AIR DERC_101062099-407403_
USE_20130130_Use

01/30/2013 ---------- EBTP IMS- PROJECT RECORD ----------

PROJECT#: 407403 STATUS: P DISP CODE: W ✓
RECEIVED: 11/19/2012 PROJTYPE: BDIU ISSUED DT: _____
SUP-DISP DATE: 1/30/2013

STAFF ASSIGNED TO PROJECT:
BANDA, DANIEL

PROJECT NOTES: Groupwise Doc: LTR 19872

USE PERIOD 1/1/2013 - 5/31/2013

MEMC'S USE PERIOD IS NORMALLY AN ENTIRE YEAR BUT THEY DID NOT PURCHASE ENOUGH CREDITS IN TIME. THEY WILL OBTAIN MORE DERCS AND SUBMIT ANOTHER DEC-2 FOR THE REMAINING PORTION OF THE YEAR.

PROJECT HOLD: WAITED ON COMPANY TO RESPOND TO QUESTIONS REGARDING STACK TESTS AND RETESTING.

UPDATE: PROJECT WILL BE WITHDRAWN. COMPANY IS APPLICABLE TO THE MECT PROGRAM. DEC USE IS NOT NECESSARY.

PROJECT TRANSACTIONS

COMPANY DATA

COMPANY NAME: MEMC PASADENA INC
CUSTOMER REGISTRY ID: CN600619415

PORTFOLIO DATA

NUMBER: P0442 NAME: MEMC PASADENA - RN101062099

SITE DATA

ACCOUNT: HX0029W
REG ENTITY ID: RN101062099
SITE NAME: MEMC PASADENA
COUNTY: HARRIS NEAREST CITY: PASADENA
LOCATION: 3000 N. SOUTH STREET

CONTACT DATA

TRANSACTION DATA

TRANSACTION TYPE: DERC_INTEN
DATE ENTERED: 2013-01-30 00:00:00.0 DELETED DATE: EFFECTIVE YEAR:
CONTAMINATE: **NOX** TONS: **0** DOLLARS: **0**
ALLOWANCE CERTIFICATE NO.: **0** COUNTY : **HARRIS**

TRACKING ACTIVITES

PM RECEIVED DATE :	11/26/2012	PROJECT HOLD :	11/26/2012	12/12/2012	PM REQUESTS PEER REVIEW : 12/13/2012
PM REQUESTS WORK LEAD REVIEW :	12/21/2012				

Daniel Banda

From: Florence Rodriguez <FRodriguez@memc.com>
Sent: Wednesday, January 30, 2013 10:19 AM
To: Daniel Banda
Subject: RE: Withdrawl of DEC-2 - MEMC Pasadena

Daniel,

I am confirming the withdrawal of the DEC-2 form (Intent to Use) for the period of 1/1/2013 – 5/31/2013.

Regards,

Florence Rodríguez
Environmental Engineer
MEMC Pasadena, Inc.
3000 N. South St
Pasadena, TX 77503
P: 713-740-1548
M: 281-935-7609
F: 713-740-1499

From: Daniel Banda [mailto:daniel.banda@tceq.texas.gov]
Sent: Wednesday, January 30, 2013 10:12 AM
To: Florence Rodriguez
Subject: Withdrawl of DEC-2 - MEMC Pasadena

Florence,

Re:
MEMC Pasadena, Inc.
RN101062099

MEMC Pasadena is applicable to the MECT program. Because compliance will now be achieved through participation in the MECT program, you no longer need use DERCs for compliance with Chapter 117. Please withdraw the DEC-2 form (Intent to Use) for the period of 1/1/2013 – 5/31/2013. In addition, any DERCs set aside for use during the 2012 period will be returned to your account for future use.

Please respond to this email to confirm that you would like to withdraw the aforementioned DEC-2 form. Thanks.

