

# VCS VERIFICATION OF PROJECT “University of Illinois Urbana-Champaign Campus Wide Clean Energy & Energy Efficiency”



Document Prepared By  
Det Norske Veritas (U.S.A.), Inc.



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|----------------------|--------------------------------------------------------------------------------------|
| <b>Project Title</b> | University of Illinois Urbana-Champaign Campus Wide Clean Energy & Energy Efficiency |
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| <b>Report Title</b>        | VCS Verification of the University of Illinois Urbana-Champaign Campus Wide Clean Energy & Energy Efficiency                 |
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| <b>Work Carried Out By</b> | Barbara Toole O'Neil                                                                                                         |
| <b>Work Reviewed By</b>    | Michael Lehmann                                                                                                              |

## Summary:

Det Norske Veritas (U.S.A.), Inc. of DNV·GL (DNV·GL) has performed a verification of the project activity “University of Illinois Urbana-Champaign Campus Wide Clean Energy & Energy Efficiency” in Urbana, Illinois, US. The verification was performed on the basis of VCS criteria as well as criteria given to provide for consistent project operations, monitoring and reporting.

Verification is the periodic independent review and *ex-post* determination by an accredited verification body (VB) of the monitored reductions in GHG emissions that have occurred as a result of the registered VCS project activity during a defined verification period. The verification statement is the written assurance by a VB that, during a specific period in time, a project activity achieved the emission reductions stated in the monitoring report by the project proponent. The verification included: checking whether the provisions of the monitoring methodology and the monitoring plan were consistently and appropriately applied, and the collection of evidence supporting the reported data.

The GHG emission reductions were calculated correctly on the basis of the approved VCS monitoring methodology VM0025 (version 1) Campus Clean Energy and Energy Efficiency Methodology and the module VMD0038 (version 1) Campus Clean Energy and Energy Efficiency: Campus-Wide Module and supporting documentation.

During the course of verification, DNV·GL has raised 24 Corrective Action Requests and Requests for Clarifications. All are closed.

DNV·GL is able to certify to a reasonable level of assurance that the emission reductions from the project activity “University of Illinois Urbana-Champaign Campus Wide Clean Energy & Energy Efficiency” in Urbana, Illinois, US during the period of 01 July 2011 to 30 June 2014 equates to 166 577 t CO<sub>2</sub>e.

The verification was based on the information made available to DNV GL and the engagement conditions detailed in this report.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                               |                                                                                                                                                                                                                                                                                                          |                                                  |
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| Approved by:<br>Dave Knight                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                               | Organizational unit: ZAOUS205                                                                                                                                                                                                                                                                            |                                                  |
| Client:<br>Bonneville Environmental Foundation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                               | Client Contact:<br>Sue Hall                                                                                                                                                                                                                                                                              |                                                  |
| <p>Summary:</p> <p>Det Norske Veritas (U.S.A.) Inc. of DNV·GL (DNV·GL) has performed the verification of the GHG emission reduction tonnes achieved by the “University of Illinois Urbana-Champaign Campus Wide Clean Energy &amp; Energy Efficiency” for the period of 01 July 2011 to 30 June 2014. In DNV·GL’s opinion, the GHG emission reductions reported for the project are fairly stated and free of material misstatement.</p> <p>The GHG emission reductions were calculated correctly on the basis of the approved VM0025 (version 1) Campus Clean Energy and Energy Efficiency Methodology and the module VMD0038 (version 1) Campus Clean Energy and Energy Efficiency: Campus-Wide Module and supporting documentation.</p> <p>DNV·GL is able to certify to a reasonable level of assurance that the emission reductions from the “University of Illinois Urbana-Champaign Campus Wide Clean Energy &amp; Energy Efficiency” during the period of 01 July 2011 to 30 June 2014 equates to 166 577 tCO<sub>2</sub>e.</p> |                               |                                                                                                                                                                                                                                                                                                          |                                                  |
| Report No.:<br>2015-9012                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Subject group:<br>Environment | Indexing terms:                                                                                                                                                                                                                                                                                          |                                                  |
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| VCS Verification of University of Illinois Urbana-Champaign Campus Wide Clean Energy & Energy Efficiency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                               | Emission reductions<br>Verified Carbon<br>Standard                                                                                                                                                                                                                                                       | energy/renewable/non-renewable and energy demand |
| Work carried out by:<br>Barbara Toole O’Neil                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                               | <input type="checkbox"/> No distribution without permission from the client or responsible organizational unit<br><input type="checkbox"/> Free distribution within DNV after 3 years<br><input checked="" type="checkbox"/> Strictly confidential<br><input type="checkbox"/> Unrestricted distribution |                                                  |
| Work reviewed by:<br>Michael Lehmann                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                               |                                                                                                                                                                                                                                                                                                          |                                                  |
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## 1 INTRODUCTION

### 1.1 Objective

Verification is the periodic independent review and *ex-post* determination by an accredited verification body (VB) of the monitored reductions in GHG emissions that have occurred as a result of the registered VCS project activity during a defined verification period. The verification statement is the written assurance by a VB that, during a specific period in time, a project activity achieved the emission reductions stated in the monitoring report by the project proponent.

The objective of this verification was to verify and provide a verification statement of emission reductions reported for the “University of Illinois Urbana-Champaign Campus Wide Clean Energy & Energy Efficiency” for the period 1 July 2011 to 30 June 2014.

### 1.2 Scope and Criteria

The scope of the verification is:

- To verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan.
- To evaluate the greenhouse gas (GHG) emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement.
- To verify that the reported GHG emission data is sufficiently supported by evidence.

The verification shall ensure that reported emission reductions are complete and accurate in order to be verified. The verification was conducted using the following criteria:

- VCS Standard, version 3.4, 8 October 2013.
- VCS Program Guide, version 3.5, 8 October 2013.
- VCS Methodology Element: VM0025, Campus Clean Energy and Energy Efficiency, version 1.0, 12 February 2014
- VCS Methodology Module: VMD0038, Campus Clean Energy and Energy Efficiency: Campus-Wide Module, version 1.0, 12 February 2014.

### 1.3 Level of Assurance

The verification report expresses a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement. The materiality threshold was assessed at 5%.

The verification of the emission reductions assessed all factors and issues that constitute the basis for emission reductions from the project. These include:

- The emission reduction calculations and the relevant data records.
- The management systems to support the project operation and monitoring.

