Agenda Date: 1/27/16
Agenda Item: 8B

STATE OF NEW JERSEY

Board of Public Utilities
44 South Clinton Avenue, 3rd Floor, Suite 314
Post Office Box 350
Trenton, New Jersey 08625-0350
www.nj.gov/bpu/

		CLEAN ENERGY
IN THE MATTER OF THE CLEAN ENERGY PROGRAM AUTHORIZATION OF COMMERCIAL AND INDUSTRIAL PROGRAM ENERGY EFFICIENCY INCENTIVES EXCEEDING $500,000:	)	ORDER
	)	DOCKET NOS.
WALMART WOODBURY	)	QG15080966
WALMART WILLIAMSTOWN	)	QG15080967
CREDIT SUISSE	)	QG15111313

Parties of Record:

Stephen Branscum, Senior Renewable Energy Project Manager, Walmart
James M. Drubel, Director, Credit Suisse

BY THE BOARD:

The New Jersey Board of Public Utilities (Board) and its New Jersey Clean Energy Program (NJCEP) include nine individual Commercial & Industrial (C&I) Energy Efficiency (EE) Programs targeting the commercial and industrial market segments, consisting of New Construction, Retrofit, Pay for Performance – New Construction, Pay for Performance – Existing Buildings, Local Government Energy Audit, Direct Install, Combined Heat and Power and Fuel Cells, Large Energy Users Program, and the Societal Benefits Charge Credit Program. These programs collectively offer financial incentives to encourage the installation of energy efficient products and technologies. Eligible applicants may receive incentives for a portion of the cost of installing energy efficient technologies such as lighting, heating, ventilation and air conditioning, water heating, and other measures. All proposed C&I EE financial incentives and rebates exceeding $500,000 require explicit Board approval. See I/M/O the Comprehensive Energy Efficiency and Renewable Energy Resource Analysis for the 2009 through 2012 Clean Energy Program – Revised 2012-2013 Programs & Budgets – Revised Rebate Approval Process, BPU Dkt. No. EO07030203 (May 3, 2013).

The 2015 Small-Scale Combined Heat and Power & Fuel Cell (2015 CHP/FC) program is open to all C&I customers contributing to the Societal Benefits fund and installing CHP or FC systems

to further energy efficiency in their buildings through on-site power generation thereby reducing existing and new demands to the electric power grid. Incentives are disbursed upon completion of three program milestones: (1) proof of purchase of equipment; (2) project installation and operation, including successful inspection; and (3) acceptance and confirmation of achievement of the required performance thresholds based upon twelve months of operating data.

By this Order, the Board considers three applications for incentives submitted under the 2015 CHP/FC program pursuant to the TRC FY 2015 Program & Budget Filing (September 17, 2014): (1) Walmart Woodbury, located at 820 Cooper Street, in Woodbury, Gloucester County; (2) Walmart Williamstown, located at 1840 South Black Horse Pike in Williamstown, Gloucester County; and (3) Credit Suisse, located at 700 College Road, in Plainsboro, Middlesex County. All applications submitted were accepted under the above-referenced program guidelines in effect from July 1, 2014 through June 30, 2015. These project incentives are within the entity cap, based on the application approval date.

Walmart Woodbury submitted an application in June 2015 for a financial incentive of $900,000 under the small scale 2015 CHP/FC Program. The project includes the installation of two fuel cells with a combined capacity of 300 kW. The system does not have any waste heat component and is intended for electric generation only. The system is estimated to have an overall annual efficiency of 56%. The estimated first incentive, for purchase of the equipment, is $270,000. The estimated second incentive, for completed installation of the system, is $540,000. The estimated third incentive, granted after acceptance and confirmation of required performance threshold data, is $90,000. The project is anticipated to generate 2,629,027 kWh of electricity annually. There is no heat recovery component in this system. The project will have a cost of $3,593,314, and will save on average $177,563.23 in annual energy costs after a first year cost savings of $147,767.22. The project has a 15.9 year payback without incentives, which is reduced to 11.9 years with incentive.