Daniel A. Banda
Texas Commission on Environmental Quality
Emissions Banking and Trading Program
Air Quality Division
Phone: (512) 239-4701
Fax: (512) 239-5687

TCEQ

Form DEC-2 (Page 1)
Notice of Intent to Use Discrete Emission Credits
(Title 30 Texas Administrative Code § 101.370 - § 101.379)

407403 MR

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NOV 19 2012
AIR QUALITY
DIVISION

I. Company Identifying Information		
A. Company Name: MEMC Pasadena Inc.		
Mailing Address: P. O. Box 2012		
City: Pasadena	State: Texas	Zip Code: 77501
Telephone:713-740-1548		Fax: 713-740-1499
B. TCEQ Customer Number (CN): CN600619415 ✓		
C. Site Name: MEMC Pasadena		
Street Address (If no street address, give driving directions to site): 3000 N. South St		
Nearest City: Pasadena	Zip Code: 77503	County: Harris
D. TCEQ Regulated Entity Number (RN): RN101062099 ✓		P0442
E. TCEQ Air Account Number: (*if applicable*) HX-0029-W ✓		
F. Primary SIC: 2819		Air Permit Number: NSR 9597

II. Technical Contact Identifying Information		
A. Technical Contact Name: (☐ Mr. ☐ Mrs. ☒ Ms. ☐ Dr.) :Florence Rodriguez		
Technical Contact Title: Environmental Engineer		
Mailing Address: P. O. Box 2012		
City: Pasadena	State: Texas	Zip Code: 77501
Telephone: 713-740-1548	Fax: 713-740-1499	E-mail: frodriguez@memc.com

III. Company Contact Identifying Information (*If different from Technical Contact*)		
A. Company Contact Name: (☒ Mr. ☐ Mrs. ☐ Ms. ☐ Dr.) : Shawn Sandefur		
Company Contact Title: ESH Manager		
Mailing Address: P. O. Box 2012		
City: Pasadena	State: Texas	Zip Code: 77501
Telephone: 713-740-1456	Fax:	E-mail: ssandefur@memc.com

IV. Mass Emission Cap and Trade Program (MECT)

Is the DERC use for compliance with 30 TAC Chapter 101 Subchapter H, Division 3? ☐YES ☒ NO

Year DERC Generated: _____ Year of Use: _____ Ratio of DERC to Allowance: ____to____

Note: If DERC use is to comply with MECT then go to Section IX

V. Intended Use Period

Intended Use Start Date: 01 /01/2013 Intended Use End Date: 5 / 31 /2013

Form DEC-2 (Page 3)
Notice of Intent to Use Discrete Emission Credits
(Title 30 Texas Administrative Code § 101.370 - § 101.379)

IX. Tons of DERCS Required

Emission Point No.	FIN	Air Contaminant	Calculation of DERCs						
			Expected Activity (units)	Expected Emission Rate (units)	Expected Total Emissions (tons)	Regulated Activity (units)	Regulated Emission Rate (units)	Regulated Total Emissions (tons)	DERCs (tons)
Y-C-1	Y-C-1	NOx	14016 MMBtu	0.071 (lbs/MMBtu)	0.4976	N/A	0.036 (lbs/MMBtu)	0.2523	0.2453 ✓
Y-C-101	Y-C-101	NOx	22520 MMBtu	0.074 (lbs/MMBtu)	0.8333	N/A	0.036 (lbs/MMBtu)	0.4054	0.4279 ✓
Y-C-201	Y-C-201	NOx	14347 MMBtu	0.088 (lbs/MMBtu)	0.6313	N/A	0.036 (lbs/MMBtu)	0.2582	0.3730 ✓
Y-C-301	Y-C-301	NOx	22415 MMBtu	0.105 (lbs/MMBtu)	1.1768	N/A	0.036 (lbs/MMBtu)	0.4035	0.7733 ✓
SBG-1	PBR: 106.511	NOx	21792 (hp-hr)	8.42 (g/hp-hr)	0.2023	N/A	4.5 (g/hp-hr)	0.1081	0.0942 ✓
SBG-2	PBR: 106.511	NOx	21792 (hp-hr)	7.73 (g/hp-hr)	0.1857	N/A	4.5 (g/hp-hr)	0.1081	0.0776 ✓
								Total:	1.9912 ✓

Form DEC-2 (Page 4)
Notice of Intent to Use Discrete Emission Credits
(Title 30 Texas Administrative Code § 101.370 - § 101.379)

X. Total DERCS Required for Use (round up to the nearest tenth of a ton)					
Tons of DERCs required (from Sect. VII.)	CO:	NO_X: 2.0	PM_{10}:	SO_2:	VOC:
Offset Ratio (if required)	CO:	NO_X:	PM_{10}:	SO_2:	VOC:
Environmental Contribution (+ 10%)	CO:	NO_X: 0.2	PM_{10}:	SO_2:	VOC:
Compliance Margin (+ 5%) *(If DERC use requires >10 tons)*	CO:	NO_X:	PM_{10}:	SO_2:	VOC:
Total DERCs	**CO:**	**NO_X: 2.2**	**PM_{10}:**	**SO_2:**	**VOC:**

