAL PROTECTION DURING CONSTRUCTION

4.6.1 COMPANY CONSTRUCTION ENVIRONMENTAL MONITOR

The Company shall assign a construction environmental monitor to protect and monitor potentially sensitive areas, wildlife, and other environmental resources (the "Construction Environmental Monitor"). The Construction Environmental Monitor shall be responsible for, at a minimum, the following duties:

Preparation of environmental submittals;

Oversight of construction methods for environmental soundness;

Ensuring that all training has been conducted;

Coordination with the Authority;

Coordination with Governmental Bodies;

Acquiring of and compliance with Governmental Approvals; and

Conducting meetings with necessary Governmental Bodies.

All environmental monitoring duties conducted by the Construction Environmental Monitor shall be recorded in the form of a standard report and photo log (as required). All reports will be submitted to the Authority in summary form on a monthly basis. Copies of all daily monitoring records will be maintained at the Facility Site by the Construction Environmental Monitor.

4.6.2 **COMPANY HEALTH AND SAFETY REQUIREMENTS**

The Company shall maintain safety at the Facility Site at all times at a level consistent with the Contract Standards and OSHA standards and requirements. Without limiting the foregoing, the Company shall:

- (1) take all necessary precautions for the safety of, and provide all necessary protection to prevent damage, injury or loss related to the performance of the Design-Build Work over the Construction Period for workers and visitors at the Site, passersby, neighbors and adjacent properties, materials and equipment on the Site or under the control of the Company or its Subcontractor, and Authority property;
- (2) establish and enforce all safeguards for safety and protection, including danger signs and warnings;
- (3) implement a comprehensive safety program;
- (4) provide all safety notices in compliance with Applicable Law;
- (5) operate and maintain all equipment consistent with Manufacturers' safety recommendations;
- (6) provide for safe and orderly vehicular movements;
- (7) develop and implement a site-specific Health and Safety Plan;
- (8) designate a safety professional;
- (9) designate a qualified and responsible employee stationed full-time at the Site to implement the safety rules at the Site; and
- (10) require all Subcontractors to implement and maintain a site-specific Health and Safety Plan applicable to their respective work at the Site.

4.7 GENERAL REQUIREMENTS DURING CONSTRUCTION PERIOD

4.7.1 **Public telephone Number**

The Company shall maintain throughout the Construction Period, a telephone number for receiving calls from the public related to issues at the Site. The Company shall provide an

answering machine or answering service that shall identify the Company and the Facility name and number and provide a telephone number for a Company representative that may be reached 24 hours per day in the case of emergencies at the Site. This phone number shall be posted at each access location to the Site. The Company shall reply to all telephone calls received within 24 hours. The Company shall maintain a log of all telephone calls received from the public and provide a monthly list of such telephone calls and its response as part of its monthly progress report.

4.7.2 Temporary Utilities

The Company shall supply all necessary temporary utilities, including electricity, telephone service, potable water, fire protection, lighting, and sanitary facilities, during construction, testing and startup- of the Facility. Holding tanks for sanitary service shall be serviced at least weekly. Prior to the Provisional Acceptance Date, the Company shall disconnect or arrange for the disconnection and removal of all temporary utility connections and services.

4.7.3 Access Roads and Parking Areas

The Company shall provide all temporary construction roads, walks and parking areas required during the Construction Period and for use of emergency vehicles. The Company shall minimize the amount of disturbance to the Site throughout the Construction Period. To the extent possible, the Company's construction roads and parking areas shall be in the location of the permanent roads and parking facilities. All temporary roads and parking areas shall be constructed and maintained to control dust. Temporary roads, walks and parking areas shall be removed by the Company prior to the Provisional Acceptance Date, and the ground returned to its original condition, unless otherwise required by the Service Contract. The Company shall keep temporary roads clean and serviceable at all times.

4.7.4 Staging and Stockpiling Areas

The Company shall locate all construction staging and temporary stockpile areas within the limits of disturbance shown on the design drawings. The Company shall either incorporate any excess excavated material into noise control berms or dispose of the excess excavated material off of the Site and in accordance with Applicable Law and the Transaction Documents, as applicable.

4.7.5 Maintenance of the Site

During performance of the Design-Build Work, the Company shall be responsible for the overall maintenance of the Site. The Company shall clean up and remove all rubbish and materials from the Site as they accumulate, in accordance with the Contract Standards.

4.7.6 **Protection of the Design-Build Work and Property**

The Company shall take all precautions, provide all programs, take all actions necessary to protect from damage, and assume full responsibility for the preservation of the Design-Build Work and all public and private property and underground and surface structures on or adjacent to the Site. The Company shall not, except after written consent from proper parties, enter or occupy land not leased by the Authority with personnel, tools, materials or equipment, except on easements provided herein. If any direct or indirect damage is done by or on account of any act, omission, neglect or misconduct in the execution of the Design-Build Work by the Company, it shall be restored promptly by the Company, at its expense, to a condition equal to that existing before the damage was done and to the satisfaction of the owner of the damaged structure or property.

The Company shall carefully sustain in their places and support all underground and surface structures located within or adjacent to the Site and as required by the party owning or controlling such structure. Before proceeding with the Design-Build Work of sustaining and supporting such structure, the Company shall satisfy the Authority that the methods and procedures to be used have been approved by the party owning same. The Company shall assume all risks when working in the proximity of all underground and subsurface structures (as such terms are defined in the subsequent two paragraphs) within or adjacent to the Site. Existing surface facilities which are temporarily removed to facilitate installation of the Design-Build Work shall be replaced and restored to their original condition at the Company's expense.

Underground structures are defined to include, but are not limited to, all sewer, water, gas, and other piping, and manholes, chambers, electrical conduits, tunnels and other existing subsurface work located within or adjacent to the Site. All underground structures known to the Authority are described or shown in **Appendix 17**. This information is shown for the assistance of the Company, in accordance with the best information available, but is not guaranteed to be correct or complete. The Company shall explore ahead of trenching and excavation and shall uncover all obstructing underground structures sufficiently to determine their location, to prevent damage to them and to prevent interruption to the services that such structures provide.

Subsurface structures are defined as all existing buildings, structures and other facilities above the ground surface. Included with such structures are their foundations or any extension below the surface. Surface structures include, but are not limited to, buildings, tanks, walls, bridges, roads, dams, channels, open drainage, piping, poles, wires, posts, signs, markers, curbs, walks and all other facilities that are visible above the ground surface.

Where Design-Build Work is performed on or adjacent to any roadway, right-of-way, or public place, the Company shall provide barricades, fences, lights, warning signs, danger signals, watchmen, and shall take other precautionary measures for the protection of persons or property and of the design-Build Work. Barricades shall be painted to be visible at night. From sunset to sunrise, the Company shall furnish and maintain at least one light at each barricade. Sufficient barricades shall be erected to keep vehicles from being driven on or into Design-Build Work under construction. The Company shall furnish watchmen in sufficient numbers to protect the Design-Build Work. The Company's responsibility for the maintenance of barricades, signs, lights, and for providing watchmen shall continue until Acceptance.

The Company shall protect and maintain existing trees, shrubs and plants on or adjacent to the Site that are shown or designated to remain in place throughout the Construction Period in accordance with the Contract Standards. All damaged trees and plants that die or suffer permanent injury shall be removed and disposed of off-site when ordered by the Authority and replaced by a specimen of equal or better quality.

4.7.7 Security

The Company shall safely guard all Design-Build Work, materials, equipment and property from theft, damage or injury caused by trespass, negligence, vandalism or malicious mischief of third parties. The Company's duty to safely guard property shall include the Authority's property and other private property from injury or loss in connection with the performance of the Design-Build Work.

The Company shall employ watchmen as needed to provide the required security and prevent unauthorized entry. The Company shall provide and maintain temporary security fencing and locked gates around all construction areas, storage areas, and field offices in a manner satisfactory to the Authority. The Company shall maintain the Construction Period security program throughout construction and until the Operation Period security commences. All costs for security at the Site shall be borne by the Company.

4.7.8 Authority's Field Office

The Company shall furnish, install, and maintain a field office trailer for the Authority. The field office trailer shall be located near the Company's field office, such a location to be approved by the Authority prior to the Construction Date. The Company shall allocate 4 reserved parking spaces adjacent to the field office trailer marked for use by the Authority and the Counties. The Authority's field office trailer shall be separate from the Company's field office(s). The Company shall pay for all permits that may be required related to the Authority's field offices. The layout of the Authority's field office trailer shall be submitted to the Authority for approval.

The Authority's field office trailer shall be a new, weather tight, insulated, mobile office trailer acceptable to the Authority, which is specifically designated for this type of use and conforms to the requirements set forth herein. Each Authority field office trailer shall have the following additional features:

- lockable exterior door;
- one drawing table;
- two desks;
- three chairs (one for each desk and one for the drawing table);
- adequate lighting;
- electrical outlets;
- one full sized bookshelf;
- one locking filing cabinet;
- high speed cable wireless internet access;
- one microwave;
- one refrigerator; and
- access to Company maintained restrooms.

4.7.9 **Company's Field Office**

The Company shall provide a Company field office as required by the Company but with sufficient room for project meetings to accommodate a minimum of 15 people.

4.7.10 **Quality Control**

The Company shall implement its Design-Build Quality Management Plan to ensure that the Design-Build Work is performed in accordance with the Service Contract.

4.7.11 **Construction Photographs**

The Company shall take and develop, at a minimum, the following photographs:

- (1) Pre-construction Photographs: photographs of the Site prior to the commencement of construction activities.
- (2) Construction Photographs: construction photographs each month to illustrate construction progress. Depending on the level of activity, some months may require more photographs than the prior. The Authority shall be given the option each month to request the specific photographs to be taken. If the Authority declines to specify the photographs to be taken, the Company shall make the determination. Photographs shall be taken at the end of the month (or during the month if subsequent construction activity will obscure the progress to be depicted). In

addition, photographs and description of location shall be provided for all structures and equipment to be buried. Global positioning system locations shall be provided for all major buried features, including valves, pipe bends and pipe connections.

- (3) Aerial Photographs: aerial photographs of the Facility Site during construction and one each at the Acceptance and Final Completion of the Facility.
- (4) Completed Work Photographs: photographs of the completed or substantially completed Facility after Substantial Completion, but prior to Final Completion. These photographs shall be placed in a binder.

The Company shall maintain at the Facility Site ~~binders of 4"x6" prints of~~ all photographs (photograph log) and shall make the photograph log available to the Authority upon request. Photographs shall also be retained in digital format and downloaded and organized onto CD-Rom. The photographs shall be taken with a high resolution digital camera in order to allow for the prints to be enlarged and to show significant detail. The following information shall be included in the photograph log for each photograph:

- (1) date photograph was taken;
- (2) Authority's assigned project title and number;
- (3) description of view shown in photograph, including indication of direction, where applicable; and
- (4) name and address of photographer

The photograph log shall become property of the Authority at the completion of the Design-Build Work.

4.7.12 **Authority Representatives**

The Authority and its designated representative shall have complete access to the Site at all times. All such representatives shall comply with the Company's site-specific health and safety plan when on-site. The Authority may have full-time representation at the Site throughout the Design-Build Period.

4.7.13 **Record Documents**

The Company shall maintain record design and construction documents, include calculations, engineering analysis, modeling results, design report, drawings, specifications, addenda, approved shop drawings, samples, photographs, Change Orders, Contract Administration Memoranda, design change notices, other modifications of contract documents,

test records, survey data, Company field orders, and all other documents pertinent to the Design-Build Work. These documents shall be updated on a regular basis as necessary or as construction work is completed. Record drawings shall be maintained in AutoCAD and backed up ~~on CD~~ weekly. The backup ~~CD~~ shall be stored in a well-protected area that is sufficiently separate from the original electronic copy, such that fire, flood, vandalism, or other calamity shall not imperil both the original and backup copy simultaneously. The Authority will verify the up-to-date maintenance of the record documents on a monthly basis. Drawings, specifications, addenda, approved shop drawings, samples, photographs, Change Orders, Contract Administration Memoranda, design change notices, other modifications of contract documents, survey data, and Company field orders shall be available at the Company's field office at all times for inspection by the Authority and its representatives. All other record documents shall be available at the Company's field office or a design office in [Hampton, New Hampshire] at all times for inspection by the Authority and its representatives. The Company shall develop and maintain a secure web-based data room (e.g., FTP site, eRoom, etc.) throughout the project. The data room will be used for sharing any pertinent project-related information and data, including, but not limited to: (1) project schedules; (2) meeting minutes; (3) drawings; (4) construction photographs; and (5) monthly reports. The Authority, Counties and the Authority Engineer shall all be provided with usernames and passwords for access to the data room. Notwithstanding the fact that the Company may have obtained all necessary Governmental Approvals for and constructed the Facility with design drawings that were less than 100% complete, the "construction record" documents shall be prepared to a level of detail consistent with Authority standards.

Record documents shall note all changes made during construction including, but not limited to:

- (1) depth of various elements of foundation in relation to datum;
- (2) horizontal and vertical locations of underground utilities and appurtenances referenced to permanent surface improvements;
- (3) location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure;
- (4) field changes of dimensions and details;
- (5) changes made by Change Order, Contract Administration Memorandum or Company field orders;
- (6) details not on original drawings and other elements not originally specified; and

- (7) upon completion of all Design-Build Work, the Company shall submit to the Authority a set of 100% complete design record documents including a set of design notebooks including calculations, engineering analyses, modeling results, and design reports, 4 sets of record drawings on CD-Rom in Auto-CAD or equal in the release to be requested by the Authority at the time along with 1 set of prints and a set of record specifications on CD-Rom in Microsoft Word, latest edition, with one print, modified to clearly and accurately show all changes made during the performance of the Design-Build Work. Drawings and specifications shall be designated in a revision block as “construction record” drawings/specifications and shall be signed and sealed by an Engineer representing the lead design firm for the Company. The Company shall comply with the Authority’s standards, including layering standards current at the time of preparation of the record drawings.

The Company shall provide the Authority with a certification signed by ~~both the Company and signed~~ and sealed by a professional engineer licensed in the State of Maryland representing ~~the lead design firm for the Company~~ that the “construction record” drawings and specifications are accurate and are consistent with the Design Requirements and the Technical Specifications. Design record notebooks and “construction record” documents submittal shall also include a complete set of all Change Orders, Construction Administration Memoranda, design change notices and Company field orders, numbered and bound in chronological order of issuance.

4.7.14 **Project Identification and Signs**

The Company shall provide and maintain temporary project identification and information signs during the Design-Build Period. The signs shall identify the project as the “Frederick Renewable Energy Facility” and shall include the Company name and telephone number for further information. The signs shall be provided at each access location to the Site. Each sign shall identify the project, access restrictions, loading restrictions and shall direct vehicles to the Company’s field office. All signs shall be constructed of exterior grade plywood and wood frame construction, painted, with die cut vinyl self-adhesive letters. No signs shall be erected until their appearance and content have been fully reviewed and approved by the Authority. During the Design-Build Period, the Company shall maintain signs so they are clean, legible and upright, and shall keep vegetation cut away from signs. The Company shall relocate signs as construction progresses. The Company shall remove temporary signs from the Site when they are no longer necessary.

4.7.15 **Connections to Existing Facilities**

The Company shall perform all Design-Build Work necessary to complete connections and tie-ins to the P.J.M. Grid and the Wastewater Treatment Plant effluent line in accordance with Section 4.2Aa of the Agreement. The Company shall perform all Design-Build Work necessary to complete connections for all other utilities as needed, such as phone, internet, water and sewer, up to the intersection of the new Facility access road and Tuscarora Road.

4.7.16 **Subsurface Explorations**

The Authority provided the Company with data from preliminary subsurface investigations of the Site during the RFP process solely for informational purposes. As provided by **Section 4.1** of the Service Contract, the Company shall conduct further subsurface investigations as necessary to determine design requirements for construction, including but not limited to dewatering requirements and foundation requirements. The Company shall employ a geotechnical engineer to plan, oversee, and evaluate the results of all subsurface investigations and to determine requirements for the design, including under seismic conditions, of foundations, superstructures and dewatering systems with regard to existing soil conditions and to provide recommendations for construction requirements as to protecting the proposed work and existing structures and utilities.

4.7.17 **Compliance with Easements**

The Company shall comply with all requirements of any easements and access agreements for the Site, including but not limited to, those associated with any easements shown in **Appendix 17**.

4.7.18 **Construction Testing**

All testing shall be performed by individuals who are qualified and experienced in providing these testing services. Equipment used to perform tests shall have been calibrated according to requirements in the testing procedure. The Company shall hire a certified independent testing laboratory to perform all laboratory testing. The laboratory selected shall be authorized to operate in the State and shall be subject to approval by the Authority. Laboratory tests include the proposed concrete mix design, concrete aggregate tests, strength of concrete field test cylinders, asphalt mix design, and gradation and moisture density relationship of soils. The certified testing laboratory(s) must also perform on-site tests that the Company is not experienced, qualified or certified to perform or that require independent testing. On-site tests include: concrete slump, concrete air entrainment, concrete temperature, casting of concrete test cylinder specimens, in-place testing of concrete strength, asphalt

testing, compaction density testing of soils, coating thickness measurements, structural bolting torque, etc.

4.7.19 **Relocation of Existing Utilities**

In addition to the coordination activities required herein, the Company shall be responsible for all construction activities required with regard to existing utility services and installations (e.g., conduits, pipelines, transmission mains and other utility equipment and appurtenances) including any relocation of utilities, whether such construction activities are performed by the Company or by the owner of the existing utility.

4.8 OTHER CONSTRUCTION MEASURES

4.8.1 **DUST CONTROL/BURNING**

The Company shall be responsible for dust control during construction and shall comply with all applicable MDE regulations. Spraying with dust control chemicals shall be prohibited on-site; however, spraying with water shall not be prohibited on-site. Street flushing is prohibited.

The Company shall dispose of construction debris at permitted disposal facilities at the Company's cost. Burning shall be prohibited.

4.8.2 **NOISE CONTROL**

The Company shall comply with all applicable County and State noise regulations. Construction work, including demolition activities, will be allowed from 7:00 AM to 6:00 PM, seven days per week. Construction, including demolition activities, will also be allowed outside of these hours with notification to and approval by the Authority and Frederick County and provided that appropriate security measures are employed. The Company shall use all reasonable efforts to minimize traffic and noise during the Construction Period.

4.8.3 **ODOR AND VECTOR CONTROL**

The Company shall comply with all applicable County and State odor standards and regulations. The Company shall use all reasonable efforts to eliminate odors and control vectors during the Construction Period, particularly when solid waste is being stored and processed on-site.

4.8.4 **SITE SECURITY AND MAINTENANCE**

The Company shall be responsible for providing an adequate level of security during construction of the Facility. Such security shall, at a minimum, be implemented in a manner

designed to prevent unauthorized individuals from entering the site, for safety and security reasons, seven days per week, twenty-four hours per day.

The Company shall also be responsible for maintaining the Facility in a presentable state at all times. Access to the Site for the Authority and its agents shall be maintained at all times. Storm or heavy rain damage to the Site shall be the responsibility of the Company, and shall be restored to a presentable state.

4.8.5 **SPILL PREVENTION AND CONTROL**

The Company shall properly handle any necessary petroleum and chemical products and provide suitable measures for the prevention and control of spills in accordance with its Construction Spill Containment and Response Plan. Additionally, the Company shall promptly notify the County's Spill Response Team. Petroleum-based products shall not be thrown, spread, or otherwise discharged on or beneath the surface of the ground.

APPENDIX 5

DESIGN-BUILD QUALITY MANAGEMENT PLAN

APPENDIX 5

DESIGN BUILD QUALITY MANAGEMENT PLAN

5.1 PURPOSE OF APPENDIX

This Appendix describes the minimum requirements for the Company's overall Quality Program (Quality Program) including its Design-Build-Operate Quality Management Plan. The Design-Build-Operate Quality Management Plan (Quality Management Plan) shall define quality control (QC) and quality assurance (QA) procedures that shall be implemented during permitting, design, construction, start-up, commissioning, Acceptance Testing, and operation.