Walmart Williamstown submitted an application in June 2015 for a financial incentive of $600,000 under the small scale 2015 CHP/FC Program. The project includes the installation of one fuel cell with a capacity of 200 kW. The system does not have any waste heat component and is intended for electric generation only. The system is estimated to have an overall annual efficiency of 56%. The estimated first incentive, for purchase of the equipment, is $180,000. The estimated second incentive, for completed installation of the system, is $360,000. The estimated third incentive, granted after acceptance and confirmation of required performance threshold data, is $60,000. The project is anticipated to generate 1,752,000 kWh of electricity annually. There is no heat recovery component in this system. The project will have a cost of $2,395,542, and will save on average $95,264.88 in annual energy costs after a first year cost savings of $75,400.87. The project has a payback period without incentive of 18.7 years, which is reduced to 14 years with incentive.

Credit Suisse submitted an application in June 2015 for a financial incentive of $2,000,000 under the small scale 2015 CHP/FC Program. The project includes the installation of three fuel cells with a total capacity of 750 kW. The system does not have any waste heat component and is intended for electric generation only. The system is estimated to have an overall annual efficiency of 56%. The estimated first incentive, for purchase of the equipment, is $600,000. The estimated second incentive, for completed installation of the system, is $1,200,000. The estimated third incentive, granted after acceptance and confirmation of required performance threshold data, is $200,000. The project is anticipated to generate 6,570,000 kWh of electricity annually. The project will have a cost of $9,699,761, and will save on average $140,147.77 in

annual energy costs after a first year cost savings of $455,710.96. The project has a 21.3 year payback without the incentive, and will have a reduced payback of 16.9 years with incentive.

TRC, the Market Manager engaged by the Board to manage the NJCEP C&I EE programs, submitted certifications that the incentives were calculated in accordance with the program policies and procedures, and that the listed amounts are the true and accurate estimated incentives for which the applicants are eligible. Further, Applied Energy Group, in its role as the NJCEP Program Coordinator, also reviewed the applications and submitted certifications that the incentives were calculated in accordance with the program policies and procedures, and that the listed amounts are the true and accurate estimated incentive for which the applicants are eligible. Based on these certifications and the information provided by the Market Manager and Program Coordinator, Board Staff recommends that the Board approve the above-referenced applications.

The Board **HEREBY ORDERS** the approval of the aforementioned applications for the total estimated incentive amounts of $900,000 for Walmart Woodbury, $600,000 for Walmart Williamstown, and $2,000,000 for Credit Suisse, and **HEREBY AUTHORIZES** issuance of standard commitment letters to the applicants identified above, setting forth the terms and conditions of these commitments.

The effective date of this Order is February 9, 2016.

DATED: Feb 9, 2016

BOARD OF PUBLIC UTILITIES
BY:

RICHARD S. MROZ
PRESIDENT

JOSEPH L. FIORDALISO
COMMISSIONER

UPENDRA J. CHIVUKULA
COMMISSIONER

ATTEST:

IRENE KIM ASBURY
SECRETARY

FINAL VOTE ON AGENDA ITEM 8B, JANUARY 27, 2016

Commissioner Fiordaliso	Yes	
Commissioner Holden		No
Commissioner Solomon		No
Commissioner Chivukula	Yes	
President Mroz	Yes	

COMMISSIONER MARY-ANNA HOLDEN, WITH WHOM
COMMISSIONER DIANE SOLOMON JOINS, DISSENTING:

After reviewing the technical data that was submitted to my staff last week for these three projects, I cannot vote to approve this Agenda Item. My reasons are straightforward – these projects are simply not the best use of the CHP/FC program funds which are provided through the Societal Benefits Charge.

First, these are fuel cell-only projects, with no waste heat recovery. Overall system efficiency is about 56 percent. The efficiency would be substantially higher if the waste heat was recovered and used. (A typical CHP facility would have a system efficiency upward of 75 percent).

Second, the projects have no black start capability. Because they rely on the grid to operate, they would be non-operational during the system blackout. This is contrary to the Energy Master Plan that encourages CHP and black start capable projects. There are currently several CHP projects in the queue which meet this criteria. Incentivizing those projects would be a better use of SBC funds.

Another negative aspect to these projects is the lengthy payback period. The estimated equipment life of the FC equipment is 15 years, yet the payback period is 12-19 years with incentives ranging approximately 20-25%; and 16-21 years without incentives.

Bloom offered that the payback period presented in the Walmart applications is not applicable because the power purchase agreements only last 10 years. Bloom offered that the payback period in the Credit Suisse application is not applicable because the project funding structure is a lease. While this may be true – the payback-period metric should be a basis for a project-to-project comparison under the CHP/Fuel Cell program.

Bloom also presented that CHP projects may not be as environmentally benign as fuel cell projects. I am however, comparing these fuel cell-only projects to fuel cell projects which recover waste heat – that specific type of CHP.

And while fuel cell-only projects have environmental benefits, combined fuel cell/CHP projects provide more benefits for the SBC dollar. Going forward, I would like staff to look more closely at the overall merits of projects and keep a watchful eye on the project economics to ensure that rate payers are getting the best value for their SBC dollars. I also suggest that staff try to consider projects over a wider population and encourage projects which will be the most beneficial in terms of system outages (i.e., black start capability) and those that relieve congestion in load constrained areas.

I believe there are other projects in the program queue that have more favorable economics than those presented here. Good business practice dictates that the rate payers in NJ who fund the Clean Energy Programs through the Societal Benefits Charge get the best value for their dollar and we, as a Board, are entrusted with that fiduciary responsibility.

Lastly, I was disappointed with the quality of the technical information submitted by the applicant. Other than the project application forms my staff received only one "project snapshot" document and found error on it, most significantly the estimated annual generation which was about three times more than is possible.

The projects' applicant also paints an overly optimistic picture, to say the least, of the fuel cell's capacity factor. The projected energy output is calculated at 100 percent capacity factor. While fuel cells generally run full out, a more appropriate capacity factor figure would be 91-95 percent. This adjustment would not result in a significant change in project economics but, in my opinion, would be more accurate.

These discrepancies did little to encourage me to support these projects.

MARY-ANNA HOLDEN
COMMISSIONER

DIANNE SOLOMON
COMMISSIONER

ATTEST:

IRENE KIM ASBURY
SECRETARY

Date: Feb 9, 2016

I HEREBY CERTIFY that the within document is a true copy of the original in the files of the Board of Public Utilities

IN THE MATTER OF THE CLEAN ENERGY PROGRAM AUTHORIZATION OF COMMERCIAL AND INDUSTRIAL (C&I) PROGRAM ENERGY EFFICIENCY INCENTIVES EXCEEDING $500,000 – WALMART WOODBURY, WALMART WILLIAMSTOWN, AND CREDIT SUISSE
DOCKET NOS. QG15080966, QG15080967, QG15111313

SERVICE LIST

Brian DeLuca
TRC Solutions
900 Route 9 North, Suite 104
Woodbridge, NJ 07095

Carl Teter
TRC Solutions
900 Route 9 North, Suite 104
Woodbridge, NJ 07095

Valentina Rozanova
TRC Solutions
900 Route 9 North, Suite 104
Woodbridge, NJ 07095

Michael Ambrosio
Applied Energy Group, Inc.
317 George Street, Suite 305
New Brunswick, NJ 08901

James Nappi
Applied Energy Group, Inc.
317 George Street, Suite 305
New Brunswick, NJ 08901

Stephen Branscum
Senior Renewable Energy Project Manager
Walmart
702 S.W. 8th Street
Bentonville, AR 72716

James M. Drubel
Director
Credit Suisse
1 Madison Avenue
New York, NY 10010

Irene Kim Asbury, Esq.
Secretary of the Board
Board of Public Utilities
44 South Clinton Avenue, 3rd Floor, Suite 314
Post Office Box 350
Trenton, NJ 08625-0350
Irene.asbury@bpu.state.nj.us