During the verification, DNV·GL has focused on providing a reasonable level of assurance that:

- The project conforms to the VCS Standard Version 3.4 and VM0025 and VMD0038.
- The emission reduction calculation methodology used is appropriate and correctly applied.
- The Voluntary Carbon Units (VCUs) have been monitored, calculated and reported within the 5% materiality criteria.

### 1.4 Summary Description of the Project

This methodology requires that the campus achieve GHG emissions reductions by implementing at least two energy efficiency measures within the list of nine categories:

- Behavior Change Campaign/Communications
- CoGen & Fuel switch
- Lighting Retrofits
- On-Site Renewables
- Boiler Retrofits/Central Heating/Cooling Upgrades
- Building System Retro-Commissioning & Upgrades Including Automation
- Weatherization Improvements
- LEED Certification/Green Buildings
- Innovative Strategies

The University of Illinois at Urbana-Champaign signed the Illinois Climate Action Plan in 2010 and embraced a fuel optimization strategy to reduce GHG emissions. Where appropriate they are purchasing electricity, thus reducing reliance on the on-site existing coal and gas cogeneration facilities. This strategy, combined with the other energy efficiency measures has led to a significant decrease in GHG emissions.

The University also identified the high energy-use buildings on campus and developed a plan to re-commission the buildings, with an emphasis on HVAC and temperature systems and controls. Each year, buildings are selected from the top 100 energy consumption buildings. By 30 June 2013, the University completed 40 buildings' retro-commissioning, with an average of 26.5% reduction in energy consumption in those buildings. Overall, the university has implemented measures within all of the possible energy measure categories listed in VMD0038.

## 2 VERIFICATION PROCESS

### 2.1 Method and Criteria

The verification consisted of the following:

- Project planning
- A desk review of the project documents.
- Follow-up interviews with project stakeholders.
- The resolution of outstanding issues and the issuance of the verification report and attestation.

The verification of the emission reductions assessed all factors and issues that constitute the basis for emission reductions from the project. These include:

- The emission reduction calculations.
- The data records and other calculations to support the emission reduction calculations.
- The management systems to support the project operation and monitoring.

### 2.2 Document Review

The following tables list the documentation that was reviewed during the verification

#### 2.2.1 Documentation provided by the university

|    | Author    | Document Title / Description | File Name                                                            |
|----|-----------|------------------------------|----------------------------------------------------------------------|
| 1. | McCall, B | VCS Monitoring report        | Monitoring Report UIUC v4.6                                          |
| 2. | McCall, B | VCS Monitoring report        | Monitoring Report UIUC v4.1                                          |
| 3. | McCall, B | Calculation tool             | UIUC_Excel_Template Project Year 3 (FY14) updated 01-29-15           |
| 4. | McCall, B | Calculation tool             | UIUC_Excel_Template Project Years 1 and 2 (FY12&13) updated 01-29-15 |
| 5. | McCall, B | CACP tool                    | UIUC CACP v6-9 for FY12&13 updated 01-29-15                          |
| 6. | McCall, B | CACP tool                    | UIUC CACP v7-0 for FY14 updated 01-29-15                             |

|     |                |                                             |                                                                                                                                               |
|-----|----------------|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| 7.  | McCall, B.     | CACP tool                                   | Annotated Calculator_v6 9 2013 Illinois mlm edits SH.xls, 18 april 2014                                                                       |
| 8.  | McCall, B      | Calculation tool                            | UIUC_Excel_Template. Xls, 30 May 2014                                                                                                         |
| 9.  | McCall, B      | Calculation tool                            | UIUC_April18_v2 FINAL DNV OK - KEY tool.xls, 30 May 2014                                                                                      |
| 10. | McCall, B      | VCS Project Description Document            | UIUC_PDD_v10.doc, 6 October 2014                                                                                                              |
| 11. | McCall, B      | Utility summary                             | Illinois SC exclusion 01-29-15                                                                                                                |
| 12. | Marquissee, M. | Ameren NG invoices, 2012,2013 2014          | 06_Dec11_AmerenIP Gas UC.xls, v1.0, 11 Dec 2013 and others                                                                                    |
| 13. | Marquissee, M. | Ameren electricity invoices 2012 2013, 2014 | 2006 DEC Big Group Copy.pdf, 18 April 2014                                                                                                    |
| 14. | Marquissee, M. | Invoice during construction                 | 2014-04-02 Gas Boiler Rental Boilers Fund Commit - Design Copy Copy.pdf, 18 April 2014                                                        |
| 15. | Marquissee, M. | Abbott power plant data                     | Abbott ProdConsump - eDNA - Jun 10.xls, 18 April 2014                                                                                         |
| 16. | Marquissee, M. | Abbott power plant data                     | Abbott ProdConsump - eDNA - Dec 06 for KRE. Xls, 18 April 2014                                                                                |
| 17. | Marquissee, M. | ICG coal invoice                            | DEC 2006 COAL.pdf, 18 April 2014                                                                                                              |
| 18. | Marquissee, M. | Nicor NG invoice                            | DEC 2011 Nicor Invoice Copy.pdf, 18 April 2014                                                                                                |
| 19. | Marquissee, M. | Ameren electricity invoice                  | E_AmerenBigBill_06_Dec11 Copy.pdf, 18 April 2014                                                                                              |
| 20. | Marquissee, M  | ICG coal invoice                            | June 2010 COAL.pdf, 18 April 2014                                                                                                             |
| 21. | McCall, B      | All utility summary                         | Utility Summary_FY_Copy_for_GHG_Trace SH.xls, 18 April 2014                                                                                   |
| 22. | McCall, B      | Air Permit                                  | Title V Permit 2003-08.pdf, 30 May 2014                                                                                                       |
| 23. | McCall, B      | All utility summary                         | Utility Summary_FY_Copy_for_GHG_Trace.xls, 12 June 2014                                                                                       |
| 24. | Marquissee, M  | Campus facilities map                       | 2014 Energy Use Facilities.pdf, 30 May 2014                                                                                                   |
| 25. | Marquissee, M  | Calculation tool                            | Annotated Calculator_v6 9 2013 Illinois mlm edits SH JUNE 6 FOLDER<br>Annotated Calculator_v6 9 2013 Illinois mlm edits SH.xls, 18 april 2014 |
| 26. | Marquissee, M  | Calculation tool                            | UIUC_Excel_Template Project Years 1 and 2 SH Nov 11                                                                                           |
| 27. | Marquissee, M  | Calculation tool                            | GHG Calculator_v7 0 for FY14 GHG Followup BJMedit Nov 18                                                                                      |
| 28. | Marquissee, M  | Calculation tool                            | UIUC_Excel_Template Project Year 3 SH Nov 18                                                                                                  |
| 29. | Marquissee, M  | Utility files                               | Bonneville GHG Project 2014 Update.zip(18 files)                                                                                              |
| 30. | Marquissee, M  | Utility files and summaries                 | 2013 UIUC-Bonneville GHG Project Documentation.zip (26 files)                                                                                 |
| 31. | Marquissee, M  | Ameren NG Invoice                           | 06_Dec13_AmerenIP Gas U_C                                                                                                                     |
| 32. | Marquissee, M  | Ameren NG Invoice                           | 12_Jun14_AmerenIP Gas U_C                                                                                                                     |
| 33. | Marquissee, M  | Abbott power plant data                     | Abbott Consumpt eDNA Report Dec 2013<br>Abbott Consumpt eDNA Report Jun 2014                                                                  |
| 34. | Marquissee, M  | Ameren electricity invoice                  | December 2013 Ameren Big Group Invoice                                                                                                        |
| 35. | Marquissee, M  | Ameren electricity invoice                  | December 2013 Ameren DS4 Invoice                                                                                                              |
| 36. | Marquissee, M  | Ameren electricity invoice                  | December 2013 Ameren Residential Invoice                                                                                                      |
| 37. | Marquissee, M  | Ameren electricity invoice                  | December 2013 Ameren Small Group Invoice                                                                                                      |
| 38. | Marquissee, M  | ICG coal invoice                            | December 2013 Coal Invoices                                                                                                                   |
| 39. | Marquissee, M  | Calculation tool                            | GHG Calculator_v7 0 for FY14 GHG Followup                                                                                                     |
| 40. | Marquissee, M  | Ameren electricity invoice                  | June 2014 Ameren Big Group Invoice                                                                                                            |
| 41. | Marquissee, M  | Ameren electricity invoice                  | June 2014 Ameren DS4 Invoice                                                                                                                  |
| 42. | Marquissee, M  | Ameren electricity invoice                  | June 2014 Ameren Residential Invoice                                                                                                          |
| 43. | Marquissee, M  | Ameren electricity invoice                  | June 2014 Ameren Small Group Invoices                                                                                                         |
| 44. | Marquissee, M  | Calculation tool                            | UIUC_Excel_Template Project Years 1 and 2 (FY12&13) updated 01-29-15                                                                          |
| 45. | Marquissee, M  | NG summary                                  | UIUC_INVOICE_100083-UIUC-GAS                                                                                                                  |
| 46. | Marquissee, M  | NG summary                                  | UIUC_INVOICE_100089-UIUC-GAS                                                                                                                  |