XI. DERC Information

Name of the DERC Generator: MEMC Pasadena, Inc.;
DERC Generator Regulated Entity Number: 101062099
Certificate number of the DERCs acquired or to be acquired: D2878
Date on which the DERCs were acquired or will be acquired: 11/7/2011
Note: The certificate number is assigned by the TCEQ

XII. Certification by Responsible Official

I, Robin Prokop, hereby certify, to the best of my knowledge and belief, that this application is correct and the use strategy claimed on this notice has met the requirements of all applicable state and federal rules and regulations. I further state that to the best of my knowledge and belief the information in this certification is not in any way in violation of 30 TAC, Subchapter H, Division 4, §101.370-101.379 or any applicable air quality rule or regulation of the Texas Commission on Environmental Quality and that intentionally or knowingly making or causing to be made false material statements or representations in this certification is a CRIMINAL OFFENSE subject to criminal penalties. I hereby also waive the Federal statute of limitations defense in regards to the generation and use of discrete emission credits.

Signature [signature] Signature Date 11-14-12

Title MEMC PLANT MANAGER

Form DEC-2 (Page 2)
Notice of Intent to Use Discrete Emission Credits
(Title 30 Texas Administrative Code § 101.370 - § 101.379)

VI. State and Federal Requirements

Applicable State and Federal requirements that the DERCs will be used for compliance:
30 TAC 117.2010(c)(1)(A)
30 TAC 117.2010(c)(4)(B)(vi)(II)

VII. Most Stringent Emission Rate

Describe basis for most stringent allowable emission rate:

☐ Permit _____ ☐ RACT _____ ☒ Other: 0.036 lbs NOx/ MMBtu (1)
☐ Permit _____ ☐ RACT _____ ☒ Other: 4.5 g NOx/ hp-hr (2)

Notes:

(1) Corresponds to 30 TAC 117.2010(c)(1)(A)
(2) Corresponds to 30 TAC 117.2010(c)(4)(B)(vi)(II)

VIII. Protocol

Protocol used to calculate DERC: 30 TAC §101.376(d)(2
Note: Attach the actual calculations that were used to determine the amounts of DERCs needed to this form

Continue to Section IX (next page)

NOx Credits Required for Compliance with 30 TAC 117 Limits
MEMC Pasadena, Inc. – Pasadena, Texas
01/01/2013 – 5/31/2013

Discrete emission credit use was calculated using 30 TAC §101.376 guidelines. Under 30 TAC §101.376(d)(2), the number of emission credits needed to maintain compliance with Chapter 117, is determined according to the following equation plus additional 10% to be retired as an environmental contribution.

$$DECs = ELA \times (EER - RER)$$

Where:

ELA = expected annual activity
EER = expected emission rate per unit of activity
RER = regulatory emission rate per unit of activity (required by Chapter 117)

Furnace F-9180 (Y-C-1) Discrete Emission Credit Use:

EER = 0.071 lbs/MMBtu [Measured emission rate during July 2005 stack test]
RER = 0.036 lbs/MMBtu [30 TAC 117.2010(c)(1)(A)]
ELA = annual activity level [Maximum heat output from stack test]

$$= \frac{3.84 \text{ MMBtu}}{\text{hr}} \times \frac{3650 \text{ hr}}{\text{period}} = 14{,}016 \text{ MMBtu}$$

DECs = ELA x (EER – RER)
DECs = 14,016 MMBtu x (0.071-0.036) lbs/MMBtu
DECs = 490.554 lbs = 0.2453 tons

Furnace F-91180 (Y-C-101) Emission Credit Use:

EER = 0.074 lbs/MMBtu [Measured emission rate during February 2005 stack test]
RER = 0.036 lbs/MMBtu [30 TAC 117. 2010(c)(1)(A)]
ELA = annual activity level [Maximum heat output from stack test]

$$= \frac{6.17 \text{ MMBtu}}{\text{hr}} \times \frac{3650 \text{ hr}}{\text{period}} = 22{,}520 \text{ MMBtu}$$