Secil Uztetik Onat, Executive Director
Economic Development and Emerging Issues
Board of Public Utilities
44 South Clinton Avenue, 3rd Floor, Suite 314
Post Office Box 350
Trenton, NJ 08625-0350
Secil.Onat@bpu.state.nj.us

Elizabeth Teng
Office of Clean Energy
Board of Public Utilities
44 South Clinton Avenue, 3rd Floor, Suite 314
Post Office Box 350
Trenton, NJ 08625-0350
Elizabeth.teng@bpu.state.nj.us

Sherri Jones
Office of Clean Energy
Board of Public Utilities
44 South Clinton Avenue, 3rd Floor, Suite 314
Post Office Box 350
Trenton, NJ 08625-0350
Sherri.jones@bpu.state.nj.us

Allison E. Mitchell
Office of Clean Energy
Board of Public Utilities
44 South Clinton Avenue, 3rd Floor, Suite 314
Post Office Box 350
Trenton, NJ 08625-0350
Allison.mitchell@bpu.state.nj.us

Caroline Vachier, Esq
Deputy Attorney General
Division of Law
Department of Law & Public Safety
124 Halsey Street
Post Office Box 45029
Newark, NJ 07102-45029
Caroline.vachier@dol.lps.state.nj.us

T. David Wand
Deputy Attorney General
Division of Law
Department of Law & Public Safety
124 Halsey Street
Post Office Box 45029
Newark, NJ 07102-45029
David.wand@dol.lps.state.nj.us

Program Coordinator Certification
(New Incentive Commitments > $500,000)

I, **Maura Watkins** , hereby certify that in its role as Program Coordinator, Applied Energy Group, Inc. has reviewed the referenced below, as required by the policies and procedures applicable to each program, that the standardized equipment incentives for which TRC now seeks approval to commit have been calculated in accordance with those policies and procedures, and that the amount shown below is the true and accurate estimated incentive for which the applicant(s) is(are) eligible.

For incentives based on uniquely calculated estimated energy savings, including the Custom Program, Pay for Performance, Combined Heat & Power and Large Energy Users Program, Applied Energy Group certifies locating documentation supporting the inputs used to calculate the rebate amount and evidencing TRC's evaluation of those inputs as required by the program's policies and procedures.

Maura H Watkins

By: _____ Date: **10-27-2015**

Maura Watkins

Quality Assurance Manager - Applied Energy Group, Inc.

Ref:
App # **33126CHP**

Applicant **Walmart**

Payee **2015 ESA Project Company, LLC**

Committed Amount: **$900,000.00**

Market Manager Certification
(New Incentive Commitments > $500,000)

I Carl Teter hereby certify that application(s) on the attached list have been reviewed by TRC or its subcontractors as required by the policies and procedures applicable to each program, that the incentives for which TRC now seeks approval to commit have been calculated in accordance with those policies and procedures, and that the listed amounts are the true and accurate estimated incentives for which each applicant is eligible. This review does not include an analysis of the financial viability of the project(s) on this list. Item #10 on following page is provided for informational purposes only based on data submitted by applicant.

By: _____ Date: 10-28-15

Carl P. Teter, P.E., LEED AP, Associate Vice President
App# 33126CHP

1. Application Number: **33126CHP**

2. Program Name: **Combined Heat and Power/Fuel Cell Program (Small)**

3. Customer Contact (name, company, address, phone #):
   Stephen Branscum, Senior Renewable Energy Project Manager
   Walmart
   702 S.W. 8th Street, Bentonville AR 72716
   479-273-6585

4. Project Name and Address:
   Walmart Woodbury
   820 Cooper Street Woodbury, NJ 08096

5. Rebate amount:
   Incentive #1: $270,000
   Incentive #2: $540,000
   Incentive #3: $90,000
   Total: $900,000

6. Brief description of Fuel Cell to be installed: **One (1) Bloom Energy ES-5700 200 kW fuel cell and one (1) Bloom Energy ES-5400 100 kW fuel cell. Total 300 kW capacity. Annual efficiency is 56.0%. No waste heat component.**

