Appendix 7

to

Solar BOT Scope Book

Rev. 0

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REVISION RECORD			
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0	9/14/2023	All	Initial Issue

APPENDIX 7: PROJECT PERFORMANCE TEST PROCEDURES

1 PURPOSE

The performance tests consist of the Availability Test and the Capacity Test.
The Availability Test will verify the PV Plant is fully commissioned and ready for commercial operation by demonstrating all inverters are able to operate reliably as designed for at least five (5) consecutive days. The Availability Test may run in parallel to the Capacity Test, provided the other tests do not negatively impact the inverter or plant operation.
The Capacity Test will verify the plant is fully operational and ready for commercial operation by achieving the Minimum Guaranteed Capacity Ratio and Guaranteed Capacity Ratio. The Capacity Test shall be performed in general accordance with ASTM E2848 (Standard Test Method for Reporting Photovoltaic Non-Concentrator System Performance) and ASTM E2939 (Standard Practice for Determining Reporting Conditions and Expected Capacity for Photovoltaic Non-Concentrator Systems) and the requirements defined herein.

2 DEFINITIONS

2.1 General Terms

Multiple Measurements – Any measurement device or sensor where multiple devices or sensors measure the same parameter.
Revenue Meter – The revenue meter for the Project as agreed by the Parties.

2.2 Availability Test Terms

Availability Test – A short term, plant wide test meeting the requirements of this Performance Test Guideline /and a condition to Substantial Completion used to verify the inverters and substation are fully commissioned, ready for commercial operation and capable of operating as designed and in a reliable manner.
Availability Test Calculator – An Excel file or other Owner-approved file type provided by Seller, for Owner review and approval, to be used to calculate the Measured Availability during the Availability Test Measurement Period.
Availability Test Measurement Period – A five (5) day period during which the Availability Test is conducted during full plant operation, as such period may be extended as permitted in sections 3.9 and 3.11.
Availability Test Procedures – A detailed plan for administering the Availability Test to be provided by Seller. The Availability Test Procedures shall meet all of the requirements set forth in this Appendix 7 and include, at a minimum, all datapoints to be monitored, frequency of datapoint collection, datapoint filtering procedures, and identification of key personnel and parties. All applicable requirements of this Performance Test Guideline shall be directly included in the procedure.
Availability Test Report – A summary report of the Availability Test results, conditions during the test, the Availability Test Procedures, and calibration certificates of equipment used in the test. The Availability Test Report shall meet all of the requirements set forth in this Appendix 7.
Eligible Time Intervals – Total number of time intervals during the Availability Test Measurement Period where the plane-of-array (POA) irradiance is greater than the irradiance corresponding to the minimum input voltage of the inverters and the substation is operating and injecting electricity to the grid. The selected time interval shall be 1 minute.
Guaranteed Availability – A Measured Availability of [e.g., 99.7%, to be negotiated between Seller and Buyer]

Inverter Operational Time Intervals – For each inverter, the total number of Eligible Time Intervals during Availability Test Measurement Period when the inverter is in normal operation, as intended by design, and producing power.
Measured Availability – As defined in section 3.2, a percentage (rounded up or down to the nearest 0.1%), calculated as the quantity of inverter operational time intervals divided by the quantity of eligible time intervals multiplied by the number of inverters.