5.2 AUTHORITY'S QUALITY OBJECTIVES

The Company's overall Quality Program, including quality control and quality assurance, shall be consistent with and support the Authority's overall expectation of high quality and the following overall quality objectives:

- Ensure that the Company implements a well-developed quality program to help meet the Authority and Company's objectives for the Facility.
- Ensure that permitting, design, construction, start-up, testing, commissioning, Acceptance Testing, and operation are consistent with the Service Contract and result in a facility that meets the overall Performance Guarantees for the Facility.
- Provide durable, dependable, and high-quality materials, installation, and equipment compatible with and proven in waste-to-energy applications.
- Develop systems to assure that problems are discovered early, corrected adequately, and do not recur.
- Provide independent oversight equipped with adequate resources to assure that quality is not compromised by production goals.

5.3 COMPANY'S QUALITY MANAGEMENT RESPONSIBILITIES

The development and implementation of the overall Quality Program shall be the responsibility of the Company, which recognizes the Authority's emphasis on high quality for the Facility. The Quality Program shall integrate permitting, design, construction, and operation, and shall include detailed quality control and assurance programs, staffing assignments and communication protocols, training, and other aspects as defined below.

The Company's Quality Program shall define how the Company will ensure that the Authority's quality objectives are met, including provisions for involving Authority representatives in discussions related to quality and provisions for reporting quality assurance findings to the Authority. In addition, the Company's Quality Program shall ensure that:

- Project staff, including all Subcontractors, are qualified to perform their duties and meet all necessary regulatory and project-specific training requirements.
- A strong emphasis is placed on selection of quality materials and equipment during the design and on quality workmanship during construction.
- Items and services procured for the Facility meet all necessary quality requirements.
- Quality control work is documented and documents are properly managed and controlled.
- Work is properly planned and implemented according to established procedures.
- Work is reviewed and quality processes are audited by the Company for effectiveness.
- Deficiencies are documented and effective corrective action is promptly completed (Quality Assurance Program).
- Work processes are continually improved through analysis of root causes and feedback of lessons learned.

To achieve these goals, the Company shall:

Develop an overall Quality Management Plan. The Quality Management Plan shall describe in detail the Company's comprehensive program to ensure that the Company's Quality Program responsibilities and the Authority's quality objectives will be met.

Provide adequate resources dedicated exclusively to the Quality Management Plan's implementation. QA/QC staff must function independently of production staff and be empowered to enforce the Quality Program's objectives, define quality expectations, independently verify quality, and investigate the causes of poor-quality work.

Define Roles/Responsibilities. Clearly defining and communicating the roles and responsibilities and quality standards among all parties working on the Facility, including subcontractors, to ensure quality standards are met.

Manage Documentation. Accurate and complete documentation and records management, using a comprehensive document management system and project record filing system.

5.4 SUBMITTALS

The Company shall submit for the Authority's review and approval Quality Management Plans for the different phases of the project in accordance with the following schedule:

- 1) Permitting QA/QC Program – First Draft submitted within 15 days of the Contract Date
- 2) Design QA/QC Program – Submitted to the Authority within 180 days of the Contract Date
- 3) Construction QA/QC Program – Submitted to the Authority within 365 days of the Contract Date
- 4) Operation QA/QC Program – Submitted to the Authority within 365 days of the Contract Date

Final Construction and Operation QA/QC Programs, incorporating the Authority's comments, shall be submitted prior to the Notice to Proceed and are a Construction Commencement Date Condition.

Revisions and updates to the Company's Quality Program may be proposed by the Company as the project progresses. Changes to the Quality Program shall require the approval of the Authority. The Company shall not initiate any of the work under a proposed change to the Quality Program until reviewed and an acceptable Quality Program change is in place.

5.5 MINIMUM REQUIREMENTS FOR COMPANY'S QUALITY MANAGEMENT PLAN

5.5.1 Overall Program Requirements

The Company's initial draft Quality Management Plan and subsequent revisions shall include, at a minimum, the following information for each phase of the project:

- The Company's overall quality approach, including its QC and QA philosophy and approach for each phase and a discussion of methods that will be used to

assure that contracting and subcontracting relationships will support the Company's and the Authority's quality objectives.

- Minimum staffing and resource commitments for QC and QA activities for each phase, including fully explained responsibilities and authorities.
- Organization charts for each phase showing the relationship and reporting plan for the QC manager, special inspectors, field engineers, design engineers, subcontractors, the Authority, and others. This shall include descriptions of the relationships of QC and QA staff to the monitored organizations performing the work.
- Definition of design change process during construction describing the sequence of events to implement a design change and documentation of the design change.
- A description of the Company's process to identify, document, and reach concurrence on corrective action for incidents of construction nonconformance.
- Other QA and QC procedures and documentation requirements in detail.

5.5.2 **Permitting QA/QC Program**

The Company's permitting QA/QC program shall also be described in detail in its Quality Management Plan.

The permitting QA/QC program shall, at a minimum, address the following:

- roles and responsibilities for permitting;
- documentation of assumptions;
- standards and methods to be used;
- procedures for communicating permitting-related information and design constraints to the design engineer; and
- procedures for ensuring that permit requirements are incorporated into design and construction documents and for verifying compliance during construction and operation.

5.5.3 **Design QA/QC Program**

The Company's design QA/QC program shall be described in detail in its Quality Management Plan.

The design QA/QC program shall identify the roles, responsibilities, and procedures necessary to ensure that design quality is maintained during the development, review, and approval processes.

Controls shall be established to ensure design development is coordinated with permit requirements and to obtain input from the Company's construction and permitting teams.

Coordination shall include all internal and external parties involved in the design development and review process, including inter-discipline reviews and constructability reviews, as well as the verification process used to ensure that changes are clearly and consistently shown on all affected design documents. Methods shall be incorporated to ensure that all design issues and reviewer comments are identified and tracked until they have been addressed and/or incorporated into the design. Tracking documents showing resolution of internal/external reviewer comments shall be developed, maintained, and be available to the Authority for review.

The design QA/QC program shall assure that documents are not provided for Authority review until all internal inter-discipline and constructability reviews have been completed.

Measures shall be taken to ensure that designs are not released to construction until authorized and approved by the Engineer of Record. Design documents shall clearly show detailed quality requirements such as: construction tolerances; requirements from codes and standards that are to be followed during construction; equipment model numbers; ASTM and industry standards; material requirements; and any test reports or certifications required from the manufacturers.

5.5.4 Construction QA/QC Program

The Company's construction QA/QC program shall be described in its initial draft Quality Management Plan and shall be revised in more detail prior to construction.

The Company shall be responsible for controlling the quality of all work, including work of its subcontractors and suppliers, and for ensuring that the required quality is achieved. The Construction QA/QC Program shall describe the Company's approach to:

- on-site quality;
- off-site quality (manufacturing, fabrication, and assembly);
- construction QA/QC organization;
- programs for orienting and training staff and subcontractors;

- methods and procedures used to assure that quality is achieved during all stages of construction; and
- Quality Control, including inspection and testing.

Procedures shall clearly define QA/QC activities, including responsible parties, roles, and work products ensuring that the work is constructed as specified and required. The Construction QA/QC Program shall include a QA/QC work plan that details the QA/QC submittals for construction. These requirements shall be written with sufficient clarity to allow the Authority to verify that the Construction QA/QC Program is being fully implemented, all work is inspected, and that all deficiencies are being identified and resolved promptly. The Company shall provide sufficient notice to the Authority Engineer in advance of covering any work to allow the Authority Engineer to verify the work conforms to Service Contract requirements.

The Construction QA/QC Program shall include the details of the Company's Construction Quality Control Program (CQCP). Instructions for performing inspections must be clearly defined, including:

- the work attributes to be inspected and tested;
- frequency of inspections and testing; and
- the requirements for documenting the inspection results.

Inspection and test records shall be kept current (not less frequently than daily), and shall have sufficient detail to enable the Authority's representative to identify inspections and tests that have been performed, and the results. The CQCP shall show methods to be implemented to identify and track all unsatisfactory, deviating, and nonconforming work until the required repair, rework, or replacement is performed, and the work has been re-inspected and accepted. The Authority shall be informed of all unsatisfactory and nonconforming conditions, and the Company's plan for corrective action.

The CQCP shall assure the quality of all material and equipment. Procedures shall be implemented to verify that the procurement documents meet all design requirements, and that quality has been controlled during the manufacture and testing of all major or critical equipment being fabricated specifically for this project. The CQCP shall require receipt inspection of all material and equipment to ensure that it meets all design requirements. The Authority shall be given access to all off-site manufacturer and storage locations for the purpose of observing fabrication and off-site testing and storage. The Company shall advise the Authority of the schedule for all off-site testing of equipment and materials.

The CQCP shall include monitoring procedures to ensure that material and equipment are being stored and maintained according to requirements of the designer and the manufacturer. Documentation such as material test reports, certifications, and equipment test results must be received to demonstrate compliance with the approved design.

The Company shall provide construction inspection and testing for the project. Construction inspectors, who shall be provided with the latest designs released to construction, shall perform initial verification of procurement and construction activities, so that any nonconforming work will be identified at an early stage. In this regard, the CQCP shall clearly identify the circumstances under which the Company's engineer will be involved in construction quality oversight.

Controls shall be provided to ensure that inspections and testing are being performed using the latest approved design documents and shop drawings. Procedures shall ensure that an adequate number of inspection personnel (as defined by the Company's Quality Management Plan as approved by the Authority) are available at all times, and that all inspectors are qualified, trained, and proficient in performing inspections for the work to which they are assigned.

The Company shall perform all testing and inspections as required by the Service Contract, approved design documents, codes, regulations, and standards (such as ACI and ASTM) which may be referenced in various sections of **Appendices 3, 4, and 6**. If there are any conflicts in the testing requirements between the Service Contract and the design documents, and recommendations or requirements shown by codes, regulations, or standards, the more stringent testing requirements shall apply.

All testing shall be performed by individuals who are qualified and experienced in providing these testing services. Equipment used to perform tests shall have been calibrated according to requirements in the testing procedure. The Company shall hire a certified independent testing laboratory to perform all laboratory testing. Lab tests include:

- the proposed concrete mix design;
- concrete aggregate tests;
- strength of concrete field test cylinders;
- gradation and moisture density relationship of soils; and
- others as required by the Company's Engineer of Record.

The certified testing laboratory(s) shall also perform on-site tests that the Company is not experienced, qualified, or certified to perform. On-site tests include:

- concrete slump;
- concrete air entrainment;
- concrete temperature;
- casting of concrete test cylinder specimens;
- in-place testing of concrete strength;
- compaction density testing of soils;
- coating thickness measurements;
- structural bolting torque;
- welds;
- coatings; and
- others as required by the Company's Engineer of Record.

5.6 OPERATION QA/QC PROGRAM

The Company's Operation QA/QC Program shall be described in the Quality Management Plan. The Operations QA/QC program shall, at a minimum, address the following:

- rules and responsibility for operation;
- record keeping and other documentation;
- how Performance Guarantees will be met; and
- procedures for addressing operations problems and/or permit requirements.

5.7 AUTHORITY ROLE IN QUALITY ASSURANCE

The Authority intends to have a full-time representative during construction. The Authority intends this individual to be a part of the Authority's independent Quality Assurance Program. The Company shall be fully responsible for implementing its own comprehensive Quality Program (including Quality Assurance and Quality Control) and shall not depend in any way on the observations of the Authority's representative to substitute for its own obligations.

The Authority shall be provided in a timely manner with duplicate copies of all Quality Program documentation including:

- quality control inspection reports;
- quality control test reports;
- nonconformance reports;
- quality assurance reports;
- pile driving blow count records;

- equipment test reports;
- material test reports; and
- quality control personnel qualifications and certifications.

APPENDIX 6

**PRE-ACCEPTANCE TESTING REQUIREMENTS AND
ACCEPTANCE TEST PROCEDURES AND STANDARDS**

APPENDIX 6

PRE-ACCEPTANCE TESTING REQUIREMENTS AND ACCEPTANCE TEST PROCEDURES AND STANDARDS

6.1 GENERAL

The intent of the Acceptance Test is to demonstrate that the Facility can meet the Performance Guarantees in **Appendix 2**. The Authority's goal is to have achievement of the **Appendix 2** Performance Guarantees clearly and unquestionably demonstrated during the Acceptance Test, to the maximum extent possible. To the extent this cannot be accomplished due to insufficient waste quantities the Company shall identify modeling or other mechanisms to provide this additional demonstration. Modeling or other mechanisms for modeling performance shall be fully developed and presented in the detailed protocol for approval.

6.2 MINIMUM TESTING REQUIREMENTS

All testing shall be performed simultaneously, to the extent practicable, in accordance with the applicable local, state and federal regulatory agencies rules, regulations, and methods, and the requirements of sections of the Service Contract and its Appendices. The Guiding Principles set forth in ASME PTC 4 and 34-2007 will generally apply. Actual test measurements without consideration of precision will be used for determination of test results.

At least one hundred eighty (180) days prior to the commencement of any testing activities to determine the ability of the Facility to satisfy the Performance Guarantees, notice to the Authority shall be given in the form of a preliminary Acceptance Test Plan, which will incorporate the guidelines established in this Section and will contain the Company's best estimate of the amount of waste required for testing on a daily basis, and the schedule and procedures of the Acceptance Tests. Processible Waste quantities needed for preliminary runs will also be specified as closely as possible. The Authority or its designated engineer shall review the preliminary Acceptance Test Plan and provide comments to the Company no later than 60 days following the Authority's receipt of such plan. The Authority shall deliver, or cause to be delivered, such amounts of Processible Waste. The Company shall notify the Authority at least five (5) working days prior to the start of any test described herein.

It is the objective of these tests to determine whether the Facility meets the Performance Guarantees, Technical Specifications, and operates at its design capacity.

During the Acceptance Test period, all equipment will operate at its normal mode and capacity, and the operating personnel and supplies shall be those proposed to be available during normal operation of the Facility – all to demonstrate the capability of the Facility under normal operating conditions. During the Acceptance Tests, the Company shall operate the

Facility in conformance with all Applicable Law. The test will be conducted with Processible Waste and will allow for all procedures to occur concurrently to the extent possible.

Prior to Acceptance Testing, the Facility must have completed start-up as defined in the Service Contract and each unit will have been operated for a minimum of three to four (23-4) weeks of cumulative operation at or above 75 percent capacity to attempt to bring the heat transfer surfaces to a normal operating condition. If cleaning of the heat transfer surfaces with the exception of normal rapping, soot blowing and/or shower cleaning is performed after the three week start-up period has been established, an additional three weeks of operation at or above 75 percent capacity will be undertaken by the Company.

Following the start-up and phasing-in of all process operating equipment of the Facility (Start-up Operations and Shakedown) and before conducting Acceptance Testing, all key instrumentation and controls will be calibrated by technicians provided by the Company, its subcontractors, or suppliers. In addition, all continuous emissions monitors will be certified.

Crane scales shall be used to determine all waste charged to each unit. Scales shall be capable of automatically weighing each charge, at a minimum recording the time, date, weight charged, and unit. Scale systems shall be capable of automatically printing hourly and daily totals by unit. Records shall be obtained in hard copy, as well as electronic format, through the DCS system. Crane scales shall be checked for linearity prior to the start of the test period by weighing at least two weights, one near the maximum anticipated charge weight and one less than the anticipated minimal charge. Each crane shall be calibrated even if it is anticipated only one of the cranes will be used for charging units. Twice daily during all testing, each crane shall be checked by hoisting a test weight and verifying the zero reading. Test procedures shall address measures to be taken for addressing spillage and avoiding unrecorded data.

All data required to demonstrate performance shall be made available to the Authority and the Authority' Engineer within 24 hours of collection. To the extent practical, all data should be collected electronically at intervals of no more than 1 minute and assembled into data summaries and forwarded to the Authority Engineer in Excel or other acceptable format. Manually recorded test data and records and electronic data from the previous day shall ~~be available by noon the following day~~ also be provided within 24 hours. Access to DCS trend information shall also be provided.

6.3 ADJUSTMENTS PERTAINING TO THROUGHPUT CAPACITY AND ELECTRICITY PRODUCTION RATES

Electric generation is dependent upon the waste throughput rate, the waste composition, the higher heating value ("HHV"), and ambient temperature conditions. For

Acceptance Testing purposes, it is recognized that the waste HHV delivered to the Facility may not be representative of the Reference Waste HHV, and the net electric generation must, therefore, be corrected to that obtainable with the Reference Waste HHV. In addition, a turbine output correction may be required in accordance with the turbine vendor's recommendations, if it is operating at other than the design backpressure conditions due to off-design ambient temperature conditions. Corrections will be made for ambient temperature both above and below the design ambient ~~temperature condition~~, temperature condition. The design backpressure condition is 3.0" Hg (abs) and the ambient design temperature is 86°F- (dry bulb temperature). Electricity output will be corrected to account for the adjusted backpressure. No other adjustments are allowed. It is further recognized that, by using the combustion system as a calorimeter, the specific higher heating value of the delivered waste may be determined while the electric generation is measured, and the results can then be corrected for HHV to the specified conditions as described hereinafter. Throughput capacity will not be adjusted for any reason other than crane scale related adjustments, unless the HHV of the waste fired is different from the Reference HHV of 5,500 Btu/lb.

It is further recognized that it is difficult to obtain an accurate measurement of the heating value of the waste through sampling of the waste being processed during the Acceptance Test. It is, therefore, proposed that the combustion system be used as a calorimeter, following, in general, the principles described in the ASME Power Test Code ("PTC") 4 for Stationary Steam Generating Units and 34-2007 for Waste Combustors with Energy Recovery (the "Energy Recovery Tests"). The heating value of the waste used during the Energy Recovery Tests shall be used to correct the energy production which would have been obtained using Reference Fuel.

One purpose of the Energy Recovery tests is to determine the HHV of the waste processed during the test and determine the boiler steaming rate, net electrical production, and associated efficiency. The HHV values determined during the Energy Recovery Tests will be used for adjustment of the 14-day throughput capacity heating value if the HHV value(s) are outside the acceptable range.

6.4 PRE-ACCEPTANCE TEST CONFERENCE

There shall be a pre-Acceptance Test conference to provide a forum for all individuals associated with approval of testing of the Facility so that the Company can clearly discuss responsibilities of the participants during the Acceptance Test. The conference shall be held at the facility within ~~thirty (30)~~ ninety (90) days after the Acceptance Test Plan is submitted to the Authority for approval. The Company shall notify the Authority of the date of the pre-Acceptance Test conference in writing at least twenty-one (21) days in advance of such date.

Notice to the authorities shall include an updated copy of the Acceptance Test Plan with the Authority's comments.

At the pre-Acceptance Test conference, the Acceptance Test Plan shall be reviewed, and any changes relating to the Acceptance Test Plan shall be discussed and, if agreed upon, incorporated into the Final Acceptance Test Plan.

6.5 START-UP OPERATIONS AND SHAKEDOWN

During this phase of construction, the Company shall gradually start-up and phase-in all process operating equipment. The Company shall:

- a) At least 90 days prior to commencement of Start-up Operations activities, submit a procedure and schedule for Start-up Operations and Shakedown of the Facility (Start-up Operations and Shakedown Protocol) to the Authority. The schedule should outline approximate major equipment initial operation dates, as well as the Company's best estimate of the amount of waste, on a daily basis, required to support Start-up Operations activities.
- b) Notify the Authority ten (10) days prior to Start-up Operations. Such notification shall serve as confirmation of the Company's intentions to initiate Start-up Operations activities and notify the Authority of any changes in the schedule and/or waste delivery schedule referred to in Part (a) above.
- c) Have designed, constructed, and equipped the Facility in accordance with this Contract and be able to demonstrate that the Facility's systems and operating equipment have satisfied all hydrostatic, pneumatic, electrical, and other tests required to demonstrate mechanical operation, all prior to commencing Start-up Operations activities.
- d) Be responsible for all costs of repairs, modifications, testing, and operation and maintenance of the Facility during Start-up Operations.
- e) Substantially complete the training of all personnel required for commercial operation of the Facility.

The Start-up Operations and Shakedown Protocol shall comprise, as a minimum, the following provisions:

- a) During the Start-up Operations and Shakedown period, the Facility shall be operated for a minimum of three (3) consecutive weeks at or above 75 percent of

rated capacity. The Company shall provide copies of records, logs, and data that are necessary to substantiate compliance with this requirement.

- b) During Start-up Operations and Shakedown, the Company shall operate the Facility in accordance with good power plant operating practice.
- c) All instrumentation and controls shall be calibrated by technicians provided by the Company, its subcontractors, or suppliers. The Company shall notify the Authority of the date and time specific calibration evolutions are to occur. The Authority reserves the right and option to monitor the calibration of any instrument and/or control equipment. The Company shall maintain an instrument/controls calibration log for each instrument and control loop that is calibrated. The Company shall provide the Authority a copy of the calibration log prior to commencing Acceptance Tests.

6.6 TEST PLAN STRUCTURE

The Acceptance Tests will be composed of the four individual, but concurrent, tests outlined in **Table 6-1** and described below.

Table 6-1: Acceptance Testing Required Tests

Test	Acceptance Test Requirements and Description:
Throughput Performance Capacity Test	Operation of the Facility at full load for fourteen (14) days.
Energy Recovery Test	Each unit to be tested three times for twenty-four (24)hours during the Throughput Performance Capacity Test.
Residue Test	Residue Quality meeting Performance Guarantees for moisture content, percent unburned carbon, and Residue weight as stipulated in Appendix 2.
Metals Recovery Test	The ferrous and non-ferrous recovery systems to be tested three times for 10 to 12 hours during the Throughput Performance Capacity Test.
Throughput Performance Compliance Test	In accordance with requirements established by the US EPA and the MDE. CEMs shall be RATA tested with preliminary successful results prior to Acceptance Testing and will be used to demonstrate compliance during the Test Period(s).

6.7 THROUGHPUT PERFORMANCE CAPACITY TEST

The objective of this test is to demonstrate the capacity of each waste processing unit to consume waste and produce steam and electricity during a fourteen (14) day (336-hour) test period while operating at design capacity. The Energy Recovery Test shall be conducted three (3) times on each unit during this test.

The Facility will be tested for one 336-hour period, during which the Facility will process at least **21,000 Tons (or 10,500 Tons per unit if Company utilizes two units)** of Reference Fuel. The amount of Reference Fuel processed shall be determined by using Equation 1 if the HHV is determined to be within the acceptable range of 4,500 – 6,500 Btu/lb.

$$1) \quad \begin{array}{l} \text{Adjusted} \\ \text{Reference} \\ \text{Throughput} \end{array} = \begin{array}{l} \text{Actual Daily} \\ \text{Throughput} \end{array} \times \frac{\text{Actual ERT HHV}}{\text{REF HHV}}$$

Where:

Adjusted Reference Throughput = the daily amount of Reference Fuel that would have been processed if available (Tons/day);

Actual Daily Throughput = the actual amount of waste processed in a 24-hour period (Tons/day);

ERT HHV = the HHV of the waste determined during the Energy Recovery Tests (Btu/lb); and

REF HHV = the HHV of the Reference Fuel (Btu/lb).

If the Adjusted Reference Throughput (as certified by the Company and concurred with by the Authority Engineer) results in a throughput capacity meeting the guarantee, the Facility will have passed the Throughput Performance Capacity Test, provided it meets the ash residue guarantees discussed below. If the heating value of the waste burned is determined to have an HHV below 4,500 Btu/lb., the waste supplied shall be considered as not representative of Reference Fuel and the test will then be repeated at the Authority's expense.

The Facility shall not have passed the Throughput Performance Capacity Test, even though the tonnage processed meets the capacity requirements stated above, if the percentage of combustible matter in the residue exceeds those specified in the Performance Guarantees.

6.8 ENERGY RECOVERY TEST

The objective of the Energy Recovery Test is to demonstrate the ability of the Facility to generate electricity at a specified throughput of waste (at a Reference Waste HHV) for the purpose of meeting the Electrical Generation Guarantee. Energy Recovery Tests shall consist of three (3) twenty-four hour electric generation tests conducted on each unit simultaneously during the 14-day Throughput Performance Capacity Test period. During the test all Facility

electrical power requirements shall be supplied by the Facility generator. The tests should include using boiler as a calorimeter (BAC) tests to determine the actual HHV of the waste to correct the Btu/lb of reference fuel combusted. The basic formulas shall include:

$$\begin{array}{rcl}
 1) & \text{Heat Input} & = \text{Heat Output (Steam) + Losses} \\
 2) & \text{HHV of Burned Waste} & = \frac{\text{Heat Input}}{\text{lbs of Burned Waste}} \\
 3) & \text{Boiler Efficiency} & = \frac{\text{Heat to Steam}}{\text{Heat Input}} \\
 4) & \text{Steaming Rate} & = \frac{\text{lbs of Steam}}{\text{lbs of Burned Waste}} \\
 5) & \text{Electric Generation Rate} & = \frac{\text{Net kWh}}{\text{tons of Burned Waste}}
 \end{array}$$

The resulting net electricity per Ton of waste processed figure expressed in kWh per Ton shall be calculated with adjustments using the following formula:

If the processed waste HHV is other than 5500 Btu/lb, then:

$$\text{NET} = \text{NEO}_m \div (\text{TP}_m \times (\text{HHV}_m \div 5500))$$

Where:

NET = Net Electricity per Ton, kWh/Ton

NEO_m = Net Electrical Output, kWh measured

TP_m = Tonnage Processed, measured

HHV_m = Higher Heating Value, measured

The determination of Heat Input will require the steam and feedwater pressure, temperature, and flow measurements. From these, the enthalpy rise from feedwater to outlet steam will be determined.

The losses will be determined in accordance with the procedures outlined in ASME PTC 4 and 34 and require primarily a certified stack gas monitoring system to determine excess air; a traversing of the flue duct to determine gas flow rates and temperatures; determination of

moisture content in the flue gas; assumption of radiation losses from PTC 4.1, Figure 8 - American Boiler Manufacturers Association (ABMA) Standard Radiation Loss Chart or as estimated from procedures in PTC 4; temperature of residue ash and fly ash; temperatures and quantities of quench water; flow, pressure, temperature, and humidity of combustion air, blowdown flow, and other measurements or determinations of minor losses. Any operating practices that normally occur during a 24-hour operating period, such as (e.g. sootblowing or wrapping, baghouse cleaning, etc.) shall be performed during the 24-hour Energy Recovery Test. No temporary equipment, such as air compressors, will be allowed to be used during the Energy Recovery testing period. All other equipment that contributes to parasitic load will be in a normal or “on” mode.

Each Energy Recovery Test shall extend over a twenty-four -hour test period for each unit. Pertinent test data shall be recorded at appropriate intervals in accordance with the test code. More specifically, the readings taken and recorded during the test will include, but will not necessarily be limited to, the following:

- Waste feed rate;
- Boiler outlet steam to turbine- flow rates, temperatures, and pressures;
- Feedwater- flow rates, temperatures, and pressures;
- Attemperator- water flow rates, temperatures and pressures;
- Boiler drum pressures;
- Flue gas- flow rates and temperatures at the economizer outlet;
- Carbon dioxide, oxygen, carbon monoxide, and moisture in the flue gas at the outlet of the economizer;
- Residues and fly ash quantities and unburned carbon content;
- Ambient wet/dry bulb temperatures, barometric pressures;
- Residue quench water quantities (if applicable);
- Moisture in Residue;
- Boiler blowdown rate and temperature;
- Turbine generator output; and
- In-house power consumption.

Test measurements will be taken from installed plant instruments which will have been previously calibrated during the start-up period described in the Service Contract prior to the test and agreed accurate by the Authority’s Engineer. Special portable instrumentation, such as for flue gas measurements, may also be used where required and agreed upon.

All data and measurements for the test will be read and recorded separately for each combustion unit.

6.9 RESIDUE TEST

The Residue moisture content and percent combustible matter shall be determined during the Residue Test. The residue sampling procedure and test plan shall include provisions for determination of the amount of combustible matter in the residue and the moisture content of the residue. Residue sampling and testing shall be conducted in accordance with ASME PTC 34. The ash sampling protocol shall be included in the Acceptance Test Plan which shall be submitted to the Authority at least one hundred eighty (180) days prior to the start of the Acceptance Test for approval. In the event the Company chooses to separate the bottom ash from the fly ash, the Company shall test each stream separately and TCLP shall be performed separately for each stream in order to demonstrate that each stream of bottom ash and fly ash is non-hazardous.

6.10 METALS RECOVERY TEST

The efficiency of the ferrous and non-ferrous recovery systems shall be determined during the Metals Recovery Test. The ferrous and non-ferrous sampling procedure and test plan shall include provisions for the determination that the Facility's ferrous and non-ferrous recovery systems will recover from the Residue 85% (by weight) of all plus 3 inch magnetic ferrous and 85% (by weight) of all plus 3/8 inch non-ferrous metal contained therein.

6.10.1 Ferrous Recovery Test

The Ferrous Recovery Test shall be conducted on three separate days during the Throughput Performance Capacity Test. Each test day shall consist of a ten to 12 hour period, contingent upon the available Residue. Residue Samples shall be collected at one-half (1/2) hour intervals. For each of the test runs, the unrecovered ferrous ratio shall be sampled downstream of the magnetic ferrous separator. The oversize (or grizzly scalper) ferrous shall also be collected, weighed and added to the process ferrous extracted from the magnetic separator. The total Residue weight collected during the test shall also be obtained during the test period.

6.10.2 Non-Ferrous Recovery Test

The Non-Ferrous Recovery Test shall be conducted simultaneously with the Ferrous Recovery Test described in Section 6.10.1. Each test day shall consist of a ten to 12 hour period, contingent upon the available Residue. Residue samples shall be collected at one-half (1/2) hour intervals. For each of the test runs, the unrecovered non-ferrous ratio shall be sampled downstream of the eddy current or non-ferrous metal separator. The oversize (or grizzly scalper) non-ferrous shall also be collected, weighed and added to the process non-

ferrous extracted from the eddy current separator. The total Residue weight collected during the test shall also be obtained during the test period.

6.11 ENVIRONMENTAL COMPLIANCE TEST

6.11.1 Air Emissions

During the Throughput Performance Capacity Test, each combustion unit shall be stack-tested. The testing shall be consistent with standard practice of conducting three runs for each parameter with the average of the three runs being used to demonstrate compliance with the Permit requirements and also be conducted in accordance with Federal, EPA, and State regulations, the approved protocol, and the requirements set forth in **Appendix 2**.

If the regulations in effect at the time of Acceptance Testing differ from those specified in this procedure, the Facility shall be tested in accordance with all current State regulations to determine compliance with pertinent environmental regulations and testing procedures in effect at the time the actual test is performed.

Testing shall be performed as directed by the regulatory agency having jurisdiction.

6.12 ACCEPTANCE TEST REPORT

After completion of the Acceptance Test, a report containing the information related to the Acceptance Test (the "Acceptance Test Report") shall be prepared by the Company and, within 60 calendar days, 10 copies shall be submitted to the Authority. The Acceptance Test Report shall contain, but not be limited to, the following information and certifications:

- Copies of all data and log sheets.
- Copies of all laboratory analyses.
- A listing of all federal, state, county, and other regulatory agency requirements and the respective test results indicating conformance and compliance or lack of conformance/compliance with these requirements.
- All necessary certificates relating to calibrations, testing, evaluation, analyses, and performance required pursuant to the Acceptance Test Plan.
- A summary of test results supported by calculations demonstrating the ability to meet the requirements relating to the Throughput Performance Capacity and Energy Recovery Tests.
- A certification signed by an officer of the Company stating that the Acceptance Tests were conducted in accordance with the Acceptance Test Plan; the requirements of the Acceptance Test were satisfied or the extent to which they were not satisfied; and the Acceptance Test demonstrated that the Facility met each of the Performance Guarantees specified in the Service Contract.

6.13 FACILITY ACCEPTANCE TEST PASSAGE CRITERIA

The Facility will have been judged to have passed the Acceptance Test if the Acceptance Test demonstrates that, in addition to the further requirements as stipulated in the Service Contract, each of the following criteria has been met or exceeded:

- The Throughput Performance Capacity Guarantee is demonstrated if (i) 21,000 Tons (or 10,500 Tons per unit for two units) of waste are processed during the 14-day period, at a waste HHV of 5500 Btu's/lb or less, (ii) the Residue complies with the Residue Guarantee, and (iii) the environmental permit requirements are complied with during the test period.
- Successful demonstration of having met the Electrical Generation Rate Guarantee.
- The Residue Quality Guarantee is demonstrated if the unburned carbon content and moisture content comply with the requirements set forth in Appendix 2.
- The Residue Quantity Guarantee is demonstrated if Tons of Residue generated comply with the requirements set forth in Appendix 2.
- All permit conditions have been met during the Acceptance Test.

6.14 MINIMUM ACCEPTANCE STANDARD

If the Company does not demonstrate compliance with the average daily throughput of at least a total of 1,500 Tons of Reference Fuel, 750 Tons of Reference Fuel per unit, as required by the Throughput Performance Capacity Test, but does demonstrate the ability to process at least a total of 1,425 Tons per day, 712.5 Tons per unit, (95% Compliance) of Reference Fuel during the Throughput Performance Capacity Test, then the Company shall have achieved Minimum Acceptance Standard, provided all other Acceptance Tests and Performance Guarantees have been satisfied.

All other Acceptance Tests require 100% Compliance to achieve Minimum Acceptance Standards.

APPENDIX 7

DESIGN-BUILD WORK REVIEW PROCEDURES AND SUBMITTALS

APPENDIX 7

DESIGN-BUILD WORK REVIEW PROCEDURES AND SUBMITTALS

7.1 PURPOSE OF APPENDIX

The purpose of this Appendix is to describe the Authority's overall intent with respect to the review of project documents including items such as permit applications, Design Packages (i.e., 30%, 60%, and 90% plans and specifications for components packaged together for the purpose of obtaining building permits), various plans and reports, and other required submittals. In general, the primary purpose of the Authority's review is to assure that the project documents conform to the requirements of the Service Contract and Appendices.

7.2 GENERAL

7.2.1 Authority and Company Obligations Generally

The Company shall provide required project documents for review consistent with the submittal dates included in the Company's Overall Critical Path Schedule. The Company acknowledges that Authority review will often involve input from a number of individuals. Therefore, should submittal dates to the Authority be delayed from those shown on the Overall Critical Path Schedule updated monthly as required under **Appendix 9**, the Company shall provide prompt notice to the Authority's Contract Representative of the delay. In no case shall this notice be given less than 10 calendar days prior to the scheduled submittal date.

The Authority will provide timely review and comment on all required submittals in order not to delay the progress of the work. Unless otherwise specified herein or waived by the Authority during the course of the project, the Authority, acting as owner, will review all submittals and return consolidated comments to the Company within 14 calendar days of receiving the submittal.

7.2.2 Monthly Progress Reports – Development and Construction Periods

Throughout the Development and Construction Periods, the Company shall furnish the Authority with a Monthly Progress Report that summarizes all aspects of the completed month and cumulative work progress, as further described in **Section 4.5.3 of Appendix 4**.

The objectives of the Monthly Progress Report are to:

Provide a reliable and readily accessible summary record of project activities and accomplishments during the month, including copies of any permits or approvals obtained and photos of construction progress.

Provide a detailed description of all Design-Build Work actually completed to date; revisions to the progress schedule which shall reflect changes in the Company's Project Construction Schedule since the date of the last Requisition; and revisions to the Overall Critical Path Schedule required under the Service Contract and **Appendix 9**, which shall reflect changes in the Overall Critical Path Schedule since the date of the last Requisition.

Address short- and long-term scheduling and cash-flow forecasting.

Identify issues and problems requiring action by the Authority or Company, including issues of conflicting priorities.

Provide information to help substantiate monthly pay request.

A sample Monthly Progress Report outline to be substantially followed by the Company is attached to this Appendix as **Table 7-1**.

The Company shall prepare and distribute the Monthly Progress Report at least 7 calendar days in advance of monthly management meetings that the Company shall hold with the Authority throughout the Development and Construction Periods.

7.2.3 **Quarterly Progress Report Information**

The Company shall provide the Authority information to support the Authority's quarterly progress report. The Company shall also provide information requested by permitting and regulatory agencies.

7.2.4 **Monthly Invoicing Requirements**

The Company shall identify the following types of work on its monthly invoices, as applicable:

Development Period Work, which will be paid for based on achievement of the milestones identified in **Table 10-2**.

Extra Design-Build Work that has been negotiated subsequent to the Contract Date.

Construction Period Work, which will be paid for based on estimated percent complete for the month being invoiced, provided that the cumulative drawdown in that month does not exceed the amount shown in **Table 10-1**.

For Development Period Work, invoices shall append sufficient information to demonstrate achievement of the milestones identified in **Table 10-2**.

7.3 PERMIT APPLICATION REVIEWS

The Company will act as the Authority's agent in obtaining project permits and approvals or amendments thereto as defined in **Appendix 1**. The Company must obtain certain permits as part of their Development Period obligations, while other permits may be obtained during the Construction Period.

The Company shall provide draft copies of permit or permit amendment applications to the Authority and the Authority's Engineer for review and comment. The Authority will provide its comments on permit and permit amendment applications review as owner, within 7 calendar days.

The Authority may wish to attend and observe Company meetings with permitting agencies and is available to assist the Company in arranging for agency reviews and meetings. If the Company wishes the Authority to attend such meetings or the Authority wishes to attend, they shall follow the procedures set forth in the Company's Communication Plan.

7.3.1 Required Permit-Related Submittals

The Company shall be required to make all necessary permit-related submittals, including, but not limited to:

- (1) emission factor determination and mass balances;
- (2) air modeling results;
- (3) any permit-related information, such as drawings;
- (4) any analyses (such as LAER or BALT Analysis);
- (5) the air permit application;
- (6) the building permit application;
- (7) the solid waste permit application (the permit to operate the Facility); and
- (8) any water permit application.

7.4 DESIGN REVIEWS

7.4.1 Design Review Intent – Authority Review as Owner

As Owner, the Authority will review design documents (see **Section 7.4.2**) for consistency with the Performance Guarantees and Design Requirements of the Service

Contract. All changes shall require Authority approval. Such approval will not, however, relieve the Company of its performance obligations under the Service Contract.

The Authority will also provide detailed design input on selected project submittals including:

- architectural treatment for the administration building;
- selection of finishes for the administration building;
- color choices from the Company's standard list of color choices;
- layout of employee work areas within the proposed building size ;
- traffic circulation and parking within the proposed total paving area;
- operation and Maintenance Manual (hardcopy and electronic); and
- landscaping.

7.4.2 Required Design-Related Submittals

The Authority recognizes that the Design-Build process requires that the Company and the Authority work cooperatively to assure timely design review and that design work will continue after the Notice to Proceed is issued. The Authority also recognizes that the Company may decide to segregate the project into various work packages and that multiple 50% or 90% submittals may be provided by the Company to correspond to the way it has segregated the work.

At a minimum, the Company shall provide the following design submittals to the Authority (for each package of work for which the Company contemplates preparing separate permit applications) for review and comment:

- Facility conceptual design (roughly 30%) including all design standards and bases of design, and internal/external facility layouts;
- approximately 60% design including drawings and specifications;
- approximately 90% complete or at the point sufficient to support Building Permit Applications including drawings and specifications; and
- "As permitted for construction" drawings and specifications including a complete set of building official comments.

7.4.3 Design Changes Requested by the Authority

The Authority may request design changes where the Company's design does not conform to the requirements of the Service Contract. In those cases, no change to the Fixed Design-Build Price will be granted the Company.

If the Company believes a design change requested by the Authority falls outside of these parameters and that a change to the Fixed Design-Build Price is warranted, the Company shall promptly notify the Authority in accordance with the requirements of the Service Contract.

7.5 CONSTRUCTION REVIEWS

7.5.1 Construction Review Intent

The Authority intends to assign an engineer to the project (“Authority Engineer”) during the Design-Build Period. The Authority Engineer will, in accordance with the terms and conditions of the Service Contract, periodically review construction activities and participate in weekly construction progress meetings as needed to verify Company compliance with the Service Contract, including construction quality and workmanship, and to verify pay items.

The Authority’s review and involvement during construction is intended to be an independent Quality Assurance Program and shall not be viewed by the Company as an integral part of the Company’s Quality Program.

Notwithstanding the possible intermittent nature of the Authority’s oversight of construction progress given the overall duties of the Authority’s representative, the Authority may provide verbal and/or written observations whenever it observes that the progress or quality of the construction is believed not to be in conformance with the Design Requirements.

When the Company receives such comment from the Authority, the Company shall act promptly to investigate the circumstances and merits of Authority comments and act to rectify those aspects of the work that are not in conformance with the Design Requirements. The Company shall promptly report to the Authority on Company actions taken in response to such Authority comments. When disagreements cannot be resolved directly between the Authority and Company, they shall be resolved in accordance with the Service Contract.

7.5.2 Design Changes during Construction

Design work on a given project component occurring after construction has been initiated on that component shall be issued under a Change Order process that accurately tracks and documents changes to the design. Change Order logs shall be maintained by the Company and provided to the Authority. The Company shall provide the Authority with a minimum of 14 days for review and comment in advance of the affected work. A similar procedure shall be used for design clarifications during construction.

7.5.3 Design Change Authority of the Engineer of Record

The Company's Engineer of Record shall be responsible for authorizing design changes during construction necessary to complete all project elements for their intended purposes. All such changes shall be implemented in accordance with the Change Order process described above. The Company's Engineer of Record is not authorized to unilaterally institute changes that result in a deviation from the project requirements established in the Service Contract or the approved building permits, unless such changes have been reviewed and approved in advance by the Authority and all government entities with jurisdiction.

7.5.4 Construction Record Drawings

As the Construction Period Work progresses, the Company shall maintain a minimum of two duplicate updated sets of design documents, including the design drawings, specifications, equipment, vendor design drawings, and construction drawings ("Record Documents"). These sets will be updated on a continuous basis, and shall never be more than 14 calendar days behind the current state of the design and construction. The two sets shall be maintained in sufficiently separate locations, with equally well-protected measures, such that fire, flood, vandalism, or other calamity shall not imperil both sets simultaneously.

The Authority will verify the up-to-date maintenance of both sets of documents on a monthly basis or more frequently as part of the condition precedent to approving the monthly progress payment disbursement process.

Upon completion of all Construction Period Work, and as part of the Closeout Requirements, the Company shall submit to the Authority a set of Record Drawings and specifications.

Record Drawings shall be in electronic format in the AutoCAD Release 2002 format or the latest edition then in use by the Authority.

The drawings shall be designated in the revision block as "construction record" drawings and shall be checked and signed by the Engineer of Record to verify that the field changes shown are accurate and consistent with the design intent. Any applicable specifications shall be on compact discs, modified to clearly and accurately show all changes made during construction. The Record Documents submittal shall also include a complete set of all Change Orders, numbered and bound in chronological order of issuance.

7.6 OTHER SUBMITTALS REQUIRING AUTHORITY REVIEW

7.6.1 Applicability

Other required submittals, in addition to the submittals described above, may be required by the Authority. The Company shall provide revised drafts of documents as needed to address Authority comments.

7.7 SUBMITTAL PROTOCOLS

The Company shall submit submittal protocols for the project that identify the key submittal packages to be prepared by the Company and the expected submittal dates, number of copies, and distribution of the submittals by the Company based on distribution information provided by the Authority. The Authority will designate the number of copies of the submittals, which will not exceed 15, and their distribution. Design drawings to be included as part of the design submittals shall be submitted in electronic format.

Table 7-1
Sample Monthly Progress Report Outline

Table of Contents

- I. Monthly Brief ⁽¹⁾
- II. Environmental, Safety and Health
 - A. Environmental
 - B. Safety and Health
- III. Project/Contract Management ⁽²⁾
 - A. Summary of Work Activities for Previous Month
 - B. Summary of Work Activities for Current (Upcoming) Month
 - C. Cash Flow Forecasting
- IV. Permitting ^{(3) (5)}
 - A. Summary of Work Activities for Previous Month
 - B. Summary of Work Activities for Current (Upcoming) Month
- V. Design ^{(4) (5)}
 - A. Summary of Work Activities for Previous Month
 - B. Summary of Work Activities for Current (Upcoming) Month
 - C. Authority Activities for Current (Upcoming) Month
- VI. Construction ⁽⁶⁾
 - A. Summary of Work Activities for Previous Month
 - B. Summary of Work Activities for Current (Upcoming) Month
 - C. Authority Activities for Current (Upcoming) Month
- VII. Activities Affecting Operations ⁽⁷⁾
 - A. Summary of Work Activities for Previous Month
 - B. Summary of Work Activities for Current (Upcoming) Month
- VIII. Status Synopsis ⁽⁸⁾
 - A. Key Issues
 - B. Critical Path
- IX. Status of Submittals ⁽⁹⁾
 - A. Previous Month Submittals
 - B. Current (Upcoming) Month Submittals
- X. Compliance with Other Authority Requirements
 - A. Summary of Previous Month Work Activities
 - B. Summary of Current (Upcoming) Month Work Activities

XI. Schedule ⁽¹⁰⁾

A. General Highlights

B. Current and Upcoming Near Critical Construction Activities

C. Changes in Schedule Since Last Update

Notes:

- (1) The "Monthly Brief" shall be written in a manner that it can be copied and provided to County Councils or to an external party for them to have a general understanding of the overall status, and recent and upcoming project activities.
- (2) The "Project/Contract Management" section shall provide a summary of the activities led by the Company's Construction Manager or Contract Representative, and such reports as quality assurance, partnering activities, and communications. During construction, this shall also include a report covering on-site safety.
- (3) Permitting shall provide a report on each of the permits that are being pursued by the Company, and include status, scheduled activities, and a contact name and phone number for the project person responsible for each.
- (4) Design shall provide a report on status of design activities, scheduled activities, and design issues affecting permitting or construction.
- (5) During the Development Period (design and permitting) the report shall include a one-page attachment that lists the upcoming on-site activities. If there will be any geotechnical work, and wetlands work, any site visits with regulators, etc., the Company shall identify it on this attachment.
- (6) Level of detail will be minimal until construction starts.
- (7) Operations should be reported on throughout the Development and Construction Periods to provide the Authority with information on what integration activities are occurring.
- (8) "Key Issues" shall include a listing of critical business, policy, and technical items (may be repeated from the prior sections) to be used by the Authority Engineer to communicate project issues. Critical path should list the critical path and near critical path items.
- (9) "Status of Submittals" shall list the status of submittals that are currently in development and in review. This section shall provide the Authority advance notice of soon-to-arrive submittals that it will need to be reviewed or otherwise require action. The Company shall

list the project team person responsible, and the amount of time that the Authority will have to review. If a shorter turn around is desired than provided in the Service Contract and Appendices, the Company shall highlight such a request in this section.

- (10) Provide general highlights in narrative form, focusing on items for which there is little or no float, those that have changed, and whatever else would be helpful to point out. Attach the schedule.

APPENDIX 8

**FACILITY OPERATION, MAINTENANCE, REPAIR AND REPLACEMENT
(OPERATION AND MAINTENANCE PLAN)**

APPENDIX 8

FACILITY OPERATION, MAINTENANCE, REPAIR AND REPLACEMENT (OPERATION AND MAINTENANCE PLAN)

8.1 PURPOSE

The purpose of this Appendix is to describe certain operational, maintenance, repair and replacement requirements for the Facility as well as the Facility interfaces with Authority operations. This section describes how the Facility will generally operate under normal and certain emergency conditions, after the Facility is complete.

8.2 GENERAL OPERATIONS

8.2.1 General

The Company shall operate and maintain the Facility in accordance with the Service Contract and following the procedures defined in the approved Operation and Maintenance Manual.

8.2.2 Normal Operations

8.2.2.1 Waste Receiving

The Company shall manage all waste receiving operations at the Site, including weighing and directing commercial vehicles to the Facility, except scale house operations which will be provided by the Authority.

The Company shall receive Processible Waste arriving by commercial vehicle transport directly at the Facility tipping floor. Once this waste has been received by the Company, all further screening, processing, transport and disposal shall be the responsibility of the Company.

The Company shall also receive Processible Waste from the Counties. Once this waste has been received by the Company, all screening, processing, transport and disposal shall be the responsibility of the Company.

The Company shall be responsible for monitoring the safety and security of unloading operations at the Facility and ensuring that vehicles leave the unloading area with vehicles fully unloaded and not likely to track or drop any remaining debris or waste on the site roads or on public roads.

8.2.2.2 Waste Screening

The Company shall screen all incoming waste loads at the Facility for the purpose of identifying and removing any Non-Processible Waste. The Company shall keep any Non-Processible Waste that is sent to the Facility separate from Processible Waste and shall be responsible for disposal of the Non-Processible Waste. Non-Processible Waste shall be included as a separate line item in the Company's monthly invoice. The cost for disposal of Non-Processible Waste will be reimbursed to the Company by the Authority. The scales shall be equipped with radiation monitors to detect and prevent radioactive waste from entering the Facility.

If the Company receives any dedicated loads of recyclable material, Company will direct notify the Authority of such. In addition, if the Company observes consistently high or increasing amounts of recyclable material in loads received at the Facility, it will notify the Authority.

8.2.2.3 Energy Recovery Process

After the Company has diverted Non-Processible Waste, the Company shall process the waste to maximize productivity, waste reduction and energy production.

8.2.2.4 Loading Non-Processible Waste

The Company shall transfer Non-Processible Waste from the Facility to appropriate on-site transfer trailers or hauling containers. The Company will also be responsible for moving empty containers or trailers from the trailer yard to their loading area and hauling loaded trailers or containers from the Facility to the Alternative Waste Disposal Site.

The Company shall continuously move received Processible Waste from the tipping floor area to the bunker area. The Company shall clean the Facility tipping floor daily.

8.2.2.5 Waste Hauling

The Company shall haul all loaded transfer trailers or hauling containers containing Non-Processible Waste, residuals from the Facility to the Designated Disposal Site and shall haul empty containers or trailers to the transfer trailer yard at the Facility. The schedule for hauling shall be sufficiently frequent to avoid a public nuisance at the trailer yard and to avoid exceeding the specified limit on the number of loaded containers or trailers at the trailer yard.

The Company shall only use County-designated routes when transporting Non-Processible Waste and/or residuals from the Facility to the disposal site(s). The approved routes shall not be changed without the prior approval of the Authority and the Counties.

8.2.2.6 Normal Operating Hours

The Company shall open the Facility tipping floor for receipt of waste from 6:30 a.m. to 6:00 p.m., Mondays through Saturdays, except the holidays specified in this **Section 8.2.2.6**. Waste will not be accepted during the following holidays: New Year's Day, Memorial Day, Labor Day, Thanksgiving Day and Christmas Day.

8.2.2.7 Housekeeping

The Company shall implement the following housekeeping procedures:

Litter control (daily) in the vicinity of the Facility;

Facility tipping floor cleaning (daily);

Building cleaning including interior and exterior walls, skylights, light fixtures, etc. (at least twice per Contract Year, and more often as needed);

Sweeping of all Facility roads and areas of significant vehicle activity (at least weekly) as required to be maintained free and clear of litter and dirt; and

Power washing floors and ceiling of the tipping building (at least annually).

8.2.2.8 Noise, Odor, and Vector Control

The Company shall operate the Facility to comply with all requirements for noise and odor control as defined in **Appendix 2**. The Company shall take immediate corrective action to all citations from regulatory agencies for noise and odor violations.

The Company shall implement all procedures for vector control (including diminishing attraction for rats and birds) identified in its Operating Plan and the permit.

8.2.2.9 Performance Guarantees

As part of its operating responsibilities, the Company shall be responsible for achieving the Performance Guarantees described in **Appendix 2**.

8.3 EQUIPMENT MAINTENANCE AND REPAIR AND REPLACEMENT REQUIREMENTS

The preliminary Facility maintenance, renewal and replacement plan outline described in this section shall serve as the framework for developing the detailed maintenance plan within the Operation and Maintenance Manual. Nothing in this Appendix shall relieve the Company from performing all Facility maintenance as required by the Service Contract, or meeting the **Appendix 2** Performance Guarantees.

8.3.1 **Equipment Status Reporting**

The Company shall prepare equipment maintenance status sheets on major pieces of equipment, a summary of regular preventive maintenance requirements, and a plan for removal and replacement. During the Operation Period, this document shall be delivered to the Authority on at least an annual basis during Facility operations via updates to the Operation and Maintenance Manual. The report shall also provide a major portion of the data to be included in the computerized maintenance management system, which shall be implemented during the initial stages of the Facility operation.

8.3.2 **Ongoing and Preventative Maintenance**

The Company's maintenance plan within the Operation and Maintenance Manual shall reflect procedures and standards for modern facilities. The Operation and Maintenance Manual shall reflect that in no event shall maintenance be less frequent and less comprehensive than that specified in manufacturers' warranties and manuals.

The Company shall develop and implement a comprehensive computer-based maintenance management program that develops readily available historical data, including an inventory of spare parts and provision for enforcing warranties on equipment or materials purchased. The Company maintenance management program to be included in the Operation and Maintenance Manual shall address:

- Buildings, grounds, and structures
- Electrical systems and instrumentation
- Mechanical equipment
- Mobile equipment
- Laboratory, monitoring, and sampling equipment
- Heating, ventilation, and air conditioning
- Communication equipment (e.g., telephone, facsimiles, etc.)
- Computer systems
- Septic system
- SCADA facilities
- Other specialized tools and equipment

The grounds, facilities, and infrastructure shall be maintained at a level adequate for the efficient, long-term reliability and preservation of the Authority's capital investment. The Company shall at a minimum perform the following activities relevant to the buildings and grounds:

- a. Maintain the buildings, grounds, and landscaping in an aesthetically attractive and clean condition.
- b. Mow the grass, including trimming of any edges, to maintain an attractive appearance of the facilities.
- c. Wash all windows twice a year, or more frequently, on an as-needed basis.
- d. Repair all roof leaks within five (5) days of discovery.
- e. Implement regularly scheduled pest control measures.
- f. Damp mop all floors twice per week or more frequently on an as-needed basis with a cleaning solution appropriate for use in such facilities. All spills must be cleaned immediately.
- g. Strip all floors and apply new floor finish on a periodic basis.
- h. Wash down walls and wall tiles at least every six months, or more frequently, as appropriate.
- i. Apply paint as necessary to all painted surfaces, as appropriate. All painted surfaces within the facilities shall be painted and/or maintained via a protective barrier as needed to prevent corrosion.
- j. Clean offices and restrooms daily, except on weekends if not subject to extensive use.
- k. Provide for daily collection of solid waste from all receptacles within the Facility.
- l. Periodically prune trees to minimize interference with or damage to the Facility and site work during storm events.
- m. Repair cracks, erosions, depressions, and potholes, and slab shifts on paved areas, sidewalls, and other areas, as necessary. Periodically resurface paved areas, if necessary.

8.3.3 Major Equipment Repair and Replacement

Major Equipment shall be repaired or replaced by the Company in accordance with the Facility Major Equipment Repair Schedule proposed by the Company and included as **Table 8-3**.

Table 8.3: Facility Major Equipment Repair Schedule

Equipment	Repair/Replacement Schedule
Turbine Generator Overhaul	Year 5 – Then Every Five Years (Three Replacements within initial 20 year contract term)
Superheater Replacement – Boiler 1	Year 6 - Then Every 6 Years (Two Replacements within initial 20 year contract term)
Superheater Replacement – Boiler 2	Year 7 – Then Every 6 Years (Two Replacements within initial 20 year contract term)
Tipping Floor Loader	Year 7- Then Every 7 Years (Two Replacements within initial 20 year contract term)
Ash House Loader	Year 8- Then Every 7 Years (Two Replacements within initial 20 year contract term)
Bobcat	Year 5- Then Every 4 Years (Three Replacements within initial 20 year contract term)
Forklift Truck	Year 6- Then Every 6 Years (Two Replacements within initial 20 year contract term)
Pickup Truck	Year 13- Then Every 13 Years (One Replacements within initial 20 year contract term)
Street Sweeper	Year 13- Then Every 13 Years (One Replacements within initial 20 year contract term)
Yard Truck	Year 7- Then Every 7 Years (Two Replacements within initial 20 year contract term)

8.4 OPERATING RESPONSIBILITY FOR FACILITY

The following **Table 8-4** is a summary of the responsibilities for operation and maintenance (O&M) of the Facility.

Table 8-4: Operation and Maintenance Responsibilities

Actions	Authority Responsibility	Company Responsibility
Initial Visual Inspection		X
Weighing and Recording Load at Scale Facility	X	
Off-Loading of Waste from collection vehicles to Facility Tipping Floor		X
Screening for Non-Processible Waste at Facility		X
Removal of Non-Processible Waste from Facility		X
Processing of Waste at Facility		X
Maintaining Processing Equipment		X
Maintaining Power Block Equipment		X
Maintaining Balance of Facility Equipment		X
Maintaining Facility Site and Buildings		X
Performing Housekeeping of Facility Exterior and Interior		X
Loading / Disposal of Non-Processible Waste		X
Loading / Disposal of Process Residue		X

The Company shall be required to continue to maintain and repair the Facility and replace any equipment, in accordance with Article XIII of the Service Contract, without consideration for the end of the Term. The Company will utilize a preventative maintenance (“PM”) program for cyclical repair and maintenance components of the Facility, based on manufacturer recommendations, that is updated annually to reflect force outage experience. The PM program will be used at the end of the Term to verify that the typically required maintenance requirements are maintained throughout the entire Term of the Service Contract.

The Company will continue to procure and purchase inventory items in accordance with the manufacturer’s recommendations and good engineering practices. The Company and the Authority will review the spares and consumable inventory on an annual basis to assess and update equipment part obsolescence or any other changes to the inventory requirements. These spare parts and consumable inventory items are the property of the Authority. The Company will be responsible for maintaining this inventory through termination of the Service Contract. The Authority may elect to receive credit or set-off the estimated and actual costs to resolve any inventory shortfall against the amounts owed to the Company in the last year of the Term. The Company will be required to provide an up-to-date O&M manual for the Facility operations six months prior to contract termination including Facility drawings documenting any Facility modifications during the Term of the Service Contract.

8.5 OPERATION AND MAINTENANCE PLANS AND LOGS

The Company shall prepare Operation and Maintenance Manuals for all components and operations included in the project. These manuals shall be developed during the construction phase of the project and be completed by the time of start-up of the Facility. These manuals should be sufficiently detailed and complete so as to be suitable for personnel training, conducting start-up activities, and operating the Facility.

In addition, for individual items of equipment, the Company shall maintain equipment operating manuals, spare parts lists, equipment drawings, specifications, and current catalogs.

The Company shall maintain a current and complete maintenance schedule and log.

All personnel training shall be conducted and substantially completed prior to start-up of the Facility so that personnel will be trained and capable in the activities required for plant operations during start-up and acceptance testing.

During operation of the Facility, a weekly operating log shall be prepared showing the following:

Residue generated
metals recovered

waste bypassed or rejected
detailed explanation of downtime at Facility (including the cause and remedy for such downtime and the duration of such downtime)
hours of operation of each combustion unit
waste received
Tonnage burned
auxiliary fuel consumed
electricity consumed
water consumed
recyclables received
Non-Processible waste rejected

- steam generated
- gross electricity generated
- net electricity sold

Notes on weather, precipitation, and unusual waste characteristics will be made on a daily basis and included in the log. The log shall include hourly records of combustion conditions, including temperature, oxygen concentration, draft pressure, flue gas opacity, and continuous emission monitor data.

8.6 MONTHLY COORDINATION MEETINGS

Monthly coordination meetings between the Company and the Authority shall be held at the facility or other mutually agreeable location. The Facility Manager or other senior facility operator, and business manager, if necessary due to the Company's management structure, shall attend these meetings. The purpose of these meetings is to discuss facility performance, maintenance issues, Facility condition, environmental and permit compliance, staffing issues, invoicing issues, public relations, and other relevant issues. Meetings should be scheduled 5 working days after the day Monthly Operations Reports are due to allow for Authority review and prepare any comments or questions. Copies of documentation (e.g., meeting agendas and minutes) of these meetings shall be distributed to all attendees.

8.7 PERIODIC REPORTS

8.7.1 Monthly Operations Report

Over the Operation Period the Company shall furnish the Authority with a Monthly Operations Report in accordance with the Service Contract that summarizes all aspects of the completed month's operations. The Monthly Operations Report shall be a summary of the work activities for the previous and current (upcoming) months. The Monthly Operations

Report shall also identify issues and problems requiring action by the team and provide summary facility information useful for internal and external communication. Included in the Monthly Operations Report shall also be any accidents or injuries that occurred each day (The Company shall include a copy of its First Report of Injury), training activities, logs of maintenance activities, inspections by regulators or by the Company's organization, fire or hazardous materials releases, citations or fines, and any other significant operational events.

8.7.2 Annual Operation and Maintenance Reports

Annual Operation and Maintenance Reports shall highlight and summarize activities for the previous and current (upcoming) years. Like the Monthly Operations Reports it shall identify issues and problems requiring action by the Company or the Authority and provide summary facility information. The Annual Operation and Maintenance Reports shall also summarize the specific maintenance activities and, if applicable, refer to the Major Equipment Replacement Schedule (**Table 8-2**).

8.8 LONG-TERM ENVIRONMENTAL COMPLIANCE PROGRAM

The Company shall assure long-term compliance with all applicable environmental regulations and permit conditions.

The Company shall operate the Facility to be consistent with the maximum noise design standards established in **Appendix 3** and the Environmental Guarantee outlined in **Appendix 2**.

At the Facility, there shall be on-going training and environmental education of staff and operators for long-term environmental sensitivity, awareness, and compliance.

Annually, the Company shall provide an environmental review of the Facility that will include confirming compliance with environmental regulations and permits. The review shall also include reports (i.e., quarterly and annual) and monitoring data, as necessary. Any compliance and reporting issues shall be reported to the facility operators and the Authority immediately.

The Company shall routinely conduct energy audits to ensure that equipment is running efficiently as part of its predictive maintenance program.

8.9 SECURITY

The Company shall be responsible for the long-term security of the Facility and shall implement specific security measures to ensure the continuous operation of the facility. The

Company shall coordinate provisions for emergency entry to the Facility with the Authority and with appropriate emergency response providers.

8.10 FACILITY MANAGEMENT AND COMPANY STAFFING

8.10.1 General Requirements

The Facility shall, at all times, be operated in accordance with federal and State requirements. It shall be supervised by a qualified manager and with supervisory controls that are capable of responding immediately and effectively to any and all anticipated and unanticipated circumstances posed by the operating objectives listed in this Appendix. The appropriate combination of automated and human oversight shall assure appropriate fail-safe procedures to achieve compliance with the Performance Guarantees, project specifications and operating requirements, and protect the asset value of the Facility.

The appointment of the Facility Manager shall be as required by the Service Contract. In addition, the Facility shall maintain staffing levels based on Service Contract and its Appendices.

8.10.2 Training Program

The Company shall provide training programs for all personnel employed at the Facility. Such training shall consist of both hands-on apprenticeship training and classroom instruction. The hands-on training will concentrate on the daily routine operation of the Facility, allowing the trainee to observe the Facility operators' responses to certain actions/reactions and to develop the necessary skills to efficiently operate the Facility.

The training shall concentrate on both the basic theory of operation and maintenance procedures, as well as all technical details associated with the operation and maintenance of all equipment and machines. The training shall include, but not be limited to, the following:

- System Operations Theory and Guidelines;
- System Performance Guarantees;
- General Safety and Emergency Response Procedures;
- Fire Suppression/Control;
- Administrative Procedures;
- Shutdown and Start-up Operations Procedures; and
- Equipment Operation and Maintenance.

Equipment training for both operation and maintenance shall include, but not be limited to, the following:

Process Equipment;
Onsite Vehicles;
Emergency and Safety Systems;
Instrumentation and Controls;
Site and Building maintenance Systems;
Electrical Systems; and
Other Equipment/Systems (as may be installed in the Facility over the Contract Term).

Operating and Maintenance Manuals reflecting the most up-to-date procedure and practical operations guides for new personnel shall be available to all Facility employees at all times.

APPENDIX 9
PROJECT SCHEDULES

APPENDIX 9

PROJECT SCHEDULES

9.1 PURPOSE

The purpose of this Appendix is to define the Company's implementation schedules for the permitting, design, construction, startup, and Acceptance Testing of the Facility.

9.2 DEVELOPMENT PERIOD SCHEDULE

The Company shall prepare a critical path schedule for the Development Period Work (the "Development Period Critical Path Schedule"). A copy of the Company's preliminary project development schedule is attached hereto as **Table 9-1**. Updates to such schedule shall be prepared on a monthly basis and provided to the Authority along with the Company's Monthly Progress Report.

At a minimum, the Company's Development Period Critical Path Schedule shall include:

The Contract Date;

The Facility plan amendment(s), submittal date(s) for Authority review and application dates to MDE and any other relevant Governmental Body;

NEPA submittal dates (if applicable);

Major Design package submittals required under **Appendix 7** and planned to occur during the Development Period, and related Authority review periods;

Major Permit application package submittal dates, including any associated analyses and data submittals to the Authority prior to submittal to MDE or other Governmental Body;

Other types of permit application dates such as grading permits, building permit applications;

Construction Permit application date (if proposed to occur during the Development Period); and

Construction Commencement Date (end of Development Period).

9.3 FACILITY CONSTRUCTION SCHEDULE

The Company shall prepare a Project Construction Schedule as a part of the Overall Critical Path Schedule focusing on the Construction Period. Updates to the schedule shall be

prepared on a monthly basis during the Construction Period and provided to the Authority along with the Company's Monthly Progress Report (see **Appendix 7**).

At a minimum, the Company's Project Construction Schedule shall include the following milestones:

Contract Date;

Major Design Package submittals required under **Appendix 7** and Authority review periods (except for those submitted during the Development Period);

Commercial Building Permit Application(s) Date(s) (if obtained during the Construction Period);

Assumed Notice to Proceed / Construction Commencement Date;

Major construction milestone completion dates for all facilities and systems as well as start-up dates and dates for completion of equipment commissioning;

Start-up, Operation and commissioning

Start-up, Operation, commissioning, and functional testing for major facility components completed prior to Acceptance Testing

Operation and Maintenance Manual

Staff training

Acceptance Test

The Project Construction Schedule shall also illustrate available float for all major schedule activities.

Table 9.1

Preliminary Project Schedule

Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	2008	2009	2010	2011	2012	2013	2014
Milestones											
010000	CONTRACT AWARD	0	07APR09			◆ CONTRACT AWARD					
010010	ENVIRONMENTAL PERMIT ISSUED	0		11APR11		◆ ENVIRONMENTAL PERMIT ISSUED					
011000	NOTICE TO PROCEED	0		11APR11		◆ NOTICE TO PROCEED					
011100	CONSTRUCTION START MOBILIZATION	0	12AUG11			◆ CONSTRUCTION START MOBILIZATION					
011200	MECHANICAL COMPLETION	0		30DEC13		◆ MECHANICAL COMPLETION					
011300	FIRST FIRE	0	14JAN14			◆ FIRST FIRE					
011400	START COMMERCIAL OPERATION	0	14APR14			◆ START COMMERCIAL OPERATION					
011500	COMPLETE TESTING	0		11APR14		◆ COMPLETE TESTING					
Contractual											
Wheelabrator Tech Inc											
002000	PROPOSAL SUBMISSION	0	04DEC08*			◆ PROPOSAL SUBMISSION					
003000	Contract Negotiations	81	15DEC08	06APR09		Contract Negotiations					
004000	CONTRACT DATE	0	07APR09			◆ CONTRACT DATE					

Start Date: 28SEP08
 Finish Date: 11APR14
 Data Date: 28SEP08
 Run Date: 24NOV08 08:54

© Primavera Systems, Inc.

1206

Sheet 1 of 6

Wheelabrator Technologies, Inc
 1500 TPD Resource Recovery Facility
 Frederick/Carroll County, MD

Date	Revision	Checked	Approved
18NOV08		JRC	RE

BRIE Project Manager: R. Edman

Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	2008	2009	2010	2011	2012	2013	2014
Development Period											
Engineering											
Permit Engineering											
Von Roll											
006010	Permit Suppt Engrg - Process Equipment	100	07APR09	24AUG09				Permit Suppt Engrg - Process Equipment Includes: PFD's / Material Balances, Prelim P&ID, Equip Sizing / Selection, General Arrangements Emissions & Other Environmental Suppt Data			
Burns and Roe											
006100	Permit Suppt Engrg - Water Treat & Aux Equip	65	26MAY09	24AUG09				Permit Suppt Engrg - Water Treat & Aux Equip Includes: PFD's / Material Balances, Prelim P&ID, Equip Sizing / Selection, General Arrangements Emissions & Other Environmental Suppt Data			
006200	Permit Suppt Engrg - Site Development	65	25AUG09	23NOV09				Permit Suppt Engrg - Site Development Includes: Site Plans, Rough Grade Drainage & Paving			
Environmental Permitting Consultant											
008000	Permitting Schedule	425	25AUG09	11APR11				Permitting Schedule			
009000	Permits Issued	0		11APR11				Permits Issued			
Process Equipment Engineering											
Von Roll											
013010	Detailed Engineering - Process Equipment	240	25AUG09	26JUL10				Detailed Engineering - Process Equipment Includes: Process Equip Design & Specifications for purchase of equip supplier engineering			
013020	PLACE ORDER FOR BOILER VENDOR ENGINEERING	0	09NOV10					PLACE ORDER FOR BOILER VENDOR ENGINEERING			
013040	PLACE ORDER FOR APC VENDOR ENGINEERING	0	08JUN11					PLACE ORDER FOR APC VENDOR ENGINEERING			
013045	PLACE ORDER FOR COMBUSTION SYSTEM ENGINEERING	0	08JUN11					PLACE ORDER FOR COMBUSTION SYSTEM ENGINEERING			
013055	Combustion System Supplier Engineering	118	08JUN11	18NOV11				Combustion System Supplier Engineering			
013120	Boiler Equip Supplier Engineering	246	09NOV10*	18OCT11				Boiler Equip Supplier Engineering			
013140	APC Equip Supplier Engineering	60	08JUN11	30AUG11				APC Equip Supplier Engineering			

Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	2008	2009	2010	2011	2012	2013	2014
Burns and Roe											
013030	PLACE ORDER FOR TURBINE/GENERATOR VENDOR ENGRG	0	23NOV10								
013050	Place Order- Balance of Plant Process Equip Engr	65	12APR11	11JUL11							
013130	Turbine / Generator Equip Supplier Engineering	100	23NOV10	11APR11							
013150	Balance of Plant Process Equip Suppliers Engrg	110	10MAY11	10OCT11							
013200	Building Data from Equipment Suppliers	88	08JUL11	08NOV11							
013300	Mechanical Data from Equipment Suppliers	190	09AUG11	30APR12							
013400	Elect / Automation Data from Equipment Suppliers	220	09AUG11	11JUN12							
Construction Engineering Packages											
Von Roll											
014100	Construction Engrg - Process Equip Mech / Piping	130	01NOV11	30APR12							
014200	Construction Engrg - Process Equip Elect / Autom	150	15NOV11	11JUN12							
Burns and Roe											
014000	Construction Engrg - Process Equip Support Steel	85	13JUL11	08NOV11							
014300	Construction Engrg - Site Development	85	12APR11	08AUG11							
014400	Construction Engrg - Building Struct Steel	85	10MAY11	05SEP11							
014500	Construction Engrg - Water Treatment System	105	08DEC11	02MAY12							
014600	Construction Engrg - Equip & Buildg Foundations	135	12JUL11	16JAN12							

Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	2008	2009	2010	2011	2012	2013	2014
014700	Construction Engrg - Building Services	125	09AUG11	30JAN12					Construction Engrg - Building Services Includes: Architectural Finishes HVAC, Plumbing, Fire/Prot Electrical Services & Lighting, Communications		
Project Execution											
Procurement											
Equipment Procurement											
Von Roll											
013146	RELEASE FOR FABRICATION ORDER FOR COMBUSTION SYS	0	21NOV11								
013148	Fab & Del of Combustion System (Base of Boiler)	161	21NOV11	30JUN12							
017000	RELEASE FABRICATION ORDER FOR BOILER EQUIP.	0	12APR11								
018000	Boiler Fabrication & Deliveries	336	12APR11	23JUL12							
021000	RELEASE FABRICATION ORDER FOR APC	0	31AUG11								
022000	APC Fabrication & Delivery	115	31AUG11	07FEB12							
Burns and Roe											
019000	RELEASE FABRICATION ORDER FOR TURBINE /GENERATOR	0	12APR11								
020000	Turbine Fabrication & Delivery	521	12APR11	08APR13							
022100	RELEASE FABRICATION ORDER - BAL OF PROCESS EQUIP	0	11OCT11								
022400	Bal of Process Equip - Fabrication & Delivery	281	11OCT11	05NOV12							
022500	Bid & Award Water Treatment Plant Equipment	40	13OCT11	07DEC11							
022510	RELEASE FABRICATION ORDER, WATER TREATMENT EQUIP	0	08DEC11								
022590	Fab & Deliver Water Treatment Plant Equipment	241	08DEC11	07NOV12							
Fabricated Material & Contractor Procurement											
Whiting - Turner											
023000	Bid & Award Order for Structural Steel	40	09NOV11	03JAN12							
024000	Structural Steel - Detail, Fabricate & Delivery	176	04JAN12	04SEP12							
025000	Bid & Award Site Development Contract	40	09AUG11	03OCT11							

APPENDIX 10

MILESTONE PAYMENT AND CONSTRUCTION PROGRESS

APPENDIX 10

MILESTONE PAYMENT AND CONSTRUCTION PROGRESS

The purpose of this Appendix is to establish a payment schedule pursuant to which the Authority will pay to the Company for the Construction Period Work. Within 365 days of the Contract Date, the Company will submit to the Authority a cost loaded construction schedule inclusive of milestones. The schedule will assign values to each summary schedule activity that represents the costs to complete each activity (a milestone). The sum of all the values in the schedule will be equal to the Design-Build Price. Each month, the Company shall assign a percent completion to each activity and multiply that percentage by the value of that activity. The earned value at the activity level of all the statused/milestoned and completed activities will be summed to calculate the total progress payment amount for that month. The cumulative payment from the prior month will then be subtracted to determine the current progress payment amount, less retainage. Notwithstanding the foregoing, the Company is not entitled to requisition payments, in any month, which exceed the monthly (unless and to the extent a contingency credit exists) or cumulative “not to exceed” percentage specified below.

Table 10.1 sets forth the Company’s construction payment schedule.

Table 10-1
Construction Payment Schedule

Payment Number	Requisition for Month	Percentage of Fixed Construction Price to be Drawn-not to exceed	
		Monthly	Cumulative
1	Closing Date	2.7	2.7
2	Month 1	3.3	6.1
3	Month 2	3.7	9.7
4	Month 3	4.9	14.6
5	Month 4	3.7	17.0
6	Month 5	4.1	18.3
7	Month 6	4.3	22.6
8	Month 7	4.2	26.8
9	Month 8	5.6	32.3
10	Month 9	4.2	36.5
11	Month 10	5.2	41.7
12	Month 11	4.6	46.3
13	Month 12	5.2	51.5
14	Month 13	5.5	57.0
15	Month 14	4.7	61.7
16	Month 15	4.8	66.5
17	Month 16	3.4	69.8
18	Month 17	4.3	74.1
19	Month 18	5.0	79.1
20	Month 19	4.2	83.4
21	Month 20	5.0	87.4
22	Month 21	3.9	91.3
23	Month 22	3.6	94.9
24	Month 23	4.0	98.9
25	Month 24	1.1	100

APPENDIX 11

**MAXIMUM ELECTRICITY, CHEMICALS, AND WATER UTILIZATION
AND WASTEWATER DISCHARGE GUARANTEE**

APPENDIX 11

MAXIMUM ELECTRICITY, CHEMICALS, AND WATER UTILIZATION AND WASTEWATER DISCHARGE GUARANTEE

11.1 PURPOSE

The purpose of this Appendix is to define the Company's guaranteed maximum electricity, chemical and water utilization, wastewater discharge, and electricity capacity requirements for the Facility. The electricity utilization and demand guarantees refer to usage necessary during scheduled or unscheduled Facility downtime and/or when the Facility is producing inadequate electrical energy to operate. **Table 11-1** provides the information concerning the Company's electricity utilization and demand guarantee. **Table 11-2** provides the information concerning the Company's chemical and water utilization and wastewater discharge guarantees.

11.2 GUARANTEED MAXIMUM ELECTRICITY UTILIZATION/DEMAND

It is the Authority's expectation that the Company will operate the Facility using electricity that it produces. However, the Authority recognizes that there will be periods when electricity will be required during scheduled or unscheduled Facility downtime and/or when the Facility is producing inadequate electricity to operate. The Company shall guarantee a Maximum Annual Electricity Utilization, and a Maximum Peak Electricity Demand for these periods in the following amounts. **Table 11-1** sets forth the Company's guaranteed maximum annual electricity utilization and demand.

Table 11-1
Guaranteed Maximum Electricity Utilization/Demand

1. Guaranteed Maximum Annual Electricity Utilization:
244,000 kilowatt- hours per year. This guarantee will be adjusted in accordance with Section 15.5(5) of this Agreement
2. Guaranteed Maximum Peak Electricity Demand:
5,100 (peak kW) / 1(no. months/year) which shall be adjusted in ~~accordance~~ accordance with Section 15.5(4) of this Agreement

Notes: The Authority will reimburse the Company for electricity costs only to the maximum annual electricity consumption amounts indicated above.

The Company shall be responsible for all electricity costs associated with exceeding the maximum usage amounts indicated above. Any demand charges attributable to the tripping of the turbine generators shall be payable by the Company.

11.3 GUARANTEED MAXIMUM CHEMICAL, WATER, AND SUPPLEMENT FUEL UTILIZATION AND WASTEWATER DISCHARGE

The Company shall guarantee maximum annual chemical, water usage and annual maximum wastewater discharge in the amounts set forth in **Table 11-2**.

**Table 11-2:
Guaranteed Maximum Chemical, and Water Utilization
and Wastewater Discharge**

Chemical or Commodity		Annual Utilization Guarantee
Hydrated Lime		30 lbs/Ton of Waste Processed
Activated Carbon		0.256 lb/Ton of Waste Processed
Urea/Ammonia		1.16 gallons/Ton of Waste Processed
Potable Water		1,051,000 gallons/year
Process Water Consumption ¹		277,516,800 gallons
Sanitary Wastewater Discharge		1,051,000 gallons

Note:

- Utilization Guarantees are based on the receipt and processing of 503,700 Tons of waste per Contract Year. Actual Guarantees will be adjusted to reflect the actual annual throughput.
- Annual Potable Water consumption does not include any water that may be used intermittently for fire fighting purposes.

¹ Process Water Consumption will be the effluent from the Ballenger Creek Wastewater Treatment Plant.

APPENDIX 12

DESIGN-BUILD PRICE AND BASE OPERATION FEE ESCALATION INDICES

APPENDIX 12

DESIGN-BUILD PRICE AND BASE OPERATION FEE ESCALATION INDICES

12.1 PURPOSE

The purpose of this Appendix is to define the methodology to escalate the Fixed Design-Build Price.

12.2 FIXED DESIGN-BUILD PRICE ADJUSTMENT FACTOR

The Fixed Design-Build Price Adjustment Factor shall be used to adjust the Fixed Component of the Design-Build Price from the BAFO Date to the Construction Commencement Date. The Fixed Design-Build Price Adjustment Factor shall be based on the Index for Electric Power Generation, as published by the Division of Labor, Bureau of Labor Statistics (NAICS 221110) for the update period under consideration. Calculations of price adjustments shall always use the latest version of the index data published as of the date specified for such calculation. Calculations shall be based in the first-published version of the index. Indices shall not be seasonally adjusted.