47. Marquissee, M      Utility summary      Utility Summary\_FY for GHG Verification 2014

## 2.2.2 Methodologies, tools and other guidance by the VCS or any VCS approved GHG program

48. VCS: VCS Guidance, Standardized Methods, version 3.3\_0, 8 October 2013
49. VCS: VCS Policy Brief: Double Counting: Clarification of Rules, version 1, 1 February 2012
50. VCS: VCS Program Definitions, version 3.5, 8 October 2013
51. VCS: VCS Program Guide, version 3.5, 8 October 2013
52. VCS: VCS Project Description Template, version 3.2\_0, 8 October 2013
53. VCS: VCS Standard, version 3.4, 8 October 2013
54. VCS: VCS Validation and Verification Manual, version 3.1\_1, 8 October 2013
55. VCS: VCS Validation Report Template, version 3.3, 8 October 2013
56. VCS: VM0025, Campus Clean Energy and Energy Efficiency, version 1.0, 12 February 2014
57. VCS: VMD0038, Campus Clean Energy and Energy Efficiency: Campus-Wide Module, version 1.0, 12 February 2014

## 2.2.3 Documents used by DNV GL to cross-check information provided by the university

|     | Resource                                                                                | URL                                                                                                                                                                                                                                                                                                                           |
|-----|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 58. | Clean Air-Cool Planet Calculator; v. 6.9, 2014,                                         | <a href="http://cleanair-coolplanet.org/">http://cleanair-coolplanet.org/</a>                                                                                                                                                                                                                                                 |
| 59. | American College & University President's Climate Commitment, 2014 and Reporting System | <a href="http://www.presidentsclimatecommitment.org/">http://www.presidentsclimatecommitment.org/</a><br><a href="http://rs.acupcc.org/">http://rs.acupcc.org/</a>                                                                                                                                                            |
| 60. | Carnegie Foundation for the Advancement of Teaching, 2014 and institution lookup tables | <a href="http://classifications.carnegiefoundation.org/">http://classifications.carnegiefoundation.org/</a><br><a href="http://classifications.carnegiefoundation.org/lookup_listings/institution.php">http://classifications.carnegiefoundation.org/lookup_listings/institution.php</a>                                      |
| 61. | University of Illinois at Urbana-Champaign                                              | <a href="http://illinois.edu/about/about.html">http://illinois.edu/about/about.html</a><br><a href="http://illinois.edu/resourcesfor/visitors.html">http://illinois.edu/resourcesfor/visitors.html</a><br><a href="http://strategicplan.illinois.edu/goals.html#goal4">http://strategicplan.illinois.edu/goals.html#goal4</a> |
| 62. | STARS – Sustainability Tracking, Assessment and Rating System of AASHE.                 | <a href="https://stars.aashe.org/">https://stars.aashe.org/</a>                                                                                                                                                                                                                                                               |

## 2.3 Interviews

DNV GL performed interviews with below listed persons to confirm information provided by the university and/or to obtain information additional to that provided in the project description and any supporting documents.