2.3 Capacity Test Terms

Capacity Test – A short-term, plant-wide test meeting the requirements of this Performance Test Guideline and a condition to Substantial Completion used to verify the Seller-provided equipment is fully commissioned, ready for commercial operation, and capable of operation at or above its Minimum Guaranteed Capacity Ratio and Guaranteed Capacity Ratio.
Capacity Test Calculator – An Excel tool provided by Seller, for Owner review and approval, to be used to calculate the Target Capacity and Measured Capacity for the Capacity Test Measurement Period.
Capacity Test Measurement Period – The period when the Capacity Test is performed, which period shall be at least 3 days, and shall continue, consecutively, for up to twelve (12) additional days until the requirements of this Performance Test Guideline have been met.
Capacity Test Procedures – A detailed plan for administering the Capacity Test to be provided by Seller, which shall be mutually agreed between Parties thereafter. The Capacity Test Procedures shall meet all of the requirements set forth in this Appendix 7 and include, at a minimum, all datapoints to be monitored, frequency of datapoint collection, datapoint filtering procedures, and identification of key personnel and parties. All applicable requirements of this Performance Test Guideline shall be directly included in the procedure.
Capacity Test Report – A summary report of the Capacity Test results, conditions during the test, the Capacity Test Procedures, Data Quality and Instrumentation Plan and applicable calibration certificates for equipment used in the test. The Capacity Test Report shall meet all of the requirements set forth in this Appendix 7.
Minimum Datapoints – Occurs when at least 750 cumulative minutes of allowable data points meeting the requirements set forth in this Performance Test and taken from a minimum of three (3) separate days within a fifteen (15) consecutive calendar day timeframe, are recorded after all data filtering has occurred as outlined in Section 4.8. If the minimum irradiance of 400 W/m^2 required pursuant to this Performance Test to conduct the Initial Capacity Test is not available, the test procedure may, subject to prior agreement by both Parties, be modified by Buyer, with written approval, to allow fewer data points and/or a lower irradiance threshold for the purposes of completing a Reduced Irradiance Capacity Test.
Project Capacity Model – The Seller-provided generation model for the Capacity Test using the software program PVsyst (v7.2.6 or later), including post-processing to align the model results with as-built conditions, provided as-built conditions do not exceed any contractually required maximum loss assumptions, for which the contractually required loss limit will be used in the model.
Reporting Conditions – The POA irradiance, ambient temperature, and wind speed calculated from the measured data taken during the Capacity Test. Reporting Conditions will be selected from the allowable datapoints, after all data filtering has occurred as outlined in Section 4.6.

2.4 Capacity Test - Capacity and Capacity Ratio Definitions

Guaranteed Capacity Ratio – A Tested Capacity Ratio of [ninety seven percent (97.0%), to be negotiated between Seller and Buyer] or greater when evaluated at two Irradiance Reporting Conditions (ETOTAL_RC1 and ETOTAL_RC2). . Capacity Test results and liquidated damages are determined based on the average Measured Performance Ratio.
Minimum Guaranteed Capacity Ratio – A Tested Capacity Ratio of [ninety five percent (95%), to be negotiated between Seller and Buyer] or greater when evaluated at two Irradiance Reporting Conditions

(ETOTAL_RC1 and ETOTAL_RC2). The average Measured Capacity Ratio must meet or exceed the Minimum Guaranteed Capacity Ratio.
Target Capacity – The target capacity as calculated using the Project Capacity Model and the procedures outlined in this Performance Test Guideline.
Tested Capacity – The test period measured capacity as calculated using the procedures outlined in this Performance Test Guideline.
Tested Capacity Ratio – The Tested Capacity divided by the Target Capacity, calculated to the nearest 0.1%.

3 AVAILABILITY TEST PROCEDURE GUIDELINE

A draft Availability Test Procedures shall be submitted to the Owner by the Seller for Owner's review and comment at a minimum 60 days prior to the start of the first Availability Test.
The final Availability Test Procedure as agreed to by Owner shall be submitted fourteen (14) days prior to the start of the Availability Test.
The Seller shall give written notice to the Owner of the start of the Availability Test (including any re-performance thereof) ten (10) days prior to the first Availability Test and 48 hours prior to subsequent Availability Tests.
Seller shall perform the Availability Test in accordance with the final approved Availability Test Procedures.
The minimum Availability Test Measurement Period shall last no less than five (5) consecutive days.
During the Availability Test Measurement Period, irradiance data shall be sampled at no greater than five (5) second intervals. Irradiance data shall be reported at no greater than one (1) minute intervals, consisting of averaged five (5) second sampled data. Revenue meter data (indicating energy injection at the substation) and inverter power generation data shall be sampled and reported at the intervals required for irradiance, as noted above. Other data shall be sampled and reported at no greater than one (1) minute intervals. All data shall be reported in time-synchronized intervals.
Data intervals subject to the following conditions may allow exclusion of the data interval period from Eligible Time Interval set, as defined below:

- Missing Data: Missing records shall be marked as missing with a non-numeric identifier. Missing records shall be considered as unavailable time if occurring during Eligible Time Intervals, unless Seller can prove availability during this period with other test data or collected data of the test dataset.
- SCADA Equipment Malfunction: Data records with invalid Measured Parameters (e.g. all sensor readings reported as out of range by the SCADA) shall also be marked as invalid records and shall be considered as unavailable time if occurring during Eligible Time Intervals, unless Seller can prove availability during this period with other test data or collected data of the test dataset.
- Below Minimum Irradiance: All data intervals with a minimum POA irradiance Measured Parameter of less than that corresponding to the minimum input voltage rating of the inverter shall be marked as irradiance too low and may be excluded from Eligible Time Interval set. Minimum POA irradiance value shall be calculated and mutually agreed to with Owner based on final PV Plant equipment selection and design.

During the Availability Test Measurement Period the Seller shall record all inverter power, revenue meter, and POA irradiance data in accordance with the Data Quality and Instrumentation Requirements set forth in this Performance Test Guideline. Such data shall be made available during and after the test as requested by Owner.
During the Availability Test, the Seller shall document all inverter or plant-related interruption events, including the identification of the event, the reason for the interruption, the time and duration of the event and any corrective actions undertaken. In the event that inverter or plant-related interruptions do occur, the Seller has the option to restart the Availability Test, provided that Seller shall notify Owner thereof and

provide detailed documentation of identified issues and proposed resolution to rectify such issues prior to re-performing the Availability Test.
During the Availability Test, the Seller shall document all interruption events caused by grid operations, including the identification of the event, the reason for the interruption, and the time and duration of the event, and any corrective actions undertaken. To the extent that such interruption event was not caused by the Seller or the Work, such events are excusable and the test shall be extended by the amount of excluded time on a minute-by-minute basis in order to achieve five (5) complete days of data.

3.1 Normal Substation and Inverter Operation

- Substation: The project collector substation shall be available during daytime periods as to not inhibit the inverters' ability to operate normally. Substation alarms and warnings which do not affect the plant's ability to safely export power to the grid, such as communications errors or faults from non-essential equipment, shall not count against the availability calculation. However, if there are any faults or events which affect the plant's ability to export power to the grid, such as a breaker trip due to a fault within the facility, then the downtime shall count against the availability calculation. Any downtime caused by Owner Furnished Equipment (e.g., Main Power Transformer) shall be excluded from the Availability Test Measurement Period.
- Inverters: The inverters shall be permitted to operate with "runnable" faults, such as communications errors or other warnings which do not inhibit the inverters' ability to export the expected power at the given operating condition, without counting against availability calculation. However, if the inverter(s) experience an event which affects the ability to export power, such as an IGBT fault, over-temperature alarm, or voltage/current alarms, then the downtime shall count against the availability test calculation.
- The Project must be capable of continued operation, without intermittency or downtime during the Availability Test Measurement Period except for excused events described in the preceding paragraphs of this section. If the Measured Availability of the Project does not meet or exceed the Guaranteed Availability, the Seller shall identify and promptly resolve the source of the problem and promptly perform the Availability Test again in accordance with these procedures until the Measured Availability of the Project achieves the Guaranteed Availability.
- If the Availability Test is terminated, the Seller shall notify the Owner in writing. The root cause of the termination shall be identified and modifications or repairs made before any subsequent Availability Test is considered successful.
- Seller may choose to extend the duration of the Availability Test Measurement Period in order to achieve Guaranteed Availability. If Seller chooses to extend the Availability Test Measurement Period, all Eligible Time Intervals, from the previously declared test starting point through completion of the Availability Test Measurement Period, shall be included in the final Measured Availability calculation.
- Once an Availability Test has been started, any modifications to the Project to modify equipment or components or repair incidents such as trips, faults or failures, in an effort to restore the full site toward achieving successful Inverter Operational Time Intervals shall have an operational "response time" unavailability period assessed to the Availability Test Measurement Period. Seller may choose either of the following approaches for implementing the "response time" assessment and in responding to any equipment failures during the Availability Test Measurement Period. Whichever approach is determined shall be used for the duration of that Availability Test Measurement Period. If subsequent Availability Tests are performed Seller may choose a different approach, but must use the decided approach for the full duration of each test.

