

STATE OF LOUISIANA

DEPARTMENT OF ENVIRONMENTAL QUALITY

IN THE MATTER OF:

UNION CARBIDE CORPORATION

AI # 2083

PROCEEDINGS UNDER THE LOUISIANA
ENVIRONMENTAL QUALITY ACT
LA. R.S. 30:2001, ET SEQ.

* Settlement Tracking No.
* SA-AE-21-0057
*
* Enforcement Tracking No.
* AE-PP-14-01079
*
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SETTLEMENT

The following Settlement is hereby agreed to between Union Carbide Corporation (“Respondent”) and the Department of Environmental Quality (“DEQ” or “the Department”), under authority granted by the Louisiana Environmental Quality Act, La. R.S. 30:2001, et seq. (“the Act”).

I

Respondent is a corporation that owns and/or operates the Olefins 1 and 2 Plants at the St. Charles Operations, a facility located in Taft, St. Charles Parish, Louisiana (“the Facility”).

II

On April 18, 2018, the Department issued to Respondent a Notice of Potential Penalty, Enforcement No. AE-PP-14-01079 (Exhibit 1).

III

Respondent denies it committed any violations or that it is liable for any fines, forfeitures and/or penalties.

IV

Nonetheless, Respondent, without making any admission of liability under state or federal

statute or regulation, agrees to pay, and the Department agrees to accept, a payment in the amount of TWENTY THOUSAND EIGHT HUNDRED AND NO/100 DOLLARS (\$20,800.00), of which One Thousand Eight Hundred Forty-Three and 86/100 Dollars (\$1,843.86) represents the Department's enforcement costs, in settlement of the claims set forth in this agreement. The total amount of money expended by Respondent on cash payments to the Department as described above, shall be considered a civil penalty for tax purposes, as required by La. R.S. 30:2050.7(E)(1).

V

Respondent further agrees that the Department may consider the permit record(s), the Notice of Potential Penalty and this Settlement for the purpose of determining compliance history in connection with any future enforcement or permitting action by the Department against Respondent, and in any such action Respondent shall be estopped from objecting to the above-referenced documents being considered as proving the violations alleged herein for the sole purpose of determining Respondent's compliance history.

VI

This agreement shall be considered a final order of the Secretary for all purposes, including, but not limited to, enforcement under La. R.S. 30:2025(G)(2), and Respondent hereby waives any right to administrative or judicial review of the terms of this agreement, except such review as may be required for interpretation of this agreement in any action by the Department to enforce this agreement.

VII

This settlement is being made in the interest of settling the state's claims and avoiding for both parties the expense and effort involved in litigation or an adjudicatory hearing. In agreeing to the compromise and settlement, the Department considered the factors for issuing civil penalties

set forth in La. R. S. 30:2025(E) of the Act.

VIII

As required by law, the Department has submitted this Settlement Agreement to the Louisiana Attorney General for approval or rejection. The Attorney General's concurrence is appended to this Settlement Agreement.

IX

The Respondent has caused a public notice advertisement to be placed in the official journal of the parish governing authority in St. Charles Parish, Louisiana. The advertisement, in form and wording approved by the Department, announced the availability of this settlement for public view and comment and the opportunity for a public hearing. Respondent has submitted an original proof-of-publication affidavit and an original public notice to the Department and, as of the date this Settlement is executed on behalf of the Department, more than forty-five (45) days have elapsed since publication of the notice.

X

Payment is to be made within ten (10) days from notice of the Secretary's signature. If payment is not received within that time, this Agreement is voidable at the option of the Department. Payments are to be made by check, payable to the Department of Environmental Quality, and mailed or delivered to the attention of Accountant Administrator, Financial Services Division, Department of Environmental Quality, Post Office Box 4303, Baton Rouge, Louisiana, 70821-4303. Each payment shall be accompanied by a completed Settlement Payment Form (Exhibit A).

XI

In consideration of the above, any claims for penalties are hereby compromised and settled

in accordance with the terms of this Settlement.

XII

Each undersigned representative of the parties certifies that he or she is fully authorized to execute this Settlement Agreement on behalf of his or her respective party, and to legally bind such party to its terms and conditions.