7. Annual Estimated Energy Savings:
   Expected Annual Electricity Production: 2,629,027 kWh (approx. 63% of annual electricity consumption based on previous utility data).
   Expected Annual Thermal Energy Production: N/A

8. Project Cost: **$3,593,314 (including 10 year maintenance cost)**

9. Project Funding Type (capital purchase, lease, finance, PPA, other/describe): **Power Purchase Agreement**

10. Financials: **First year annual cost savings $147,767.22. Average annual cost savings $177,563.23. 15.9 year payback without incentives, 11.9 years with.**

    Note the above financials are based on the total project cost (as listed in #8) and the expected energy cost savings. The contractor, Bloom Energy, would like to clarify that "the project structure is a Power Purchase Agreement and as such there is no traditional 'payback period'. Customer savings begin on the first day. In addition, the payback to the owner of the project company [Bloom] on its invested capital for this multi-site contract is less than five years", which incorporates cost savings from the Federal Investment Tax Credit (currently 30% for fuel cells) and depreciation.

Program Coordinator Certification
(New Incentive Commitments > $500,000)

I, **Maura Watkins**, hereby certify that in its role as Program Coordinator, Applied Energy Group, Inc. has reviewed the referenced below, as required by the policies and procedures applicable to each program, that the standardized equipment incentives for which TRC now seeks approval to commit have been calculated in accordance with those policies and procedures, and that the amount shown below is the true and accurate estimated incentive for which the applicant(s) is(are) eligible.

For incentives based on uniquely calculated estimated energy savings, including the Custom Program, Pay for Performance, Combined Heat & Power and Large Energy Users Program, Applied Energy Group certifies locating documentation supporting the inputs used to calculate the rebate amount and evidencing TRC's evaluation of those inputs as required by the program's policies and procedures.

Maura H Watkins

By: _____ Date: **10-27-2015**

Maura Watkins

Quality Assurance Manager - Applied Energy Group, Inc.

Ref:
App # **33127CHP**

Applicant **Walmart**

Payee **2015 ESA Project Company, LLC**

Committed Amount: **$600,000.00**

Market Manager Certification
(New Incentive Commitments > $500,000)

I Carl Teter hereby certify that application(s) on the attached list have been reviewed by TRC or its subcontractors as required by the policies and procedures applicable to each program, that the incentives for which TRC now seeks approval to commit have been calculated in accordance with those policies and procedures, and that the listed amounts are the true and accurate estimated incentives for which each applicant is eligible. This review does not include an analysis of the financial viability of the project(s) on this list. Item #10 on following page is provided for informational purposes only based on data submitted by applicant.

By: _____ Date: 10-28-15

Carl P. Teter, P.E., LEED AP, Associate Vice President
App# 33127CHP

1. Application Number: **33127CHP**

2. Program Name: **Combined Heat and Power/Fuel Cell Program (Small)**

3. Customer Contact (name, company, address, phone #):
   Stephen Branscum, Senior Renewable Energy Project Manager
   Walmart
   702 S.W. 8th Street, Bentonville AR 72716
   479-273-6585

4. Project Name and Address:
   Walmart Williamstown
   1840 South Black Horse Pike Williamstown, NJ 08094

5. Rebate amount:
   Incentive #1: $180,000
   Incentive #2: $360,000
   Incentive #3: $60,000
   Total: $600,000

6. Brief description of Fuel Cell to be installed: **One (1) Bloom Energy ES-5700 200 kW fuel cell. Annual efficiency is 56.0%. No waste heat component.**

7. Annual Estimated Energy Savings:
   Expected Annual Electricity Production: 1,752,000 kWh (approx. 44% of annual electricity consumption based on previous utility data).
   Expected Annual Thermal Energy Production: N/A

8. Project Cost: **$2,395,542 (including 10 year maintenance cost)**

9. Project Funding Type (capital purchase, lease, finance, PPA, other/describe): **Power Purchase Agreement**

10. Financials: **First year annual cost savings of $75,400.87, average annual cost savings of $95,264.88. Simple payback period w/o incentive is 18.7 years, with incentive is 14.0 years.**

    Note the above financials are based on the total project cost (as listed in #8) and the expected energy cost savings. The contractor, Bloom Energy, would like to clarify that "the project structure is a Power Purchase Agreement and as such there is no traditional 'payback period'. Customer savings begin on the first day. In addition, the payback to the owner of the project company [Bloom] on its invested capital for this multi-site contract is less than five years", which incorporates cost savings from the Federal Investment Tax Credit (currently 30% for fuel cells) and depreciation.