    a. If a failure occurs, Seller shall wait the one (1) hour "response time" duration to begin troubleshooting and performing repairs. Unavailable time for Availability calculation shall include

one (1) hour “response time” + time to complete troubleshooting, repair, and release of equipment for operation.

i. If additional or subsequent failure occurs on site in the time period between the start of the one (1) hour “response time” window and within one (1) hour of completion of the repair no additional “response time” delay is required and only time required to repair the additional / subsequent failure, by same person, will be assessed for the Availability calculation.

ii. If additional or subsequent failure occurs on site within the one (1) hour time period after repair completion, no “response time” will assessed, only the actual time to complete troubleshooting, repair, and release of equipment for operation shall be assessed in the Availability calculation.

iii. If, during the response + repair time period, irradiance levels on site drop to a point where all adjacent inverters have entered shutdown / standby mode and remain in shutdown / standby, these time intervals will not be counted as Eligible Time Intervals for the Availability calculation.

b. If a failure occurs, Seller may respond immediately and begin the troubleshooting, repairs, and release to operation effort. A one (1) hour ‘response time’ period of unavailability will be assessed, in addition to the time to complete troubleshooting, repair, and release of equipment for operation, to the test period data for the Availability Calculation during post processing of data.

i. Any additional or subsequent failures shall follow the same approach in steps 4.11.3.a.i through 4.11.3.a.iii in regard to unavailable time durations to be used in the post processing of the test data.

Nighttime repairs or system modifications will be allowed if prompted by equipment error or fault codes and alarm signals received in the SCADA/DAS, however night time system repairs or modifications of the nature of tuning the system to improve system reliability shall not be made during the Availability Test Measurement Period.

3.2 Measured Availability

The result of the Measured Availability shall be calculated as follows, where “n” is the total number of inverters:

$$Measured\ Availability = \frac{\sum_{i=1}^{n} Inverter\ Operational\ Time\ Intervals_i}{Eligible\ Time\ Intervals * n}$$

3.3 Availability Test Report

Seller shall provide the draft and final Availability Test Reports according to timeline defined in this agreement. Owner shall have ten (10) Business Days to accept or reject the results of the draft Availability Test Report and provide in writing any comments of Owner on such draft Availability Test Report. In the event that Owner rejects all or any part of the draft Availability Test Report, Seller shall, within five (5) Business Days thereafter address any comments of Owner and re-submit the draft Availability Test Report to Owner. This procedure shall continue until Owner accepts the draft Availability Test Report; the acceptance of such Availability Test Report shall not be unreasonably withheld. Any dispute regarding the results of the Availability Test or the Availability Test Report shall constitute a Dispute as described in the

Contract. The Availability Test Calculator, along with all raw data and QC disposition for each input data record, shall be provided electronically to the Owner with the Availability Test Report.

4 CAPACITY TEST PROCEDURE GUIDELINE

A draft of the Capacity Test Procedures shall be submitted to the Owner by the Seller for Owner's review and comment in accordance with the Contract. Draft Capacity Test Procedures shall include the native format of the draft Capacity Test Calculator.

The Seller shall give written notice to the Owner of the start of the Capacity Test (including any re-performance thereof) as required pursuant to the Contract.

Seller shall perform the Capacity Test in accordance with the final, approved Capacity Test Procedures.