UNION CARBIDE CORPORATION

BY: Karen Williams
(Signature)

Karen Williams
(Printed)

TITLE: Louisiana Leveraged Environmental Delivery Leader

THUS DONE AND SIGNED in duplicate original before me this 22nd day of OCTOBER, 20 21, at EAST BATON ROUGE PARISH

Kyle Beall
NOTARY PUBLIC (ID # 24957)

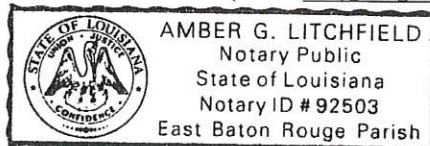
KYLE BEALL
(stamped or printed)

LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY
Chuck Carr Brown, Ph.D., Secretary

BY: [Signature]
Lourdes Iturralde, Assistant Secretary
Office of Environmental Compliance

THUS DONE AND SIGNED in duplicate original before me this 30th day of December, 20 21, at Baton Rouge, Louisiana.

[Signature]
NOTARY PUBLIC (ID # 92503)



(stamped or printed)

Approved: [Signature]
Lourdes Iturralde, Assistant Secretary

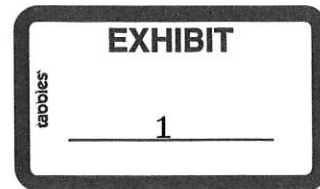
JOHN BEL EDWARDS
GOVERNOR



CHUCK CARR BROWN, Ph.D.
SECRETARY

State of Louisiana
DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF ENVIRONMENTAL COMPLIANCE

April 18, 2018



CERTIFIED MAIL (7014 0510 0001 7431 7243)
RETURN RECEIPT REQUESTED

UNION CARBIDE CORPORATION

c/o C T Corporation System
Agent for Service of Process
3867 Plaza Tower Drive
Baton Rouge, LA 70816

**RE: NOTICE OF POTENTIAL PENALTY
ENFORCEMENT TRACKING NO. AE-PP-14-01079
AGENCY INTEREST NO. 2083**

Dear Sir:

On or about June 22 – 25, 2015, July 10, 2015, and August 5, 2015, Air Quality Inspections were conducted of the Olefins 1 and 2 Plants located at the St. Charles Operations (the facility) owned and/or operated by **UNION CARBIDE CORPORATION (RESPONDENT)**. On or about March 15, 2018, a file review was conducted to determine the degree of compliance with the Louisiana Environmental Quality Act (the Act) and the Air Quality Regulations. The facility is located at 355 Louisiana Highway 3142 in Taft, St. Charles Parish, Louisiana.

The facility operates, or has operated, under the Title V permits shown in Table A:

TABLE A

Olefins I & II		
Permit No.	Permit Issue Date	Permit Expiration Date
2422-V2	September 14, 2010	September 14, 2015
2422-V3	December 21, 2011	September 14, 2015
2422-V3 AA	January 20, 2012	September 14, 2015
2422-V4	October 16, 2012	September 14, 2015
2422-V4 AA	January 25, 2013	-
2422-V5	April 21, 2014	September 14, 2015
2422-V6	May 2, 2014	September 14, 2015
2422-V7	May 22, 2015	September 14, 2015

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Acrylics I		
513-V2	June 15, 2007	June 15, 2012
513-V3	January 25, 2013	January 25, 2018
513-V3AA	March 20, 2013	-
Acrylics II		
2254-V1	September 19, 2011	September 19, 2016
2254-V2	December 14, 2011	September 19, 2016
2254-V3	December 5, 2012	September 19, 2016
Amines		
2421-V2	June 23, 2011	June 23, 2016
2421-V3	May 24, 2013	June 23, 2016
2421-V4	October 3, 2013	June 23, 2016
2421-V5	January 19, 2016	June 23, 2016
Energy Systems		
2343-V2	February 7, 2011	February 7, 2016
2343-V3	September 27, 2012	September 27, 2017
Site Logistics		
2656-V3	September 14, 2012	December 22, 2016
2656-V4	December 18, 2012	December 22, 2016
2656-V4AA	May 30, 2013	-
2656-V5	September 14, 2015	December 22, 2016