Program Coordinator Certification
(New Incentive Commitments > $500,000)

I, **Maura Watkins** , hereby certify that in its role as Program Coordinator, Applied Energy Group, Inc. has reviewed the referenced below, as required by the policies and procedures applicable to each program, that the standardized equipment incentives for which TRC now seeks approval to commit have been calculated in accordance with those policies and procedures, and that the amount shown below is the true and accurate estimated incentive for which the applicant(s) is(are) eligible.

For incentives based on uniquely calculated estimated energy savings, including the Custom Program, Pay for Performance, Combined Heat & Power and Large Energy Users Program, Applied Energy Group certifies locating documentation supporting the inputs used to calculate the rebate amount and evidencing TRC's evaluation of those inputs as required by the program's policies and procedures.

Maura H Watkins

By: _____ Date: **10-27-2015**

Maura Watkins

Quality Assurance Manager - Applied Energy Group, Inc.

Ref:
App # **33193CHP**

Applicant **Credit Suisse Securities (USA), LLC**

Payee **Credit Suisse (USA) Inc**

Committed Amount: **$2,000,000.00**

Market Manager Certification
(New Incentive Commitments > $500,000)

I Carl Teter hereby certify that application(s) on the attached list have been reviewed by TRC or its subcontractors as required by the policies and procedures applicable to each program, that the incentives for which TRC now seeks approval to commit have been calculated in accordance with those policies and procedures, and that the listed amounts are the true and accurate estimated incentives for which each applicant is eligible. This review does not include an analysis of the financial viability of the project(s) on this list. Item #10 on following page is provided for informational purposes only based on data submitted by applicant.

By: _____ Date: 10-29-15

Carl P. Teter, P.E., LEED AP, Associate Vice President
App# 33193CHP

1. Application Number: **33193CHP**

2. Program Name: **Combined Heat and Power/Fuel Cell Program (Small)**

3. Customer Contact (name, company, address, phone #):
   James M. Drubel, Director
   Credit Suisse
   1 Madison Ave New York, New York 10010
   212-325-6921

4. Project Name and Address:
   Credit Suisse
   700 College Rd Plainsboro, NJ 08536

5. Rebate amount:
   Incentive #1: $600,000
   Incentive #2: $1,200,000
   Incentive #3: $200,000
   Total: $2,000,000

6. Brief description of Fuel Cell to be installed: **Three (3) Bloom Energy ES-5710 250 kW fuel cells for a total of 750 kW. Annual efficiency is 56.0%. No waste heat component.**

7. Annual Estimated Energy Savings:
   Expected Annual Electricity Production: 6,570,000 kWh (approx. 19% of annual kWh consumption based on previous utility data).
   Expected Annual Thermal Energy Production: N/A

8. Project Cost: **$9,699,761 (including 10 year maintenance costs).**

9. Project Funding Type (capital purchase, lease, finance, PPA, other/describe): **Lease**

10. Financials: **First year annual cost savings $455,710.96. Average annual cost savings $140,147.77. 21.3 year payback without incentives, 16.9 years with.**

    Note the above financials are based on the total project cost (as listed in #8) and the expected energy cost savings. The contractor, Bloom Energy, would like to clarify that "The Credit Suisse Data Center Project is a lease arrangement in which Bank of America is the lessor. As a result there is no 'simple payback period' in the traditional sense since there is no upfront capital cost by Credit Suisse; rather Credit Suisse will make annual financing payments over the course of the lease term."