

## **Durham York Energy Centre Acceptance Phase Audit Plan**

### **Introduction**

The *Durham York Energy Centre Acceptance Phase Audit Plan* has been prepared to satisfy Condition 16.3 of the Notice of Approval to Proceed with the Undertaking for the Durham and York Residual Waste Study (Ministry of the Environment EAAB File Number EA-08-02) and as outlined in the Construction Phase Audit Plan accepted by the Ministry on December 8, 2011. The Acceptance Phase Audit Plan describes the requirements for an audit to be performed by a qualified, independent, professional engineer upon completion of the acceptance phase of the undertaking. The acceptance phase scope of work has been outlined in the Owners' Project Agreement and is included as an Annex to this plan.

The Durham York Energy Centre is an energy-from-waste (EFW) facility to be constructed in the Municipality of Clarington, Ontario. Owned by The Regional Municipality of Durham and The Regional Municipality of York (Regions), the facility will process up to 140,000 tonnes of non-hazardous, municipal solid waste per year. Heat generated during the combustion of waste will be used to generate steam and electricity. Recyclable metals will also be recovered from the ash. The facility will be designed, built, and operated by Covanta Durham York Renewable Energy Limited Partnership (DBO Contractor) in accordance with all applicable regulations using state-of-the-art air pollution control technology. The undertaking was approved under the *Environmental Assessment Act* by the Minister of the Environment and the Lieutenant Governor in Council on November 3, 2010. A Certificate of Approval for waste, air and noise, and storm water was approved June 28, 2011.

As detailed in the approved construction phase audit plan, the acceptance phase audit was originally scheduled for June 15, 2014. An alternate submission date is required to coordinate with the actual timing of the acceptance testing. The audit will take place following the completion of the acceptance testing. The Regions will submit a revised audit date to the Regional Director at least 20 days prior to the proposed audit date.

### **Role of the Independent Auditor**

The role of the Independent Auditor is to provide a document review of the acceptance phase results to confirm that activities conformed to legislative requirements of approvals and permits including the commitments made in the Environmental Assessment (EA) report. The Owners' Consultant /Engineer (HDR Corporation), separate from the Independent Auditor, will be responsible for the comprehensive surveillance of the acceptance testing.

The Owners' Consultant will inspect all work completed by the Design, Build, Operate (DBO) Contractor, review construction drawings and specifications, change orders, applications for payment, and maintain a continuous on-site presence during all acceptance activities. The Owners' Consultant assists the Regions in confirming that

the contractor designs, builds, and operates the facility in accordance with legislative requirements, permit obligations and contractual requirements.

The Independent Auditor MALROZ Environmental Scientists and Engineers have been selected in accordance with the definition provided in the Notice of Approval of the EA.

“Qualified, Independent, Professional Engineer” means a person who holds a license, limited license or temporary license under the *Professional Engineers Act* who is not an employee of the Regional Municipality of Durham, the Regional Municipality of York, the operator of the undertaking, or the ministry, who has not been involved in the design of the undertaking but who is knowledgeable about the *Environmental Protection Act*, Regulation 347 and Ontario Regulation 149/05, ministry guidelines affecting thermal treatment facilities, any other ministry approval issued for the undertaking as well as being experienced at assessing compliance with environmental legislation and requirements of certificates of approval issued under the *Environmental Protection Act*.

The audit scope will confirm:

- 1) Compliance with applicable legislation;
- 2) Compliance with applicable approvals and permits such as the Certificate of Approval and site plan permit; and
- 3) Compliance with accepted monitoring plans.

### **Timing of the Audit**

In keeping with the role of the Independent Auditor during the acceptance phase, only one audit will be performed following successful completion of the acceptance test. This acceptance phase audit is the same audit that was originally scheduled for June 15, 2014 in the approved construction phase audit plan. The audit date is subject to change to accommodate the completion of the acceptance testing, which is currently anticipated for late 2014. The Regions will submit a revised audit date to the Regional Director at least 20 days prior to the proposed audit date.

The audit report will be submitted to the Ministry Regional Director within 10 business days of the date that the audit is completed.

### **Audit Methodology**

The audit will include a detailed walkthrough of the entire site by the Independent Auditor to view the facility operations and the environmental controls and mitigation

measures in place after the acceptance testing has been completed. The Independent Auditor will compare the acceptance testing results with the appropriate ministry approvals contained in the Environmental Assessment and Certificate of Approval. The Independent Auditor will identify any discrepancies or deviations from what has been approved by the Ministry. The audits will also include a comprehensive review of acceptance test records.

### **Audit Reports**

The Independent Auditor will submit to the Ministry Regional Director a signed, written report summarizing the results of the audit. The audit report will be submitted within 10 business days following completion of the Audit. The audit reports shall include the following.

- A summary of the site visit, the records reviewed, and any interviews with staff from the Regions, the Owners' Consultant, or the DBO Contractor.
- An assessment of compliance with all applicable approvals, permits, and regulations
- A review of the data from the monitoring and testing plans followed during the acceptance testing
- Conclusions

## ANNEX A: ACCEPTANCE TESTING

### **Pre-Acceptance Testing Requirements and Acceptance Test Procedures**

As outlined in the Project Agreement between the Regions and DBO Contractor, the DBO Contractor will undertake the Acceptance Test in accordance with the following:

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

##### **1.1 GENERAL**

The intent of the Acceptance Test is to demonstrate that the performance of the entire Facility can meet the Performance Guarantees contained in the Project Agreement and to verify individual combustion train performance. The Owner's goal is to have achievement of the Performance Guarantees clearly and unquestionably demonstrated during the Acceptance Test, to the maximum extent possible.

**Table A10-3** at the end of this appendix provides a preliminary schedule for the major milestones associated with the Acceptance Test. A revised schedule will be submitted by the DBO Contractor with the submission of the Draft Acceptance Test Plan.

##### **1.2 MINIMUM TESTING REQUIREMENTS**

All testing shall be performed simultaneously, to the extent practicable, in accordance with all applicable laws, regulations, codes and standards, the Certificate of Approval (CofA), Authorizations and Environmental Laws and Regulations. The Guiding Principles set forth in American Society of Mechanical Engineers (ASME) Performance Test Codes (PTC) 4 and 34-2007 will generally apply. Actual test measurements without consideration of uncertainty will be used for determination of test results.

Prior to Start-up and Testing, the DBO Contractor shall provide protocols, schedules and notifications to the Owner as set out in Table A10-3 at the end of this Appendix. It is the objective of these tests to determine whether the Facility meets the Performance Guarantees, Technical Requirements, and operates at its design capacity.

During the Acceptance Test period, all equipment will operate at its design 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. Supplemental personnel will only be permitted where required for test purposes. During the Acceptance Tests, the DBO

Contractor shall operate the Facility in conformance with all Applicable Law, regulations, codes and standards, the CofA, Authorizations and Environmental Laws Regulations.

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 process and temporary instrumentation and controls required for testing and documentation will be calibrated by technicians provided by the DBO Contractor, its subcontractors, or suppliers. The DBO Contractor shall make available at the Facility all satisfactory start-up or commissioning reports from vendors of all equipment to the Owner or Owner’s Engineer and Third Party Auditor.

During the testing period, all data required to demonstrate performance shall be made available to the Owner and the Owner’s Engineer(s) 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 Owner’s 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. Access to DCS trends available on an operator console will be provided to the extent it does not impact the operator’s ability to operate the facility.

**1.3 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 DBO Contractor can clearly discuss responsibilities of the participants during the Acceptance Test. The conference shall be held at the Facility within 120 days, but no later than 90 days prior to the start of the Acceptance Test. The DBO Contractor shall notify the Owner of the date of the pre-Acceptance Test conference in writing at least fourteen (14) days in advance of such date.

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.

**1.4 TEST PLAN STRUCTURE**

The Acceptance Tests will be composed of the tests outlined in Table A10-1 and described below.

**Table A10-1: Required Acceptance Tests**

<b>Test</b>	<b>Acceptance Test Requirements and Description:</b>	<b>FREQUENCY/ DURATION</b>
30-Day Reliability Test	Facility-wide operation at a minimum of 95% of the Demonstrated Design Steam Flow. During	One 30 day duration test

	the 30-Day Reliability Test, the 4-hour block average steam flow will not exceed 110% of the highest 4-hour block average steam flow measured during any of the three 8 hour Energy Recovery Tests.	
Throughput Capacity Test	Operation of the Facility at full load for five (5) consecutive days to demonstrate compliance with the Throughput Guarantees in Exhibit 2 to Appendix 19	One 5-day duration test
Energy Recovery Test	Demonstrate compliance with the Electricity Production Guarantees in Exhibit 2 to Appendix 19.	Minimum of –Three (3)- tests. Each test shall be a minimum of 8-hour duration tests (performed during the Throughput Capacity Test)
Residue Quality Test	Residue Quality (bottom ash only) meeting Performance Guarantees for moisture content of less than or equal to 25%, unburned carbon of less than or equal to 3% during the Energy Recovery Tests and Throughput Capacity Tests.	Simultaneous with 5 day Throughput Capacity Test
Residue Quantity Test	Residue Quantity meeting Performance Guarantee for the total Residue (including bottom ash and fly ash) weighing not more than 30% of the Tonnage combusted to produce such Residue during the 30-day Reliability Test, adjusted for the waste HHV in accordance with Table A10-2.	Measured during the 30-Day Reliability Test and the 5-Day Throughput Capacity Test.
Metals Recovery Test	The ferrous and non-ferrous recovery systems to be tested to demonstrate the Metals and Other Metals Recovery Guarantees specified in Exhibit 2 to Appendix 19.	Minimum of Three (3) 8-hour tests on each system
Environmental Compliance Test	The testing of all emission and operating parameters in accordance with requirements established by the CofA and the MOE anytime during the 30-day Reliability Test.  The CEMS shall be certified and used to	

	demonstrate continuous compliance during the Test Period with all CEMS emission parameters.	
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**1.5 30-DAY RELIABILITY TEST**

The objective of this test is to demonstrate the capability of the entire facility to process waste, and produce steam and electricity during a 30-day period.

During this test the Facility will be operated at a minimum of 95% of Demonstrated Design Steam Flow. The Demonstrated Design Steam Flow shall be established during the Energy Recovery Tests and will be the average steam flow when burning 436 tons per day of MSW with an HHV of 13 MJ/kg. During the 30-day test period, the 4-hour steam flow averages used to demonstrate compliance will be limited to the lesser of i) the actual 4-hour steam flow averages or ii) 110% of the highest 4-hour average steam flow measured during the Energy Recovery Tests.

In addition, the availability during the 30-day Reliability Test, defined as the ratio of the number of boiler-hours the processing lines are on-line to process waste versus the number of hours during the period (e.g. 30 days x 24 hours/day x 2 processing lines), shall not be below an availability of 95%.

During the 30-Day Reliability Test period, routine measurement of normal operational parameters shall be collected and reported to illustrate normal operation during the test period. This will include waste throughput, appropriate temperature, and pressures, electrical generation, etc.

**1.6 THE FACILITY WILL HAVE PASSED THE 30-DAY RELIABILITY TEST CONTINGENT UPON THE SUCCESSFUL PASSAGE OF THE TESTS DESCRIBED IN SECTIONS 1.8 THRU 1.11. THROUGHPUT CAPACITY TEST**

The objective of this test is to demonstrate compliance of the facility with the Throughput Guarantees in Exhibit 2 to Appendix 19 during a five (5) day (120-hour) test period. The Facility will be tested for one consecutive 120-hour period, during which the Facility will process at least **2,130 tonnes (and no less than 1,000 tonnes per unit)** of Reference Waste.

The amount of waste processed during the Throughput Capacity Test shall be adjusted for the measured waste HHV in accordance with the table provided in Exhibit 2 to Appendix 19. The waste HHV shall be determined during the Energy Recovery Tests using a correlation developed from boiler calorimetry tests taken at the Facility. In the event the measured waste HHV lies between two data points in the table in Exhibit 2 to Appendix 19, a linear interpolation will be performed to determine the waste throughput.

If the heating value of the waste burned is determined to have an HHV below 11,000 kJ/kg, the waste supplied shall be considered outside of the facility acceptable range and the test will then be repeated at the Owner's expense.

The Facility shall not have passed the Throughput Capacity Test, even though the tonnage processed meets the capacity requirements stated above, if the facility fails the Residue Quality Test.

**1.7 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 a minimum of three (3) minimum 8-hour electric generation tests performed during the 5-day Throughput 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 kwh/tonne of reference fuel combusted. The basic formulas shall include:

- 1) Fuel Heat Input = Heat Output (Steam) +  
Losses – Heat Credits
- 2) HHV of Burned Waste =  $\frac{\text{Fuel Heat Input}}{\text{kgs of Burned Waste}}$
- 3) Boiler Efficiency =  $\frac{\text{Heat Output(Steam)}}{\text{Heat Input}}$
- 4) Steaming Rate =  $\frac{\text{kgs of Steam}}{\text{kgs of Burned Waste}}$
- 5) Electric Generation Rate =  $\frac{\text{Net kWh}}{\text{kgs of Burned Waste}}$

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.

Heat losses and credits 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. The development of the detailed Test Protocol will consider and address minor allowances for factors that may be isolated during testing as a means of simplifying the test and improving test accuracy. These minor allowances may include but will not necessarily be limited to the following: sootblowing; rapping, boiler blowdown; baghouse cleaning; and other normal operating practices required for long-term operation of the Facility. Except for equipment required specifically for testing, no temporary or portable 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 be a consecutive 8-hour period (minimum) 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 – 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;

In-house power consumption;

Actual Net Electrical Output to the utility grid;

Steam delivered to the Customers (if applicable)

In normal operating or waste based operating mode

In standby mode; and

Steam measured at inlet of the turbine (waste based operations only).

Test measurements will be taken from installed plant instruments which will have been previously calibrated during the start-up period described in the Agreement prior to the test and agreed accurate by the Owner's Engineer. Special portable instrumentation may also be used where required and agreed upon.

Where appropriate, all data and measurements for the test will be read and recorded separately for each combustion unit.

## **1.8 RESIDUE TESTS**

### **1.8.1 Residue Quality Test**

The Residue (e.g. bottom ash and grate siftings only) moisture content and percent combustible matter shall be determined during the Residue Quality Test. The Residue Quality Test will be performed during the five (5) day Throughput Capacity Test and on more frequent intervals during the Energy Recovery Tests. The purpose of this test is to ensure the quality of the bottom ash from the combustion units meet the Performance Guarantees for moisture content of less than or equal to 25%, and unburned carbon of less than or equal to 3%. The Residue samples shall be collected from the combined bottom ash and siftings generated by each combustion train in accordance with ASME PTC 34, the CofA, and MOE requirements. The sampling and testing procedures for the Residue Quality Test shall be included in the Final Acceptance Test Plan, which shall be submitted to the Owner and MOE at least sixty (60) days prior to the start of the Acceptance Test for approval.

Testing of the fly and bottom ash will be performed to demonstrate compliance with appropriate regulatory requirements applicable given the intended disposition of the material.

### **1.8.2 Residue Quantity Test**

The purpose of the Residue Quantity Test is to ensure the Facility meets the Exhibit 2 to Appendix 19 Performance Guarantee for the total Residue (including bottom ash, grate siftings, boiler and air pollution control fly ash) weighing not more than 30% of the Tonnage combusted to produce such Residue, adjusted for the measured waste HHV in accordance with Table A10-2. The Residue Quantity Test shall be performed during the 30-day Reliability Test and the 5-day Throughput Capacity Test. The main weigh scale and other weighting devices shall be used to determine quantity of residues generated

**Table A10-2: Residue Guarantee Adjustment**

<b>Waste HHV</b>	<b>Ash Quantity</b>
11.0 MJ/kg	33.5%
12.0 MJ/kg	31.7%
13.0 MJ/kg	30.0%
14.0 MJ/kg	28.2%
15.0 MJ/kg	26.5%

## **1.9 METALS RECOVERY TESTS**

The objective of the Metals Recovery Tests are to demonstrate the capability of the Facility to meet the recovery efficiency guarantees for ferrous and non-ferrous recovery from the Residue exiting the boiler after combustion. The test plan shall include adequate sampling provisions for determining that the Facility's ferrous and non-ferrous recovery systems are in compliance with the Metals Recovery Guarantees in Exhibit 2 to Appendix 19.

### **1.9.1 Ferrous Recovery Test**

The Ferrous Recovery Test shall be conducted on three (3) separate days during the 30 day Reliability Test. Each test shall be a minimum of 8 hours in duration. Residue Samples shall be collected at one-half (1/2) hour intervals. 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. Compliance will be determined by comparing the average of the three (3) tests to the Metals Recovery Guarantee for ferrous metals in Exhibit 2 to Appendix 19.

### **1.9.2 Non-Ferrous Recovery Test**

The Non-Ferrous Recovery Test shall be conducted on three (3) separate days during the 30 day Reliability Test. Each test day shall be a minimum of 8-hours in duration. Residue samples shall be collected at one-half (1/2) hour intervals. 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 metals 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. Compliance will be determined by comparing the average of the three (3) tests to the Metals Recovery Guarantee for non-ferrous metals in Exhibit 2 to Appendix 19.

## **1.10 ENVIRONMENTAL COMPLIANCE TEST**

### **1.10.1 Air Emissions**

1.12.2 During the 30-Day Reliability 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 all valid runs being used to demonstrate compliance with the requirements of the CofA and MOE requirements, Noise

If directed by the conditions of the CofA, the DBO Contractor shall carry out acoustic audit measurements on the actual noise emissions due to the operation of the entire Facility at the design rating. The noise measurements shall be performed by an Independent Acoustic Consultant in accordance with the MOE requirements. Independent Acoustic Consultant shall prepare an acoustic audit report which will be included in the Emission Test Report.

### **1.10.3 General**

Testing shall be performed as directed by the conditions of the CofA and MOE. An Emission Test Report shall be prepared in accordance with the MOE requirements and included as part of the Acceptance Test Report described in Section 1.11.

## **1.11 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 DBO Contractor and, within 60 calendar days, 10 copies shall be submitted to the Owner. 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 stand alone Emission Test Report prepared in accordance with the Certificate of Approval and MOE requirements.

A stand alone Residue Test Report prepared in accordance with the Certificate of Approval and MOE requirements.

A certification signed by an officer of the DBO Contractor 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 Contract Documents.

## **1.12 FACILITY ACCEPTANCE TEST CRITERIA**

The Facility shall be deemed to have passed the Acceptance Test Criteria if the Acceptance Test demonstrates that, each of the following criteria has been met or exceeded:

The 30-day Reliability Test has demonstrated during the test period that the Facility has operated at a minimum of 95% of the Demonstrated Design Steam Flow with a Facility availability greater than 95%.

The Throughput Capacity Guarantee Test has demonstrated the ability of the Facility to process waste in accordance with the Throughput Capacity Guarantee in Exhibit 2 to Appendix 19 during a consecutive five (5)-day test period, and that the amount of Reference waste (in tonnes) processed during the testing period is 2,130 tonnes (and no less than 1,000 tonnes per unit).

The Energy Recovery Test has demonstrated that the average net electrical production rate (in kWh/tonne) is not less than the Electrical Production Guarantee identified in Exhibit 2 to Appendix 19.

The Residue Quality Guarantee has demonstrated that the unburned carbon content is less than 3%, and moisture content is less than 25%.

The Residue Quantity Guarantee is demonstrated if the quantity of Residue generated (in tonnes) is less than or equal to 30% of Waste processed (in tonnes), adjusted for the measured waste HHV in accordance with Table A10-2. Residue to be Residue from the Facility, excluding ferrous and non-ferrous materials recovered, but including any returned or disposed ash resulting from the ferrous and non ferrous cleanup-The Metals Recovery Guarantee is demonstrated if the measured recovery efficiency percentages for ferrous metals and for non-ferrous metals comply with those identified by the DBO Contractor in Exhibit 2 to Appendix 19.

The Environmental Compliance Guarantee is demonstrated if the results of the air emissions, noise, and general test requirements are in compliance with the CofA.

### 1.13 MINIMUM ACCEPTANCE CRITERIA

The Facility shall be deemed to have satisfied the Minimum Acceptance Criteria if the minimum criteria for throughput capacity (90% compliance with Throughput Capacity Guarantee), for energy (95% compliance with the Electrical Generation Rate Guarantee), for metals recovery (90% compliance with the Metals Recovery Guarantee, and for environmental compliance (100% compliance with the Environmental Compliance Guarantees) have been demonstrated.

**Table A10-3: Tentative Acceptance Test Schedule**

No.	Milestone Description	No. of Days Before Start of Acceptance Test
1	DBO Contractor issues Draft Acceptance Test Protocol and Preliminary Test Schedule.	180
2	Owner and Owner's Engineer provides comments on Draft Test Protocol to DBO Contractor.	120
3	Pre-Acceptance Conference with DBO Contractor, all subcontractors, Owner and Owner's Engineer.	120-90
4	DBO Contractor submits Final Acceptance Test Protocol and Final Test Schedule to Owner and MOE.	90-60
5	DBO Contractor notifies Owner of their intent to start-up the Facility.	Minimum 40
6	DBO Contractor begins the start-up/shakedown period of Facility.	Minimum 30
7	Start of Acceptance Test and 30-Day Reliability Test.	0

<b>No.</b>	<b>Milestone Description</b>	<b>No. of Days Before Start of Acceptance Test</b>
8	Completion of Acceptance Test and 30-Day Reliability Test.	-30
9	DBO Contractor submits Acceptance Test Report to Owner and Owner's Engineer.	-90
10	Owner and Owner's Engineer's issues or approvals of Acceptance Test Report.	-120