DECs = ELA x (EER – RER)
DECs = 22,520 MMBtu x (0.074-0.036) lbs/MMBtu
DECs = 855.776 lbs = 0.4279 tons

Furnace F-91280 (Y-C-201) Emission Credit Use:

EER = 0.088 lbs/MMBtu [Measured emission rate during February 2011 stack test]
RER = 0.036 lbs/MMBtu [30 TAC 117.2010(c)(1)(A)]
ELA = annual activity level [Maximum heat output from stack test]
= 3.93 MMBtu / hr x 3650 hr / period = 14,347 MMBtu

DECs = ELA x (EER – RER)
DECs = 14,347 MMBtu x (0.088-0.036) lbs/MMBtu
DECs = 746.047 lbs = 0.3730 tons

Furnace F-91380 (Y-C-301) Emission Credit Use:

EER = 0.105 lbs/MMBtu [Measured emission rate during February 2011 stack test]
RER = 0.036 lbs/MMBtu [30 TAC 117.2010(c)(1)(A)]
ELA = annual activity level [Maximum heat output from stack test]
= 6.14 MMBtu / hr x 3650 hr / period = 22,415 MMBtu

DECs = ELA x (EER – RER)
DECs = 22,415 MMBtu x (0.105-0.036) lbs/MMBtu
DECs =1546.611 lbs = 0.7733 tons

2,498 hp Emergency Generator SBG-1 (PBR-106.511) Emission Credit Use:

EER = 8.42 g/hp-hr [Measured emission rate during August 2012 stack test]
RER = 4.5 g/hp-hr [30 TAC 117.2010(c)(4)(B)(vi)(II)
ELA = 21792 hp-hr

DECs = ELA x (EER – RER)
DECs = 21792 hp-hr x (8.42-4.5) g/hp-hr
DECs = 85423.107 g = 0.0942 tons

2,498 hp Emergency Generator SBG-2 (PBR-106.511) Emission Credit Use:

EER = 7.73 g/hp-hr [Measured emission rate during August 2012 stack test]
RER = 4.5 g/hp-hr [30 TAC 117.2010(c)(4)(B)(vi)(II)
ELA = 21792 hp-hr

DECs = ELA x (EER – RER)
DECs = 21792 hp-hr x (8.42-4.5) g/hp-hr
DECs = 70386.897 g = 0.0776 tons

Number of NOx credits required for compliance with 30 TAC 117.2010(c):

NOx credits= ($DECs_{,F9180} + DECs_{,F91180} + DEC_{91280} + DEC_{F91380} + DEC_{SBG-1} + DEC_{SBG-2}$)
= (0.2453 + 0.4279 + 0.3730 + 0.7733 + 0.0942 + 0.0776) tons
= 2.0 tons (rounded up to nearest tenth of a ton)

Environmental Contribution (+10%):

Contribution = (DERCs required) x (0.10)
= (2.0 tons)(0.10)
= 0.2 tons (rounded up to nearest tenth of a ton)

Total DERCs Required for 2012 Year:

Total DERCs = (NOx Credits) + (Env Contribution)
= (2.0 + 0.2) tons
= 2.2 tons

Daniel Banda

From: Florence Rodriguez <FRodriguez@memc.com>
Sent: Monday, December 03, 2012 2:43 PM
To: Daniel Banda
Subject: RE: MEMC Pasadena DERC Intent to Use for 1/1/12-5/31/13

Let me look into that a little bit further. I wasn't here at the time of that test.

Florence

From: Daniel Banda [mailto:daniel.banda@tceq.texas.gov]
Sent: Monday, December 03, 2012 2:40 PM
To: Florence Rodriguez
Subject: RE: MEMC Pasadena DERC Intent to Use for 1/1/12-5/31/13

Thanks for the information. The summary reports for the engines look good.

However, based on the summary table for the furnaces, it appears that each test consisted of one run. The rules under 30 TAC 117.8000 require that each stack test consist of 3, 60 min runs (like the stack tests conducted for the engines) unless you get approval from the region to deviate from this protocol. Do you know if the regional office reviewed the tests for the furnaces and/or did they give authorization to deviate from the testing protocols in 117.8000?

From: Florence Rodriguez [mailto:FRodriguez@memc.com]
Sent: Monday, December 03, 2012 2:03 PM
To: Daniel Banda
Subject: RE: MEMC Pasadena DERC Intent to Use for 1/1/12-5/31/13

Daniel,

Attached are the summaries for the furnaces and the generators stack tests. Let me know if you have any questions or need anything else.