|     | <b>Date / Type of interview</b> | <b>Name / Organization</b>                                    | <b>Topic</b>                                                                                                                                      |
|-----|---------------------------------|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| 63. | 11 Nov. 2014<br>☑Telephone      | Ben McCall<br>Professor<br>campus-sustainability@illinois.edu | <ul style="list-style-type: none"> <li>• Monitoring report review</li> <li>• Data discussions for verification</li> </ul>                         |
| 64. | 11 Nov. 2014<br>☑Telephone      | Sue Hall<br>President<br>Climate Neutral Business Network     | <ul style="list-style-type: none"> <li>• Monitoring report review</li> <li>• Data discussions for verification</li> </ul>                         |
| 65. | 13 Jan 2015<br>☑Telephone       | Ben McCall<br>Professor<br>campus-sustainability@illinois.edu | <ul style="list-style-type: none"> <li>• Review of CAR/CLs submitted and university responses</li> <li>• Monitoring report discussions</li> </ul> |
| 66. | 13 Jan 2015<br>☑Telephone       | Sue Hall<br>President<br>Climate Neutral Business Network     | <ul style="list-style-type: none"> <li>• Review of CAR/CLs submitted and university responses</li> <li>• Monitoring report discussions</li> </ul> |

## 2.4 Site Inspections

No site inspections were conducted during this verification. The supporting data was extremely detailed for this project. The data included project announcements, pictures, campus announcements as well as the required calculations, equipment purchase orders, coal, water and electricity invoices etc. Through additional reviews including website and report reviews and interviews with Dr. McCall and Mr. Marquissee, DNV GL determined they could confirm the same reasonable level of assurance without an on-site visit.

## 2.5 Resolution of Findings

The objective of this phase of the verification was to resolve any issues which needed to be clarified prior to DNV-GL's conclusion on the project's compliance with applicable VCS requirements.

A corrective action request (CAR) is raised if one of the following occurs:

- The university has made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;
- The applicable VCS requirements have not been met;
- There is a risk that emission reductions cannot be monitored or calculated.

A clarification request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable VCS requirements have been met.

The verification identified 24 CARs and CLs which are closed. Please refer to Appendix A for further details.

In the Monitoring report there were two changes from the Project Description document that had an impacts on the emissions reductions. They were in the calculations on square footage adjustments,  $SF\Delta_y$  and project emissions adjustments,  $\Delta Ey$ . There were differences in the square footage for FY2012/13/14 from those reported in the Project Description. The calculated change in square footage as calculated

using Eq. 30 for  $SFA_y$  resulted in a small contraction in campus area in FY2012/13. The difference in square footage was less than 0.05%. The square footage increased in FY2013/14 by less than 0.5% but is still greater than the previous year so adjustments were not required per VMD0038/56/. The calculation was confirmed and the adjustment factor appropriately applied./1-3/

During an audit of the primary data to calculate the project emissions reductions, a calculation error was identified resulting in an over estimate of the project emissions adjustment for the FY2013 report. The inputs were corrected and the project emissions adjustment value was corrected. The calculation was confirmed and the adjustment factor appropriately applied./1-5/

## 2.5.1 Forward Action Requests

A forward action request (FAR) is raised during validation to highlight issues related to project implementation that require review during the first verification of the project activity. FARs can also be raised if the monitoring and reporting require attention and/or adjustment for the next monitoring period. FARs shall not relate to VCS requirements for registration.

No FARs were identified during this project's validation and no FARs were identified during this verification either.

## 2.6 Eligibility for Validation Activities

Not applicable.

## 3 VALIDATION FINDINGS

No deviations to the methodology or project description were requested. This is not a grouped project. There were no additional validation findings.

### 3.1 Participation under Other GHG Programs

This project is only being registered with VCS and no other approved GHG Program.

### 3.2 Methodology Deviations

No deviations were applied to the project.

### 3.3 Project Description Deviations

No deviations were applied to the project.

### 3.4 Grouped Project

This is not a grouped project.

## 4 VERIFICATION FINDINGS

### 4.1 Project Implementation Status

This methodology requires that the campus achieve GHG emissions reductions by implementing at least two energy efficiency measures within the list of nine categories:

- Behavior Change Campaign/Communications
- CoGen & Fuel switch
- Lighting Retrofits
- On-Site Renewables
- Boiler Retrofits/Central Heating/Cooling Upgrades
- Building System Retro-Commissioning & Upgrades Including Automation
- Weatherization Improvements

- LEED Certification/Green Buildings
- Innovative Strategies

The project proponent, the University of Illinois at Urbana-Champaign implemented energy efficiency measures in within all nine energy efficiency categories. A key measure is the fuel optimization strategy to reduce GHG emissions embraced after the university signed the Illinois Climate Action Plan in 2010. They are purchasing electricity, thus reducing reliance on the on-site existing coal and gas cogeneration facilities. This strategy, combined with the other energy efficiency measures has led to a significant decrease in GHG emissions. The University will continue the program described in the monitoring report and project description (PD) during the remainder of the project. /1-6/

DNV·GL conducted a review of documents provided by the University and interviewed the project proponent to determine whether there were any material discrepancies between project implementation and project description. In addition, DNV·GL conducted a cross check of the documents provided by the project proponent, University of Illinois at Urbana-Champaign.

This verification report applies to the first three years of the project. There are no material discrepancies between the project description and implementation. The project description was written during implementation of the project.

DNV·GL confirmed that GHG emission reductions have not been included in any emissions trading program or any other mechanism that includes GHG allowance trading.

## 4.2 Accuracy of GHG Emission Reduction and Removal Calculations

This performance methodology uses a series of parameters to calculate the project emissions reductions. The parameters are calculated using primary performance data from the university operations. The parameters are used in multiple equations throughout the methodology module VMD0038. DNV·GL reviewed underlying primary data and selected subsets of data were used to confirm the accuracy of the emissions reductions calculations.

The emissions reductions are calculated using primary data from the facilities and energy offices. The data is input to the Clean Air-Cool Planet, Campus Carbon Calculator (CACP). The CACP generates emissions in tonnes CO<sub>2</sub>e. That data along with information on the square footage of the school, as publicly reported to American College & University President's Climate Commitment (ACUPCC), is used to calculate the performance benchmark and the project emissions reductions.

The CACP versions 6.9 and 7.0 are used for this inventory, applying the appropriate CACP version best applicable and contemporaneous with the timeframe in which the GHG inventory was calculated in each project year (that is vs 6.9 for FY 2012/13 and vs 7.0 for FY2014). The resulting ER<sub>y</sub> are calculated each year using the baseline and project emissions data from the CACP version applicable to that year (rather than relying upon the baseline emissions estimated in project year 1 when a different version of the CACP calculator may have been used) in order to avoid credits arising as the results of any changes (e.g. in emission factors) between CACP versions. This ensures that credits are estimated using the most accurate and contemporaneous data and calculation approaches.

UIUC elected to use the Operational Control Approach as the consolidation methodology for its organizational boundaries. The CACP calculator has been used for over ten years by universities across the US. The input to the calculator includes fuels consumption for scope 1 sources, electricity etc for scope 2 sources. The resulting GHG emissions output from CACP calculator is then entered into the project excel template calculation tool to calculate the emissions reductions and carbon credits for the VCS project. The CACP outputs are also reported publicly to ACUPCC and Sustainability Tracking, Assessment and Rating System (STARS). The CACP data used for this project has been verified with the public reports in ACUPCC/STARS. The primary supporting data is maintained by facilities and energy offices within the university.

As required in the methodology, at the time of issuance, after emission reductions are verified and intend to be issued as VCUs, project proponents must ensure that such VCUs are accurately reported in accordance with any procedures set out under any applicable third-party GHG reporting program under which the campus reports. The sale, transfer or retirement of any VCUs must be accurately reported to any applicable third-party GHG reporting program during the period where such sale, transfer or retirement occurs./56/

The following parameters were available at validation and used for the project and these parameters will not be monitored:

| <u>Parameter</u> | <u>Description</u>                                                                       | <u>Assessment by DNV·GL</u>                                                                            |
|------------------|------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| PBS <sub>c</sub> | The scope 1 stationary combustion additionality performance benchmark for Carnegie class | The correct performance benchmark was selected from VMD0038, p. 20. For UIUC, PBS <sub>c</sub> = 5.68% |
| B                | Baseline period that is 1-5 years                                                        | A baseline period of 5 years was selected, and this is considered adequate.                            |
| SCAP             | The scope 1 stationary combustion additionality eligibility period                       | An additionality eligibility period of 3 years was selected (FY2009-11).                               |

The following parameters are used throughout the baseline years as well as the project years. The input data is provided by university staff as described above in 3.2.8 and in the PD.

| <u>Monitored</u>    | <u>Description</u>                                                                                                                                             |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SF <sub>b=x</sub>   | The total campus-wide area (square footage).                                                                                                                   |
| SF <sub>p=y</sub>   | The total campus-wide area (square footage).                                                                                                                   |
| F <sub>b=x, i</sub> | Stationary combustion emissions in the applicable year for each fuel type                                                                                      |
| F <sub>p=y, i</sub> | Stationary combustion emissions in the applicable year for each fuel type                                                                                      |
| E <sub>b=x</sub>    | Scope 2 electricity emissions in the applicable year                                                                                                           |
| E <sub>p=y</sub>    | Scope 2 electricity emissions in the applicable year                                                                                                           |
| y                   | The project year                                                                                                                                               |
| ΔE <sub>y</sub>     | Incremental scope 2 electricity, scope 2 heat, scope 2 cooling, scope 2 steam emissions in project year y due to stationary combustion adjustment technologies |

The following parameters listed in VMD0038 were not relevant for this project and were not used

| <u>At validation</u> | <u>Monitored</u>   |
|----------------------|--------------------|
| PBE <sub>c</sub>     | AT <sub>y,i</sub>  |
| HDD <sub>p=y</sub>   | ΔF <sub>y,i</sub>  |
| CDD <sub>p=y</sub>   | PSH <sub>b=x</sub> |
| E2AP                 | PSH <sub>p=y</sub> |
|                      | PC <sub>b=x</sub>  |
|                      | PC <sub>p=y</sub>  |

## 4.3 Quality of Evidence to Determine GHG Emission Reductions and Removals

The equations used in this project were reviewed in the supporting information provided by the university and were confirmed as appropriate and properly used. The equations are defined within the Monitoring

Report and within the methodology module, VMD0038. DNV-GL's assessment of the relevant parameters for verification is below.

| Parameter                    | Description                                                          | Measuring Method                                                                                                                                                                                                                      | Frequency                                                                                                     | DNV GL Assessment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------------|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| $SF_{b=x}$<br>$SF_{p=y}$     | Total campus-wide square footage in year x or y.                     | The campus square footage is measured using the method required by the relevant reporting program                                                                                                                                     | Annual                                                                                                        | <p>DNV GL reviewed the data and calculations in the reporting tool and cross checked with available ACUPCC reports for the monitoring period./1/3-9/10/</p> <p>The project reported minor variances in the square footage for FY2012/13/14. The calculated change in square footage as calculated using Eq. 30 for <math>SFA_y</math> resulted in a small contraction in campus area in FY2012/13. The difference in square footage was less than 0.05%. The square footage increased in FY2013/14 by less than 0.05% but is still greater than the previous year so adjustments were not required/56/. The calculation was confirmed and the adjustment factor appropriately applied/3-9/</p> |
| $F_{b=x, i}$<br>$F_{b=y, i}$ | Stationary combustion GHG emissions in year x or y from fuel type i. | The CACP calculator is used to calculate the emissions using fuel consumption data provided by the facilities managers. The output from the CACP calculator is used in the excel template calculation tool to calculate project data. | The methodology requires an annual number. The primary data is gathered more frequently, e.g hourly, monthly. | DNV GL reviewed the primary monthly data and calculations in the CACP and excel template calculation tool. The primary data was cross checked with the emissions estimates, invoices, utility summaries and spot recalculations completed /12-21/23-47/                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| $E_{b=x}$<br>$E_{p=y}$       | Electricity GHG emissions in year x or y                             | The CACP calculator is used to calculate the emissions using electricity use data provided by the facilities managers. The output from the CACP calculator is used in the excel template calculation tool to calculate project data.  | The methodology requires an annual number. The primary data is gathered more frequently, e.g monthly          | DNV GL reviewed the primary monthly data and calculations in the CACP and excel template calculation tool. The primary data was cross checked with the emissions estimates, estimates, invoices, utility summaries and spot recalculations completed/12-21/23-47/                                                                                                                                                                                                                                                                                                                                                                                                                              |

| Parameter    | Description                                                                                                                                                                                            | Measuring Method                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Frequency | DNV GL Assessment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| y            | Project year                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           | This is an index. No assessment required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| $\Delta E_y$ | Incremental scope 2 electricity emissions and scope 2 heat emissions, scope 2 cooling emissions and/or scope 2 steam emissions in project year y due to stationary combustion adjustment technologies. | <p>In the excel template calculation tool, the campus enters the incremental electricity consumption and/or incremental heat, steam, or cooling arising due to the implementation of its scope 1 stationary combustion adjustment technologies.</p> <p>The outputs from the CACP calculator is used in the excel template calculation tool to calculate the PE Adjustment, <math>\Delta E_y</math>. The PE adjustment is the incremental scope 2 electricity emissions and scope 2 heat emissions, scope 2 cooling emissions and/or scope 2 steam emissions due to implementation of scope 1 stationary combustion adjustment technologies</p> | Annual    | <p>Using Equation 22 for project emissions adjustments, the project emissions were adjusted because of the increased demand for electricity from implementation of the new technologies to improve energy efficiency and reduce stationary 1 combustions GHG emissions. This was confirmed in the calculation tool, using facilities data, and electricity consumption data estimates derived from the Ameren and other utility invoices. /12-21/23-47/</p> <p>No incremental increases in heat steam cooling arose in UIUC's PE Adjustment estimates since UIUC does not purchase any of these energy inputs</p> <p>During preparation of the monitoring report the school, updated and corrected previous year's (FY2013) PE Adjustment estimates which had previously relied upon carrying over earlier year's estimates rather than deriving actual FY2013 PE Adjustment estimates based upon actual FY2013 data.</p> |

## 4.4 Non-Permanence Risk Analysis

Non-permanence risk analysis is not relevant for this project

## 5 VERIFICATION CONCLUSION

Det Norske Veritas (U.S.A.), Inc. of DNV-GL (DNV-GL) has performed a verification of the project activity "University of Illinois Urbana-Champaign Campus Wide Clean Energy & Energy Efficiency" in Urbana, Illinois, US. The verification was performed on the basis of VCS criteria as well as criteria given to provide for consistent project operations, monitoring and reporting.

Verification is the periodic independent review and *ex-post* determination by an accredited verification body (VB) of the monitored reductions in GHG emissions that have occurred as a result of the registered VCS project activity during a defined verification period. The verification statement is the written assurance by a VB that, during a specific period in time, a project activity achieved the emission reductions stated in the monitoring report by the project proponent. The verification included: checking

whether the provisions of the monitoring methodology and the monitoring plan were consistently and appropriately applied, and the collection of evidence supporting the reported data.

The GHG emission reductions were calculated correctly on the basis of the approved VCS monitoring methodology VM0025 (version 1) Campus Clean Energy and Energy Efficiency Methodology and the module VMD0038 (version 1) Campus Clean Energy and Energy Efficiency: Campus-Wide Module and supporting documentation.

DNV GL is able to certify to a reasonable level of assurance that the emission reductions from the activity “University of Illinois Urbana-Champaign Campus Wide Clean Energy & Energy Efficiency” in Urbana, Illinois, US during the period of 01 July 2011 to 30 June 2014 equates to 166 577t CO<sub>2</sub>e.

The verification was based on the information made available to DNV GL and the engagement conditions detailed in this report.

Verification period: From 1 July 2011 to 30 June 2014

Verified GHG emission reductions and removals in the above verification period:

| Year         | Baseline emissions or removals (tCO <sub>2</sub> e) | Project emissions or removals (tCO <sub>2</sub> e) | Project emissions adjustments (tCO <sub>2</sub> e) | Net GHG emission reductions or removals (tCO <sub>2</sub> e) |
|--------------|-----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------|
| FY Year 2012 | 351 263                                             | 250 144                                            | 36 830                                             | 64 289                                                       |
| FY Year.2013 | 346 697                                             | 279 634                                            | 12 650                                             | 54 386                                                       |
| FY Year.2014 | 343 135                                             | 275 858                                            | 19 375                                             | 47 902                                                       |
| <b>Total</b> | 1 041 095                                           | 805 636                                            | 68 855                                             | 166 577                                                      |

## APPENDIX A: CORRECTIVE ACTION REQUESTS, CLARIFICATION REQUESTS AND FORWARD ACTION REQUESTS

|    | Corrective action and/ or clarification requests                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Response by project participants                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Verification conclusion                     |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|
| 1. | The document number and VCS ID are missing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Updated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Closed                                      |
| 2. | The version number and date should be updated when the monitoring report is re-submitted                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Updated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Closed                                      |
| 3. | <p>Section 1.1 should only contain (per VCS Monitoring Report Template v. 3.3)<br/>           “Provide a summary description of the implementation status of the project, including the following (no more than one page):</p> <ul style="list-style-type: none"> <li>• A summary description of the implementation status of the technologies/ measures (eg, plant, equipment, process, or management or conservation measure) included in the project.</li> <li>• The relevant implementation dates (eg, dates of construction, commissioning, and continued operation periods).</li> <li>• The total GHG emission reductions or removals generated in this monitoring period.”</li> </ul> <p>Information not required should be removed.</p> | <p>Recommended deletions include those which provide the total GHG emission reductions/removals for the monitoring period. These are part of the total GHG reduction during this monitoring period: so this is not wise</p> <p>Activities’ status is given in activity descriptions for measures 1 and 2 etc and updates are given in section 2.1 so this info as suitable for the upfront exec summary.</p> <p>Relevant implementation dates are included in the activity descriptions and the original Project Description Document. Included new reference to specific implementation start date. Also signalled which credit sources were sought so that any blank boxes in future sections would not be misinterpreted (i.e. if scope 2 credits are not sought, a blank box for scope 2 BE or PE is not an oversight).</p> <p>Since the GHG totals for the monitoring period only are sought in both this executive summary 1.1 section and the subsequent GHG BE, PE and ER sections, the 10 year total GHG reductions estimate has been replaced with actual GHG ER’s for project years 1, 2, 3 (aka FY 2012, 2013, 2014).</p> | Closed                                      |
| 4. | A campus map is listed as in Appendix A but is not included.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | See Attachment A for campus map                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | The campus map has been supplied.<br>Closed |

|     | Corrective action and/ or clarification requests                                                                                                                                                                                                           | Response by project participants                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Verification conclusion                  |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| 5.  | Confirm the parameter that have been adopted (check appropriate box)                                                                                                                                                                                       | Confirmed as “yes”<br>Note: the purpose for which the validation parameters are now applied has been clarified further in the question statement.                                                                                                                                                                                                                                                                                                                                                        | The MR has been cross checked.<br>Closed |
| 6.  | Input appropriate value applied for parameter as noted in the monitoring report for PBSc, B and SCAP.                                                                                                                                                      | Has been provided                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | The MR has been cross checked.<br>Closed |
| 7.  | Confirm the parameter that have been adopted (check appropriate box)                                                                                                                                                                                       | See above #5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | The MR has been cross checked.<br>Closed |
| 8.  | A statement on the QA/QC procedures should be included for all parameters monitored similar to that in the monitoring plan.                                                                                                                                | Statements now provided                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | The MR has been cross checked.<br>Closed |
| 9.  | The monitoring report template contains additional cells in the tables for Parameters Monitored. They are: Value Monitored and monitoring equipment. They are not cells included in the Methodology/module or the PD. They should be included.             | These have been provided                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | The MR has been cross checked.<br>Closed |
| 10. | The bullets in the monitoring plan are phrases of requirements from the VCS Monitoring Report Template v. 3.3. They should be converted to headings or whole sentences.                                                                                    | <p>Bullets have been converted to section titles.</p> <p>The text of the monitoring plan has otherwise been approved already by VCS since it matches identically the monitoring plan included in the VCS-approved PDD.</p> <p>So changes would introduce ambiguities and the current text should be retained.</p> <p>The only update applicable in this text is the PE ADJ calculation example which now cites the updated PE ADJ accurate figures (see CAR CL #18 which we have added to this list)</p> | The MR has been cross checked.<br>Closed |
| 11. | This is the monitoring report for project year 1, 2, 3. The anticipated CACP version in year 4-10 should be removed. The estimated baseline and project emissions for year 4-10 should be removed. The estimated emissions reductions for year 4-10 should | Applied all these changes: the estimated data for years 4-10 have now all been removed.                                                                                                                                                                                                                                                                                                                                                                                                                  | The MR has been cross checked.<br>Closed |

|     | Corrective action and/ or clarification requests                                                                                                                                                                                                                  | Response by project participants                                                                                                                                                                                                                                                                                                                                                                                                         | Verification conclusion                  |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|     | be removed.                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                          |
| 12. | The project is seeking verification of scope 1 emissions only, empty cells relating to scope 2 emissions should be deleted.                                                                                                                                       | VCS approved in the validation PDD the boxes as included and left as zero/empty. This design ensured that a campus was explicit regarding the choice of scope(s) and the figures applying. Consistency with the VCS approved PD from validation is preferred.<br><br>To be unambiguous, the choice of credit scopes sought in verification is declared upfront in section 1.1 that a blank box cannot be misinterpreted as an oversight. | The MR has been cross checked.<br>Closed |
| 13. | The tables for total emissions should be updated for project year 1, 2, and 3 only.                                                                                                                                                                               | Applied these changes                                                                                                                                                                                                                                                                                                                                                                                                                    | The MR has been cross checked.<br>Closed |
| 14. | The table for scope 2 emissions and the summary table should be removed.                                                                                                                                                                                          | See #12 above                                                                                                                                                                                                                                                                                                                                                                                                                            | The MR has been cross checked.<br>Closed |
| 15. | The Table of Contents should be updated before submission                                                                                                                                                                                                         | This has been updated                                                                                                                                                                                                                                                                                                                                                                                                                    | The MR has been cross checked.<br>Closed |
| 16. | Run spell check, review for complete sentences, check formatting to ensure there are not italics or grey text and that the tables are on the page.                                                                                                                | Formatted                                                                                                                                                                                                                                                                                                                                                                                                                                | The MR has been cross checked.<br>Closed |
| 17. | Remove all guidance notes in the PD                                                                                                                                                                                                                               | Formatted                                                                                                                                                                                                                                                                                                                                                                                                                                | The MR has been cross checked.<br>Closed |
| 18. | <a href="#">Project title: the project title (according to the VCS project pipeline)</a> is "University of Illinois Urbana-Champaign Campus Wide Clean Energy & Energy Efficiency". <a href="#">This name must be used consistently in the monitoring report.</a> | Supplied                                                                                                                                                                                                                                                                                                                                                                                                                                 | The MR has been cross checked.<br>Closed |
| 19. | ToC: It is suggested to have Appendix A and B instead of Appendix A and Attachment A. Moreover, Attachment A is currently empty                                                                                                                                   | Attachment A has been renamed Attachment 1<br><br>The campus map as a pdf named Attachment 1 has been supplied separately.                                                                                                                                                                                                                                                                                                               | The MR has been cross checked.<br>Closed |
| 20. | 1.1 Summary Description of the Implementation Status of the Project: the VCS template requires to                                                                                                                                                                 | A performance methodology, per VCS guidance, does not need to detail the timelines involved for                                                                                                                                                                                                                                                                                                                                          | Closed                                   |

|  | Corrective action and/ or clarification requests                                                                                                                                          | Response by project participants                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Verification conclusion |
|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
|  | <p>include “relevant implementation dates (eg, dates of construction, commissioning, and continued operation periods)”. No dates are currently included in section 1.1 or Appendix A.</p> | <p>each individual activity contributing to the overall project performance.</p> <p>Rather, as established and already supported by DNV’s opinion issued in validation, the only date which needed to be established was the project start date -- which already reflects any and all considerations for when the cumulative GHG reduction impact from the activities undertaken should sensibly <i>combine</i> to mark a beginning of the project year 1, consistent with campus reporting to ACUPCC. Thus DNV’s opinion regarding the project start date, which it has already established and approved already during validation, is the only date which needs referencing in the MR.</p> <p>More specifically, the guidance found in the VCS 3.4 Standard for the development of performance methodologies clearly allows such methodologies to “be somewhat agnostic” regarding the activities/technologies to be implemented while asking that projects provide “an overview” of them. From VCS Standard 3.4, 4.1.16:<br/> “The methodology shall also provide an overview of the technologies and/or measures available for improving performance within the sector, though an exhaustive list is not required recognizing that performance methods may be somewhat agnostic with respect to the technologies and/or measures implemented by projects.”<br/> <a href="http://www.v-c-s.org/sites/v-c-s.org/files/VCS%20Standard%2C%20v3.4.pdf">http://www.v-c-s.org/sites/v-c-s.org/files/VCS%20Standard%2C%20v3.4.pdf</a><br/> Thus, during verification, if the performance methodology can be somewhat agnostic regarding the activities that are to be implemented, whilst still insisting that, overall, the GHG performance achievements be delivered as a result of such activities’ combined performance, the individual</p> |                         |