12.2.1 Escalation Formula

$$EF = \frac{LI_2}{LI_1} - [(0.45) \times (E1)] + [(0.55) \times (E2)]$$

Where:

$EF = \frac{LI_2}{LI_1} - [(0.45) \times (E1)] + [(0.55) \times (E2)]$ Escalation Factor (to be rounded to third decimal place i.e.: 1.124)

$$E1 = \frac{LI_2}{LI_1} - 1$$

$E2 = \text{is the greater of } (LI_2/LI_1) \text{ or } 1$

$LI_1 =$ Electric Power Generation Index (NAICS 221110)

for Baltimore for ~~October~~ November 2008 = ~~152.8~~ 140.7

$LI_2 =$ Electric Power Generation Index (NAICS 221110) for the update period under consideration.

12.3 SUITABILITY OF INDEX

Should the Company determine that the Electric Power Generation Index (NAICS 221110) described in **Section 12.2** does not adequately reflect the actual inflationary conditions, the Company may request an adjustment to the Fixed Design-Build Price based on

the documented variance(s) between the escalation Electric Power Generation Index (NAICS 221110) described above and the actual market conditions for those materials identified in **Sections 12.2**. These adjustments shall be mutually agreed-upon by the Authority and the Company. If the Electric Power Generation Index (NAICS 221110) defined above become not available or are no longer published, the Authority and the Company shall mutually agree on comparable substitute index or price.

12.4 OPERATION FEE ADJUSTMENT FACTOR

The Operation Fee Adjustment Factor means:

(A) For the initial Contract Year, an amount equal to the greater of 1.0 or the sum of (i) 0.55 multiplied by a fraction, the numerator of which is the ENR Wage Index for “Skilled Labor” for Baltimore published on the date closest to the calculation date and the denominator of which is the ENR Wage Index for “Skilled Labor” for Baltimore published on November 2008; (ii) 0.25 multiplied by a fraction, the numerator of which is the Equipment Cost Index for Steam Power Industry prepared by Marshall and Swift, Los Angeles, California published on the date closest to the calculation date and the denominator of which is the equipment Cost Index for Steam Power Industry prepared by Marshall and Swift, Los Angeles, California published on for the second quarter of 2008; and (iii) 0.20 multiplied by a fraction the numerator of which is the Consumer Price Index for the Washington, D.C., Standard Metropolitan Statistical Area, All-Items for All Urban Consumers, 1996 Base, published on the date closest to the calculation date and the denominator of which is the Consumer Price Index published on September 2008; and

(B) For each subsequent Contract Year thereafter, an amount equal to the greater of 1.0 or the sum of (i) 0.55 multiplied by a fraction, the numerator of which is the ENR Wage Index for “Skilled Labor” for Baltimore published on the date closest to the calculation date and the denominator of which is the ENR Wage Index for “Skilled Labor” for Baltimore published closest to the prior year’s calculation date, which is the numerator used in the prior year’s calculation; (ii) 0.25 multiplied by a fraction, the numerator of which is the Equipment Cost Index for Steam Power Industry prepared by Marshall and Swift, Los Angeles, California published on the date closest to the calculation date and the denominator of which is the equipment Cost Index for Steam Power Industry prepared by Marshall and Swift, Los Angeles, California published closest to the prior year’s calculation date, which is the numerator used in the prior year’s calculation; and (iii) 0.20 multiplied by a fraction the numerator of which is the Consumer Price Index for the Washington, D.C., Standard Metropolitan Statistical Area, All-Items for All Urban Consumers, 1996 Base, published on the date closest to the calculation

date and the denominator of which is the Consumer Price Index published closest to the prior year's calculation date, which is the numerator used in the prior year's calculation.

APPENDIX 13
STAFFING PLAN

APPENDIX 13
STAFFING PLAN

13.1 DESIGN-BUILD WORK STAFFING PLAN

The purpose of this Appendix is to set forth the Company's Design-Build Work and Operations Staffing Plans, which shall include key management and supervisory personnel to be used by the Company in performing the Design-Build Work and in operating and maintaining the Facility. The Company will staff the Design-Build Work with a Project Manager and Project Engineer during the Development Period. The Company will add a Field Engineer, Environmental Health and Safety Representative, Controller and Administrative Assistant during the Construction Period. Whiting-Turner will staff the Design-Build Work at the project site with sufficient personnel to manage the subcontracted work. The subcontracted work will be managed with respect to safety, environmental compliance, quality, schedule and cost. Whiting-Turner will also provide staff during the Development Period in order to set up the project, support the permit applications with construction data, and support Authority deliverables.

Burns and Roe will staff the project at their office in Oradell, New Jersey with sufficient engineering and procurement personnel to support facility permitting during the Development Period and facility design and equipment procurement during the Construction Period. Construction support will primarily be performed from the Oradell office, with business trips to the site as necessary.

[The Company's Design-Build Work project organization chart is shown in Exhibit 13.1.](#)

The Design-Build Work Staffing Plan of the Company may be changed at any time without benefit or cost to the Authority. Additional compensation to the Company may occur due to Uncontrollable Circumstance.

13.2 COMPANY OPERATIONS AND MAINTENANCE STAFFING PLAN

The Company shall not be required to provide the Authority the benefit of a reduction in staffing from the level set forth in the Company's Operation and Maintenance Staffing Plan. In the event the Company requires additional staff from the levels set forth in the staffing plan, however, the Company shall not be entitled to additional compensation from the Authority

except due to the occurrence of an Uncontrollable Circumstance. The Company's Operation and Maintenance Staffing Plan is shown in shown in Exhibit 13.12.

Exhibit 13.1

Company Construction Period Project Organization Chart

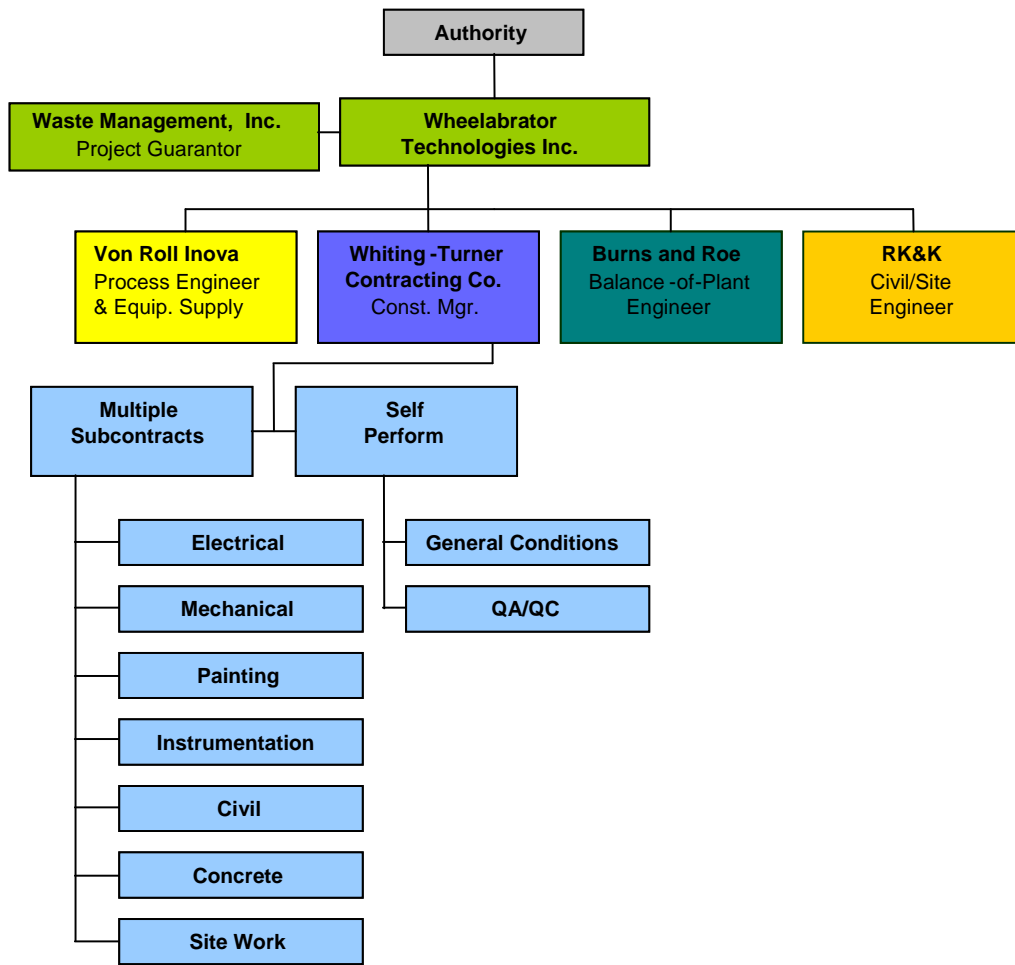
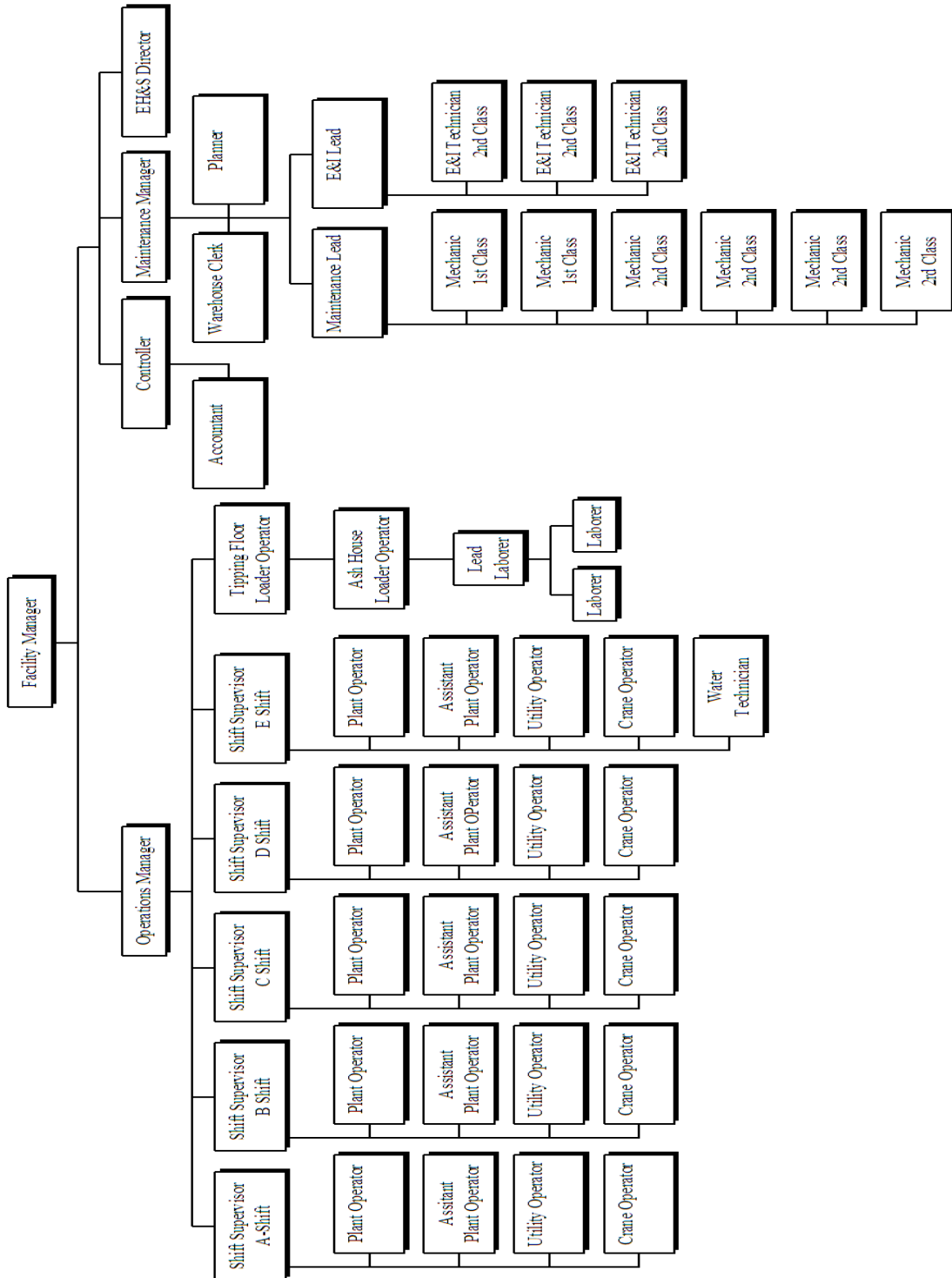
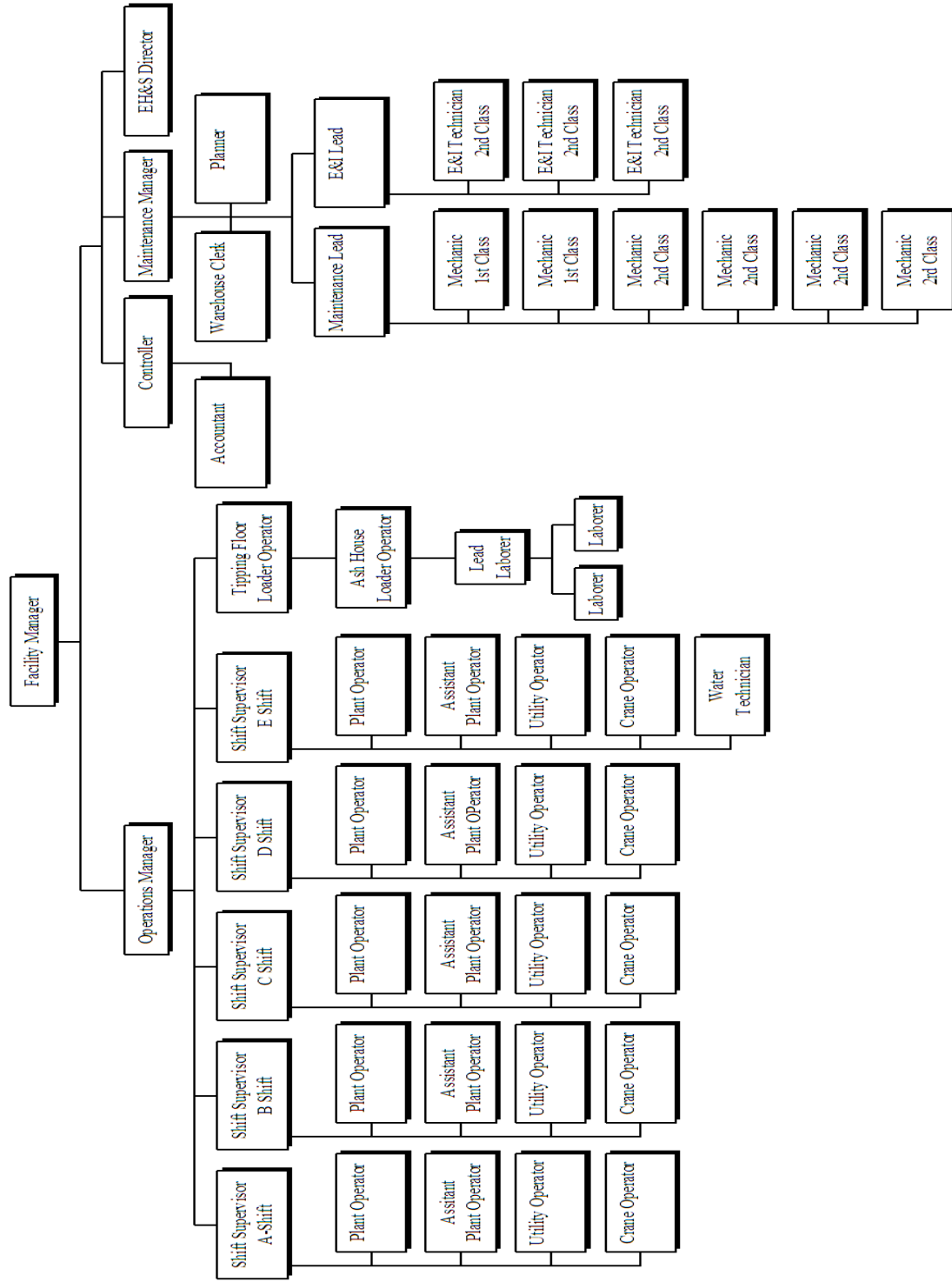


Exhibit 13.2

Company Operations and Maintenance Staffing Plan





APPENDIX 14
REQUIRED INSURANCE

APPENDIX 14

REQUIRED INSURANCE

PART 1: REQUIRED DESIGN-BUILD PERIOD INSURANCE

14.1 INSURANCE COVERAGE

1. Except as otherwise set forth herein and Section 17.1 of the Service Contract, the Company shall obtain, pay for and maintain, or cause to be obtained, paid for and maintained, the insurance coverage listed below during the Design-Build Period in connection with the construction of the Facility without any reimbursement obligation on the part of the Authority or the Counties:

(a) Workers' Compensation Insurance required by law with the Company as named insured as respects liabilities arising out of the Service Contract. Coverage is to comply with all state and federal statutory provisions, as applicable;

(b) Employer's Liability Insurance with limits not less than \$100,000 each accident, \$100,000 each employee by disease and a \$500,000 disease aggregate with the Company as named insured as respects the liabilities arising out of the Service Contract. Coverage is to comply with all state and federal statutory provisions, as applicable;

(c) Commercial General Liability Insurance,⁵ with Contractual Liability and Products/Completed Operations coverage, with primary limits of:

- \$1,000,000 per occurrence combined single limit for bodily injury and property damage;
- \$1,000,000 for personal and advertising injury sustained by any one person or organization;
- \$2,000,000 products and completed operations aggregate;
- \$2,000,000 general aggregate applying per project;

with the Company as named insured and the Trustee, the Authority (and its officers, officials and employees) and the Counties (and their officers, officials and employees) as additional insureds as respects the liabilities arising out of the Service Contract. Additional insured status for the Trustee, the Authority and the Counties is to include products and completed

⁵ The Commercial General Liability and Excess Umbrella Liability Insurance must be provided on an occurrence basis.

operations coverage as respects liabilities arising out of the Service Contract. If the Company is not the operator upon completion of construction, products and completed operations insurance must be evidenced for three years following the completion of construction, with the Trustee, the Authority (and its officers, officials and employees) and the Counties (and their officers, officials and employees) included as additional insureds as respects the liabilities arising out of the Service Contract. Coverage is to include both certified and non-certified terrorism.

(d) Excess Umbrella Liability Insurance⁶ in the amount of \$50,000,000 per occurrence, \$50,000,000 products and completed operations aggregate and \$50,000,000 general aggregate with the Company as named insured, and the Trustee, the Authority (and its officers, officials and employees) and the Counties (and their officers, officials and employees) included as additional insureds as respects the liabilities arising out of the Service Contract. Coverage is to include both certified and non-certified terrorism.

(e) Coverage for Property in the Course of Construction for loss, damage or destruction to the Project caused by "all risk" perils (including boiler and machinery, flood, earth movement, certified terrorism and non-certified terrorism) in an amount equal to the full replacement value of the Project. Sublimits of at least \$50,000,000 are acceptable for the boiler and machinery and flood perils. An agreed value provision is to apply to suspend any coinsurance clause. The Company and the Authority shall be named insured, the Trustee and the Counties (and their officers, officials and employees) included as additional insureds as respects the liabilities arising out of the Service Contract.

(f) Business Interruption and Extra Expense Insurance covering loss of income and extra expenses due to a delay in the project's completion caused by "all risk" perils (including boiler and machinery, flood, earth movement, certified terrorism and non-certified terrorism). Such insurance shall provide coverage with a limit of \$50,000,000, subject to no more than a deductible of 30 days. An agreed value provision is to apply to suspend any coinsurance clause. The Company shall be named insured and the Authority shall be loss payee as respects the liabilities arising out of the Service Contract.

(g) Pollution Liability Insurance with limits of at least \$5,000,000 per claim, \$5,000,000 annual aggregate covering on and off site liability for bodily injury and property damage, and on and off site remediation costs. The Company is to be the named insured and the Trustee, the Authority (and its officers, officials and employees) and the Counties (and their

⁶ The Commercial General Liability and Excess Umbrella Liability Insurance must be provided on an occurrence basis.

officers, officials and employees) are to be additional insureds as respects liabilities arising out of the Service Contract. Coverage is to include both certified and non-certified terrorism.

(h) The Company shall procure a quotation for Owner's Protective architects and engineers professional liability on a project specific basis with limits of coverage equal to a minimum of \$10,000,000 per claim, \$10,000,000 annual aggregate, for purchase by the Authority at its discretion. The Company will require any subcontractor performing architectural or engineering services to carry professional liability insurance with limits of coverage equal to a minimum of \$1,000,000 per claim, \$1,000,000 annual aggregate, with such insurance shall remain in place following Acceptance of the Facility to allow for claims to be presented for a three year period following the Acceptance of the Facility.

2. Deductibles. The Authority may require other levels of insurance (with appropriate adjustments of the Fixed Construction Price) or accept, in its sole discretion, deductible levels other than presented above if the Company can demonstrate the financial ability to fund the deductible. Except as provided in the Service Contract, payment of any deductible shall be the sole responsibility of the Company.

3. Insurance Certificates. Insurance, and any renewal thereof, shall be evidenced by certificates of insurance issued or countersigned by a duly authorized representative of the issuer and delivered to the Authority for its approval 30 days prior to the Construction Commencement Date or, in the case of a renewal, as reasonably provided by the insurer. Not later than 30 days prior to the beginning of each Contract Year, the Company shall furnish certificates of insurance to the Authority to confirm the continued effectiveness of the Required Insurance. The certificates of insurance shall provide for 60 days' written notice to the Authority of cancellation by the insurance company, except 10 days' notice of the insurance company's intent not to renew or a reduction in its coverage.

4. Non-Recourse Provision. All insurance policies shall provide that the insurers shall have no recourse against the additional insureds, or the Authority if the Authority is named as a named insured, for payment of any premium or liability policies. The coverages provided by mutual coverage liability insurance policies required pursuant to the Service Contract shall be the primary source of any restitution or other recovery for any injuries to or death of persons or loss or damage to property incurred as a result of an action or inaction of the Company, of their respective suppliers, employees, agents, representatives, or invitees, that fall within these coverages and also within the coverages of any liability insurance or self-insurance program maintained by the Authority.

5. Subcontractors. The Company shall be responsible for ensuring that all Subcontractors of the Company performing the Design-Build Work secure and maintain all

insurance coverages (including workers' compensation insurance) and other financial sureties required by the laws of the State in connection with their presence and the performance of their duties pursuant to the Service Contract.

6. Qualifications of Insurers. The Company shall obtain the insurance set forth herein with insurance companies with at least a financial size category of VII and that carry a minimum of Best's "A-" equivalent rating. In addition, insurance may not be obtained or maintained with insurers which are prohibited from conducting Business in the State.

PART 2: REQUIRED OPERATION PERIOD INSURANCE

1. Except as otherwise set forth herein and Section 17.1 of the Service Contract, the Company shall obtain, pay for and maintain, or cause to be obtained, paid for and maintained, the insurance coverage listed below during the Operation Period in connection with the operation of the Facility without any reimbursement obligation on the part of the Authority or the Counties:

(a) Workers' Compensation Insurance required by law with the Company as named insured and with no deductible amount. Coverage is to comply with all state and federal statutory provisions, as applicable.

(b) Employer's Liability Insurance with limits not less than \$100,000 each accident, \$100,000 each employee by disease and a \$500,000 disease aggregate with the Company as named insured and with no deductible amount. Coverage is to comply with all state and federal statutory provisions, as applicable;

(c) Commercial General Liability Insurance,⁷ with Contractual Liability and Products/Completed Operations coverage, with primary limits of:

- \$1,000,000 per occurrence combined single limit for bodily injury and property damage;
- \$1,000,000 for personal and advertising injury sustained by any one person or organization;
- \$2,000,000 products and completed operations aggregate;
- \$2,000,000 general aggregate applying per project;

with the Company as named insured and the Trustee, the Authority (and its officers, officials and employees) and the Counties (and their officers, officials and employees) as additional

⁷ The Commercial General Liability and Excess Umbrella Liability Insurance must be provided on an occurrence basis.

insured as respects the liabilities arising out of the Service Contract and with no deductible amount. Additional insured status for the Trustee, the Authority and the Counties is to include products and completed operations coverage. If the Company is not the operator upon completion of construction, products and completed operations insurance must be evidenced for three years following the completion of construction, with the Trustee, the Authority (and its officers, officials and employees) and the Counties (and their officers, officials and employees) included as additional insureds as respects the liabilities arising out of the Service Contract. Coverage is to include both certified and non-certified terrorism.

(d) Excess Umbrella Liability Insurance⁸ in the amount of \$50,000,000 per occurrence, \$50,000,000 products and completed operations aggregate and \$50,000,000 general aggregate with the Company as named insured and the Trustee, Authority (and its officers, officials and employees) and the Counties (and their officers, officials and employees) included as additional insured as respects the liabilities arising out of the Service Contract and with a maximum deductible amount of \$25,000. Coverage is to include both certified and non-certified terrorism.

(e) Business Automobile Liability Insurance with a single limit per occurrence for bodily injury and property damage of \$1,000,000 with the Company as named insured and no deductible amount. Coverage is to include terrorism.

(f) Business Interruption and Extra Expense Insurance covering loss of income and extra expenses due to a suspension of operations and extra expenses to continue operations caused by "all risk" perils (including boiler and machinery, flood, earth movement, certified terrorism and non-certified terrorism). Such insurance shall provide coverage with a limit of \$50,000,000, subject to no more than a deductible of 30 days. An agreed value provision is to apply to suspend any coinsurance clause. The Company and the Authority shall be named insureds as their interests may appear, and the Trustee and the Counties (and their officers, officials and employees) included as loss payees as respects the liabilities arising out of the Service Contract.

(g) Property Insurance for loss, damage or destruction to the Project caused by "all risk" perils (including boiler and machinery, flood, earth movement, certified terrorism and non-certified terrorism) in an amount at all times equal to the full replacement value of the Project. Sublimits of at least \$50,000,000 are acceptable for the boiler and machinery and flood perils. An agreed value provision is to apply to suspend any coinsurance clause. The

⁸ The Commercial General Liability and Excess Umbrella Liability Insurance must be provided on an occurrence basis.

Company and the Authority shall be named insureds as respects the liabilities arising out of the Service Contract with a deductible amount of \$100,000 or less.

(h) Pollution Liability Insurance with limits of at least \$5,000,000 per claim, \$5,000,000 annual aggregate covering on and off site liability for bodily injury and property damage, and on and off site remediation costs, with a maximum deductible of \$250,000 per claim. The Company is to be the named insured and the Trustee, the Authority (and its officers, officials and employees) and the Counties (and their officers, officials and employees) are to be additional insureds. Coverage is to include both certified and non-certified terrorism. If coverage is provided on a claims made basis, the retroactive date must be no later than the earliest date that operations commenced, and the Company must agree to either maintain coverage for at least three years following any termination of operations, or acquire at least a three year extended reporting period upon termination of operations.

2. Deductibles. The Authority may accept deductible levels other than presented above if the Company can demonstrate the financial ability to fund the deductible. The Authority may elect to provide part or all of the insurance required during operation, and the Service Fee will be adjusted accordingly. Regarding insurance acquired by the Company, payment of any deductible shall be the sole responsibility of the Company.

3. Insurance Certificates. Insurance, and any renewal thereof, shall be evidenced by certificates of insurance issued or countersigned by a duly authorized representative of the issuer and delivered to the Authority for its approval 30 days prior to the Scheduled Acceptance Date or, in the case of a renewal, as reasonably provided by the insurer. Not later than 30 days prior to the beginning of each Contract Year, the Company shall furnish certificates of insurance to the Authority to confirm the continued effectiveness of the Required Insurance. The certificates of insurance shall provide for 60 days' written notice to the Authority of cancellation by the insurance company, except 10 days' notice of the insurance company's intent not to renew or a reduction in its coverage.

4. Non-Recourse Provision. All insurance policies shall provide that the insurers shall have no recourse against the additional insureds, or the Authority if the Authority is named as a named insured, for payment of any premium on liability policies. The coverages provided by mutual coverage liability insurance policies required pursuant to the Service Contract shall be the primary source of any restitution or other recovery for any injuries to or death of persons or loss or damage to property incurred as a result of an action or inaction of the Company, of their respective suppliers, employees, agents, representatives, or invitees, that fall within these coverages and also within the coverages of any liability insurance or self-insurance program maintained by the Authority.

5. Subcontractors. The Company shall be responsible for ensuring that all Subcontractors of the Company performing the Design-Build Work secure and maintain all insurance coverages (including workers' compensation insurance) and other financial sureties required by the laws of the State in connection with their presence and the performance of their duties pursuant to the Service Contract.

6. Qualifications of Insurers. The Company shall obtain the insurance set forth herein with insurance companies with at least a financial size category of VII and that carry a minimum of Best's "A-" equivalent rating. In addition, insurance may not be obtained or maintained with insurers which are prohibited from conducting Business in the State.

7. Changes in Insurance Coverage. The Company shall use its best efforts to obtain such additional insurance as the Authority may request from time to time, and the costs of such additional insurance shall be a pass through to the Authority.

8. Authority Right to Obtain Insurance. The Authority shall have the right to elect in its sole discretion to obtain and maintain all or any portion of the Required Operation Period Insurance. In the event the Authority so elects to obtain all or a portion of the Operation Period Insurance it shall provide written notice to the Company and upon the effectiveness of any such policy, the Company's obligation to provide such insurance shall cease.

APPENDIX 15
ASSET EVALUATION PROTOCOL

APPENDIX 15

ASSET EVALUATION PROTOCOL

15.1 GENERAL

The purpose of this Appendix is to detail the protocol and procedures to be followed by the Company to assess the condition of the Facility pursuant to the Service Contract for compliance with its obligations under the Service Contract.

15.2 BASELINE FACILITY RECORD

Within 180 days following the Acceptance Date, as required by the Service Contract, the Company shall develop a Baseline Facility Record (the "Baseline Facility Record"). The Baseline Facility Record shall be a complete listing of all assets that constitute the Facility on a completed and installed basis. The Baseline Facility Record shall consist of three sections that indicate whether the asset is considered part of the Facility Equipment, or the Facility Structures and specify the life expectancy of each piece of the Facility Equipment or the particular element of the Facility Structure.

The Company shall perform annual inspections of the Facility in accordance with the Service Contract and update the Baseline Facility Record accordingly. All newly added assets shall be entered in the Baseline Facility Record together with their evaluation designators, installation date, and installation cost. All assets that are removed from the Facility shall be deleted from the Baseline Facility Record. Assets that are removed from service but left in place shall continue to be shown in the Baseline Facility Record. The Company shall provide the Authority a hardcopy and electronic copy of all updated Baseline Facility Record listings along with a written summary of the changes made in the Baseline Facility Record since it was last updated.

Each asset shall be assigned a unique asset number that is entered into the Baseline Facility Record along with a name or short verbal description of the asset. The asset numbers, naming conventions and nomenclature used in the Company's computerized maintenance management system shall be used in developing the Baseline Facility Record.

The Company shall compile the Baseline Facility Record using Microsoft Excel®, Microsoft Access® or some other computer software program mutually agreed to by the parties. The master copy of the Baseline Facility Record shall be prepared in hard copy form, each page of which shall be initialed by both parties. The Authority shall keep the master copy of the

Baseline Facility Record. The Company shall also provide the Authority an electronic copy of the Baseline Facility Record.

15.2.1 FACILITY EQUIPMENT

The Company shall provide the Authority with a baseline status of the Facility Equipment including asset number, asset name, asset manufacturer and model number, date installed, price of installed equipment, service life (in years), condition/status and any additional descriptions of condition/comments. The Company's estimation of service life (in years) shall be subject to the approval of the Authority. The Company shall keep a record of documentation supporting the data provided in the Baseline Facility Record and maintain this record through the performance of the final asset evaluation. Such documentation shall include records of labor and material costs, vendor invoices, etc., to substantiate the price of installed equipment. A copy of the record of documentation shall be provided to the Authority along with the Baseline Facility Record. In accordance with the Service Contract, all Facility Equipment shall have a baseline condition/status as "New equipment, fully functioning in excellent condition." In accordance with the Service Contract, the Company shall continue to inspect the Facility Equipment annually during the Operation Period and update the Baseline Facility Record and the record of supporting documentation accordingly.

15.2.2 FACILITY STRUCTURES

The Company shall make an initial record of the Facility Structures. As part of the initial record, a photographic and video record shall be made of the exterior and interior of the Facility Structures, where possible. In accordance with the Service Contract, the Company shall perform the evaluations of Facility Structures annually during the Operation Period and update the Baseline Facility Record accordingly. If new structures are added, the photographic and video record shall also be updated by addition of the new structures. All Facility Structures shall have an initial functionality and structural integrity rating of 5 based on the rating system agreed to by the parties. The Company shall also provide the Authority with record copies of photographs and videos on CD as requested.

15.3 FINAL EVALUATION OF THE FACILITY

Not more than 9 months prior to the Termination Date, as required by the Service Contract, the Company shall perform a final evaluation of the Facility. As provided by the Service Contract, the Facility Equipment are required to be returned to the Authority in a condition and state of repair such that, in the aggregate, the remaining useful life (Weighted Average Useful Life) of the Facility Equipment at the end of the Initial Term is equal to or

greater than five years and each piece of Major Equipment as defined in **Table 3-2** shall have a remaining life at the end of the Initial Term of not less than five years. Pursuant to the Service Contract, the Facility Structures are required to be returned to the Authority in good condition, working order and repair as when new, with ordinary wear and tear excepted as determined in light of the Company's maintenance, repair and replacement obligations under the Service Contract.

15.3.1 **FINAL FACILITY EQUIPMENT EVALUATION**

15.3.1.1 Step 1: Estimate service life and remaining life of Facility Equipment

For the final Facility Equipment evaluation, the Company and the Authority shall verify the accuracy, including the proper designation of each asset, and the completeness and accuracy of the Baseline Facility Record prepared and maintained by the Company in accordance with **Section 15.1** hereof. Assets removed from service but left in place shall continue to be shown in the Baseline Facility Record. However, the initial value, replacement value and remaining life of these assets will be set to zero. These assets shall be designated as not included in the evaluations. The Company shall then estimate, for the purposes of the final asset evaluation, the service life and the remaining life of all the Facility Equipment having a replacement value equal to or greater than \$5,000 (as adjusted by the change in CPI from the Contract Date to the evaluation date) listed in the Baseline Facility Record, as provided below.

Remaining life at the end of the Initial Term Evaluation and Method of Calculation

The Company shall estimate the remaining life at the end of the Initial Term (in years, rounded to the nearest whole number) of all the Facility Equipment using the following methods and procedures.

The remaining life at the end of the Initial Term for an asset shall equal the remaining life for that asset at the time of the evaluation (prior to rounding) minus the time period in years rounded to one decimal place between the time of the evaluation and the end of the Initial Term. After this calculation is performed, remaining life after the Initial Term shall be determined by rounding. In addition, should the length of the Initial Term be less than 15 years for any reason, this calculation shall be performed as if the length of the Initial Term is equal to 15 years.

The remaining life of an asset shall be based upon its ability to perform its intended function, taking into consideration its performance history, physical condition, availability,

replacement costs and maintenance costs. In determining the remaining life of an asset, the Company shall not consider whether an asset is outmoded and, if replaced, would enhance the capabilities of the Facility.

The Company shall conduct the following procedures to establish the remaining life of the Facility Equipment:

- visually inspect the Facility Equipment;
- monitor related instrumentation to determine the assets' physical condition and operation characteristics;
- collect any measurements, readings, or other pertinent information which the Company deems appropriate;
- review all repair, rebuild and replacement records, and consult with manufacturers; and
- inspect all readily accessible parts and surfaces for any installation problems; excessive vibration, noise or temperature; the condition of coatings; signs of wear or corrosion; and leakage of any fluids.

These inspection activities shall be conducted while motor-driven equipment is in operation.

If the Company cannot estimate the remaining life of any asset using the procedures detailed above, then, as a last resort and only with the concurrence of the Authority, the Company may calculate the remaining life by subtracting the age of the asset from the original service life of the asset as determined by the Company. If the age of the asset is greater than the service life, then the remaining life shall be equal to zero years. The age of the asset shall be the number of days between the date it was placed into service and the date of the evaluation divided by 365, rounded to the nearest whole number.

The service life and remaining life at the end of the Initial Term of the Facility Equipment shall be added to the Baseline Facility Record. The development of the service life and remaining life shall take into consideration the following:

Spare parts and Consumables included in the spare parts and Consumables inventory are not included in the calculation of the Weighted Average Useful Life.

Obsolete and unused assets are not included in the calculation of the Weighted Average Useful Life.

Assets comprising the Facility Structures are not included in the calculation of the Weighted Average Useful Life.

Service Life Evaluation

The Company shall estimate the original service life value (in years, rounded to the nearest whole number) of all Facility Equipment using Company provided information, other available vendor information, and trade/professional reference materials.

15.3.1.2 Step 2: Determining Weights to Be Applied to Each Asset

The "Weighting Factor" for an asset is the current replacement value of the asset (the "replacement value") divided by the sum of the replacement values of all Facility Equipment. Weighting factors to be applied to each asset shall be calculated using the following equation:

$$F_i = V_i / (\sum V_i)$$

Where:

F_i = Weighting Factor of asset "i"

V_i = replacement value of asset "i" in current dollars as of the evaluation date

$\sum V_i$ = the sum of the replacement values of all assets comprising the Facility Equipment

Note: Weighting Factors should not be rounded when calculating the Weighted remaining life.

The Company shall determine the replacement value of each piece of Facility Equipment using standard valuation techniques. If the replacement value of an asset cannot be readily determined, then the Company shall inflate the initial installed cost of the asset by the same rate of change as the Engineering News Record Construction Cost Index from the year the asset was installed (or purchased if equipment was not installed) to the year for which the replacement value is being calculated. The initial installed cost for an asset may be estimated using the following methods that are listed in order of preference:

Actual, as-built vendor information (that is, labor and materials invoices);

Historical vendor bid and quotation documents; or

Other means of determining initial value of various assets, if approved by all parties.

It is expected that initial installed cost will be provided by the Company with labor and invoice documentation as part of the record of documentation for both the Baseline Facility Record and as part of annual updates any new installed (or purchased if not installed) equipment.

15.3.1.3 Step 3: Determine Weighted Remaining Life

The Weighted remaining life shall be calculated by multiplying the remaining life at the end of the Initial Term of an asset by the Weighting Factor for that asset as shown in the following equation:

$$W_i = (F_i)(L_i)$$

Where:

W_i = Weighted remaining life of asset "i" in years

L_i = remaining life of asset "i" in years

Note: Company shall not round the weighted remaining life for any asset when calculating the Weighted Average Useful Life for all of the Facility Equipment.

The Weighted Average Useful Life is the sum of the Weighted remaining life values for assets constituting the Facility Equipment having a replacement value greater than, \$5,000 (as adjusted by the change in CPI from the Contract Date to the evaluation date).

The Weighting Factor and Weighted remaining life of the Facility Equipment shall be added to the Baseline Facility Record.

15.3.2 FINAL FACILITY STRUCTURES EVALUATION

15.3.2.1 Functionality Evaluation

The functionality evaluation shall determine if the operating Facility Structures operate properly and perform the function for which they were intended. As part of the functionality evaluation of each Facility Structure, a functionality rating of 1 to 5 will be assigned to each of the applicable Facility Structures. The rating shall utilize the following criteria:

- 5 – Excellent overall condition. Asset fully functional as designed with no visible defects or wear.
- 4 – Good overall condition. Asset functions as needed for current operating conditions, visible signs of minor defects, and wear is less than expected.

- 3 – Fair overall condition. Asset functions as needed for current operating conditions, visible sign of moderate defects and expected wear.
- 2 – Poor overall condition. Asset operable, but does not function as needed for current operating conditions. Visible signs of major defects, or wear is more than expected. There may be personnel safety issues.
- 1 – Inoperable. Asset is non-functional, requires major repair or replacement to restore operation.

The findings of the functionality evaluation shall be tabulated on a spreadsheet such as in the Baseline Facility Record.

15.3.2.2 Structural Integrity Evaluation

The structural integrity evaluation shall include visual inspection with photographic and video recording of all Facility Structures, including, but not limited to:

- Buildings and concrete structures, both above and below ground, including doors, hatches, stairways, and windows;
- Walkways, roads and other paved areas;
- Fencing;
- Finish system – paint, sealants and other liquid applied finishes; and
- Floor, ceiling, roofs and wall system – tiles, carpeting, raised floors and drop ceilings.

Structures and paved areas shall be checked for structural defects and damage, such as cracks and concrete deterioration that could reduce their service life. Finish systems shall be visually inspected to assure that they provide adequate coverage and afford the desired protection. Occurrence of flaking, corrosion, rot and inadequate coverage should be noted. Floor, ceiling, roofs and wall systems shall be visually inspected for excess wear and damages.

As part of the structural integrity evaluation of each Facility Structure, a structural integrity rating of 1 to 5 shall be assigned to each of the applicable Facility Structures. The rating shall utilize the following criteria:

- 5 – Excellent overall condition. No visible defects, cracking or wear.
- 4 – Good overall condition. Visible signs of minor defects, and wear is less than expected.
- 3 – Fair overall condition. Visible sign of moderate defects and expected wear.
- 2 – Poor overall condition. Visible signs of major defects and wear is more than expected.

- 1 – Imminent Failure. Extremely poor overall condition; may be significant safety or structural concerns.

The findings of the structural integrity evaluation shall be tabulated on a spreadsheet such as in the Baseline Facility Record. Videotape records made of the initial condition of assets, whether or not structural or other physical defects are revealed, shall be included as part of the Final Asset Evaluation. The location on the videotape corresponding to any listed defect shall be entered in the spreadsheet with each listing.

15.4 EVALUATION REPORTS AND PRODUCTS

The procedures followed, together with the findings and results of the final asset evaluation process, shall be presented in a final asset evaluation report (the "Final Asset Evaluation"). Text, spreadsheets and databases shall all be prepared using a computer software program mutually agreed to by the parties. The Company shall provide the Authority and the Company with preliminary drafts of all documents for review and comment.

Both parties shall sign final documents on each page for authentication and shall receive an authenticated copy of all final reports, databases, spreadsheets, video documentation and handwritten notes.

The Final Asset Evaluation shall consist of at least the following clearly delineated sections:

- The Initial Baseline Facility Record;
- The Final Baseline Facility Record;
- Weighted Average Useful Life of the Facility Equipment;
- Functionality and Structural Integrity of the Facility Structures; and
- Supplemental information as may be determined by the Company.

15.4.1 BASELINE FACILITY RECORD

This section of the Final Asset Evaluation shall include the Initial Baseline Facility Record and the Final Baseline Facility Record.

15.4.2 FACILITY EQUIPMENT

The Facility Equipment section of the Final Asset Evaluation shall include the listing of all assets to be included in the calculation of the Weighted Average Useful Life together with their corresponding service life, remaining life and remaining life at the end of the Initial Term values. The procedures used to determine which assets to include in or exclude from the schedule shall be detailed. The basis for establishing service life for each asset shall be described. This section of the Final Asset Evaluation shall provide the weighted remaining life

of the Facility Equipment and summarize the steps followed by the Company to establish the Weighted Average Useful Life at the End of the Initial Term. All calculations performed to determine Weighting Factors and the Weighted Average Useful Life at the End of the Initial Term shall be included with the Final Asset Evaluation.

15.4.3 **FACILITY STRUCTURES**

The Facility Structures section of the Final Asset Evaluation shall provide the results of the functionality evaluation and the structural integrity evaluation of the Facility Structures. Those assets that do not exhibit physical or structural defects shall be noted as such in the Final Asset Evaluation with a statement regarding the overall condition. The findings of the functionality evaluation shall be tabulated on a spreadsheet. For the purposes of determining the Company's obligations pursuant to the Service Contract, the Company shall, for structures with a functionality or structural integrity rating less than 3 as defined in **Section 15.2** hereof, indicate in each instance what repairs would be needed to bring both functionality and structural integrity ratings to a minimum level of 3.

15.4.4 **SUPPLEMENTAL INFORMATION.**

This section of the Final Asset Evaluation shall include all supplemental information used by the Company, including, but not limited to, results of diagnostic testing, values of Engineering News Record Construction Costs indices used, equipment supplier information, and notes and calculations to support its findings and conclusion. This supplemental information may be included as appendices or attachments to the Final Asset Evaluation.

APPENDIX 16

EXIT TEST PROCEDURES AND STANDARDS

APPENDIX 16

EXIT TEST PROCEDURES AND STANDARDS

16.1 PURPOSE

This Appendix sets forth the requirements for the Exit Test Procedures and Standards of the Facility required under the Service Contract.

16.2 EXIT TEST PLAN

As required by the Service Contract, the Company shall prepare and submit to the Authority for its review and approval the Exit Test Procedures and Standards that include the following minimum requirements:

1. Procedures for demonstrating waste throughput at a continuous rate equal to the Facility design capacity.
2. Procedures for testing all waste processing, waste transfer and ancillary systems, including combustion and waste handling systems;
3. Use of permanent and temporary instrumentation;
4. Organization of the test team, including responsibilities, authority, and decision making protocols;
5. Response procedures for unsuccessful test results including definition of threshold results that constitute overall exit test failure;
6. Testing schedule;
7. Operating and maintenance schedule during testing; and
8. Procedures for demonstrating compliance with every Exit Test Procedure and Standard.
9. Descriptions of methods for demonstrating compliance with Performance Guarantees, including:

A list of all parameters to be monitored and measurements to be made that states sampling frequencies and includes but is not limited to:

A list of all Residue parameters to be monitored and a schedule of monitoring, describing analytical methods and sampling frequencies at which parameters will be monitored on a continuous or other defined basis.

Identification of equipment calibrations to be performed, descriptions of all calibration techniques to be used and timing of calibrations relative to exit testing (all instruments used in exit testing operations and to monitor and evaluate exit testing shall be calibrated in accordance with manufacturer's requirements.), QA/QC procedures, including those to be

utilized for all equipment used for testing and measuring different parameters within the treatment process and at the in-house laboratory and contract laboratories. The description shall address the calibration practices, including the frequency and accuracy requirements. The calibration procedures shall consider intermediate spot and cross checks, in addition to the formal calibration periods.

A full description of any analytical methods and techniques that will be utilized to ensure that all Applicable Law and Performance Guarantees are met. In addition, descriptions of how data collected will be compared with Performance Guarantees shall be provided and shall be in a manner that complies with Authority requirements and regulatory requirements. Provide examples of any tools such as flow charts, check sheets or any other data presentation and evaluation techniques that will be utilized.

SCADA system monitoring and control functions.

A list of real-time data fields that will be provided to the Authority during exit testing.

A listing of all samples requested by the Authority and a protocol for delivering samples to the Authority for the Authority's own testing program should the Authority elect to have such a program during exit testing.

The Exit Test Procedures and Standards shall also specify the form and contents of a report to summarize and communicate the results of the exit test (Exit Test Report) and include specific, detailed sampling protocols to be utilized while conducting the exit tests. Preliminary tests may be conducted at the Company's expense; however, the results of such tests shall not be made part of the Exit Test Report.

The Exit Test Procedures and Standards shall also describe the Company's approach and details for meeting the requirements of this Appendix.

The exit tests shall demonstrate the ability to process waste of the composition anticipated over the Remaining Life of the Facility. The Exit Test Procedures and Standards shall describe how the tests will demonstrate the ability of the Facility to achieve the Performance Guarantees under the extreme ranges of waste quantity and composition expected during the Remaining Life of the Facility. The Authority shall have the right to approve the exit test period.

The exit test shall have a minimum duration of 14 days and shall also have a duration sufficient to demonstrate that all Facility operations over the exit test period are in full and continuous compliance with the Performance Guarantees.

During the tests, the Company shall operate all systems within the Facility under normal operating conditions, including, but not limited to, routine equipment operation, maintenance services and electrical usage.

If the 14-day exit test is terminated at any time, it shall be restarted at the beginning of day 1 of the 14-day exit test and the entire 14-day exit test shall be run.

16.3 EXIT TEST PROCEDURES

16.3.1 General

Exit Test Procedures and Standards include:

Demonstration of the ability of all components of the Facility to meet the minimum design capacity for a 24-hour period;

Determination of the ability of the Facility to produce Residue that meets the Performance Guarantees for an uninterrupted period of at least 14 days at Throughputs requested by the Authority, which will be equal to or less than the design capacity of the Facility (i.e., 14-day testing);

Determination of the ability of the Facility to produce electricity that meets the Performance Guarantees for an uninterrupted period of at least 14 days at Throughputs requested by the Authority, which will be equal to or less than the design capacity of the Facility (i.e., 14-day testing);

Demonstration of the proper function of the Facility upon loss of power, loss of control system, manual start-up and shutdown, and automatic shutdown;

Demonstration that the waste handling systems function as intended;

Demonstration that the ferrous and non-ferrous recovery systems function as intended;

Demonstration that the control systems function as intended without interruption; and

Demonstration that the Facility otherwise complies with all of the Performance Guarantees.

Processible Waste and Residue testing shall be performed in accordance with the Exit Test Procedures and Standards and this Appendix.

16.3.2 14-Day Testing

Performance Guarantees shall be demonstrated continuously during the 14-day test, which shall include a minimum of ten (either consecutive or non-consecutive), continuous 24-hour periods when the Facility is operating at design capacity with all normally operating units in continuous service.

16.3.3 Monitoring Requirements

During the exit tests, the Company shall regularly monitor the Processible Waste and Residue for specified key parameters in order to evaluate the performance of the Facility. These key parameters include those needed to demonstrate compliance with the Performance Guarantees. Residue shall be sampled and analyzed at least two times per day. The samples shall be analyzed by a State-certified, independent laboratory agreed to by both the Company and the Authority, using laboratory analytical quality control standard procedures. Sample analyses performed during the Exit Test shall be performed by an independent State-certified laboratory pre-approved by the Authority.

The Authority may collect its own samples and analyze them during Exit Testing to confirm the results of the Company's analyses.

16.3.4 Reporting Requirements

The Exit Test Report shall be prepared in accordance with the Exit Test Procedures and Standards and include at a minimum:

A certification that testing was conducted in accordance with the approved Exit Test Procedures and Standards;

A certification of the results of the testing with respect to each of the Exit Test Procedures and Standards. Each Exit Test Procedures and Standards shall be addressed separately and the basis for the determination presented. This certification of the results of the testing shall include (a) a determination of the extent to which the Facility complies with the applicable Contract Standards and requirements and (b) for each

Performance Guarantee a determination of the extent to which the Facility complies with the Performance Guarantee;

All data measured and recorded during the tests including laboratory analyses, instrument calibrations, and measurements;

Record of equipment outages, failures and preventative maintenance;

Summary of test results and conclusive evidence of compliance with all test requirements;

All calculations used in determining test results;

Any other data reasonably requested by the Authority to be included in such reports; and

All certifications shall be signed by the Company.

16.4 EXIT TEST STANDARDS

The ability of the Facility to meet the following Exit Test Procedures and Standards shall be demonstrated during Exit Testing:

The Facility operated properly with only the normal compliment of employees included in the Company's staffing plan for the Facility, with the exception of additional Company staffing related to collection and analysis of samples and other test data.

Compliance with the Performance Guarantees and applicable Governmental Approvals at all times.

Operation of the Facility at throughputs consistent with the Annual Facility Throughput Guarantee.

Performance Guarantees in **Table 2-1**. The results of all samples taken during exit testing shall be reported and included in the calculation of reported averages or other evaluations applicable to determining compliance with Performance Guarantees.

All operations are consistent with Contract Standards.

The Facility operates properly during manual and automatic shutdown and start-up.

The Facility can deliver electricity in accordance with the Service Contract.

The waste handling system operates as intended and all non-processible waste is removed from the Facility Site in accordance with the Operation and Maintenance Manual.

APPENDIX 17
DESCRIPTION OF SITE

APPENDIX 17

DESCRIPTION OF SITE

[Metes and Bounds provided prior to Contract Date by Authority/Frederick County]



The Site is located on County owned property to the north of the Frederick County DUSWM headquarters, and to the South of the Ballanger Creek Wastewater Treatment Plant, and to the West of Metropolitan Court and to the East of the CSX railroad tracks.

The site plan is shown below:

APPENDIX 18
ACCEPTABLE SEWAGE SLUDGE

APPENDIX 18

ACCEPTABLE SEWAGE SLUDGE

Acceptable Sewage Sludge will have the following characteristics and will be limited to the tonnage levels described below.

“Sewage Sludge” means any Sludge, or Sludge with incidental grease ~~or composition of the two~~ that originated from a Frederick or Carroll County Wastewater treatment plant and is delivered to the Facility for Processing except Sludge having one or more of the following characteristics:

- i) Hazardous Sludge, as defined herein;
- ii) Dry solids outside the range of 16% to 30%;
- iii) Average Volatile Solids outside the range of 65% to 80%;
- iv) Sludge with a pH of less than 5.0;
- v) Sludge that exceeds the limits for contaminate concentration for land application (Class I) Sludge in Maryland as defined in Title 26, Subtitle 04, Section 26.04.06.02 Code of Maryland Regulations or any equivalent successor. This provision is not intended to require the addition of lime for pathogen control.

Where:

“Hazardous Sludge” means (i) Sludge containing explosives or radioactive substances, (ii) Sludge containing materials that are toxic or otherwise hazardous as defined in 40 CFR 261 or 40 CFR 761 promulgated by the United States Environmental Protection Agency (“EPA”); (iii) Sludge containing materials listed as hazardous waste from nonspecific sources in 40 CFR 261.31 or hazardous waste from specific sources in 40 CFR 261.32 promulgated by EPA; (iv) Sludge which contains any materials treated as a hazardous substance under any Applicable Law; or (v) any materials mixed with or otherwise contaminated by such Sludge during processing so as to render such materials hazardous substances under Applicable Law.

“Sludge” means municipal wastewater treatment plant sewage Sludge, delivered by or on behalf of Carroll or Frederick Counties.

“Solids Percentage” means the content of total solid matter in Cake or Sludge streams as determined by methods contained in “Standard Methods for the Examination of Water and Wastewater” (APHA most recent edition), from samples collected as set forth in Section 4.6 hereof.

Quantity

The quantity of sludge to be delivered may be up to 10 percent by weight of wet sludge as compared to municipal solid waste. Daily maximum sludge quantity at 1500 tons per day capacity of MSW is 150 wet tons of sludge per day. Annual maximum sludge quantity at 92% availability is 50,370 wet tons. Sludge trucks shall be spaced out so as not to overload the sludge pit at the WTE facility. The County shall make arrangements for storage or alternate disposal of the sludge during WTE facility outages.

Measurement of Wet Tonnage of Sludge

All sludge delivery trucks shall weigh in and out at the WTE facility scale.

Sampling Protocol

The protocol for the collection and preservation of samples shall be as contained in “Standard Methods for the Examination of Water and Wastewater”, APHA, AWWA, and WPCF, 16th Edition, 1985, Procedure 105 (or latest edition and equivalent procedure).

The location(s) and methods for collection of samples for liquid sludge, cake sludge, shall be determined by the Vendor during facility design.

LABORATORY TESTING PROTOCOL

All laboratory testing for the purpose of satisfying the specific requirements of this Service Contract as it relates to sludge shall be performed in accordance with procedures contained in

“Standard Methods for the Examination of Water and Wastewater”, APHA, AWWA and WPCF, 16th Edition, 1985 (or latest edition).

For all testing for the purposes of regulatory reporting, the protocol specified in the regulations or by the regulators shall be used. If none are specified, then the protocols shall be in accordance with the previously referenced “Standard Methods...”

APPENDIX 19

SUBSURFACE CONDITION ASSUMPTIONS AND BASIS OF DESIGN

APPENDIX 19

SUBSURFACE CONDITION ASSUMPTIONS AND BASIS OF DESIGN

Subsurface Conditions:

The foundations were based on the ~~RK&K geotechnical report from the New Design Road Water Treatment Plant (NDRWTP) Phase 2 Expansion~~ McCrone, Inc. boring location project dated ~~July 7, 2006~~ April 2, 1992, as provided ~~in~~ by the Authority.

~~Based on the Authority's Best and Final Offer Request documentation. The NDRWTP borings~~ it is located approximately two miles from the Site.

~~The geotechnical report stated that the net allowable bearing capacity is 2000 PSF. Since this bearing capacity is not adequate for plant loads, piles will be required. The piles were estimated at 1900 piles at 50' average length. The load carrying capacity of each pile is expected to be 60 tons. The pile type would be either precast or auger cast concrete, at 18 inches square or diameter.~~

~~It is assumed that spread footings may be used for the foundations of the facility and that no piles will be required. It is further~~ assumed that soils cut on site can be reused as fill material on site; **off-site hauling and disposal of excavated material is not included**. It is also assumed that any rock found on site can be excavated or ripped; no rock blasting is included.

~~Since soil conditions can vary greatly in short distances, a~~ comprehensive geotechnical investigation will be performed prior to designing the foundations for the facility. This investigation will either confirm the ~~NDRWTP~~ assumptions ~~or~~ made based on the McCrone, Inc. boring location project identify differences between the ~~soil conditions at the Site~~ comprehensive geotechnical investigation and the ~~soil conditions at the NDRWTP borings taken by McCrone.~~

Basis for Design:

Design #1: Traditional Design

Insert picture here Design #2: Contemporary Design

Insert picture here

APPENDIX 20

ANNUAL BASE OPERATION FEE PROCESSING THRESHOLDS

APPENDIX 20

ANNUAL BASE OPERATION FEE PROCESSING THRESHOLDS

The Company shall be paid an Excess Operation Fee for tons processed above the annual base operation fee processing threshold. The processing threshold shall be calculated for each contract year based the HHV value of the waste and the values shown in the following table.

<u>Higher Heating Value</u>	<u>Annual Base Operation Fee Processing Threshold</u>
HHV 4,500 Btu/lb.	554,000 Tons
HHV 5,000 Btu/lb.	554,000 Tons
HHV 5,500 Btu/lb.	503,700 Tons
HHV 6,000 Btu/lb.	461,000 Tons

For Higher Heating Values which fall between the values provided in this table, the Annual Base Operating Fee Processing Threshold will be determined by linear interpolation utilizing the HHV values which are immediately above and immediately below the HHV, which shall be determined in accordance with Appendix 6.

|

APPENDIX 21
TIPPER SYSTEM DESCRIPTION

APPENDIX 21

TIPPER SYSTEM DESCRIPTION

Prior to the Construction Commencement Date the Authority shall notify the Company of its election to implement a transfer trailer tipping system at the Facility (the “tipping System”).

The Tipping System will include a transfer trailer tipper to be located on the tipping floor of the Facility, the appropriate foundation support and appropriate ceiling height clearance in the tipping building. The tipper shall be capable of unloading a transfer trailer that contains up to 24 tons of waste.

The Company shall operate and maintain the tipper. The maintenance cost of the tipper including the replacement cost, will be paid by the Authority on a cost substantiated basis at cost plus 10%. The cost of the operation of the tipper is included in the Base Operation Fee.

The Company will have appropriate spares located on-site to minimize downtime of the tipper.

|

APPENDIX 22
CONSTRUCTION ALLOWANCES

APPENDIX 22

CONSTRUCTION ALLOWANCES

This appendix sets forth the allowances provided for the landscaping, the exterior lighting and architectural treatments of the Facility.

Administration ~~Building—Architectural~~ Offices Architectural Treatment/Finish/Colors:
\$190,000.00

This includes the following admin building items:

- Interior Doors
- Interior Windows
- Gypsum Wall Board
- Carpet and other flooring such as vinyl tile
- Interior Paint
- Interior Light fixtures
- Bathroom fixtures / dispensers
- Mirrors

The quality of the items is as typical for industrial administration buildings offices.

Landscaping: \$100,000.00

Exterior Lighting: \$750,000.00