Regards,

Florence

From: Daniel Banda [mailto:daniel.banda@tceq.texas.gov]
Sent: Monday, December 03, 2012 12:22 PM
To: Florence Rodriguez
Subject: RE: MEMC Pasadena DERC Intent to Use for 1/1/12-5/31/13

Good Afternoon,

I was looking through the old technical reviews for this site and I read project note that stated emissions tests would be conducted in February of 2012 for FINs Y-C-201 and Y-C-301. From what I gather, the previous emissions test were not conducted in accordance with the testing requirements under §117.8000. Have new tests been conducted?

In addition, can you please submit copies of the summary pages for the August 2012 stack tests (via email) for FINs SBG-1 and SBG-2.

-Daniel

From: Florence Rodriguez [mailto:FRodriguez@memc.com]
Sent: Friday, November 30, 2012 1:48 PM
To: Daniel Banda
Subject: RE: MEMC Pasadena DERC Intent to Use for 1/1/12-5/31/13

Daniel,

You are right, they do not meet the standards. We tried to exempt them last year since they are used just for emergencies but they don't meet the requirements. We actually have three emergency generators, one of them meets the standard but the two bigger ones do not.

Thanks for checking with us on both the use period and the exemption. Do not hesitate to contact me if you have any other questions.

Regards,

Florence Rodríguez
Environmental Engineer
MEMC Pasadena, Inc.
3000 N. South St
Pasadena, TX 77503
P: 713-740-1548
M: 281-935-7609
F: 713-740-1499

From: Daniel Banda [mailto:daniel.banda@tceq.texas.gov]
Sent: Friday, November 30, 2012 1:29 PM
To: Florence Rodriguez
Subject: MEMC Pasadena DERC Intent to Use for 1/1/12-5/31/13

Florence,

Thanks for taking the time to speak with me earlier.

The two emergency diesel engines listed in the notice of intent to use (SBG-1 and SBG-2) are exempt from the requirements of 30 TAC Chapter 117.2010 ***if*** they meet the exemption requirements under 30 TAC 117.2003(a)(2)(I)(i) and (ii). Based on the expected activity represented in the notice for these engines, it appears that subpart (i) is satisfied but I do not think subpart (ii) is.

Subpart (ii) states that the emergency engine must meet the emission standard for non-road engines listed in 40 CFR 89.112(a), Table 1. I don't think that your engines meet the standard but I would like you to verify. Thanks.

Here is a link to the table. http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&SID=48bb1868ce63598ab65605f7a5df9a5c&rgn=div8&view=text&node=40:21.0.1.1.3.2.1.12&idno=40

All the best,
Daniel A. Banda
Texas Commission on Environmental Quality
Emissions Banking and Trading Program
Air Quality Division
Phone: (512) 239-4701

TENERX CORP.

303 LAUREL • P.O. BOX 1444 • FRIENDSWOOD, TEXAS 77549 • (281) 482-5801

SECTION 1.0 - SUMMARY

Tenerx Corporation conducted an emission compliance test program on 1750 EKW Emergency Generator, Emission Point Numbers (EPN SBG-1 and SBG-2), model number 3516 DITA at the MEMC Pasadena Inc., located in Pasadena, Texas on August 6 and 9, 2012. The compliance testing emission limits for NOx and CO are covered under 30 TAC Chapter 117 of the Texas Commission on Environmental Quality (TCEQ). The objective of the program was to determine the Nitrogen Oxides (NOx), Carbon Monoxide (CO) and Oxygen (O2) emissions from the emergency generator for purposes of determining emissions compliance. This program was coordinated through Ms. Florence Rodriguez, Environmental Engineer of MEMC Pasadena Inc., Pasadena, Texas.

The emission compliance diesel engine test was conducted on the two 1750 EKW Emergency Generators (EPN) SBG-1 and SBG-2 at 1250 EKW or 71.45 percent of generator load. The generators SBG-1 and SBG-2 will not be operated above 1250 EKW. Fuel fired during testing was diesel and the units were operating at normal conditions. The compressor engine compliance tests consisted of conducting three sixty minute test runs on each unit measuring the stack gas concentrations of NOx, CO, excess Oxygen (O2) and Carbon Dioxide (CO2). Reference Methods 3A, 7E and 10 were used to measure the concentrations of O2, NOx and CO, respectively. The emission compliance was determined based on the average of three test runs on each unit. The NOx and CO emission limit is permitted under the TAC, Title 30, Part 1, Chapter 117, Subchapter D, Division 1, Rule 117.2010. The NOx limit is 4.5 g/hp-hr, and the limit for CO is 400 ppmv at 3% O2 or 3 g/hp-hr. The compliance test emission results are presented in Table 1 and Table 1b, and show the compressors failed the permit by rule Chapter 117 limits for NOx.