Capacity Test Procedures shall identify anticipated Reporting Conditions and Target Capacities using the Project Capacity Model, and data filters described below. Final Reporting Conditions and Target Capacity will be updated in the Capacity Test Calculator and Capacity Test Report, using the allowable data points after all data filtering, following the Capacity Test Measurement Period.

The Capacity Test Measurement Period shall last no less than three (3) consecutive days. If the Minimum Datapoints requirement is not met during such 3-day period, the Capacity Test Measurement Period shall be extended for consecutive days until the Minimum Datapoints requirement is met; provided that (a) all datapoints used for development of the Capacity Test Minimum Datapoints must fall within a fifteen (15) consecutive Calendar Day timeframe (unless extension is allowed by Owner, up to a 30 Calendar Day maximum timeframe), and (b) if the Minimum Irradiance criteria set forth is causing a delay in the test and pushing it beyond the Guaranteed Project Substantial Completion Date, or as otherwise agreed to by the Parties, the test procedure may be modified per Buyer approval in written form.

4.1 Measured Parameters

The following measured parameters shall be measured during the Capacity Test (the "Measured Parameters"):

4.1.1 POA Irradiance:

An estimate of the average irradiance incident upon the PV array in the Project, as measured by the Project meteorological stations. No provision is allowed for shading, so any significant shading, resulting from conditions other than Project equipment shading and permanent features within and outside of the Project boundary, during any data interval is an acceptable cause to exclude that data record from the regression.

4.1.2 RPOA Irradiance:

An estimate of the average irradiance incident upon the backside of the PV array in the Project, as measured by the Project meteorological stations. Any significant shading, resulting from conditions other than Project equipment shading and permanent features within and outside of the Project boundary, during any data interval is an acceptable cause to exclude that data record from the regression.

4.1.3 GHI Irradiance:

An estimate of the average irradiance as measured by the Project meteorological stations. No provision is allowed for shading, so any significant shading, resulting from conditions other than Project equipment shading and permanent features outside of the Project boundary, during any data interval is an acceptable cause to exclude that data record from the regression.

4.1.4 Site Albedo:

An estimate of the average ground albedo factor for the project measured by the Project meteorological stations Placement of Albedometers shall avoid ground shading from Project equipment or other permanent

features on or adjacent to the Project site and shall be placed in an area representative of the vegetative cover present within the solar array. Albedometer shall be mounted at a height of no less than 1.5 meters (approximately 5 feet) above grade and no less than the average back of module height when in the horizontal position, whichever is greater.

4.1.5 Ambient Temperature:

As recorded by the Project meteorological stations.

4.1.6 Wind Speed:

As recorded by the Project meteorological stations.

4.1.7 Revenue Meter Power Generation:

Power produced by the Project as recorded by the Revenue Meter during the Capacity Test Measurement Period.

4.1.8 Inverter-Level Power Generation:

AC output data for each inverter, measured at the AC terminals of the inverter, shall be provided for the purposes of identifying periods of inverter clipping.

4.1.9 Inverter-Level Power Input:

DC input data for each inverter, taken as the summation of power input from DC feeders and measured at each inverter's DC terminals, shall be provided.

4.2 During the Capacity Test Measurement Period

The irradiance Measured Parameter shall be sampled at no greater than five (5) second intervals and reported at no greater than one (1) minute intervals, consisting of averaged five (5) second sampled data. The Power Generation Measured Parameters shall be sampled and reported at the intervals required for irradiance, as noted above. Other Measured Parameters shall be sampled and reported at no greater than one (1) minute intervals. All data points shall be reported and they shall be in time-synchronized intervals. All (1) minute data points shall be reported. Filtering shall be clearly demonstrated in accordance with the procedures outlined below. No valid data points shall be filtered.

4.2.1 Missing Data:

Missing records from any of the Measured Parameters shall be marked as missing with a non-numeric identifier. Missing records shall not have a value included in the analysis but shall be documented. Data intervals associated with this missing data shall be excluded from the test data set.

4.2.2 SCADA/DAS Equipment Malfunction:

Data records with invalid Measured Parameters (e.g. all sensor readings reported as out of range by the SCADA/DAS) shall also be marked as invalid and excluded from the test data set.

4.2.3 Below Minimum Irradiance:

To avoid large uncertainty in results due to increased impact of variable losses at low irradiance, all records with a minimum POA irradiance Measured Parameter of less than 400 W/m2 shall be marked as "irradiance too low" and excluded from the evaluated test data set.

4.2.4 Unstable irradiance:

Irradiance Measured Parameters shall be deemed stable if i) all individual sensor readings are within 25 W/m2 of the average of all the sensor readings (consideration may be given to allowing individual sensor readings within 5% percent of the average of all the sensor readings if this filtering criteria is creating issues with achieving Minimum Datapoints requirement, as agreed to between parties.) and ii) the average of all sensor readings is not more than 10% greater or less than the previous one-minute interval reading. If both conditions above are not met, the irradiance will be deemed unstable, flagged and those data intervals for the full site shall be excluded from the evaluated test data set. Alternatively, if agreed to between Parties, unstable irradiance filtering criteria methodology from the ASTM E2848 – 9.1.7 may be used.

4.2.5 Inverter clipping:

Any intervals where the power output of one (or more) inverters is greater than 98.0% of the rated or programmed power limit. If the condition above is met, such data points shall be excluded from the evaluated test data set.

4.2.6 Array shading by environmental conditions (e.g. frost, snow or debris)

Onsite observers shall record time intervals when such conditions exist as the Capacity Test progresses. Photographic evidence of array conditions shall be provided. Data intervals associated with these shading periods shall be excluded from the evaluated test data set.

4.2.7 Wind Speed:

Any intervals where the average wind speed is greater than 15 meter per sec shall be excluded from the evaluated test data set.

4.3 Minimum Data Collection

Data will be collected for a minimum of 3 days and until the Minimum Datapoint requirement, at least 750 minutes of allowable data points, are collected.

4.4 Irradiance and Bifacial Gain Approach

The total irradiance (ETOTAL) for the Tested Capacity data is calculated as the sum of the collected POA (EPOA) and RPOA (ERPOA) irradiance values with the ERPOA measurements adjusted based on module bifaciality and backside shading by the tracker structure. This calculation is outlined by the following equation:

$$E_{TOTAL} = E_{POA} + (E_{RPOA} * \phi) * (1 - S_r)$$

Where:

- ϕ is the bifaciality factor of the module PAN file as provided by Seller (the 3rd partied verified PAN file will be used if available).
- Sr is the rear structural shading loss percentage utilized in the Project Capacity Model representing the rear shading of module cells from torque tubes.

The total irradiance (ETOTAL) for the Target Capacity data is calculated as the sum of the collected POA (PVsyst - GlobInc) and RPOA (PVsyst - GlobBak) irradiance values with the ERPOA measurements adjusted based on module bifaciality. This calculation is outlined by the following equation:

$$E_{TOTAL} = GlobInc + (GlobBak * \phi)$$

Where:

- GlobInc is the Incident global irradiation in the collector plane (E_{POA})
- GlobBak Global irradiance on the rear side of collector plane (E_{RPOA}) which accounts for rear shading
- ϕ is the bifaciality factor of the module as provided in the module specification sheet.

For clarity, all references to the irradiance reporting condition, irradiance bands, maximum irradiance, etc. will utilize the total irradiance (ETOTAL) per the equation above.

4.5 Determining Target Capacity Data

The Target Capacity Data (60 days of data) is derived from the Project Capacity Model Hourly Data (365 days of data).
Remove all data from the Project Capacity Model Hourly Data except for 60-day period centered on the Capacity Test Measurement Period to create the Target Capacity Data. The Target Capacity Data, after post-processing, must contain at a minimum the POA irradiance, the ambient temperature, wind speed, inverter energy output, modeled power generation, shade loss, and clipping loss (GlobInc, GlobBak, TAmb, WindVel, EOutInv, POI Limited, ShdBLss, and IL Pmax) respectively.
If the Capacity Test Measurement Period is an even number of days, then the 60 days will be evenly distributed before and after the Capacity Test Measurement Period.

a. For example, if the Capacity Test Measurement Period is July 1-4, then the Target Capacity Data would be June 2 – August 2.