In correspondence dated November 18, 2014, the Respondent reported the Olefins I & II Plant restarted operation on or about December 25, 2012 after being down since on or about January 3, 2009. The facility restarted the East Steam Superheater (EQT1031), and the West Steam Superheater (EQT1032) on or about April 5, 2013. Each superheater combusts plant-produced fuel gas (PPFG) along with natural gas. PPFG is a byproduct stream that is hydrogen-rich, containing some methane. Control of emission of Oxides of Nitrogen (NO_x) and of Carbon Monoxide (CO) is assured by maintaining an established oxygen content during combustion (BACT). The facility initially tested both superheaters in June 2004 to determine the oxygen ranges that would insure compliance with the NO_x and CO permit limits. Those oxygen ranges in percent by volume (vol. %), were incorporated in Title V Permit No. 2422-V2, issued on or about September 14, 2010. Those ranges are shown in Table B:

TABLE B

Emission Source	Lower Limit Oxygen vol. %	Upper Limit Oxygen vol. %
East Steam Superheater	6.5	6.8
West Steam Superheater	4.1	7.4

The Respondent re-conducted emission testing for both superheaters on or about August 18, 2014, following the December 25, 2012 start up. The testing identified oxygen ranges which verified that the emissions were within the permit limits. In correspondence dated February 19, 2015, the Respondent submitted an application to modify Title V Permit No. 2422-V6 to incorporate the results of the emission testing. Title V Permit No. 2422-V7 was issued May 22, 2015 incorporating oxygen operating limits as shown in Table C:

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TABLE C

Emission Source	Lower Limit Oxygen vol. %	Upper Limit Oxygen vol. %
East Steam Superheater	2.7	9.9
West Steam Superheater	2.7	9.9

While the investigation by the Louisiana Department of Environmental Quality (the Department) is not yet complete, the following violations were noted during the course of the file review:

- A. In correspondence postmarked March 31, 2015, the Respondent submitted the facility's 2014 Annual Compliance Certification. The certification disclosed that the East and West Superheaters operated outside of the permitted oxygen range required by Title V Permit No. 2422-V6. In electronic correspondence dated March 14, 2016, the Respondent submitted the oxygen ranges outside of the permitted ranges for the period encompassing November 1, 2014 through December 31, 2014, as shown in Tables D and E:

TABLE D

East Superheater			
2014 O ₂ less than 6.5 %	Number of Events	2014 O ₂ greater than 6.8 %	Events
November	139	November	242
December	77	December	422

TABLE E

West Superheater	
2014 O ₂ % greater than 7.4 %	Number of Events
November	5
December	44

Each failure to maintain the oxygen content within the permitted range is a violation of Specific Requirement No. 6 of Title V Permit No. 2422-V6, LAC 33:III.501.C.4, La. R.S. 30:2057(A)(1) and 30:2057(A)(2).

- B. In correspondence postmarked September 30, 2015, the Respondent submitted the facility's 2015 First Semiannual Monitoring Report. The report disclosed that the East and West Superheaters operated outside of the permitted oxygen ranges required by Title V Permit No. 2422-V6. In electronic correspondence dated March 31, 2016, the Respondent submitted the oxygen ranges outside of the permitted ranges for the period encompassing January 1, 2015 through May 21, 2015, as shown in Tables F and G:

TABLE F

East Superheater			
2015 O ₂ % less than 6.5 %	Number of Events	2015 O ₂ % greater than 6.8 %	Events
January	126	January	491
February	173	February	448
March	231	March	453
April	66	April	378
May	245	May	150

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TABLE G

West Superheater			
2015 O ₂ % less than 4.1 %	Number of Events	2015 O ₂ % greater than 7.4 %	Events
March	8	March	30
May	9	April	1

Each failure to maintain the oxygen content within the permitted range is a violation of Specific Requirement No. 6 of Title V Permit No. 2422-V6, Specific Requirement No. 6 of Title V Permit No. 2422-V7, LAC 33:III.501.C.4, La. R.S. 30:2057(A)(1) and 30:2057(A)(2).