Tenerx was responsible for the testing procedures outlined above. Mr. Jason Youngblood, Sr. Test Specialist and Mr. Roy Cannon, Environmental Technician were the test personnel for Tenerx. The following sections delineate the test methods, equipment description, and test results. The appendices present the field "raw" data, equipment calibrations, data calculations, process data, Tenerx CEM manufacturer's specifications, calibration gas certifications, chain of custody, resumes and personnel information.

TENERX CORP.
P.O. Box 1444 • Friendswood, TX 77549
(281) 482-5801

Table 1
MEMC Pasadena Inc.
Pasadena, Texas
Emergency Generator (EPN) SBG-1
NOx, CO and O2 Compliance Test Results
August 9, 2012

Polluntant	Pollutant Conc. (ppmv,dry)	Pollutant (g/bhp-hr)	O2 %	Allowable Permit (g/bhp-hr)	Allowable Permit (ppmv@ 3% O2)	Allowable Exceeded (Yes/No)
NOx	1090.69	8.42	12.15	4.5	N/A	Yes
CO	257.00	1.21	12.15	3.0	400	No

Average of three sixty minute tests.

Texas commission on environmental quality control of air pollution from nitrogen compounds for combustion controll at minor sources in ozone nonattainment areas. TAC, Title 30,

Part 1, Chapter 117, Subchapter D, Division 1, Rule 117.2010

TENERX CORP.
P.O. Box 1444 • Friendswood, TX 77549
(281) 482-5801

Table 1b
MEMC Pasadena Inc.
Pasadena, Texas
Emergency Generator (EPN) SBG-2
NOx, CO and O2 Compliance Test Results
August 6, 2012

Polluntant	Pollutant Conc. (ppmv,dry)	Pollutant (g/bhp-hr)	O2 %	Allowable Permit (g/bhp-hr)	Allowable Permit (ppmv@ 3% O2)	Allowable Exceeded (Yes/No)
NOx	548.80	7.73	16.12	4.5	N/A	Yes
CO	167.18	1.43	16.12	3.0	400	No

Average of three sixty minute tests.

Texas commission on environmental quality control of air pollution from nitrogen compounds for combustion controll at minor sources in ozone nonattainment areas. TAC, Title 30,
Part 1, Chapter 117, Subchapter D, Division 1, Rule 117.2010

TENERX CORP.
P.O. Box 1444 • Friendswood, TX 77549
(281) 482-5801

Table 1
Furnace PA 23 (F-91280)
02-17-11
Pasadena, Texas
NOx, CO and O2 Results

Furnace PA 23	Concentration/Rates	Results
Times		1:20-14:57
Date		2-17-11
O2	(%)	16.54
CO2	(%)	2.40
Temperature	(F)	320.00
Moisture	(%)	5.40
Static Head	(inH2O)	-0.05
Velocity	(ft/sec)	18.11
Stack Gas Flow	(dscfm)	2114.21
*Fuel Flow	(scfm)	56.97
CO Concentrations	(ppmv)	468.74
	(ppmv) 3%O2	1924.41
	lbs/MMBtu	1.423
CO Mass Rate	(lb/hr)	4.32
NOx Concentrations	(ppmv)	17.62
	(ppmv) 3%O2	72.34
	lbs/MMBtu	0.088
NOx Mass Rate	(lb/hr)	0.27

*Based on plant fuel flow		
CO Mass Rate	(lb/hr)	5.06
NOx Mass Rate	(lb/hr)	0.31

*plant fuel flow avg from sampling time = 170.9 lb/hr

*density of nat. gas used for MEMC for fuel flow .05 lb/ft3 (avg density of nat. gas)

TENERX CORP.
P.O. Box 1444 • Friendswood, TX 77549
(281) 482-5801

Table 2
Furnace PA 24 (F-91380)
02-18-11
Pasadena, Texas
NOx, CO and O2 Results

Furance PA-24	Concentration/Rates	Results
Time		11:50-13:31
Date		2-18-11
O2	(%)	13.74
CO2	(%)	2.40
Temperature	(F)	467.00
Moisture	(%)	7.50
Static Head	(inH2O)	-0.05
Velocity	(ft/sec)	17.62
Stack Gas Flow	(dscfm)	1692.48
*Fuel Flow	(scfm)	89.00
CO Concentrations	(ppmv)	11.31
	(ppmv) 3%O2	28.28
	lbs/MMBtu	0.02
CO Mass Rate	(lb/hr)	0.08
NOx Concentrations	(ppmv)	34.74
	(ppmv) 3%O2	86.85
	lbs/MMBtu	0.105
NOx Mass Rate	(lb/hr)	0.42

*Based on plant fuel flow		
CO Mass Rate	(lb/hr)	0.12
NOx Mass Rate	(lb/hr)	0.59

*plant fuel flow avg from sampling time = 267 lb/hr

*density of nat. gas used for MEMC for fuel flow .05 lb/ft3 (avg density of nat. gas)

MEMC

TECHNOLOGY IS BUILT ON US

MEMC Pasadena, Inc.

3000 N. South Street
Pasadena, TX 77503
Post Office Box 2012
Pasadena, TX 77501
USA

Phone: 713-740-1548
Fax: 713-740-1499
www.memc.com

November 14, 2012

Emission Banking and Trading Program
Texas Commission on Environmental Quality MC-206
P.O. Box 13087
Austin, TX 78711-3087

Re: Discrete Emission Credits
MEMC Pasadena, Inc.
3000 N. South Street
Pasadena, Texas 77503
CN600619415, RN101062099

To Whom It May Concern:

Please find the enclosed DEC-2 form for use period 1/1/2013 to 5/31/2013.

Please feel free to contact me at 713-740-1548 if you have any questions regarding this form.

Sincerely,

Florence Rodríguez
Environmental Engineer

INTENT PROJECT	INTENT RECEIVED	INTENT CERTIFICATE	INTENT AMOUNT	TOTAL AMOUNT	PERIOD START DATE	PERIOD END DATE	USE PROJECT	USE RECEIVED	USE AMOUNT	USE CERTIFICATE
400424	1/30/2006	D2091	0.1	3.2	3/18/2006	3/31/2006	401169	9/7/2006	0.1	D2158
400423	1/30/2006	D1248	1.8	5	4/1/2006	3/31/2007	405137	12/6/2010	1.8	D2711
405142	12/10/2010	D2709	0.1	0.6	4/1/2006	3/31/2007	405137	12/6/2010	0.1	D2713
401902	6/18/2007	D2092	0.8	3.1	8/1/2007	12/31/2007	405138	12/6/2010	0.2	D2708
405139	12/6/2010	D2699	0.1	0.3	1/1/2008	12/31/2008	403672	4/3/2009	0.1	D2712
405139	12/6/2010	D2700	1.6	1.6	1/1/2008	12/31/2008	403672	4/3/2009	1.6	D2700
405139	12/6/2010	D2702	0.3	0.3	1/1/2008	12/31/2008	403672	4/3/2009	0.3	D2702
404002	8/11/2009	D2207	2	2.3	1/1/2009	12/31/2009	404816	4/6/2010	2	D2703
404105	12/29/2009	D2672	1.4	3	1/1/2010	9/8/2010	405141	12/6/2010	1.4	D2701
405140	12/29/2009	D2670	0.7	1	9/9/2010	12/31/2010	405845	4/5/2011	0.7	D2767
406247	1/3/2012	D2706	0.2	0.2	1/1/2011	12/31/2011	406724	3/1/2012	0.2	D2706
405238	1/24/2011	D2733	2	3	1/1/2011	12/31/2011	406724	3/1/2012	2	D2888
406247	1/3/2012	D2737	1	1	1/1/2011	12/31/2011	406724	3/1/2012	1	D2737
406247	1/3/2012	D2856	0.1	2.3	1/1/2011	12/31/2011	406724	3/1/2012	0.1	D2889
406187	11/18/2011	D2854	5.7	8	1/1/2012	12/31/2012				
407403	11/19/2012	D2878	2.2	2.2	1/1/2013	5/31/2013				

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Brandon Greulich, Work Lead EBTP				
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