If the Capacity Test Measurement Period is an odd number of days, then center the 60-day period such that there is one additional day on the back end of the Capacity Test Measurement Period. This will allow up to two (2) additional days to be added to the Capacity Test Measurement Period without shifting the Target Capacity Data.

a. For example, if the Capacity Test Measurement Period is July 1-5, then the Target Capacity Data would be June 3 – August 3.

Import the Target Capacity Data into the Capacity Test Calculator.

4.6 Determining Reporting Conditions

Reporting conditions shall be selected according to ASTM E2939 and the additional irradiance requirements defined herein.

4.7 Determining Capacities and Capacity Ratios

Using the Capacity Test Calculator and the data filtering described herein, calculate the Target Capacity linear-regression coefficients, the Target Capacity, the Tested Capacity linear-regression coefficients, and Tested Capacity, and the Tested Capacity Ratio using the Equations below:

4.7.1 Tested Capacity

b. Calculate the Tested Capacity linear-regression coefficients of the Filtered Measured Data Records using the Microsoft Excel Plug-in.

c. Calculate the Tested Capacity using the following formula:

$$Tested\ Capacity = E_{TOTAL\_RC} * (a_1 + a_2 * E_{TOTAL\_RC} + a_3 * T_{RC} + a_4 * v_{RC})$$

Where:

- E_{TOTAL_RC} = Irradiance at the Reporting Conditions
- T_{RC} = Ambient temperature at the Reporting Conditions
- v_{RC} = Wind Speed at the Reporting Conditions
- a_1, a_2, a_3, a_4 = Multilinear regression coefficients calculated using Excel Plug-in

4.7.2 Target Capacity

d. Calculate the Target Capacity linear-regression coefficients of the Target Capacity Data using the Microsoft Excel Plug-in.

e. Calculate the Target Capacity using the following formula:

$$Target\ Capacity = E_{TOTAL\_RC} * (b_1 + b_2 * E_{TOTAL\_RC} + b_3 * T_{RC} + b_4 * v_{RC})$$

Where:

- E_{TOTAL_RC} = Irradiance at the Reporting Conditions
- T_{RC} = Ambient temperature at the Reporting Conditions
- v_{RC} = Wind Speed at the Reporting Conditions
- b_1, b_2, b_3, b_4 = Multilinear regression coefficients calculated using Excel Plug-in

4.7.3 Calculate Tested Capacity Ratio

f. Calculate the Tested Capacity Ratio using the following formula:

$$Tested\ Capacity\ Ratio\ (\%) = \frac{Tested\ Capacity}{Target\ Capacity} * 100$$

i. For clarity, the Tested Capacity Ratio is not to be adjusted up or down based on test uncertainty. The straightforward value calculated as the Tested Capacity Ratio shall be used to determine the result of the Capacity Test.

4.8 Capacity Test Report

Seller shall provide the draft and final Capacity Test Reports. Owner shall have ten (10) Business Days to accept or reject the results of the draft Capacity Test Report and provide in writing any comments of Owner on such draft Capacity Test Report. In the event that Owner rejects all or any part of the draft Capacity Test Report, Seller shall, within five (5) Business Days thereafter address any comments of Owner and re-submit the draft Capacity Test Report to Owner. This procedure shall continue until Owner accepts the draft Capacity Test Report; the acceptance of such Capacity Test Report shall not be unreasonably withheld.

Any dispute regarding the results of the Capacity Test or the Capacity Test Report shall constitute a Dispute as described in the Contract.

End Capacity Test Procedure Guideline

***** END OF APPENDIX 7 *****