- C. In correspondence dated March 6, 2015, the Respondent submitted the results of emission testing conducted July 16, 2014, to August 8, 2014 on the East and West Steam Superheaters. The failure to submit the results of the emission testing within 60 days of completing the testing is a violation of General Condition VIII of Title V Permit No. 2422-V6, LAC 33:III.501.C.4, and La. R.S. 30:2057(A)(2).
- D. In correspondence dated March 29, 2016, the Respondent submitted a Revised 2014 Annual Compliance Certification and a Revised 2014 Second Semiannual Monitoring Report. The submission disclosed that the facility's 2014 emissions calculations for the Olefins 2 Decoke Cyclone Vent (EQT 1042) were incorrectly reported as 44.95 tons. According to the reports, the correct annual emissions were 50.89 tons of CO. In electronic correspondence dated September 21, 2016, the Respondent disclosed that EQT 1042 annual emissions of CO for 2015 were 56.46 tons. The annual emission limit in Title V Permit No. 2422-V5, Title V Permit No. 2422-V6 and Title V Permit No. 2422-V7 is 46.92 tons of CO. Each failure to maintain emission of CO below the permitted level is a violation of Title V Permit No. 2422-V5, Title V Permit No. 2422-V6, Title V Permit No. 2422-V7, LAC 33:III.501.C.4, La. R.S. 30:2057(A)(1) and 30:2057(A)(2). The Respondent submitted an application dated March 9, 2016 to modify Title V Permit No. 2422-V7 incorporating a CO emissions level of 62.57 tpy. Additional information was submitted June 29, 2016. As of April 10, 2018, the permit application is under review by the Department.
- E. In correspondence postmarked March 31, 2016, the Respondent submitted the facility's 2015 Annual Compliance Certification. In correspondence dated July 23, 2015 the Respondent submitted a Deviation Report for the Amines Plant. The Certification and Report disclosed violations as shown in Table H:

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TABLE H

Plant	Title V Permit No.	Violation	Regulatory or Permit Requirements
Amines	2421-V4,	Incorrect calculation basis for VOC emissions associated with the Amines Flare (EQT 240) disclosed 0.69 tons to date (7/23/15) versus a permit limit of 0.28 tpy. (Permit 2421-V5, issued January 9, 2016, increased the VOC limit to 1.31 tpy)	Title V Permit No. 2421-V4
Energy Systems	2343-V3	Several daily drift tests on the East Package Boiler (EQT 0338) NO _x CEMS were not conducted due to maintenance error incorrectly changing a component of the CEMS during a boiler outage. Electronic correspondence dated 1/11/2017 clarified the period as six days, 8/18/15 – 8/24/15. Alarm warnings have been enhanced to prevent reoccurrence.	Specific Requirement 72; 40 CFR 60.48b(c)
Olefins I/II	2422-V7	Olefins II flare (EQT1041) smoked for 2 hours during 3/28/15 shutdown	Specific Requirement 14; 40 CFR 60.18(c)(1)
Olefins I/II	2422-V7	Superheater 1406 (EQT 1047) out of designated O ₂ range for 8 hours (stack testing conducted in 2013 and 2014 demonstrated that the firing rate did not cause NO _x emissions to exceed the standard)	Specific Requirement 98; 40 CFR 60.48b(g)(2)

Each failure to operate according to permitted requirements is a violation of any applicable permit and associated requirement(s) listed above, LAC 33:III.501.C.4, La. R.S. 30:2057(A)(1), and 30:2057(A)(2).

- F. In correspondence postmarked September 30, 2015, and March 31, 2016, the Respondent submitted the facility's 2015 First Semiannual Monitoring Report and 2015 Second Semiannual Monitoring Report, respectively. The reports disclosed violations of the facilities' Leak Detection and Repair (LDAR) requirements, addressing components not monitored due to being inadvertently identified as out of service. LDAR, and other violations are shown in Table I:

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TABLE I

Plant	Title V Permit No.	Violation	Regulatory or Permit Requirements
Acrylics I	513-V3	11 connectors were left off of the LDAR list; when monitored, none were leaking	LAC 33:III.2122
Acrylics II	2254-V3	7 valves, 15 connectors were left off of the LDAR list; when monitored, none were leaking	LAC 33:III.2122
Amines	2421-V4	5 valves were left off of the LDAR list; when monitored, none were leaking	LAC 33:III.2122
Oxide I	476-V3	9 valves were left off of the LDAR list; when monitored, none were leaking	LAC 33:III.2122
Olefins I/II	2422-V7	2 valves, 9 connectors were left off of the LDAR list; when monitored, none were leaking	LAC 33:III.2122
Site Logistics	2656-V4	37 valves, 115 connectors were left off of the LDAR list; when monitored, none were leaking	LAC 33:III.2122
Site Logistics	2656-V4	36 components installed 12/12/14 were not monitored until August 2015. When monitored, none were leaking	LAC 33:III.2122

Each failure to meet fugitive emission requirements is a violation of LAC 33:III.2122, LAC 33:III.501.C.4, La. R.S. 30:2057(A)(1), and 30:2057(A)(2).

- G. The inspections revealed that on two occasions, March 27, 2015, and June 30, 2015, quarterly calibrations were conducted on the NOx CEMS in the Energy Systems Plant. The calibration gas cylinders in use had an expiration date of January 31, 2015. The failures to utilize proper calibration gases are violations of Specific Requirements 70 and 103 of Title V Permit No. 2343-V3, LAC 33:III.501.C.4, La. R.S. 30:2057(A)(2).
- H. An initial incident report (Incident ID 158726) dated September 14, 2014 reported that approximately 63 lbs of ethylenediamine was released to the environment on September 14, 2014 as evaporated liquid as the result of an operator error. The incident was determined by the facility to be preventable. The incident resulted in the activation of the unit emergency deluge system and an OSHA reported injury. The failure to operate in a manner that controls

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emissions is a violation of LAC 33:III.905.A, La. R.S. 30:2057(A)(1) and 30:2057(A)(2).

- I. The initial incident report described in Paragraph H of the Findings of Fact section of this enforcement action, reported that the release of ethylenediamine occurred on September 14, 2014 at 11:40 pm. The initial report was received on September 15, 2014 at 12:42 am, one hour and two minutes after the release. The failure to notify the Department immediately, but in no case no later than one hour of learning of a release which results in an emergency condition, is a violation of LAC 33:I.3915.A.1, and La. R.S. 30:2057(A)(2).
- J. The Respondent submitted a written follow up letter dated September 19, 2014 for the incident described in Paragraph H of the Findings of Fact section of this enforcement action, stating that the investigation concerning the incident was ongoing. The Respondent reported, by email, dated November 24, 2014 that the investigation was complete. A 60-day written follow up notification should have been submitted by November 14, 2014. The failure to submit written updates every 60 days until the investigation is complete is a violation of LAC 33:I.3925.A.3, and La. R.S. 30:2057(A)(2).

Pursuant to La. R.S. 30:2050.3(B), you are hereby notified that the issuance of a penalty assessment is being considered for the violations described herein. Written comments may be filed regarding the violations and the contemplated penalty. If you elect to submit comments, it is requested that they be submitted within ten (10) days of receipt of this notice.

Prior to the issuance of any additional appropriate enforcement action, you may request a meeting with the Department to present any mitigating circumstances concerning the violations. If you would like to have such a meeting, please contact Mark E. Brown at (225) 219-3782 within ten (10) days of receipt of this **NOTICE OF POTENTIAL PENALTY**.

The Department is required by La. R.S. 30:2025(E)(3)(a) to consider the gross revenues of the Respondent and the monetary benefits of noncompliance in order to determine whether a penalty will be assessed and the amount of such penalty. Please forward the Respondent's most current annual gross revenue statement along with a statement of the monetary benefits of noncompliance for the cited violations to the above named contact person within ten (10) days of receipt of this **NOTICE OF POTENTIAL PENALTY**. Include with your statement of monetary benefits the method(s) you utilized to arrive at the sum. If you assert that no monetary benefits have been gained, you are to fully justify this statement. If the Respondent chooses not to submit the requested most current annual gross revenues statement within ten (10) days, it will be viewed by the Department as an admission that the Respondent has the ability to pay the statutory maximum penalty as outlined in La. R.S. 30:2025.