|  | Corrective action and/ or clarification requests | Response by project participants                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Verification conclusion |
|--|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
|  |                                                  | <p>operating details of such activities are not, for a performance methodology, expected to be itemized during verification. For performance methodology, all that is required is that the project met the activity-based requirements during validation – which UIUC readily met as already approved by DNV.</p> <p>This is consistent with the VMD0038 Monitoring Plan Section 9.3 requirements which expressly do not reference or require dates of construction, commissioning or continued operating periods for individual activities. Consistent with VMD0038's focus on the total campus-wide GHG reductions, the Monitoring Plan requirements under VMD0038 focuses solely on the campus-wide GHG results delivered. Not the individual activities' contributions – nor their operating profiles.</p> <p>This instruction requirement in the VCS MR template therefore appears to only be relevant to VCS project methodologies, where such operating details are important to establish the beyond business as usual operating characteristics of the specific leading-edge technology upon which the project's additionality rests: for such project methodology projects, additionality rests solely upon the technology's beyond business as usual implementation status, not its attainment of specific GHG performance outcomes. Clearly for performance methodology projects, the additionality rests upon the combined GHG <i>performance outcomes</i> of the projects' activities – where specific additionality performance tests are applied in each project year y -- not their individual implementation status or operating features. This is, after all, the intent of performance methodologies: to enable entities to more simply</p> |                         |

|     | Corrective action and/ or clarification requests                                                                                                                                                                                                  | Response by project participants                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Verification conclusion                                                          |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
|     |                                                                                                                                                                                                                                                   | <p>establish their additionality through its project GHG performance (as established via the additionality tests applied under VMD0038 each project year) – not through individual activities’ operating features.</p> <p>In that light, for performance methodology projects the equivalent instruction for section 1.1 might be to seek confirmation regarding whether the project y additionality tests have been passed? For UIUC, this information is provided, absent any other guidance, in the Implementation Status section 2.1 of the MR.</p> <p>Thus, for section 1.1, the only relevant dates for this performance methodology project have already been provided in section 1.1 – namely the first project year implementation date (ie project start date), which represents the validated date upon which all activities’ combined GHG reductions most reliably commence, consistent with the dates of campuses’ public GHG reports e.g. to ACUPCC.</p> <p>UIUC recognizes that an interpretation, for performance methodology projects, of the instructions for section 1.1 rests ultimately with VCS and that, since this is the first performance-based project to be verified by VCS, its existing instructions, designed appropriately for project methodology applications, may not yet have been pressure tested as applicable to performance methodology based projects. Thus, if VCS views this a material consideration, UIUC will gladly amend its MR submission based upon their review.</p> |                                                                                  |
| 21. | 3.2 Data and Parameters Monitored: The VCS monitoring report template requires to “specify the measurement methods and procedures, any standards or protocols to be followed”. I appreciate that for these projects, this mainly makes references | <p>Questions have been added to section 3.2 confirming:</p> <p>a) CACP calculators were used to develop relevant GHG data as required by the methodology</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | The additional information clarifies the section. The MR has been cross checked. |

|     | Corrective action and/ or clarification requests                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Response by project participants                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Verification conclusion                  |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|     | to ACUPCC and the CACP calculator or any other third-party GHG reporting program. However, it currently only states “relevant third-party GHG reporting program” or “third-party GHG reporting programs such as ACUPCC”. The monitoring report should at least state the specific third-party GHG reporting program was applied for the years of the monitoring report. In other words, if ACUPCC was used, it should state that ACUPCC was used and not only a program “such as ACUPCC”. If the CACP calculator was applied, it needs to be stated so, (and not only “preferably” with the CACP calculator), including which version of the CACP calculator. This information is partly provided in section 4, but section 3.2 should be more specific. | <p>b) The version of CACP used</p> <p>c) Whether ACUPCC, STARS or a third party GHG reporting program was the public reporting systems against which the GHG and sq ft data has been consistently applied</p> <p>It should be noted that these new questions in 3.2 duplicate questions already asked in other MR sections:</p> <ul style="list-style-type: none"> <li>- the version of the CACP calculator applied in each year is already designated in section 4</li> <li>- the public reporting system used to report the campus’ GHG gases is confirmed in section 1.9. For UIUC the applicable systems are ACUPCC and STARS since they report, consistently, to both programs</li> <li>- In section 4, the use of the CACP calculator to derive BE PE LE and ER results is also confirmed</li> </ul> <p>le. “For stationary 1 and scope 2 electricity GHG calculations, specify the version of CACP calculator which has consistently been used to generate BEy, PEy, LEy and ERy (tCO<sub>2</sub>e)”</p> <p>The Monitoring Plan for UIUC already confirms responses to these three questions in far more detail.</p> <p>However, with the insertion of these questions at the beginning of section 3.2, the text in the boxes can then be retained since confirmation will have been given in prior explicit statements applicable to all tables. The wording in the tables is drawn from and is consistent with the methodology. Thus all interests have been met.</p> | Closed                                   |
| 22. | 3.3 Monitoring plan: Using future tense and what <u>will</u> be done is not appropriate for this section. The monitoring report needs to describe “the process                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | The tense has been changed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | The MR has been cross checked.<br>Closed |

|     | Corrective action and/ or clarification requests                                                                                                                                                                                                   | Response by project participants                                                                                                                                                                                                                                                                                                                             | Verification conclusion                  |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|     | and schedule followed for monitoring the data and parameters”.                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                              |                                          |
| 23. | 4. Quantification of GHG Emission Reductions and Removals. The empty cells should be deleted, especially those for scope 2 emissions                                                                                                               | <p>These blank boxes were included in the PD which VCS has already approved. Consistency is preferred.</p> <p>If VCS views this a material consideration, we will amend based on their review.</p>                                                                                                                                                           | The MR has been cross checked.<br>Closed |
| 24. | 3.2 If UIUC did not purchase steam or cooling, they were not monitored. You can include a statement saying that UIUC does not purchase any heat, steam or cooling. The parameters PSH and PC should be removed from the parameters monitored list. | <p>The statement below has been provided in section 3.2 and parameters PSH and PC removed from the list of applicable parameters.</p> <p>NOTE: Although PSH and PC are referenced parameters for the calculation of PE Adjustments, UIUC does not purchase any heat steam or cooling. Thus these parameters are not applicable under project monitoring.</p> | The MR has been cross checked.<br>Closed |