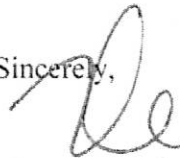
For each violation described herein, the Department reserves the right to seek civil penalties and the right to seek compliance with its rules and regulations in any manner allowed by law, and nothing herein shall be construed to preclude the right to seek such penalties and compliance.

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The Department assesses civil penalties based on LAC 33:I.Subpart1.Chapter7. To expedite closure of this **NOTICE OF POTENTIAL PENALTY**, the Respondent may offer a settlement amount to resolve any claim for civil penalties for the violation(s) described herein. The Respondent may offer a settlement amount, but the Department is under no obligation to enter into settlement negotiations. The decision to proceed with a settlement is at the discretion of the Department. The settlement offer amount may be entered on the attached "**NOTICE OF POTENTIAL PENALTY REQUEST TO SETTLE**" form. The Respondent must include a justification of the offer. **DO NOT** submit payment of the offer amount with the form. The Department will review the settlement offer and notify the Respondent as to whether the offer is or is not accepted.

To reduce document handling, please refer to the Enforcement Tracking Number and Agency Interest Number on the front of this document on all correspondence in response to this action.

Sincerely,



Lourdes Iturralde
Assistant Secretary
Office of Environmental Compliance

LI/MEB/meb
Alt ID No. 2520-00001

c: Union Carbide Corporation
Jean Algate
Responsible Care Leader
355 Louisiana Highway 3142
Hahnville, LA 70057

LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY
 OFFICE OF ENVIRONMENTAL COMPLIANCE
 ENFORCEMENT DIVISION **NOTICE OF POTENTIAL
 PENALTY**



POST OFFICE BOX 4312 **REQUEST TO SETTLE**
 (OPTIONAL)
 BATON ROUGE, LOUISIANA 70821-4312

Enforcement Tracking No.	AE-PP-14-01079	Contact Name	Mark E. Brown
Agency Interest (AI) No.	2083	Contact Phone No.	(225) 219-3782
Alternate ID No.	2520-00001		
Respondent:	Union Carbide Corporation	Facility Name:	St. Charles Operations
	c/o C T Corporation System	Physical Location:	355 Louisiana Highway 3142
	Agent for Service of Process		
	3867 Plaza Tower Drive	City, State, Zip:	Taft, LA 70057
Baton Rouge, LA 70816	Parish:	St. Charles	

SETTLEMENT OFFER (OPTIONAL)

(check the applicable option)

_____ The Respondent is not interested in entering into settlement negotiations with the Department with the understanding that the Department has the right to assess civil penalties based on LAC 33:1.Subpart1.Chapter7.

_____ In order to resolve any claim for civil penalties for the violations in **NOTICE OF POTENTIAL PENALTY**, AE-PP-14-01079, the Respondent is interested in entering into settlement negotiations with the Department and would like to set up a meeting to discuss settlement procedures.

_____ In order to resolve any claim for civil penalties for the violations in **NOTICE OF POTENTIAL PENALTY**, AE-PP-14-01079, the Respondent is interested in entering into settlement negotiations with the Department and offers to pay \$ _____ which shall include LDEQ enforcement costs and any monetary benefit of non-compliance.

- Monetary component = \$ _____
- Beneficial Environmental Project (BEP) component (optional)= \$ _____
- **DO NOT SUBMIT PAYMENT OF THE OFFER WITH THIS FORM-** the Department will review the settlement offer and notify the Respondent as to whether the offer is or is not accepted.

_____ The Respondent has reviewed the violations noted in **NOTICE OF POTENTIAL PENALTY**, AE-PP-14-01079, and has attached a justification of its offer and a description of any BEPs if included in settlement offer.

CERTIFICATION STATEMENT

I certify, under provisions in Louisiana and United States law that provide criminal penalties for false statements, that based on information and belief formed after reasonable inquiry, the statements and information attached and the compliance statement above, are true, accurate, and complete. I also certify that I do not owe outstanding fees or penalties to the Department for this facility or any other facility I own or operate. I further certify that I am either the Respondent or an authorized representative of the Respondent.

Respondent's Signature	Respondent's Printed Name	Respondent's Title
Respondent's Physical Address	Respondent's Phone #	Date

MAIL COMPLETED DOCUMENT TO THE ADDRESS BELOW: