



**Pacific Ethanol, Inc.
Columbia Plant**

September 10, 2014

RE: Site Certificate Evaluation for the CO2 Plant at Pacific Ethanol Columbia

Kodiak Carbonics has proposed to install a CO2 processing plant at the Pacific Ethanol Columbia (PEC) site. A CO2 rich gas stream will be captured from the PEC CO2 scrubber and then sent to Kodiak Carbonics via a blower and pipeline. At the Kodiak Carbonics compound, the CO2 will be purified and compressed into liquid CO2. Also some may be converted into dry ice.

Considerations:

- a. CO2 is a by-product from the PEC plant.
- b. Kodiak Carbonics is sub-leasing their plant site from PEC at the Port of Morrow.
- c. Kodiak Carbonics will source electricity from Umatilla Electric Cooperative.
- d. Targeted production is 200 tons of liquid CO2 per day.
- e. The finished CO2 products will be distributed by trucks primarily to local markets.
- f. Building permits will be obtained by Kodiak Carbonics for the installation.
- g. An authority to construct will be obtained from the OR DEQ to comply with PEC's current air permit.

Conclusion:

Regarding 345-027-0050 (2), Pacific Ethanol Columbia concludes that the proposed change is in substantial compliance with the terms and conditions of the site certificate. The CO2 Plant is not an "Energy facility" as defined by OAR 469-300 and OAR 345-001-0010 and is being constructed and operated by a 3rd party. Therefore no amendment will be submitted. This evaluation will be kept on file and be available for OR DOE inspection at any time.

Lyndon T. Jones
Plant Manager

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August 27, 2014

Neil Koehler
CEO
Pacific Ethanol Inc.
400 Capitol Mall, Suite 2060
Sacramento, CA 95814

RE: Pacific Ethanol Columbia, Proposed Plant Changes

Dear Mr. Koehler,

On Sunday August 17, 2015, Lyndon Jones, sent the Oregon Department of Energy (the Department) an e-mail stating that a separate company would like to install a CO2 capture plant at the Columbia Ethanol Plant (CEP), located in Boardman Oregon and asked what, if any revisions to the Site Certificate were needed?

Oregon Administrative Rules (OAR) 345-027-0050(1) describes when an amendment to a site certificate is required. Based upon the information Mr. Jones provided, it is not possible for the Department to determine whether Pacific Ethanol Columbia, LLC (CEP LLC) would need to obtain a site certificate amendment prior to making the described facility and operational changes.

As described in OAR 345-027-0050(3), a site certificate holder may reach an independent conclusion that a proposed change does not require an amendment. However, in order to do that, the certificate holder must complete an investigation sufficient to demonstrate that the proposed change in design, construction, or operation of the facility would comply with applicable Council standards. The certificate holder must complete the investigation before implementing the proposed change and must prepare a written evaluation describing the investigation. The written evaluation must be made available to the Department for inspection at any time. If CEP LLC conducts such an investigation, the Department requests to inspect the written evaluation as soon as it is complete.

Alternatively, pursuant to OAR 345-027-0050(5), a certificate holder may submit a change request to the Department and request that the Department make a determination about whether a site certificate amendment is needed for the proposed change or not. The change request must be in writing and must describe the proposed change, explain the basis for the conclusion that an amendment is not needed under OAR 345-027-0050(1), and provide the

written evaluation described in OAR 345-027-0050(3). The Department strongly recommends that CEP LLC submit a change request in writing prior to making the described changes.

Mr. Jones also sent an email to the Department on April 4, 2014 that indicated that the CEP LLC may want to add refined sugar as supplement feed stock to CEP. In an email response dated April 24, 2014, the Department strongly recommended that CEP LLC submit a change request in writing prior to making the described changes consistent with OAR 345-027-0050(5). The 2013 CEP annual report indicates that in December of 2013 a sugar tank and conveying system were installed to receive refined sugar as a supplement feed stock. Pursuant to OAR 345-027-0050(3) and (4) the Department requests CEP LLC submit the written evaluation describing why CEP LLC concluded an amendment was not required for the described changes to the facility. The requested evaluation must be provided to the Department by September 30, 2014.

If you have any questions please contact Duane Kilsdonk, Compliance Officer, Energy Siting Division, 541-567-3840 Ext. 224 or by e-mail at duane.kilsdonk@state.or.us.

Sincerely,



Todd R. Cornett
Division Administrator
Energy Facility Siting Division

C (via e-mail): Lyndon Jones, PEC LLC
Mike Kandris, PEC LLC
Bryan Wolfe, EFSC Chair
Michael Kaplan, Acting Director, ODOE
Renee France, DOJ
Duane Kilsdonk, ODOE

CEPOPS DOC 78

From: [Kilsdonk, Duane](#)
To: [Lyndon Jones](#); mkandris@pacificethanol.net; [Neil Koehler](#)
Cc: [Kilsdonk, Duane](#); [Kaplan, Mike](#); [FRANCE Renee M](#); [Cornett, Todd](#); [Wolfe, Bryan \(Chair\)](#)
Subject: RE: Subleasing a plant site
Date: Thursday, August 28, 2014 9:29:03 AM
Attachments: [CEP-CO2 Capture Plant and Sugar Feedstock Letter - 2013-08-27.pdf](#)

Lyndon,

The Department of Energy is requesting a written evaluation or change request of your proposed plant changes. See attached letter for further information.

Please send confirmation that you have received this e-mail and call or text me if you have any questions.

Duane Kilsdonk

Senior Compliance Officer
Oregon Department of Energy
395 E. Highland Avenue
Hermiston, Oregon 97838
P: Direct (541) 567-3840 ext. 224

Oregon.gov/energy



From: Lyndon Jones [<mailto:ljones@pacificethanol.com>]
Sent: Sunday, August 17, 2014 9:32 PM
To: duane.kilsdonk@state.or.us
Subject: Subleasing a plant site

Duane,

We have finalized an agreement with a company that will install a CO2 capture plant within our plant site. Since this is a separate company, does there need to be any revision of our siting permit?

Regards,

Lyndon Jones
Plant Manager
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November 3, 2014

Neil Koehler
CEO
Pacific Ethanol Inc.
400 Capitol Mall, Suite 2060
Sacramento, CA 95814

RE: Request for additional information related to CO2 processing plant amendment evaluation for the Columbia Ethanol Project

Dear Mr. Koehler,

On August 17, 2014, Lyndon Jones, the plant manager for the Columbia Ethanol Project ("CEP") notified the Oregon Department of Energy (the "Department") that a third-party intended to develop a CO2 capture plant at the CEP site. In a responsive letter dated August 27, 2014, the Department encouraged Pacific Ethanol Columbia, LLC ("PEC") to submit a change request to the Department pursuant to OAR 345-027-0050(5). The letter further notified PEC that if it elected to independently conclude that the proposed change does not require a site certificate amendment, PEC must conduct the investigation and prepare the written evaluation required by OAR 345-027-0050(3). The department requested a copy of the written evaluation in the event PEC elected to reach an independent conclusion. In response to that request, Mr. Jones provided the Department a site certificate evaluation for the CO2 Plant at Pacific Ethanol Columbia dated September 10, 2014 that stated that PEC did not intend to submit an amendment related to the CO2 process plant.

Based upon the information provided in the September 10th evaluation, it appears to the Department that the CO2 processing plant proposed by Kodiak Carbonics would not be a related or supporting facility of the CEP energy facility under the definition provided at ORS 469.300(24). Therefore, based upon the information provided to date, the Department generally agrees that PEC need not request an amendment to the Site Certificate for the Columbia Ethanol Project (the "CEP site certificate") to include the Kodiak Carbonics CO2 processing plant as a related or supporting facility. However, the evaluation does not provide sufficient information for the Department to determine if the development of the CO2 processing plant will require PEC to make a change to the design or operation of the CEP facility that would require an amendment to the CEP site certificate under OAR 345-027-0050(1).

Pursuant to OAR 345-027-0050(1), a certificate holder must submit a request to amend the site certificate to design, construct or operate a facility in a manner different from the description in the site certificate if the proposed change: (a) could result in a significant adverse impact that the Council has not addressed in an earlier order and the impact affects a resource protected by Council standards; (b) could impair the certificate holder's ability to comply with a site certificate condition; or (c) could require a new condition or change to a condition in the site certificate. OAR 345-027-0050(2) provides a list of proposed changes that do not require an amendment. However, in order to qualify as a change that does not require an amendment under OAR 345-027-0050(2), the change must be in substantial compliance with the terms and conditions of the site certificate and be a change that is expressly listed in subsections (a) through (e) of that rule.

If a site certificate holder concludes that a change does not require a site certificate amendment, OAR 345-027-0050(3) requires the certificate holder to complete an investigation sufficient to demonstrate that the change would comply with applicable Council standards, and requires the preparation of a written evaluation describing the investigation. The written evaluation dated September 10, 2014 does not provide sufficient information for the necessary determination. The written evaluation explains that "[a] CO₂ rich gas stream will be captured from the PEC CO₂ scrubber and then sent to Kodiak Carbonics via a blower and pipeline." Please provide the following additional information to further explain why PEC's investigation led to the conclusion that a site certificate amendment is not required:

1. Provide a detailed description of modifications that must be made to the CEP facility to capture a CO₂ rich gas stream.
2. Explain who will construct and operate the blower and pipeline referenced in the evaluation letter.
3. Provide a new facility site plan that clearly shows new or modified equipment and related or supporting facilities that PEC must construct and/or operate as a result of the proposed CO₂ processing plant. Please ensure the facility site boundary is clearly delineated on the new site plan.
4. Provide a revised process flow diagram that describes the CO₂ capture and delivery process up to the point the CO₂ enters equipment that will be owned and operated by Kodiak Carbonics.
5. Condition VI.A.3(a) of the CEP site certificate requires the certificate holder to design, construct, operate and retire the facility "substantially as described in the site certificate." Please explain how this condition will continue to be satisfied despite changes to the flow of the CO₂.

Please provide a response no later than 30 days from the date of this letter. If you require any clarification or would like to discuss any of the information contained in this letter, please contact Duane Kilsdonk at (541) 567-3840 Ext 224 or duane.kilsdonk@odoe.state.or.us.

Sincerely,



Todd R. Cornett
Division Administrator
Energy Facility Siting Division

C (via e-mail): Lyndon Jones, PEC LLC
 Mike Kandris, PEC LLC
 Bryan Wolfe, EFSC Chair
 Michael Kaplan, Acting Director, ODOE
 Renee France, DOJ
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November 3, 2014

Neil Koehler
CEO
Pacific Ethanol Inc.
400 Capitol Mall, Suite 2060
Sacramento, CA 95814

RE: Request for additional information related to sugar addition system amendment evaluation for the Columbia Ethanol Project

Dear Mr. Koehler,

On August 27, 2014 the Oregon Department of Energy (the "Department") requested that Pacific Ethanol Columbia, LLC ("PEC") provide the written evaluation required under OAR 345-027-0050(3) that PEC relied upon in concluding that a site certificate amendment was not needed for installation of a sugar addition system at the Columbia Ethanol Project. In response to that request, on September 10, 2014 Lyndon Jones sent the Department an evaluation for the sugar addition system dated November 4, 2013. After reviewing the evaluation, the Department has additional questions that need to be answered before the Department can make a final determination on whether it agrees with the conclusion in the written evaluation that a site certificate amendment is not required for the sugar addition system.

Pursuant to OAR 345-027-0050(1), a certificate holder must submit a request to amend the site certificate to design, construct or operate a facility in a manner different from the description in the site certificate if the proposed change: (a) could result in a significant adverse impact that the Council has not addressed in an earlier order and the impact affects a resource protected by Council standards; (b) could impair the certificate holder's ability to comply with a site certificate condition; or (c) could require a new condition or change to a condition in the site certificate. OAR 345-027-0050(2) provides a list of proposed changes that do not require an amendment. However, in order to qualify as a change that does not require an amendment under OAR 345-027-0050(2), the change must be in substantial compliance with the terms and conditions of the site certificate and be a change that is expressly listed in subsections (a) through (e) of that rule.

If a site certificate holder concludes that a change does not require a site certificate amendment, OAR 345-027-0050(3) requires the certificate holder to complete an investigation sufficient to demonstrate that the change would comply with applicable Council standards, and requires the preparation of a written evaluation describing the investigation. The written

evaluation dated November 4, 2013 does not provide sufficient information for the necessary determination. The written evaluation explains that the proposed sugar addition system “will consist of a tank with a metering system and other components.” The evaluation also includes a list of “considerations” related to the system. The considerations, however, do not reference applicable Council standards, nor explain why the facility will continue to comply with all applicable standards. Please provide the following additional information to further explain why PEC’s investigation led to the conclusion that a site certificate amendment is not required:

1. Provide a detailed description of all of sugar addition system components, and a description of other changes, if any, made to the facility to accommodate the addition of the system.
2. Provide a new facility site plan that clearly shows all new construction associated with the use of sugar as a feedstock. Please ensure the facility site boundary is clearly delineated on the new site plan.
3. Provide a revised process flow diagram that includes the new sugar addition system, sugar storage area and conveyor systems.
4. Provide the estimated change in the amount of incoming and outgoing truck traffic due to the delivery of sugar and PEC’s evaluation of impacts on traffic safety due to any changes in traffic amounts or use patterns.
5. Provide an analysis of noise impacts from the new conveying and dust capture equipment from the sugar addition system.
6. Provide a description of additional waste, including sugar dust, generated by the construction and operation of the sugar addition system, and explain PEC’s plans to manage that waste.
7. Condition VI.A.3(a) of the Site Certificate for the Columbia Ethanol Project requires the certificate holder to design, construct, operate and retire the facility “substantially as described in the site certificate.” Please explain how this condition continues to be satisfied despite the development and operation of the sugar addition system.
8. To the extent PEC intends to rely on OAR 345-027-0050(2), provide an explanation of how the changes required by the sugar addition system qualify as one of the changes listed in subsections (a) through (e) of that rule.

Please provide a response no later than 30 days from the date of this letter. If you have any questions please contact Duane Kilsdonk, Compliance Officer, Energy Siting Division, 541-567-3840 Ext. 224 or by e-mail at duane.kilsdonk@state.or.us.

Sincerely,



Todd R. Cornett
Division Administrator
Energy Facility Siting Division

C (via e-mail): Lyndon Jones, PEC LLC
Mike Kandris, PEC LLC
Bryan Wolfe, EFSC Chair
Michael Kaplan, Acting Director, ODOE
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Duane Kilsdonk, ODOE



**Pacific Ethanol, Inc.
Columbia Plant**

December 3, 2014

Todd R Cornett
Division Administrator
Energy Facility Siting Division
Oregon Department of Energy
625 Marion St. NE
Salem, OR 97301-3737

RE: Request for additional information related to CO2 processing plant amendment evaluation for the Columbia Ethanol Project

Dear Mr. Cornett,

Pacific Ethanol Columbia received a request for additional information for our proposed CO2 processing plant from the OR DOE on November 3, 2014. Following is our response.

1. Provide a detailed description of modifications that must be made to the CEP facility to capture the CO2 rich gas stream.

Response: There are only 3 modifications to the CEP facility to allow capture of CO2. See attached diagram.

- a. Install a 20" tee on top of the CO2 column (C-3201). The tee will be reduced to 14" pipeline which will feed the blower.
- b. Install a pressure regulating valve on the discharge stack of the CO2 column.
- c. Install a 3" waste gas return pipeline return from the CO2 facility to the CO2 stack above the pressure regulating valve.

2. Explain who will construct and operate the blower and pipeline referenced in the evaluation letter.

Response: Kodiak Carbonics will construct and operate the blower and pipeline

3. Provide a new facility site plan.

Response: See attachment

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**Pacific Ethanol, Inc.
Columbia Plant**

4. Provide a revised process flow diagram

Response: See attachment

5. Condition VI.A.3(a) of the CEP site certificate requires the certificate holder to design, construct, operate and retire the facility "substantially as described in the site certificate." Please explain how this condition will continue to be satisfied despite changes to the flow of the CO2.

Response:

- a. **Design:** The design of the system is consistent with our standards and performed by qualified individuals. The design has been proven in other ethanol facilities that also operate a CO2 capture system.
- b. **Construct:** All construction is being performed to building codes, piping codes or PEC specifications. The construction is being performed by licensed contractors that are qualified to work at PEC.
- c. **Operate:** The addition of the CO2 capture system will not impact or affect the current operation at PEC in any way. If the CO2 capture plant were to go offline, the damper opens to atmosphere with no ramification to PEC.
- d. **Retire:** In the sub-lease agreement with Kodiak Carbonics, they are to remove their installation at the end of the lease. The proportion of the CO2 capture plant is small in relation to the PEC facility. The bond already in place will cover both facilities in a retirement scenario.

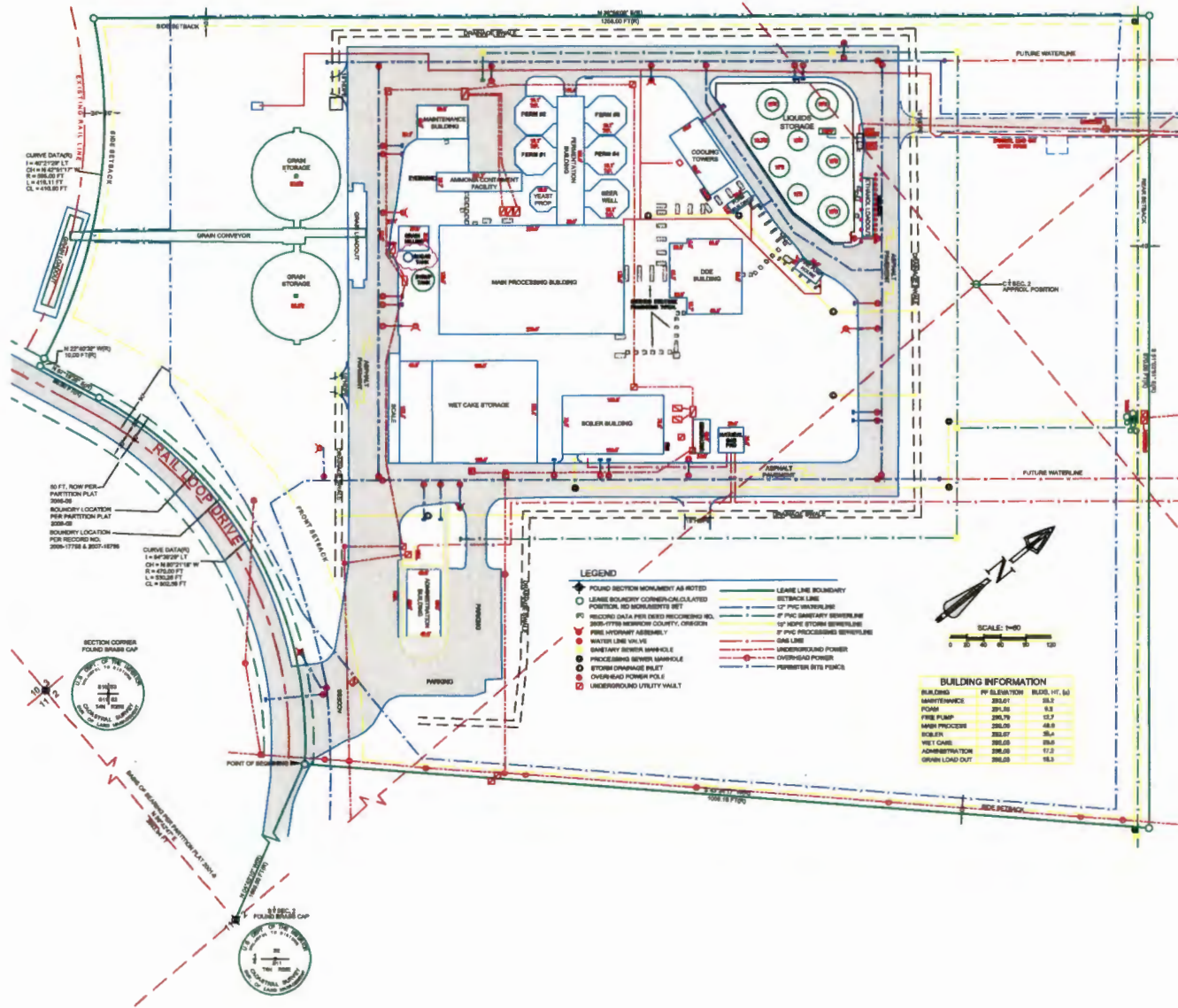
Sincerely,

**Lyndon T. Jones
Plant Manager**

**C(via e-mail): Neil Koehler, PEC LLC
Mike Kandris, PEC LLC
Bryan Wolfe, EFSC Chair
Michael Kaplan, Acting Director, ODOE
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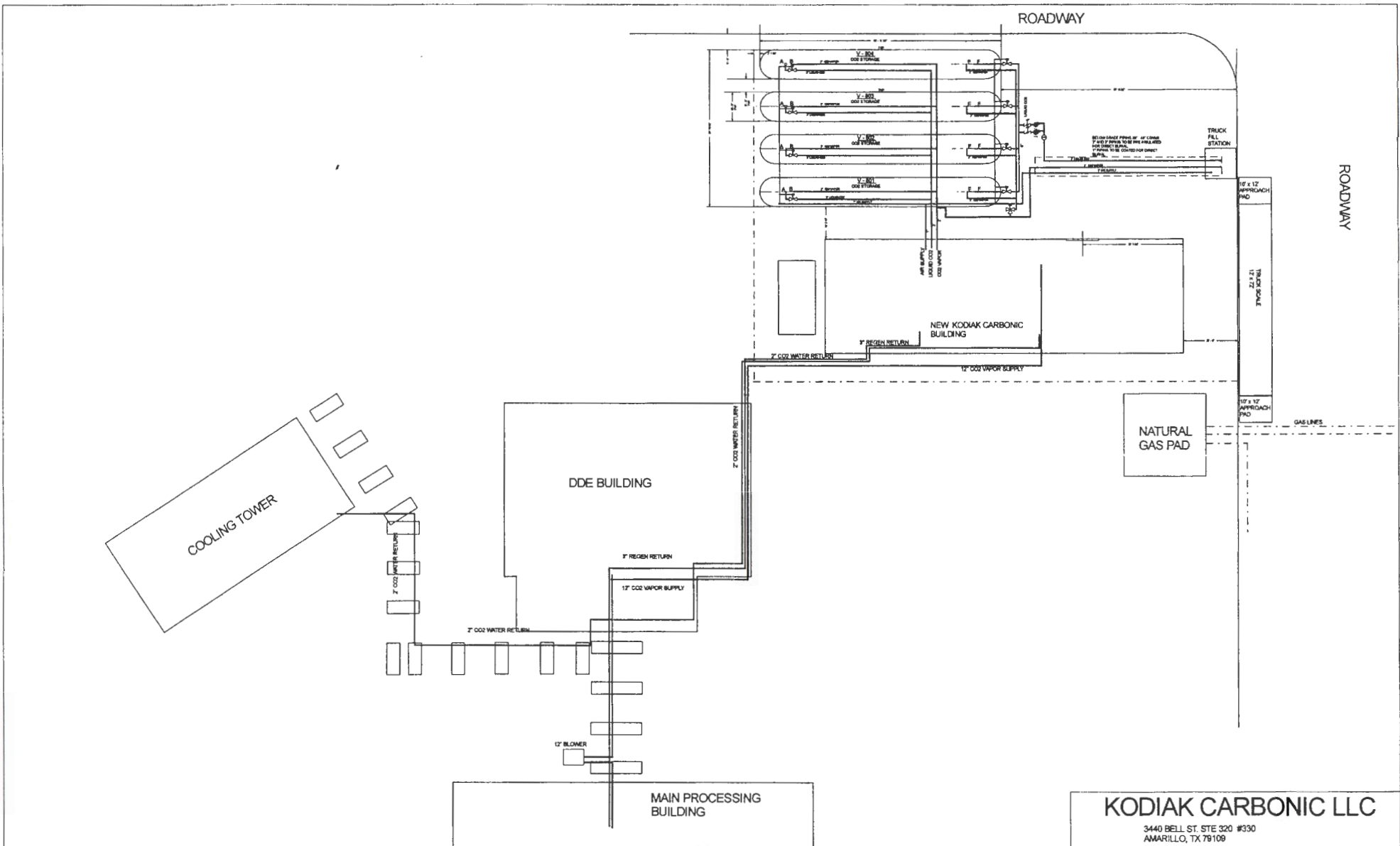
VICINITY MAP

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COMPLETE SURVEYING SERVICES
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JOB FILE: 05-142 DWG BY: ABA/SL REVISION BY: CAG CHECKED BY: KMP
 CAD FILE: 07-142 DATE: 10-18-2007 DATE: 10-18-2007 DATE: 10-18-2007



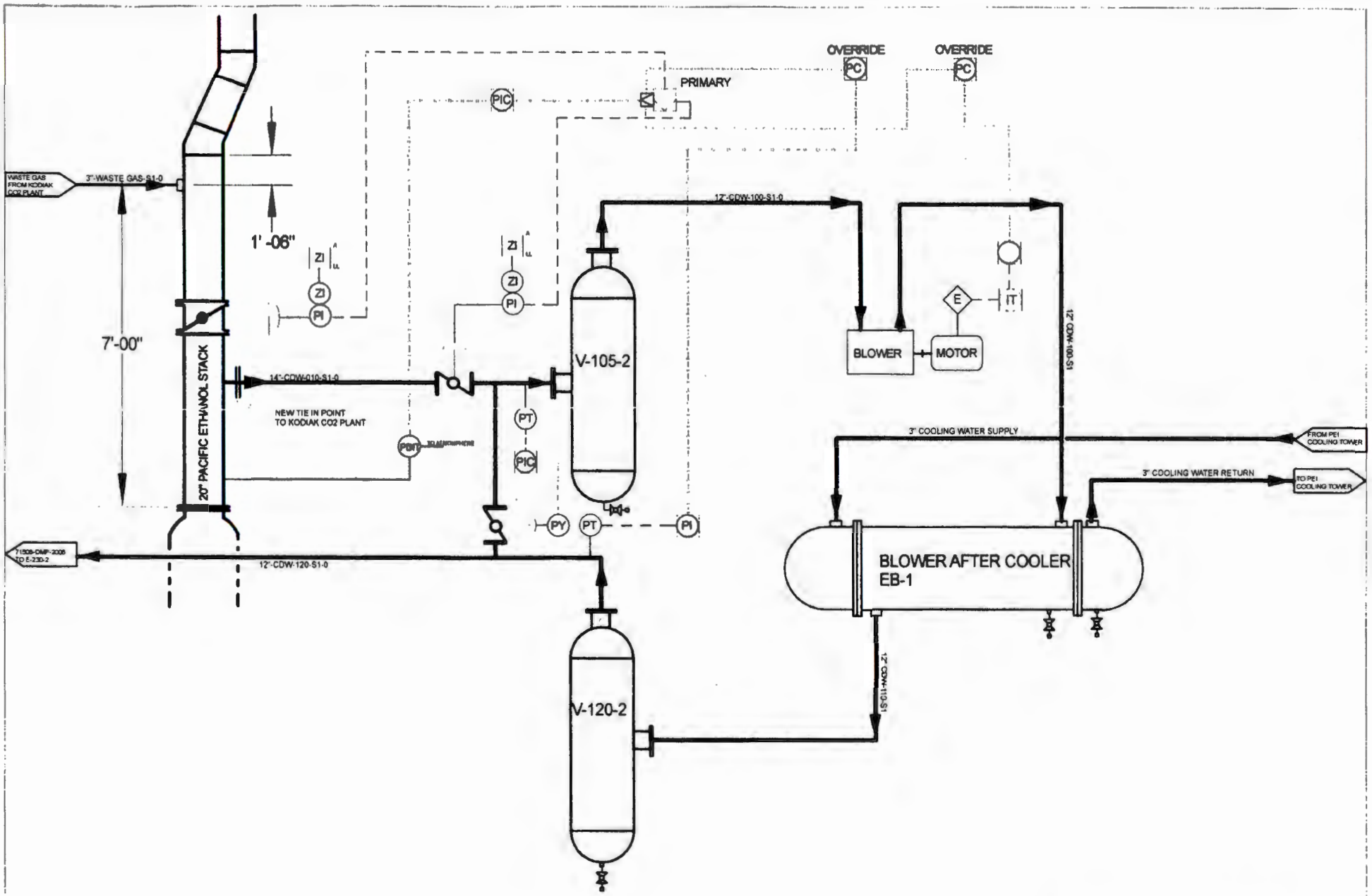
REV	DATE	BY	CHK	APPD	REV	DATE	BY	CHK	APPD	DATE	BY	CHK	APPD

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Dwg No. _____ DATE _____ MADE BY _____ CHECKED BY _____ COMPUTER FILE _____ APPD _____	CONFIDENTIAL PIPING PLOT PLAN
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KODIAK CARBONIC LLC
 3440 BELL ST. STE 320 #330
 AMARILLO, TX 79109

BOARDMAN, OREGON SCALE: 1/32" = 1 FT PLOT NO. _____ REV. NO. _____



PROPOSED TIE IN TO PEI VENT STACK

KODIAK CARBONIC LLC

3440 BELL ST. STE 320 #330
AMARILLO, TX 79109

BOARDMAN, OREGON
CO2 LIQUEFACTION PLANT
MECHANICAL FLOWSHEET
PEI INTERCONNECTS TO
KODIAK SUCTION BLOWER SKID

N/A
71508-DMF-2002
AND 2003



**Pacific Ethanol, Inc.
Columbia Plant**

December 3, 2014

Todd R Cornett
Division Administrator
Energy Facility Siting Division
Oregon Department of Energy
625 Marion St. NE
Salem, OR 97301-3737

RE: Request for additional information related to sugar addition system amendment evaluation for the Columbia Ethanol Project

Dear Mr. Cornett,

Pacific Ethanol Columbia received a request for additional information for our sugar addition from the OR DOE on November 3, 2014. Following is our response.

1. Provide a detailed description of all sugar system components, and a description of other changes, if any, made to the facility to accommodate the addition of the system.

Response: These are the following modifications.

- a. Installed a 100 ton capacity stainless steel tank.
- b. Installed a concrete support slab for the free standing tank.
- c. Installed a rotary valve feeder on the bottom of the tank
- d. Installed a screw conveyor from the rotary feeder to the ground corn drag chain conveyor DC-465.
- e. Installed a dust collector filter unit
- f. Electrical distribution panel.
- g. Control system modifications for control room operation.

2. Provide a new facility site plan showing site boundaries.

Response: See attached

3. Provide a revised process flow diagram that included the new sugar addition system, sugar storage area and conveyor systems.

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Response: See attachment 61101-PI-1202

4. Provide the estimated change in the amount of incoming and outgoing truck traffic due to the delivery of sugar and PEC's evaluation of impacts on the traffic safety due to any changes in traffic amounts or use patterns.

Response:

- a. There will be on average 4 sugar truck deliveries per day
- b. There will be a reduction of 3 to 5 WDG or Syrup outgoing trucks per day
- c. If corn is being delivered by truck, then there is a reduction in corn trucks inbound

Evaluation: There is no significant truck traffic increase created from the sugar addition project. The traffic safety considerations for the sugar trucks are the same as the other truck traffic in and out of PEC.

5. Provide an analysis of the noise impact from the new conveying and dust capture system equipment from the sugar addition system.

Response: The noise from the new conveying system and dust captures system was lower than the already installed equipment in that area. No study was needed.

6. Provide a description of the additional waste, including sugar dust, generated by the construction and operation of the sugar addition system, and explain PEC's plans to manage the waste.

Response: Any and all sugar that was not fed thru the screw conveyor was shoveled into the drag conveyor DC-465. There was no sugar disposed of as waste.

7. Condition VI.A.3(a) of the CEP site certificate requires the certificate holder to design, construct, operate and retire the facility "substantially as described in the site certificate." Please explain how this condition will continue to be satisfied despite changes to the flow of the CO₂.

Response:

- a. Design: The design of the system is consistent with our standards and performed by qualified individuals. The concrete foundation support slab was designed by a licensed engineer.

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- b. Construct: All construction is being performed to building codes, piping codes or PEC specifications. The construction is being performed by licensed contractors that are qualified to work at PEC.
 - c. Operate: The operation of the sugar addition system gives a slight benefit to the cook process. The sugar dissolves more readily, take less energy and requires less enzymes.
 - d. Retire: The magnitude of the sugar addition system is very small in relationship to the overall plant. The current retirement bond and procedure will cover the sugar addition system in the event of a retirement.
8. To the extent PEC intends to rely on OAR 345-027-0050(2), provide an explanation of how the changes required by the sugar addition system qualify as one of the changes listed in subsections (a) through (e) of that rule.

Response:

OAR 345-027-0050(2)

- (a) PEC is not an electrical generation facility
- (b) PEC is not an underground gas storage facility
- (c) PEC is not a geothermal energy facility
- (d) PEC is not expanding their right of way
- (e) PEC has designed, constructed, operated and will retire the sugar addition system within the current structures of the site certificate. The sugar is considered to be a feedstock like corn or other renewable feedstocks available.

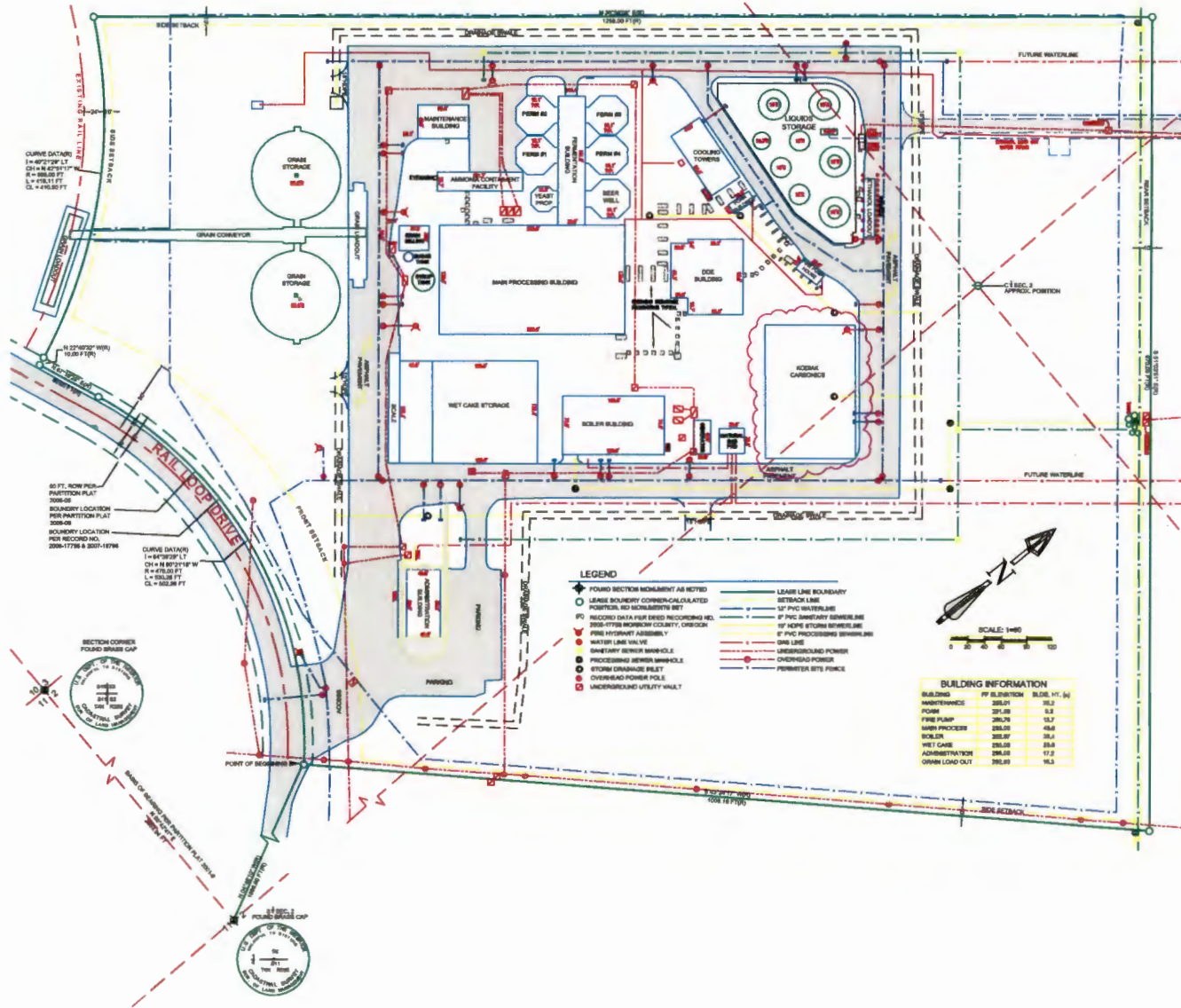
Sincerely,

Lyndon T. Jones
Plant Manager

C(via e-mail): Neil Koehler, PEC LLC
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Bryan Wolfe, EFSC Chair
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Pacific Ethanol Columbia - Boardman OR



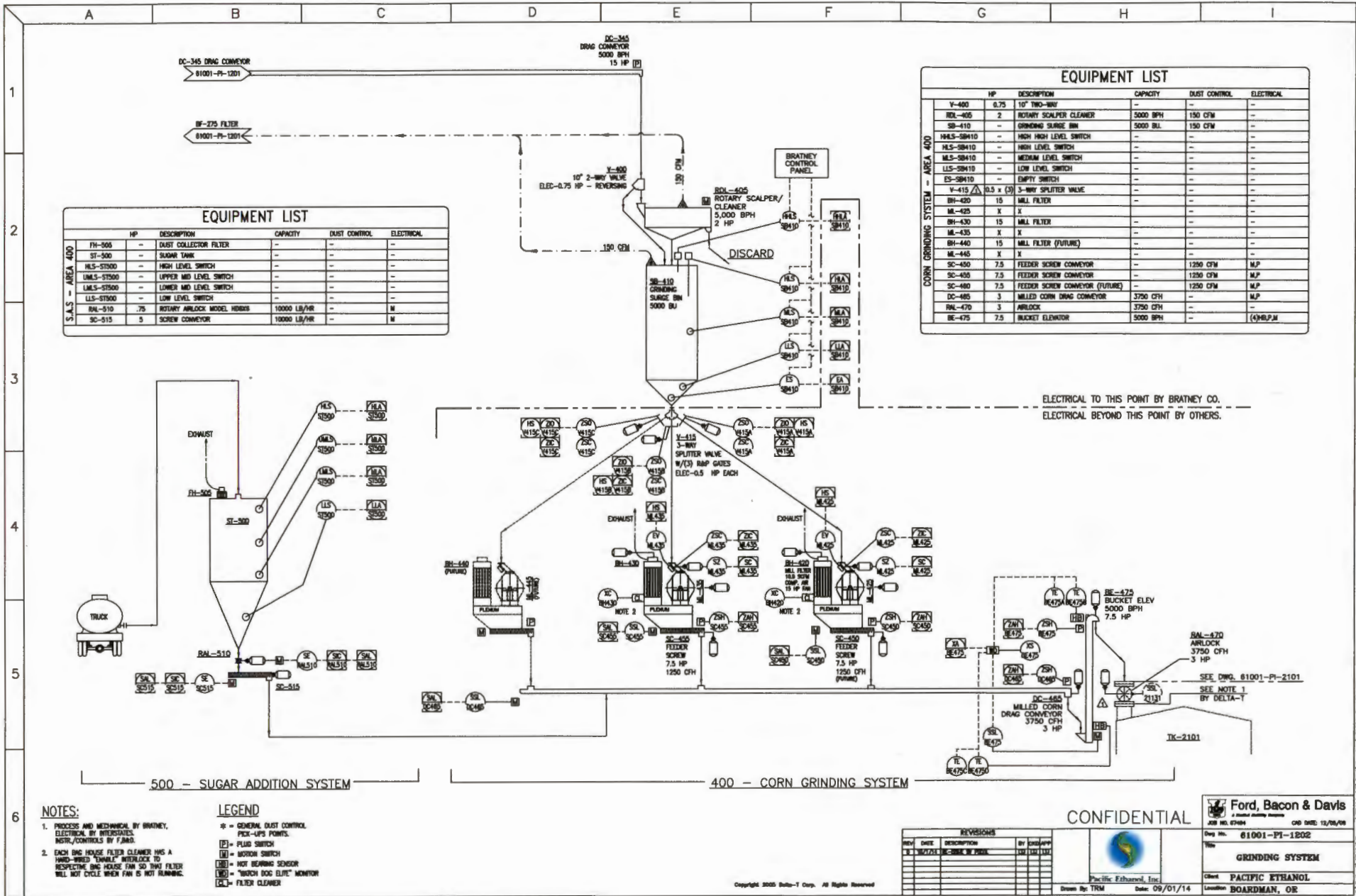
VICINITY MAP

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COMPLETE SURVEYING SERVICES
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JOB FILE: 07-143 DWS BY: ABB-09 REVISION BY: 08 CHECKED BY: PWP
 DATE: 10-16-2007 DATE: 10-16-2007 DATE: 10-16-2007



AREA 500

HP	DESCRIPTION	CAPACITY	DUST CONTROL	ELECTRICAL
FH-508	DUST COLLECTOR FILTER	-	-	-
ST-500	SUGAR TANK	-	-	-
HLS-51000	HIGH LEVEL SWITCH	-	-	-
LMLS-51500	UPPER MID LEVEL SWITCH	-	-	-
LMLS-51500	LOWER MID LEVEL SWITCH	-	-	-
LMS-51500	LOW LEVEL SWITCH	-	-	-
RAI-510	ROTARY AIRLOCK MODEL H0803	10000 LB/HR	-	M
SC-515	SCREW CONVEYOR	10000 LB/HR	-	M

AREA 400

HP	DESCRIPTION	CAPACITY	DUST CONTROL	ELECTRICAL
V-400	10" TWO-WAY	-	-	-
RL-405	2 ROTARY SCALPER/CLEANER	5000 BPH	150 CFM	-
SB-410	GRINDING SURGE BIN	5000 BU	150 CFM	-
104.5-SB410	HIGH HIGH LEVEL SWITCH	-	-	-
HLS-SB410	HIGH LEVEL SWITCH	-	-	-
MLS-SB410	MEDIUM LEVEL SWITCH	-	-	-
LMS-SB410	LOW LEVEL SWITCH	-	-	-
ES-SB410	EMPTY SWITCH	-	-	-
V-415	0.5 x (3) 3-WAY SPLITTER VALVE	-	-	-
BI-420	15 MILL FILTER	-	-	-
ME-425	X	-	-	-
BI-430	15 MILL FILTER	-	-	-
ME-435	X	-	-	-
BI-440	15 MILL FILTER (FUTURE)	-	-	-
ME-445	X	-	-	-
SC-450	7.5 FEEDER SCREW CONVEYOR	-	1250 CFM	M/P
SC-455	7.5 FEEDER SCREW CONVEYOR	-	1250 CFM	M/P
SC-460	7.5 FEEDER SCREW CONVEYOR (FUTURE)	-	1250 CFM	M/P
DC-465	3 MILLED CORN DRAG CONVEYOR	3750 CFH	-	M/P
RAI-470	3 AIRLOCK	3750 CFH	-	-
BE-475	7.5 BUCKET ELEVATOR	5000 BPH	-	(4)M/P,M

- NOTES:
- PROCESS AND MECHANICAL BY BRATNEY, ELECTRICAL BY WESSON. INSTR./CONTROLS BY F&D.
 - EACH BIG HOUSE FILTER CLEANER HAS A HAND-HELD "TAMM" INTERLOCK TO RESPECTIVE BIG HOUSE FAN SO THAT FILTER WILL NOT CYCLE WHEN FAN IS NOT RUNNING.

- LEGEND
- * = GENERAL DUST CONTROL PICK-UPS POINTS
 - [P] = PLUG SWITCH
 - [M] = MOTOR SWITCH
 - [B] = HOT BEARING SENSOR
 - [E] = "BIRCH DOG ELITE" MONITOR
 - [C] = FILTER CLEANER

CONFIDENTIAL

Ford, Bacon & Davis
 2400 S. Main Street
 Boardman, OR 97508
 Phone: 503-335-1111
 Fax: 503-335-1112

Proj No: 61001-P1-1202
 Date: 09/01/14
 Client: PACIFIC ETHANOL
 Location: BOARDMAN, OR

Esterson, Sarah

From: Lyndon Jones <ljones@pacificethanol.com>
Sent: Friday, January 15, 2016 10:33 AM
To: Esterson, Sarah; David Vanthof
Cc: Kilsdonk, Duane; Gustafson, Virginia; Paul Koehler
Subject: RE: CEP Change Request - CO2 and Sugar Addition RAI 2 Response Deadline Reminder 1/15/16
Attachments: Pac Eth Response to Request for Info Dec 2015 CO2 1-15-16.pdf; Pac Eth Response to Request for Info Dec 2015 sugar 1-15-16.pdf; Kodiak - Columbia Sublease 8-27-14 signed.pdf

Sarah,

Here are Pacific Ethanol's responses to your request for additional information. I am looking forward to discussing this project with you next week.

Please let me know if I can provide more information before that meeting if you need something.

Regards,

Lyndon T. Jones

Plant Manager

Pacific Ethanol Columbia, LLC | 71335 Rail Loop Dr., PO Box 469, Boardman, OR 97818

Office: 541.945.4999 | Mobile: 541.292.0227 | ljones@pacificethanol.com

From: Esterson, Sarah [mailto:sarah.esterson@state.or.us]
Sent: Thursday, January 14, 2016 10:25 AM
To: David Vanthof <vanthofd30@gmail.com>
Cc: Kilsdonk, Duane <duane.kilsdonk@state.or.us>; Lyndon Jones <ljones@pacificethanol.com>; Gustafson, Virginia <virginia.gustafson@state.or.us>
Subject: CEP Change Request - CO2 and Sugar Addition RAI 2 Response Deadline Reminder 1/15/16

Good morning David and Lyndon,

As a reminder, as indicated in the attached Request for Additional Information (RAI)-2 for the CO2 Processing Plant and Sugar Addition System, the department requested submittal of CEP's response by **January 15, 2016**. To the extent that these modifications have already occurred at the facility, it is strongly encouraged for CEP to submit the requested information by the established deadline.

Additionally, the department has completed review of the Change Request documentation provided for the proposed corn oil extraction system and increase in annual ethanol production and will be issuing a letter via email on January 15, 2016 with the department's conclusion on amendment applicability.

Based on review of the information provided, we are interested in scheduling a site visit to discuss the proposed modifications, change request evaluation, and other questions related to the facility's site plan. We propose Friday, January 22 as a potential date for the site visit. Duane Kilsdonk, compliance officer, will be in contact with Lyndon in efforts to schedule a date/time that works for the facility.

Thanks in advance,
Sarah

Sarah T. Esterson

Energy Facility Siting Analyst
Oregon Department of Energy

625 Marion Street N.E.

Salem, OR 97301

P:(503) 373-7945

C: (503) 385-6128

Oregon.gov/energy



Leading Oregon to a safe, clean, and sustainable energy future.

CEP Sugar Addition System RAI #2		
RAI NUMBER	Request for Additional Information	OAR
1	The previous evaluation did not provide sufficient information for the department to determine if the sugar addition system required(s) PEC to make a change to the design or construction of the CEP ethanol plant, requiring an amendment to the site certificate. Please provide a detailed narrative of the ethanol process, with and without the sugar addition system. The description should clearly describe the process from onsite delivery of sugar through the process of ethanol production and export from the facility, before and after installation and operation of the sugar addition system.	345-021-0010(1)(b)(A)
2	The Process Flow Diagram titled "61001-P1-1202 REV 0 10-1-14.pdf" indicates that the new screw conveyor (SC-515) has a capacity of 10,000 lb/hr. Please provide a description of equipment, piping/infrastructure, water usage, electricity, additives/ingredients/chemicals used, and indicate which required modification or that are new, as a result of the maximum capacity increase of 10,000 lb/hr of sugar during ethanol production.	345-021-0010(1)(b)(A)
3	In the existing site certificate, a related and supporting facility includes a 1,700-foot, 13.5-kV distribution line. Please explain the modification, if any, to this related and supporting facility/facility description as a result of construction and operation of the sugar addition system.	345-027-0020(3)(a)
4	Please provide the footprint (in acres) of the project site/area of disturbance for the sugar addition system. Provide approximate cubic yards of fill and excavated material. Provide approximate CY of concrete needed during construction of the free standing tank concrete support slab.	345-022-0120
5	Please identify all federal, state and local permits that were obtained prior to construction and for operation of the sugar addition system.	345-022-0010
6	Please provide a description of each permit obtained for the sugar addition system and provide an explanation of why it was needed.	345-022-0010
7	Please provide a description of any third-party permits obtained for construction and operation of the sugar addition system.	345-022-0010
8	Please confirm if the existing WPCF permit, owned by the Port of Morrow and used by CEP for wastewater treatment, was required to be modified to accept new sources of wastewater related to changes in throughput from the sugar addition system. Please provide a copy of the approved, modified permit.	345-022-0010
9	Please provide an inventory of industrial materials used during construction of the sugar addition system.	345-022-0120
10	Please provide an inventory of industrial materials used during operation of the sugar addition system that differ from materials used during operation of the corn grinding system and/or ethanol facility.	345-022-0120
11	Please provide best management practices, mitigation measures or updated plan for hazardous and non-hazardous waste management during construction and operation of the sugar addition system.	345-022-0120

CEP Sugar Addition System RAI #2		
RAI NUMBER	Request for Additional Information	OAR
12	Please provide a cost estimate for retirement of facility modifications related to screw conveyors, tanks, infrastructure, and dust collector/filters installed on or in connection with the existing energy facility as a result of the sugar addition system.	345-022-0050
13	Please confirm the recirculation rate of CEP's cooling towers (gpm) pre- and post-operation of the sugar addition system combined with the CO2 system.	345-022-0022
14	Please provide an analysis of potential drift impacts from CEP's cooling towers following installation and operation of the sugar addition system combined with CO2 system on surrounding soils and natural resources/protected areas	345-022-0022
15	Please provide an analysis of traffic impacts, with increased traffic numbers resulting from operation of the sugar addition system (incoming and outgoing trucks) on recreational opportunities within the analysis area.	345-022-0100

RESPONSES FOR MORE INFO:

1. Process description: [Note: PEC utilized the sugar addition process for a limited time in 2013 as part of an initiative with the Department of Agriculture to use excess sugar in the market. The initiative lasted for 12 months and the sugar addition system no longer is in use.]
 - a. Without sugar – all of the feed for the ethanol plant is corn. Corn is primarily delivered by unit train. The corn is mixed with 2 different process recycled water streams to make a mash. Ammonia and alpha amylase enzyme is added to assist in the saccharification process. The mash density must have a low enough viscosity to pump thru the mash heat exchangers. The starch that becomes sugar is converted by the yeast to ethanol and the remaining corn protein, germ and insolubles are processed for cattle feed.
 - b. With sugar – granulated sugar replaces 10 to 15% of the corn needed in the process. 3 to 4 trucks per day of sugar were required for the addition rate (but 3 to 4 less trucks per day were needed to transport the feed offsite). The sugar was stored in a holding tank upon delivery to the facility. It then was added to the mash. Since sugar is readily dissolvable in the process water streams, the density of the mash was lower. This means that we could use less enzymes to manage the viscosity and less heat was needed for the process water since it did not have to heat up as much ground corn. Since there is less corn, there is less corn protein, germ and insoluble, therefore there less cattle feed produced for the same amount of ethanol.

2. Equipment required:
 - a. The new equipment required for the sugar addition system
 - i. 100 ton stainless steel tank/bin – self-supporting structure with ladder access and pneumatic fill tube
 - ii. Rotary feeder (attached to bottom of tank)
 - iii. Screw conveyor with transition (meets up with existing equipment where the sugar is mixed with corn flower)
 - iv. Dust collector (collects sugar dust at top of tank)
 - v. Electrical control panel which also included process controls (at base of tank)

- vi. Concrete base for tank
- b. Details
 - i. Infrastructure – the sugar system is basically a stand-alone system that can be turned on or off with no significant effect to the rest of the process
 - 1. No piping changes were required for the sugar addition system
 - ii. Electricity – the sugar addition system (namely the rotary feeder, screw conveyor and dust collector) only consumed 20 HP of power. The system was powered from an existing electrical circuit with a new line run to the sugar addition system.
 - iii. Water – there was a slight reduction (less than 5%) in water use in the mash process when using sugar. There was no impact on wastewater.
 - iv. Natural Gas – there was no change to use of natural gas caused by the sugar addition system.
 - v. Additives/ingredients/chemicals – with sugar, there was less use of alpha amylase (up to 30% less) and ammonia (less than 5%) required than when not using sugar addition (i.e. 100% corn)
 - vi. Co-product – with less corn being used when sugar is added, there is less resulting co-product being made for cattle feed
- 3. Electrical transmission – there were no changes to the 13.5 kV transmission system by adding sugar to the process
- 4. Natural Gas – there were no changes to the gas pipeline by adding sugar to the process
- 5. Excavated area:
 - a. An area 18 ft x 18 ft x 1.75 ft was excavated to create a foundation for the system. There was no fill added and the amount of concrete for the foundation was 24 cu yds
- 6. Permits
 - a. OR DEQ air permit – a Notice of Intent to Construct was filed and approved by the OR DEQ
 - b. Morrow County – a Land Use Application Zoning Permit was filed and approved by Morrow County
 - c. City of Boardman – a building and electrical permit were obtained from the City of Boardman
- 7. Explanation of permits
 - a. OR DEQ air permit – a dust collector was part of the sugar system. DEQ required a Notice of Intent to Construct be filed
 - b. Morrow County – before any building permit is issued, Morrow County Zoning Department must approve the project for the particular zoning area
 - c. City of Boardman – when a foundation is needed, a building permit must be obtained. Also when there is an electrical system added, an electrical permit is required
- 8. Third party permits: No third party permits were required
- 9. WPCF permit for Port of Morrow: No changes were required to the WPCF permit as a result of the sugar system addition
- 10. Industrial materials for construction:
 - a. Wood form boards, metal stakes and plastic sheeting for pouring concrete base

- b. 2 inch x 2 inch steel angle iron to build support legs for conveyor
 - c. Fiberglass insulation and metal sheeting to insulate the sugar tank
11. Industrial materials for operations: No difference in the industrial materials with or without the sugar system operational
12. Hazardous and non-hazardous waste minimization
- a. No hazardous waste was generated during the construction or operation of the sugar system
 - b. Wooden forms were recycled
 - c. Metal stakes are reusable
 - d. Plastic sheeting was disposed of in non-hazardous trash
 - e. Any sugar that leaked from the system during operation was shoveled back into the plant corn/sugar feed drag chain. No sugar was disposed of – all used in the operation
13. Retirement of facility
- a. To remove the components, concrete and electrical system would not exceed \$50,000
14. Cooling tower recirculation rate: No change in cooling tower water recirculation rate with or without sugar use
15. Cooling tower drift: No change in potential drift from the cooling towers with or without using sugar use
16. Traffic impact:
- a. There was approximately a 1:1 ratio in the amount of sugar used compared to the reduction of cattle food generated. As a result, there was no change in truck traffic whether the sugar system was operating or not.

CEP CO2 System Request for Additional Information (RAI) #2		
RAI NUMBER	Request for Additional Information	OAR
1	The previous evaluation did not provide sufficient information for the department to determine if the development of the CO2 processing plant required(s) PEC to make a change to the design or construction of the CEP ethanol plant, requiring an amendment to the site certificate. The PDF titled "Kodiak CO2 General View" includes the following interconnecting components from the CEP ethanol plant to the Kodiak Carbonic facility: natural gas line; 2" water return line; 3" water return line; 12" CO2 vapor supply line. Therefore, please provide a detailed narrative description of each of these components including process and function, capacity, and dimensions (L &W). In the narrative, please include an explanation of operational changes to the CEP ethanol plant as a result of each of the interconnecting components listed above (i.e. explain changes in water usage, wastewater generation, natural gas usage, changes to cooling tower recirculation rate and cooling tower water quality as a result of CO2 processing plant operations). Please specify whether the components are located above- or belowground.	345-021-0010(1)(b)(B)
2	On the PDF titled "PEI Stack P&ID for CO2 Project", there is a 7' stack on CEP's Main Processing Building; blower; motor; blower after cooler; and two vessels. Please provide a detailed narrative of the processes of each of these components, including capacity, size (HP), flow rate, fuel/electricity source, and dimensions.	345-021-0010(1)(b)(B)
3	In the existing site certificate, a related and supporting facility includes a 1,700-foot, 4" diameter natural gas pipeline. Please explain the modification, if any, to this related and supporting facility/facility description as a result of construction and operation of the CO2 system.	345-027-0020(3)(a)
4	In the existing site certificate, a related and supporting facility includes a 1,700-foot, 13.5-kV distribution line. Please explain the modification, if any, to this related and supporting facility/facility description as a result of construction and operation of the CO2 system.	345-027-0020(3)(a)
5	Please provide the footprint (in acres) of the site/area of disturbance for the CO2 system's interconnecting components to the CEP ethanol plant (i.e. natural gas line; 2" water return line; 3" water return line; 12" CO2 vapor supply line). Provide approximate cubic yards of fill and excavated material. Provide approximate CY of concrete needed during construction of the CO2 system's interconnecting components.	345-022-0120
6	Please confirm if the existing WPCF permit, owned by the Port of Morrow, and used by CEP for wastewater treatment was required to be modified to accept new sources of wastewater related to the CO2 system. Provide a copy of the approved, modified permit.	345-022-0010
7	Please confirm of PEC's purchase agreement for use of Port of Morrow's water rights required modification as a result of operation of the CO2 facility.	345-022-0110

CEP CO2 System Request for Additional Information (RAI) #2		
RAI NUMBER	Request for Additional Information	OAR
8	Please provide a copy of the agreement between Kodiak and CEP confirming Kodiak's financial responsibility for retirement of the CO2 system's interconnecting components to the CEP ethanol plant (i.e. natural gas line; 2" water return line; 3" water return line; 12" CO2 vapor supply line) to a non-hazardous condition at the time of decommissioning.	345-022-0050
9	Please provide an inventory of industrial materials used during construction and operation of the CO2 system's interconnecting components to the CEP ethanol plant (i.e. natural gas line; 2" water return line; 3" water return line; 12" CO2 vapor supply line).	345-022-0120
10	Please provide best management practices, mitigation measures or updated plan for hazardous and non-hazardous waste management during construction and operation of the CO2 system's interconnecting components to the CEP ethanol plant (i.e. natural gas line; 2" water return line; 3" water return line; 12" CO2 vapor supply line)..	345-022-0120
11	Please provide a cost estimate for retirement of facility modifications related to piping, infrastructure, motors, and blowers installed on or in connection with the existing energy facility as a result of the CO2 system.	345-022-0050
12	Please confirm the recirculation rate of CEP's cooling towers (gpm) pre- and post-operation of the CO2 system	345-022-0022
13	Please provide an analysis of potential drift impacts from CEP's cooling towers following installation and operation of the CO2 system on surrounding soils and natural resources/protected areas	345-022-0022
14	Please provide documentation to support determination of compliance with existing site certificate conditions V.A.1 and V.A.2 if modifications to the existing natural gas pipeline occurred as a result of the CO2 system.	

RESPONSES FOR MORE INFO:

1. Connections to the CO2 plant

- a. Natural gas line: Kodiak Carbonic (Kodiak) has a separate natural gas line and meter from Cascade Natural Gas. The natural gas line splits off the supply line that services the PEC facility at the 1650 foot mark, shortly before the 1700 foot mark where the PEC meter is situated. The Kodiak line is about 50 ft long and runs underground into the PEC facility. It emerges aboveground at the regulator and meter pod for Kodiak and then returns underground and into the Kodiak facility.
- b. 2" water return line: Kodiak has blowdown water from its process scrubbers. This spent water is sent to the PEC process condensate tank for reuse. The reuse reduces the amount of fresh water PEC must use for its process (by less than 5%). This line is approximately 450 ft long.
- c. 3" vapor return line (mislabeled water): In the Kodiak process; inert gases (nitrogen, oxygen, etc.) and VOCs are removed from the CO2 gas. These gases along with a small amount of CO2 are sent back to PEC through this line and discharged near the exit of the CO2 scrubber. This

was part of the Notice to Construct package sent to OR DEQ for the air permit. This line is approximately 450 ft long.

- d. 12" vapor supply line: This is the supply line for the raw CO₂ gas from PEC to Kodiak. An automatic valve was installed in the existing PEC CO₂ scrubber stack and the pipeline feeds a multistage gas blower unit owned and operated by Kodiak. This blower then pressurizes the CO₂ rich gas stream over to the Kodiak process. The line from the scrubber to the blower is 14 inches in diameter and 100 ft long. The line from the blower to inside the Kodiak facility is 400 ft long and 12 inches in diameter. This line conveys at least 250 tons/day of raw gas.
 - e. Other than a slight reduction in fresh water needed to be used in the PEC facility (as stated in (b) above), there are no other changes to the PEC process. The Kodiak facility does not increase natural gas use or electricity use for the PEC facility. There are no changes to cooling tower recirculation rate and cooling tower water quality.
 - f. Apart from the Kodiak natural gas line which is underground, all of the other piping is above ground.
2. Blower skid:
 - a. The blower skid is located just outside the Kodiak facility as depicted in referenced PDF. Kodiak owns and powers the equipment on the skid. There are two main vessels on the skid, from which water is drained out of the raw gas. The first vessel is a 400 HP blower (compressor). The second vessel is the blower after cooler. The excess water is discharged back into the PEC system.
 - b. The electrical motor is 4,160 Volts and fed by underground wires from the Kodiak facility.
 - c. The skid is 22 feet long, 7 feet wide and 9 feet tall.
 3. Existing natural gas line:

The natural gas line is described under 1(a). As described, it does not change or modify the gas line serving the PEC facility or the amount of natural gas used by the PEC facility in any way.
 4. Existing electricity line:
 - a. The Kodiak facility receives electricity from the 13.5 kV line under a dedicated Kodiak meter. The electrical line runs underground from the 13.5 kV line into the Kodiak facility
 - b. There were no changes to the 13.5 kV service to PEC.
 5. Footprint:
 - a. A 34 ft x 10 ft x 1 ft (12.6 cu yd) thick concrete pad was poured for the blower skid. There was minimal excavation to provide a flat surface for the slab.
 - b. A trench approximately 25 ft long x 2 feet wide x 4 feet deep was excavated for the natural gas pipeline and refilled. Slab for blower electrical disconnect is 10 ft x 7 ft x 1 ft (3 cu yd). This slab is 20 feet away from the blower skid slab. It is where the breaker panel for the Kodiak electricity is located.
 6. WPCF Permit:
 - a. There were no modifications required for the WPCF permit. The process water from Kodiak is used in PEC's process and does not end up at the Port of Morrow
 - b. The sewer connections for Kodiak are the sanitary sewer system and cooling tower blowdown. Kodiak has its own agreement with the Port of Morrow for the WPCF permit.
 7. Water from Port of Morrow:

- a. Kodiak has its own water supply from the Port of Morrow delivered by a pipe split off the main water supply line to PEC. Kodiak has its own water meter.
 - b. There was no modification to the water rights agreement between PEC and the Port of Morrow.
8. Retirement agreement of components: See section 11 of the attached document, "Kodiak – Columbia Sublease 8-27-14". Under the sublease, Kodiak is required to remove all personal property upon termination or expiration of the sublease.
9. Industrial Materials used in construction
 - a. Pipe: All of the piping described above is stainless steel except for the natural gas pipeline which is steel.
 - b. Steel bracing and pipe support – 20 feet of 3"x3" angle iron and (2) 12 foot tall W6 I-beams for pipe support and 30 feet of W6 I-beam for pipe support brackets.
 - c. Insulation and insulation jacket for all piping.
 - d. Various stainless steel and carbon steel valves are also used.
10. Construction management
 - a. No hazardous materials were used or generated by the construction.
 - b. All non-hazardous waste was properly disposed of or recycled.
11. Retirement of components – PEC estimates it would cost approximately \$100,000 to remove the piping, pipe support, and skid. As has been mentioned previously, however, it is expected that the Port of Morrow will keep the piping infrastructure in place should the Kodiak and PEC facilities shut down.
12. Cooling tower recirculation rate – the recirculation rate for the PEC cooling tower was not changed due to Kodiak operating their plant. The PEC recirculation rate is normally 12,500 GPM.
13. Cooling tower drift – there are no changes in drift potential from PEC's facility due to Kodiak operating their facility.
14. Public Health and Safety:
 - a. V.A.1 – there was no changes to the design or specification of the electrical transmission line or natural gas pipeline. Umatilla Electric Coop and Cascade Natural Gas both connected service lines to the main lines per their codes and standards.
 - b. V.A.2 – the addition of the service line to Kodiak from the main natural gas pipeline feeding Pacific Ethanol, was performed by Cascade Natural Gas according to all requirements, including the US DOT Title 49, Code of Federal Regulations, Part 192 .

SUBLEASE

THIS SUBLEASE ("**Sublease**"), is made and entered into as of the 27 day of August, 2014 ("**Effective Date**") by and between KODIAK CARBONIC, LLC, a Wyoming limited liability company with an address for notice purposes of 3440 Bell Street, Suite 320 (#330), Amarillo, TX 79109, Attn: Clifford H. Collen ("**Sublessee**"), and PACIFIC ETHANOL COLUMBIA, LLC, a Delaware limited liability company with an address for notice purposes of 400 Capitol Mall, Suite 2060, Sacramento, California 95814 ("**Sublessor**"), with reference to the following facts:

A. Sublessor owns and operates an ethanol processing facility ("**Ethanol Plant**") on certain real property located in Boardman, Oregon ("**Master Parcel**") which Sublessor leases from the Port of Morrow, a municipal corporation of the state of Oregon ("**Master Lessor**"), pursuant to that certain Ground Lease between Sublessor and Master Lessor dated April 20, 2006, as amended October 1, 2006 ("**Master Lease**"). The Master Parcel is more particularly described on Exhibit A-1 attached hereto.

B. Sublessor and Sublessee are parties to that certain Carbon Dioxide Supply Agreement ("**CDSA**") dated on or about the date of this Sublease, pursuant to which Sublessee shall purify, liquefy, refine, solidify and store Carbon Dioxide Gas by-product from the Ethanol Plant.

C. Pursuant to Section 3.1 of the CDSA, Sublessor and Sublessee mutually desire for Sublessor to sublease to Sublessee an approximately three-acre portion of the Master Parcel ("**Premises**") for the construction and operation thereon by Sublessee of a facility for the processing of Carbon Dioxide Gas ("**CO2 Plant**"), on all on the terms and conditions set forth in this Sublease. The approximate location of the Premises is shown on Exhibit A-2 attached hereto; once available, a legal description of the Premises will be substituted for the attached drawing as Exhibit A-2 to this Sublease.

D. Capitalized terms used in this Sublease and not otherwise defined herein shall have the meaning given in the CDSA.

WITNESSETH:

NOW THEREFORE, in consideration of the terms and covenants hereinafter contained, the sufficiency of which is hereby acknowledged by the parties, Sublessor and Sublessee agree as follows:

1. SUBLEASE OF PREMISES

Sublessor hereby declares, creates, and grants to Sublessee, on the terms, covenants and conditions and for the duration set forth herein, a sublease to use and occupy the Premises, on the terms and conditions of this Sublease.

2. TERM

2.1 Term. The term of this Sublease ("**Term**") shall commence on the later of (a) the Effective Date; or (b) the date that Master Lessor consents to this Sublease by executing it in the space provided at the end of this Sublease. The Term shall end fifteen (15) Contract Years after the Commissioning Date, and shall thereafter automatically renew for up to two (2)

additional terms of five Contract Years provided Sublessee does not give Sublessor written notice of termination at least twenty-four (24) months before the then-existing end of the Term; provided, however, that under no circumstances shall the Term extend beyond the expiration or sooner termination of the term of the Master Lease. Sublessee acknowledges that as of the Effective Date, the term of the Master Lease expires on April 30, 2026.

2.2 Extension of Term. In the event that Sublessor exercises any option to renew the term of the Master Lease pursuant to Section 5 of the Master Lease, it shall concurrently provide Sublessee with a copy of the notice delivered to Master Lessor exercising the option. The decision whether or not to exercise any option to renew the term of the Master Lease shall be at Sublessor's sole discretion, and Sublessor shall have no obligation to Sublessee to exercise any such option.

2.3 Delivery of Possession. Sublessor shall deliver possession of the Premises to Sublessee at the commencement of the Term.

2.4 Termination of CDSA. If the CDSA terminates because for any reason other than a breach of the CDSA by the Seller thereunder, then this Sublease shall terminate concurrently therewith.

2.5 Holding Over. Sublessee shall vacate the Premises upon the expiration or earlier termination of this Sublease, subject only to the license (if any) provided in Section 11 for restoration of the Premises to the Surrender Condition or the selling of the improvements on the Premises. Sublessee shall reimburse Sublessor for and indemnify Sublessor against all damages which Sublessor incurs from Sublessee's improper delay in vacating the Premises. If Sublessee does not vacate the Premises upon the expiration or earlier termination of the Sublease and Sublessor thereafter accepts rent from Sublessee, Sublessee's occupancy of the Premises shall be a "month-to-month" tenancy, subject to all of the terms of this Sublease applicable to a month-to-month tenancy at one hundred twenty-five percent (125%) of the Sublease Rent in effect at the end of the Term.

3. SUBLEASE RENT

3.1 Calculation. On the first day of the Term and the first day of each calendar month thereafter during the Term, Sublessee shall pay Sublessor monthly rent equal to the rent due from Sublessor to Master Lessor under the Master Lease multiplied by a fraction, the numerator of which is the acreage of the Premises (rounded to the nearest tenth of an acre) and the denominator is the acreage of the Master Parcel ("**Sublease Rent**"). Sublease Rent shall be paid in advance and without deduction or offset. Sublease Rent for any partial month shall be pro-rated. The current per-acre monthly rent under the Master Lease is \$277.44 per month. Sublessee acknowledges that the Master Lease provides for an increase in the rent due thereunder on May 1, 2016 and every five years thereafter during the term of the Master Lease.

3.2 Late Charges. Sublessee's failure to timely pay Sublease Rent may cause Sublessor to incur unanticipated costs. The exact amount of such costs are impractical or extremely difficult to ascertain. Such costs may include, but are not limited to, processing and accounting charges and late charges which may be imposed on Sublessor pursuant to the Master Lease or pursuant to any ground lease, mortgage or trust deed encumbering the Master Parcel. Therefore, if Sublessor does not receive any Sublease Rent payment within ten (10) days after it becomes due, Sublessee shall pay Sublessor a late charge of five percent (5%) of the amount due

or \$100, whichever is more. The parties agree that such late charge represents a fair and reasonable estimate of the costs Sublessor will incur by reason of such late payment.

3.3 Interest on Past Due Obligations. Any amount owed by Sublessee to Sublessor which is not paid when due shall bear interest per annum from the due date of such amount at a rate equal to the greater of: (a) the rate imposed upon Sublessor for late payment of Rent under the Master Lease; or (b) twelve percent (12%); however, interest shall not be payable on late charges to be paid by Sublessee under this Sublease. The payment of interest on such amounts shall not excuse or cure any default by Sublessee under this Sublease. If the interest rate specified in this Sublease is higher than the rate permitted by law, the interest rate is hereby decreased to the maximum legal interest rate permitted by law.

4. USE OF THE PREMISES

4.1 Permitted Use. Subject to the terms and conditions hereof, Sublessor agrees that Sublessee, having paid the Sublease Rent and duly performed all of the obligations contained herein upon the part of the Sublessee to be performed, shall peaceably and quietly have, hold, use and enjoy the Premises during the full term of this Sublease only for: (i) the construction, maintenance and operation of the CO2 Plant, parking of vehicles, construction and maintenance of a rail spur serving the CO2 Plant and any and all other activities reasonably related thereto, and (ii) for such other uses as are approved by Sublessor in writing, which approval may be granted or withheld at Sublessor's discretion. Sublessee shall not cause or permit the Premises or the Master Parcel to be used in any way which constitutes a violation of any law, ordinance or governmental regulation or order, or which constitutes a nuisance or waste, or which constitutes a violation or breach of the Master Lease. Sublessee shall promptly take all actions necessary to comply with all applicable statutes, ordinances, rules, regulations, orders and requirements regulating the use by Sublessee of the Premises.

4.2 Compliance with Master Lease. Except as specifically provided to the contrary in this Sublease, this Sublease and Sublessee's rights and obligations hereunder are subject to all of the terms and conditions of the Master Lease, as the Master Lease may be amended from time to time, provided such amendment shall not materially affect Sublessee's rights or obligations without Sublessee's written consent and Sublessee is given written notice of such amendment. Except as specifically provided to the contrary in this Sublease, Sublessee assumes and agrees to be bound by and perform all the non-monetary obligations of the Master Lease as if: (a) Sublessor was the "Port" and Sublessee was the "Tenant" under the Master Lease; (b) the permitted use hereunder is the permitted use under the Master Lease; and (c) the Premises was the "Premises" and the CO2 Plant was the "Project" under the Master Lease. Sublessee acknowledges receipt of a complete copy of the Master Lease. Sublessor shall promptly provide Sublessee with a copy of any amendments or alterations of the Master Lease occurring after the date of this Sublease.

4.3 Utilities. Except as otherwise expressly provided in the CDSA, Sublessee shall pay, directly to the appropriate supplier, the cost of all natural gas, heat, light, power, sewer service, telephone, water, refuse disposal and other utilities and services supplied to the Premises. Sublessor shall provide access to the Premises across the Master Parcel for such utilities.

4.4 Rules and Regulations. Sublessee shall, at its sole cost, comply with any reasonable rules and regulations promulgated or amended from time to time by Sublessor or

Master Lessor with respect to use of the Master Parcel and any other shared facilities such as parking, entranceways, access routes, railway facilities and similar facilities, a copy of which shall be provided to Sublessee. Sublessee shall take such actions as may be reasonably necessary or appropriate to avoid any material disruption of Sublessor's use or operation of the Ethanol Plant. Sublessor shall take such actions as may be reasonably necessary or appropriate to avoid any material disruption of Sublessee's use or operation of the CO2 Plant. Sublessor shall at all times maintain driveways and other means of access to and on the Master Parcel in such passable and other condition as is necessary for Sublessee to have reasonable access to the Premises and to the area known as Buyer's Plant under the CDSA.

4.5 Safety and Security. Sublessor shall provide reasonable security for the Master Parcel, including the Premises. Sublessee shall have the right to construct and operate security precautions on the Premises as deemed necessary by Sublessee in its reasonable discretion, including without limitation fencing and/or a security or surveillance system. The parties will advise each other promptly upon observing any damage to the CO2 Plant or the Ethanol Plant, or any suspicious activity on or around the Master Parcel.

4.6 Sublessor's Access. Sublessor or its agents may enter the Premises at all reasonable times for the purpose of determining compliance with the terms and conditions of this Sublease or for any other purpose incidental to the rights of Sublessor. Sublessor shall give Sublessee reasonable prior notice of such entry except in the case of an emergency.

4.7 Sublessee's Access. If the Premises do not abut a public road, then Sublessee and its employees, contractors, agents, financing parties and designees shall have the right of pedestrian and vehicular access across the remainder of the Master Parcel to and from a public road as reasonably necessary for the permitted uses hereunder. Access shall be 24 hours a day, 365 days a year.

4.8 License to Enter. Sublessee shall have a non-exclusive license to enter onto the portion of the Master Parcel outside the Premises (including the Ethanol Plant) for the purposes set forth in the CDSA or as may be necessary for Sublessee to perform its rights and obligations under the CDSA. Sublessee shall indemnify, defend and hold Sublessor harmless from and against any claims, losses, damages, liabilities, costs or expenses (including reasonable legal fees and costs) arising out of any entry onto the Master Parcel pursuant to this Section 4.8, except to the extent arising out of the gross negligence or willful misconduct of Sublessor or its agents.

5. CONDITION OF PREMISES; IMPROVEMENTS AND REPAIRS

5.1 As-Is Condition. Except for the representations and warranties expressly set forth in this Sublease and the CDSA: (a) Sublessee accepts the Premises in its condition as of the execution of this Sublease, "AS-IS" WITH ALL FAULTS, subject to all recorded matters, laws, ordinances and governmental regulations and orders, and free of all warranties and representations of any kind, whether express or implied, patent or latent; (b) Sublessor expressly disclaims all express or implied warranties with respect thereto, including without limitation any warranty regarding the suitability of the Premises for Sublessee's intended use; and (c) Sublessee represents that Sublessee has made its own inspection of and inquiry regarding the condition of the Premises and is not relying on any representations of Sublessor or Master Lessor with respect thereto. Notwithstanding Section 4.2 and without limiting the generality of the foregoing, the

representations and warranties of Master Lessor pursuant to Sections 8 and 15 of the Master Lease specifically are not incorporated herein as if made by Sublessor; but Sublessor represents that (without any duty to investigate) that it knows of no present violation of the representations and warranties contained in Sections 8 and 15 of the Master Lease.

5.2 Improvements by Sublessee. All improvements to the Premises shall be at Sublessee's sole cost and expense, including without limitation any utility service upgrades and any modifications of the Premises needed to comply with applicable laws, rules and regulations. Sublessee shall provide detailed plans and specifications for the CO2 Plant and any other material improvements and alterations to Sublessor and Master Lessor prior to commencing construction, for review and approval by Sublessor and Master Lessor, such approval not to be unreasonably withheld, conditioned or delayed. "Material improvements and alterations" means any reasonably related improvements or alterations with a cumulative cost in excess of \$500,000 to complete and excludes common, day-to-day replacements or parts or equipment or simple modifications that do not materially affect the operation of the CO2 Plant. All alterations, additions and improvements shall be new, constructed in a first class manner, in conformity with all applicable laws and regulations and made by contractors licensed in the state of Oregon. Sublessor or Master Lessor may require Sublessee to provide demolition and/or lien and completion bonds in a satisfactory form and amount.

5.3 Ownership of Improvements. All improvements to the Premises or the property known as Buyer's Plant under the CDSA, including all fixtures, personal property, trade fixtures and equipment shall remain the property of Sublessee, whether or not affixed to the real property. Sublessee shall have the right to any insurance proceeds arising from the destruction of improvements to the Premises made by Sublessee. The parties agree that the CO2 Plant is personal property and shall not attach or be deemed to be part of the Premises, the Master Parcel or the Ethanol Plant. Sublessor covenants that it will use commercially reasonable efforts to notify all persons having an interest in or a lien on the Master Parcel (other than Master Lessor, which is so notified by receipt of a copy of this Sublease) of the ownership of the CO2 Plant and the parties' agreement as to the legal status or classification of the CO2 Plant as personal property, but makes no representation or warranty that any third party shall respect, honor or be bound by the parties' classification. Sublessor shall reasonably cooperate with Sublessee at no out-of-pocket cost to Sublessor in making any filings deemed necessary by Sublessee's legal counsel to disclaim the CO2 Plant as a fixture.

5.4 Permits. Except as set forth in Section 3.7 of the CDSA, Sublessee shall be solely responsible for obtaining any and all permits required for Sublessee's improvement, alteration and occupancy of the Premises and shall pursue all such permits with commercially reasonable due diligence. Sublessor shall reasonably cooperate with Sublessee at no out-of-pocket cost to Sublessor in any land use or other permit applications, including execution of any applications if requested by Sublessee.

5.5 Repairs and Maintenance. Sublessee may remove any improvements placed by Sublessee on the Premises at any time during the Term, provided that Sublessee repairs any damage to the Master Parcel or the Ethanol Plant caused by such removal, at Sublessee's expense. During the Term, Sublessee shall, at its own cost and expense, perform all normal day-to-day maintenance so as to keep the Premises in a clean, safe and well maintained condition, and shall operate the Premises in all material respects as required by law. Neither Sublessor nor Master Lessor shall have any responsibility whatsoever to repair, maintain or replace any portion of the Premises or the improvements thereon.

5.6 No Liens. Sublessee shall keep the interests of Sublessor and Master Lessor in the Master Parcel (including the Premises) free from liens arising from labor and material furnished to the Premises on behalf of Sublessee and shall pay when due all claims for labor and material furnished to the Premises. Except for work undertaken with the consent of Sublessor, Sublessee shall give Sublessor and Master Lessor at least twenty (20) days' prior written notice of the commencement of any work on the Premises. Sublessor and Master Lessor may elect to record and post notices of non-responsibility on the Premises, regardless of whether the consent of Sublessor or Master Lessor to such work is provided. If Tenant fails to pay such claims or discharge any lien, Sublessor may do so and collect the cost as additional rent. Subject to Section 16 below, Sublessor shall not directly or indirectly cause, create, incur, assume or suffer to exist any liens on or with respect to the interests of Sublessee in the Premises, the CO2 Plant or this Sublease. Notwithstanding the forgoing, Sublessor and Master Lessor consent to Sublessee obtaining Industrial Revenue Bonds for the CO2 Plant and the placement of restrictions on the Premises as may be outlined in the Industrial Revenue Bonds, provided that no restrictions shall apply outside the boundaries of the Premises and no lien shall attach to the interests of either Master Lessor or Sublessor in the Master Parcel. In addition, Sublessee may encumber the CO2 Plant or other improvements and personal property located on the Premises.

6. TAXES

6.1 Real Property Taxes. Sublessee shall pay Sublessor for all taxes and assessments levied against the Premises or any improvements thereto by Tenant. Sublessee's pro rata share of all taxes and assessments assessed against the land (as opposed to any improvements) shall be based on a ratio of the acreage of the Premises to the acreage of the Master Parcel (including the Premises). Sublessee's payments under this Section 6.1 shall be made no later than ten (10) days before payment of the tax or assessment is due and shall be considered additional rent hereunder.

6.2 Personal Property Taxes. Sublessee shall pay, before the same becomes delinquent, any and all taxes levied or assessed against all personal property owned by it and located on the Premises.

7. INDEMNITY

7.1 By Sublessee. Sublessee shall defend, indemnify Sublessor against and hold Sublessor harmless from any and all damages, liabilities or losses directly or indirectly incurred, suffered or asserted against Sublessor (regardless of whether or not such damages, liabilities or losses relate to any third party claim) arising out of: (a) Sublessee's use of the Premises or the Master Parcel; (b) the conduct of Sublessee's business or anything else done or permitted by Sublessee to be done in or about the Premises; (c) any breach or default in the performance of Sublessee's obligations under this Sublease; (d) any misrepresentation or breach of warranty by Sublessee under this Sublease; or (e) other acts or omissions of Sublessee; all without limitation as to amount. Sublessee shall defend Sublessor against any such cost, claim or liability at Sublessee's expense with counsel reasonably acceptable to Sublessor. As used in this Section, the term "Sublessee" shall include Sublessee's employees, agents, contractors and invitees, if applicable. Sublessee's obligations pursuant to this Section shall survive the expiration or sooner termination of this Sublease for a period of two (2) years.

7.2 By Sublessor. Sublessor shall defend, indemnify Sublessee against and hold Sublessee harmless from any and all damages, liabilities or losses directly or indirectly

incurred, suffered or asserted against Sublessee (regardless of whether or not such damages, liabilities or losses relate to any third party claim) arising out of: (a) Sublessor's use of the Master Parcel outside the boundaries of the Premises; (b) the conduct of Sublessor's business or anything else done or permitted by Sublessor to be done in or about the Master Parcel; (c) any breach or default in the performance of Sublessor's obligations under this Sublease or the Master Lease; (d) any misrepresentation or breach of warranty by Sublessor under this Sublease or the Master Lease; or (e) other acts or omissions of Sublessor; all without limitation as to amount. Sublessor shall defend Sublessee against any such cost, claim or liability at Sublessor's expense with counsel reasonably acceptable to Sublessee. As used in this Section, the term "Sublessor" shall include Sublessor's employees, agents, contractors and invitees, if applicable. Sublessor's obligations pursuant to this Section shall survive the expiration or sooner termination of this Sublease for a period of two (2) years.

7.3 Limitation of Damages. IN NO EVENT SHALL EITHER PARTY BE LIABLE TO THE OTHER FOR CONSEQUENTIAL, INCIDENTAL, INDIRECT OR PUNITIVE DAMAGES IN ANY WAY ARISING FROM, OUT OF, OR IN CONNECTION WITH THIS SUBLEASE OR THE MASTER LEASE, INCLUDING LOSS OF USE OR LOSS OF PROFITS, WHETHER IN CONTRACT, TORT, STRICT LIABILITY OR OTHERWISE AND WHETHER OR NOT DUE TO THE NEGLIGENCE, GROSS NEGLIGENCE OR WILLFUL MISCONDUCT OF A PARTY, OR THE PARTIES, HERETO. IF, HOWEVER, ANY PARTY IS HELD LIABLE TO A THIRD PARTY FOR ANY DAMAGES WHICH ARE WITHIN THE SCOPE OF ANY INDEMNITY GIVEN BY ANOTHER PARTY UNDER THIS AGREEMENT, THE PARTY OBLIGATED UNDER THE APPLICABLE INDEMNITY WILL BE LIABLE FOR SUCH DAMAGES AND THE LIMITATIONS OF THIS SECTION SHALL NOT APPLY TO THIRD PARTY DAMAGES.

8. INSURANCE

8.1 Requirements. During the Term, Sublessee shall procure and maintain in full force and effect, at Sublessee's expense, the following insurance policies:

8.1.1 Automobile Liability. Automobile liability insurance with limits of not less than two million dollars (\$2,000,000) per occurrence and two million dollars (\$2,000,000) in the aggregate for bodily injury, and four million dollars (\$4,000,000) in the aggregate for property damage, covering all vehicles whether owned, non-owned or hired, used in connection with Buyer's activities on or around the Lease Area.

8.1.2 Comprehensive General Liability. Comprehensive general liability insurance for Sublessee's operations, with limits of not less than two million dollars (\$2,000,000) per occurrence, four million dollars (\$4,000,000) in the aggregate, and including pollution coverage.

8.1.3 Property Insurance. Insurance covering loss of or damage to the Premises, the CO2 Plant and Sublessee's improvements and personal property thereon, in the full amount of its replacement value.

8.1.4 Other Requirements. All liability policies shall name Sublessor and the Port of Morrow as additional insureds, as their interests may appear. Liability policy limits can be obtained through either primary insurance or a combination of primary and excess or umbrella coverage. Sublessee shall provide Sublessor with not less than thirty (30) days' written notice prior to any cancellation or material adverse amendment of any policy required hereby. All insurance brokers and carriers are of the insured's choice, provided that all insurers shall be authorized to issue insurance in the State of Oregon and have an A.M. Best's Rating of A- or better and Class VII or better, or any more stringent rating if required by the Master Lease.

8.2 Workers Compensation Insurance. Each party warrants to the other that all of its employees that work on the Lease Area will at all times be covered as required by law by workers' compensation and unemployment compensation insurance.

8.3 Waiver of Subrogation. Sublessor and Sublessee each hereby waive any and all rights of recovery against the other, or against the officers, employees, agents or representatives of the other, for loss or damage covered by any insurance policy in force (whether or not described in this Sublease) or required to be in force at the time of such loss or damage. Sublessor and Sublessee shall cause their respective insurance carriers to waive any right to subrogation that the carriers may have against Sublessor, Sublessee or Master Lessor, as the case may be.

8.4 Contractors of Sublessee. Any and all contractors and subcontractors performing work on the Master Parcel on behalf of Sublessee shall at all times during such work maintain automobile liability, comprehensive general liability and workers compensation insurance meeting the requirements of this Sublease and naming Sublessor and Master Lessor as additional insureds. Sublessee shall provide Sublessor with proof of the required insurance prior to any entry onto the Master Parcel by any contractor or subcontractor.

9. ASSIGNMENT AND SUBLETTING

9.1 Consent Required; Exceptions. Sublessee shall not voluntarily or by operation of law assign, transfer, convey, or encumber this Sublease or any interest therein, sublease the Premises, or otherwise permit any occupancy of the Premises by any third party, in whole or in part, without first obtaining the written consent of Sublessor and Master Lessor, which consent shall not be unreasonably withheld, conditioned or delayed; provided, however, that the consent of Sublessor and Master Lessor shall not be required to mortgage, hypothecate or encumber Sublessee's interest in this Sublease as security for a debt, provided that Sublessee complies with Section 18(A) of the Master Lease and Section 5.6 of this Sublease (if applicable). Any transfer of Sublessee's interest in this Sublease or in the Premises arising by merger, consolidation, dissolution or liquidation of Sublessee shall constitute an assignment within the scope of this Section 9.1. Any transfer must comply with Section 17 of the Master Lease. Sublessee shall reimburse Sublessor and Master Lessor upon demand for their reasonable costs incurred in connection with any request for consent, including reasonable attorney fees.

9.2 Other Provisions. No transfer permitted by this Section 9 shall release Sublessee or change Sublessee's primary liability to pay the Sublease Rent and to perform all other obligations of Sublessee under this Sublease. Sublessor's acceptance of Sublease Rent from any third party is not a waiver of any provision of this Section. Consent to one transfer is not a consent to any subsequent transfer. If Sublessee's transferee defaults under this Sublease,

Sublessor may proceed directly against Sublessee without pursuing remedies against the transferee. Sublessor may consent to subsequent assignments or modifications of this Sublease by Sublessee's transferee, without notifying Sublessee or obtaining its consent, and such action shall not relieve Sublessee's liability under this Sublease.

10. DEFAULT

10.1 Sublessee's Defaults. Sublessee shall be in material default under this Sublease:

- (a) If Sublessee abandons the Premises or if Sublessee's vacation of the Premises results in the cancellation of any insurance required hereunder;
- (b) If Sublessee fails to pay Sublease Rent or any other charge within ten (10) days after payment is due;
- (c) If Sublessee fails to continuously use the Premises for a period of ninety (90) days or more;
- (d) If Sublessee fails to perform any of Sublessee's nonmonetary obligations under this Sublease for a period of thirty (30) days after written notice from Sublessor; or
- (e) the Buyer is in default of the CDSA beyond any time for cure set forth therein.

10.2 Sublessor's Remedies. On the occurrence of any material default by Sublessee, Sublessor may, at any time thereafter, with or without notice or demand and without limiting Sublessor in the exercise of any right or remedy which Sublessor may have:

- (a) Terminate Sublessee's right to possession of the Premises by any lawful means, in which case this Sublease shall terminate and Sublessee shall immediately surrender possession of the Premises to Sublessor. In such event, Sublessor shall be entitled to recover from Sublessee all reasonable damages incurred by Sublessor by reason of Sublessee's default, including (i) the unpaid Sublease Rent and other charges which Sublessor had earned at the time of the termination; (ii) the amount by which the unpaid Sublease Rent and other charges which Sublessor would have earned after termination until the time of the award exceeds the amount of such rental loss that Sublessee proves Sublessor could have reasonably avoided; (iii) the worth at the time of the award of the amount by which the unpaid Sublease Rent and other charges which Sublessee would have paid for the balance of the Term after the time of award exceeds the amount of such rental loss that Sublessee proves Sublessor could have reasonably avoided; and (iv) any other amount necessary to compensate Sublessor for all the detriment proximately caused by Sublessee's failure to perform its obligations under the Sublease or which in the ordinary course of things would be likely to result therefrom, including, but not limited to, any costs or expenses Sublessor incurs in maintaining or preserving the Premises after such default, the cost of recovering possession of the Premises, expenses of reletting, the cost of renovation or alteration of the Premises, Sublessor's reasonable attorney fees incurred in connection therewith and any real estate commission paid or payable. As used in subpart (iii) above, the "worth at the time of the

award" is computed by discounting such amount at the discount rate of the Federal Reserve Bank of San Francisco at the time of the award, plus two percent (2%).

(b) Maintain Sublessee's right to possession, in which case this Sublease shall continue in effect whether or not Sublessee has abandoned the Premises. In such event, Sublessor shall be entitled to enforce all of Sublessor's rights and remedies under this Sublease, including the right to recover the Sublease Rent as it becomes due. In the event Sublessor reenters the Premises or regains possession of the Premises hereunder or due to abandonment by Sublessee, Sublessor shall not be deemed to have terminated this Sublease unless Sublessor shall have expressly notified Sublessee in writing of such termination.

(c) Pursue any other remedy now or hereafter available to Sublessor at law or equity.

10.3 Lender Protection. If Sublessee has mortgaged, pledged or hypothecated its interest in this Sublease as security for a debt, and written notice thereof has been provided to Sublessor including a contact name and address for the secured party, then such secured party shall have the rights and protections of a "Mortgagee" pursuant to Section 18 of the Master Lease, as applied to this Sublease.

10.4 Default by Sublessor. If Sublessor shall default in any of the terms, covenants or conditions of this Sublease, and said default continues for a period of thirty (30) days after written notice thereof, then Sublessee shall be entitled exercise any rights or remedy now or hereafter available to Sublessee at law or equity including the right to perform the obligations of Sublessor, at Sublessor's expense, which expense shall be reimbursed to Sublessee within ten (10) days of demand therefor or maybe offset against the Sublease Rent. A default by the Seller under the CDSA beyond any time for cure set forth therein shall be a default of Sublessor under this Sublease.

10.5 Default by Sublessor under Master Lease. By its consent to this Sublease, Master Lessor agrees to copy Sublessee on any notice of default to Sublessor under the Master Lease as provided in Section 14. Sublessee shall have the right to cure any default of Sublessor under the Master Lease within the applicable cure period, provided that Sublessee shall give reasonable prior notice of its intention to cure the default to Sublessor unless such notice would be impractical because the applicable cure period is about to expire. Sublessee may offset the cost of cure of any default of Sublessor under the Master Lease against Sublease Rent due hereunder, or at Sublessee's option Sublessee may submit an invoice of such costs to Sublessor and Sublessor shall reimburse Sublessee within ten (10) days of receipt of the invoice. In the event that Sublessor's default under the Master Lease is not capable of being cured by Sublessee, then Master Lessor hereby agrees that, if and for so long as (i) Sublessee is not in default under this Sublease beyond any applicable cure period; and (ii) Sublessee attorns to Master Lessor; Master Lessor shall upon termination of the Master Lease recognize this Sublease as a direct lease of the Premises from Master Lessor for the remainder of the Term hereof, but excluding any rights to renew the Term pursuant to Section 5 of the Master Lease.

10.6 Cumulative Remedies. The exercise of any right or remedy hereunder shall not prevent a party from exercising any other right or remedy.

11. TERMINATION

Upon the expiration or termination of the Sublease for any reason, Sublessee shall surrender the Premises to Sublessor. If the Sublease expires on the last day of the then-existing Term, the Premises shall be surrendered in the condition required by the Master Lease, with all of Sublessee's personal property, trade fixtures and improvements removed therefrom and specifically including without limitation restoration of the environmental condition of the Premises to the same condition as received at the start of the Term, which shall be evidenced by a Phase I Environmental Assessment of the Premises at Sublessee's cost and certified to Sublessor after restoration of the Premises (the "**Surrender Condition**"). Otherwise, Sublessee shall have a license for one (1) year after termination to enter onto the Premises or the Master Parcel to remove its personal property, trade fixtures and improvements and to restore the Premises to the Surrender Condition, during which time the indemnification and insurance obligations of Sublessee under this Sublease shall continue to apply. The cost of restoring the Premises to the Surrender Condition shall be the sole responsibility of Sublessee unless this Sublease has terminated pursuant to Section 13.4 of the CDSA, in which case the restoration costs shall be paid by Sublessor. All alterations, additions and improvements which Sublessee fails to remove as required by this Section 11 shall become the property of Sublessor, subject to Master Lessor's rights (if any) under Section 11(C) of the Master Lease.

12. ATTORNEY'S FEES

If any action for breach of or to enforce the provisions of this Sublease is commenced, the prevailing party shall be entitled to recover from the losing party the prevailing party's reasonable attorney fees and costs incurred in such action, at trial or on any appeal.

13. HAZARDOUS MATERIALS

13.1 Obligations. During the Term, Sublessee and Sublessor shall comply with and be subject to all provisions of Section 23 of the Master Lease regarding Hazardous Materials (as that term is defined in the Master Lease).

13.2 Indemnity by Sublessee. Sublessee shall indemnify, defend and hold Sublessor and Master Lessor harmless from any and all actions, claims, losses damages, liabilities and expenses (including clean-up costs, governmental penalties and reasonable expert and attorneys fees) incurred by Sublessor or Master Lessor which arise from the violation of Section 13.1, or the presence of Hazardous Material in the surface water, or soil or groundwater at or under the Premises resulting from the acts or omissions of Sublessee or persons on the Premises with Sublessee's permission.

13.3 Indemnity by Sublessor. Sublessor shall indemnify, defend and hold Sublessee harmless from any and all actions, claims, losses damages, liabilities and expenses (including clean-up costs, governmental penalties and reasonable expert and attorneys fees) incurred by Sublessee which arise from the violation of Section 13.1, or the presence of Hazardous Material in the surface water, or soil or groundwater at or under the Premises resulting from the acts or omissions of Sublessor or persons on the Premises with Sublessor's permission (excluding Sublessee and its agents).

13.4 Survival. The provisions of this Section 13 shall survive the expiration or termination of this Sublease.

14. NOTICES

Any and all notices or demands which shall be required or permitted by law or pursuant to any of the provisions of this Sublease shall be in writing and shall be either personally delivered or shall be deposited in the United States Mail, Certified Mail Return Receipt Requested, postage prepaid, addressed to the receiving party at the address first set forth above, or at such other address as each party may from time to time designate by notice in writing to the other party. A copy of any notice to Sublessor shall also be delivered to: (a) Pacific Ethanol, Inc., Attn: General Counsel, 400 Capitol Mall, Suite 2060, Sacramento, CA 95814, which may be delivered by fax at 916-403-2785; and (b) Master Lessor as provided in Section 24(H) of the Master Lease. A copy of any notice to Sublessee shall also be delivered to the registered office of Motschenbacher & Blattner, LLP as indicated on the records of the Oregon Secretary of State.

15. ESTOPPEL CERTIFICATES

Upon request by either party, the party receiving the request shall within ten (10) days execute, acknowledge, and deliver to the other party an estoppel certificate containing the information reasonably required by the requesting party. Failure to timely furnish an estoppel certificate upon request shall be conclusive evidence that this Sublease is in full force and effect without modification except as may be represented by the requesting party, that there are no uncured defaults except as may be represented by the requesting party, and that not more than one month's Sublease Rent has been paid in advance.

16. SUBORDINATION AND ATTORNMENT

16.1 Subordination to Existing Rights and Liens. This Sublease shall be subordinate to: (i) the Master Lease; and (ii) any and all liens and encumbrances of record with respect to the Master Parcel as of the Effective Date. If requested by Sublessee, Sublessor shall use commercially reasonable efforts, at no out-of-pocket cost to Sublessor to obtain subordination, non-disturbance or other agreements desired by Sublessee from the holders of any existing liens and encumbrances, but Sublessor makes no representation or warranty that any such agreement can or will be obtained.

16.2 Subordination to Future Liens. This Sublease shall be subordinate to any and all deeds of trust, mortgages or other financial liens first placed on Sublessor's interest in the Master Parcel, the Ethanol Plant or this Sublease after the date of this Sublease, provided that: (a) such security interest shall not attach to Sublessee's interest in the CO2 Plant or this Sublease; (b) the secured party specifically acknowledges in writing the CDSA and this Sublease, including the personal property nature of the CO2 Plant as described in Section 5.3; and (c) the secured party agrees not to disturb Sublessee's use and possession of the Premises so long as Sublessee is not in default of the CDSA or this Sublease.

16.3 Subordination to Sublease. If any senior secured party shall elect to have this Sublease prior to the lien of its security interest, then this Sublease shall be deemed senior to such lien.

16.4 Attornment. If Sublessor's interest in the Master Parcel is transferred or is acquired by any ground lessor, beneficiary under a deed of trust, mortgagee or purchaser at a foreclosure sale, Sublessee shall attorn to the transferee of or successor to Sublessor's interest in the Master Parcel and recognize such transferee or successor as Sublessor under this Sublease,

and Sublessor shall have no liability under this Sublease for events first occurring after the effective date of such transfer or acquisition.

16.5 Refinancing by Sublessor. If Sublessor desires to finance or refinance its interest in the Master Parcel, Sublessee shall upon request deliver to the proposed secured party any financial statements or other information regarding Sublessee as may reasonably be required by the secured party.

17. MISCELLANEOUS

17.1 Condemnation. If all or any material part of the Premises or this Sublease is taken by condemnation or conveyed under a threat of condemnation, then this Sublease shall automatically terminate as of the earlier of the date title vests in the condemning authority or the condemning authority first takes possession of the Premises, provided, however, if enough of the Premises remains for Sublessee to continue to conduct its business and the Master Lease has not terminated due to the condemnation, then Sublessee, at its option, may elect to continue the Sublease with Sublease Rent reduced by the percentage of the Premises so taken. All proceeds from the taking related to any improvements installed by Sublessee or Sublessee's personal property or which may be awarded for Sublessee's business interruption and/or relocation costs shall belong to Sublessee. Sublessee waives any and all claims to any portion of such proceeds related to the land, including but not limited to any claim related to any value of the subleasehold or unexpired Term of this Sublease.

17.2 Further Assurances. Each party shall do and perform, or cause to be done and performed, all such further acts and things, and shall execute and deliver all such other agreements, certificates, instruments and documents, as the other party may reasonably request in order to carry out the intent and accomplish the purposes of this Sublease and the consummation of the transactions contemplated hereby.

17.3 Force Majeure. If a Force Majeure, as defined in the CDSA, prevents or delays the performance of any obligation by either party hereunder, then the time for performance shall be extended for the period that the action is prevented or delayed by such cause in the same manner as provided in the CDSA, except that under no circumstances shall a force majeure event excuse the payment of Sublease Rent.

17.4 Complete Agreement. The CDSA and this Sublease (including the Master Lease to the extent incorporated herein) constitutes the entire agreement between Sublessor and Sublessee and there are no terms, obligations or conditions with respect to the sublease of the Premises other than those contained herein.

17.5 Interpretation. In all cases the language of this Sublease shall be construed according to its fair meaning and without regard to the party that drafted this Sublease or the specific language in question.

17.6 Waivers. Any waiver of any term, condition, covenant or provision of this Sublease must be in writing and signed by the waiving party. Sublessor's failure to enforce any provision of this Sublease or its acceptance of Sublease Rent shall not be a waiver and shall not prevent Sublessor from enforcing that provision or any other provision of this Sublease in the future.

17.7 No Recordation. Sublessee shall not record this Sublease without prior written consent from Sublessor. However, either party may require that a "short-form" memorandum of this Sublease executed by both parties be recorded. The party requiring such recording shall pay all applicable taxes and fees.

17.8 Binding Effect. The terms and conditions of this Sublease shall be binding upon and shall be enforceable by the Sublessor and the Sublessee and their respective successors and assigns.

17.9 Severability. If any one or more of the provisions contained in this Sublease shall be invalid, illegal or unenforceable in any respect under any applicable law, the validity, legality and enforceability of the remaining provisions contained herein shall not in any way be affected or impaired.

17.10 Amendment. This Sublease shall not be amended, altered or changed except by a written agreement signed by both parties.

17.11 Applicable Law. This Sublease shall be governed by and construed in accordance with the laws of the state of Oregon.


17.12 Time of Essence. Time is of the essence in this Sublease and each and all of its provisions.

17.13 Counterparts. This Sublease may be executed in any number of counterparts, each of which shall be deemed an original and all of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the parties hereto have executed this Sublease as of the day and year first above written.

Sublessee:

KODIAK CARBONIC, LLC, a Wyoming limited liability company

BY: 

NAME: CLIFFORD H. COLLEEN

TITLE: PRESIDENT

Sublessor:

PACIFIC ETHANOL COLUMBIA LLC, a Delaware limited liability company

BY: 

NAME: Bryon McGregor

TITLE CFO

Master Lessor hereby consents to this Sublease as required by Section 17(A) of the Master Lease, and agrees to the terms of Section 10.5 hereof as they apply to Master Lessor.

PORT OF MORROW

BY: *Gary Neal*

NAME: *Gary Neal*

TITLE: *General Manager*

9-12-14

Master Lessor hereby consents to this Sublease as required by Section 17(A) of the Master Lease, and agrees to the terms of Section 10.5 hereof as they apply to Master Lessor.

PORT OF MORROW

BY: _____

NAME: _____

TITLE: _____

Master Lessor hereby consents to this Sublease as required by Section 17(A) of the Master Lease, and agrees to the terms of Section 10.5 hereof as they apply to Master Lessor.

PORT OF MORROW

BY: _____

NAME: _____

TITLE: _____

Master Lessor hereby consents to this Sublease as required by Section 17(A) of the Master Lease, and agrees to the terms of Section 10.5 hereof as they apply to Master Lessor.

PORT OF MORROW

BY: _____

NAME: _____

TITLE: _____

EXHIBIT A-1

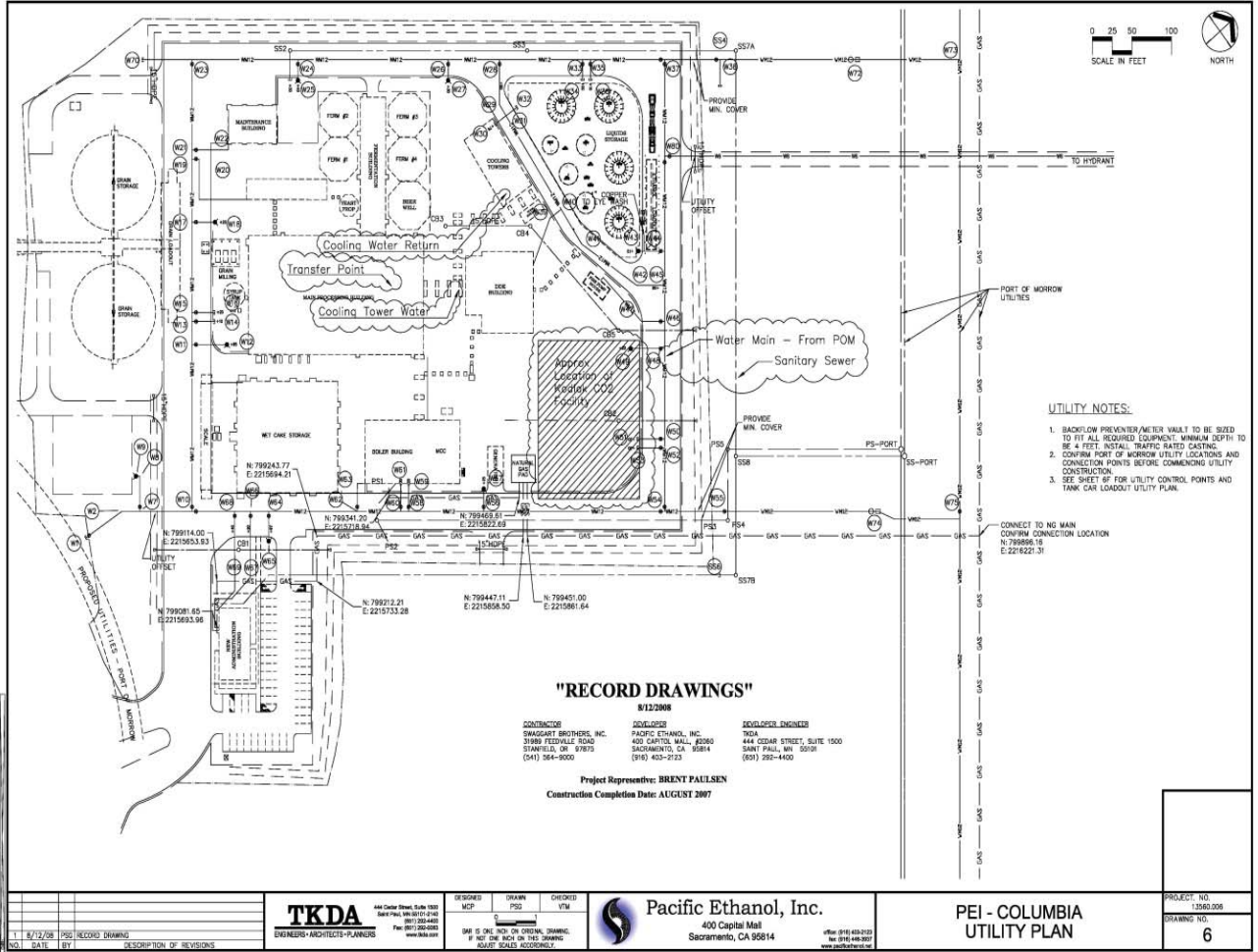
LEGAL DESCRIPTION OF MASTER PARCEL

A 24.85 Acre portion, more or less, for the development of an Ethanol Facility, located in Section 2, Township 4 North, Range 25, East of the Willamette Meridian located within Morrow County, Oregon, more particularly described as follows:

Beginning at a Point on the North Right of Way line of Center Loop Drive being North 04° 45' 10" West a distance of 1666.80 feet from the South Quarter Corner of Section 2, in Township 4 North, Range 25 East; Thence Northwesterly along the North Right of Way of said Center Loop Drive, along a 530.26 foot curve to the Left, said curve having a radius of 470.00 feet, an internal angle of 64° 38' 29" and a chord which bears North 80° 21' 18" West a distance of 502.58 feet; Thence continuing along the North Right of Way line of Center Loop Drive South 67° 19' 28" West a distance of 80.00 feet; Thence North 22° 40' 32" West a distance of 10.00 feet; Thence Northwesterly along a 419.11 foot curve to the Left, said curve having a radius of 595.00 feet, an internal angle of 40° 21' 29" and a chord which bears North 42° 51' 17" West a distance of 410.50 feet; Thence North 38° 56' 09" East a distance of 1258.00 feet; Thence South 51° 03' 51" East a distance of 970.00 feet; Thence South 43° 24' 17" West a distance of 1008.18 feet to the North right of Way line of Center Loop Drive and the Point of Beginning; all being located in Section 2 of Township 4 North, Range 25, East of the Willamette Meridian, Morrow County, Oregon, Containing 24.85 acres more or less.

EXHIBIT A-2

PREMISES



NO.	DATE	BY	DESCRIPTION OF REVISIONS
1	8/12/08	PSJ	RECORD DRAWING

TKDA
ENGINEERS-ARCHITECTS-PLANNERS

444 Cedar Street, Suite 1500
Saint Paul, MN 55101
(651) 292-4400
Fax: (651) 292-4400
www.tkda.com

DESIGNED	DRAWN	CHECKED
MCP	PSJ	VM

DATE IS ONE INCH ON SHEET. DIMENSIONS
IF NOT ON THIS DRAWING
SHALL SCALE ACCORDINGLY.

Pacific Ethanol, Inc.
400 Capital Mall
Sacramento, CA 95814

Phone: (916) 433-2123
Fax: (916) 433-2123
www.pei.com

PEI - COLUMBIA
UTILITY PLAN

PROJECT NO. 12560.008
DRAWING NO. 6

033212/00020/5535403v6

Esterson, Sarah

From: Esterson, Sarah
Sent: Monday, December 7, 2015 5:14 PM
To: 'ljones@pacificethanol.com'; 'vanthofd30@gmail.com'; 'drichards@pacificethanol.com'; 'paulk@pacificethanol.com'
Cc: 'Cornett, Todd'; Kilsdonk, Duane; Gustafson, Virginia; FRANCE Renee M; Goodwin, Andrea
Subject: CEP Change Request - Request for Additional Information for CO2 Processing Plant and the Sugar Addition System
Attachments: CEP CO2 and Sugar Add System Final RAI Letter 2015-12-07.pdf

Lyndon and David,

Based on our phone conversation with David on November 10, 2015, the department issues the attached Request for Additional Information (RAI) #2 for the CO2 Processing Plant and the Sugar Addition System in order to evaluate whether it agrees with CEP's assessment that a site certificate amendment is not required for these facilities or their interconnecting components.

As stated in the letter, and because these facilities have already been constructed and are in operation, please provide the requested information on or before January 15, 2016.

Please let us know if you would like to set up a conference call to discuss RAI#2 in more detail.

Thanks,
Sarah

Sarah T. Esterson
Energy Facility Siting Analyst
Oregon Department of Energy
625 Marion Street N.E.
Salem, OR 97301
P:(503) 373-7945
C: (503) 385-6128
Oregon.gov/energy



Leading Oregon to a safe, clean, and sustainable energy future.



Oregon

Kate Brown, Governor



625 Marion St. NE
Salem, OR 97301-3737
Phone: (503) 378-4040
Toll Free: 1-800-221-8035
Fax: (503) 373-7806
www.Oregon.gov/ENERGY

December 7, 2015

Mr. Lyndon T. Jones
Plant Manager, Pacific Ethanol, Inc.
71335 Rail Loop Drive
PO Box 469
Boardman, Oregon 97818

Sent via email: ljones@pacificethanol.com; vanhofd30@gmail.com; drichards@pacificethanol.com ;
paulk@pacificethanol.com

RE: Change Request - Request for additional information (RAI) #2 related to Sugar Addition System and the Carbon Dioxide Processing Plant

Dear Mr. Jones,

The Oregon Department of Energy (department) has reviewed the responses to the request for additional information (RAI's) for the Sugar Addition System and the Carbon Dioxide Processing Plant for the Columbia Ethanol Project (CEP). After reviewing the RAI responses, the department has identified additional RAI's we need before the department can make a final determination on whether it agrees with CEP's assessment that a site certificate amendment is not required for construction and operation of the Sugar Addition System and for the interconnecting components of the Carbon Dioxide Processing Plant to the CEP ethanol plant.¹

Pursuant to OAR 345-027-0050(1), a certificate holder must submit a request to amend the site certificate to design, construct or operate a facility in a manner different from the description in the site certificate if the proposed change:

- (a) Could result in a significant adverse impact that the Council has not addressed in an earlier order and the impact affects a resource protected by Council standards;
- (b) Could impact the certificate holder's ability to comply with a site certificate condition; or,
- (c) Could require a new condition or change to a condition in the site certificate.

OAR 345-027-0050(2) provides a list of proposed changes that do not require an amendment. In order to qualify as a change that does not require an amendment under OAR 345-027-0050(2), the change must be in substantial compliance with the terms and conditions of the site certificate and be a change that is expressly listed in subsections (a) through (e) of the rule.

¹ As stated in the department's request for information (RAI) #1 on the CO2 processing plant, dated November 3, 2014, the department generally agrees that PEC need not request an amendment to the site certificate for the CO2 processing plant; however, additional information is requested to ensure that operational changes to the CEP ethanol facility as a result of the CO2 processing plant would not require an amendment to the site certificate.

Columbia Ethanol Project
Change Request - Request for Additional Information #2
Page 2

Request for Additional Information

The department requests CEP provide the additional information requested in the attached RAI #2 to allow the department to fully evaluate whether a site certificate amendment is required.

Closing

Please provide the requested information by January 15, 2016. If you have any questions, please do not hesitate to call or email.

Sincerely,



Sarah Esterson, Siting Analyst
Oregon Department of Energy
E: Sarah.esterson@state.or.us
P: (503) 373-7945

cc (via e-mail distribution)

Todd Cornett, Oregon Department of Energy
Duane Kilsdonk, Oregon Department of Energy
Virginia Gustafson, Oregon Department of Energy
Renee France, Oregon Department of Justice

Attachment 1: Request for Additional Information #2

CEP CO2 System Request for Additional Information (RAI) #2		
RAI NUMBER	Request for Additional Information	OAR
1	The previous evaluation did not provide sufficient information for the department to determine if the development of the CO2 processing plant required(s) PEC to make a change to the design or construction of the CEP ethanol plant, requiring an amendment to the site certificate. The PDF titled "Kodiak CO2 General View" includes the following interconnecting components from the CEP ethanol plant to the Kodiak Carbonic facility: natural gas line; 2" water return line; 3" water return line; 12" CO2 vapor supply line. Therefore, please provide a detailed narrative description of each of these components including process and function, capacity, and dimensions (L &W). In the narrative, please include an explanation of operational changes to the CEP ethanol plant as a result of each of the interconnecting components listed above (i.e. explain changes in water usage, wastewater generation, natural gas usage, changes to cooling tower recirculation rate and cooling tower water quality as a result of CO2 processing plant operations). Please specify whether the components are located above- or belowground.	345-021-0010(1)(b)(B)
2	On the PDF titled "PEI Stack P&ID for CO2 Project", there is a 7' stack on CEP's Main Processing Building; blower; motor; blower after cooler; and two vessels. Please provide a detailed narrative of the processes of each of these components, including capacity, size (HP), flow rate, fuel/electricity source, and dimensions.	345-021-0010(1)(b)(B)
3	In the existing site certificate, a related and supporting facility includes a 1,700-foot, 4" diameter natural gas pipeline. Please explain the modification, if any, to this related and supporting facility/facility description as a result of construction and operation of the CO2 system.	345-027-0020(3)(a)
4	In the existing site certificate, a related and supporting facility includes a 1,700-foot, 13.5-kV distribution line. Please explain the modification, if any, to this related and supporting facility/facility description as a result of construction and operation of the CO2 system.	345-027-0020(3)(a)
5	Please provide the footprint (in acres) of the site/area of disturbance for the CO2 system's interconnecting components to the CEP ethanol plant (i.e. natural gas line; 2" water return line; 3" water return line; 12" CO2 vapor supply line). Provide approximate cubic yards of fill and excavated material. Provide approximate CY of concrete needed during construction of the CO2 system's interconnecting components.	345-022-0120
6	Please confirm if the existing WPCF permit, owned by the Port of Morrow, and used by CEP for wastewater treatment was required to be modified to accept new sources of wastewater related to the CO2 system. Provide a copy of the approved, modified permit.	345-022-0010
7	Please confirm of PEC's purchase agreement for use of Port of Morrow's water rights required modification as a result of operation of the CO2 facility.	345-022-0110
8	Please provide a copy of the agreement between Kodiak and CEP confirming Kodiak's financial responsibility for retirement of the CO2 system's interconnecting components to the CEP ethanol plant (i.e. natural gas line; 2" water return line; 3" water return line; 12" CO2	345-022-0050

CEP CO2 System Request for Additional Information (RAI) #2		
RAI NUMBER	Request for Additional Information	OAR
	vapor supply line) to a non-hazardous condition at the time of decommissioning.	
9	Please provide an inventory of industrial materials used during construction and operation of the CO2 system's interconnecting components to the CEP ethanol plant (i.e. natural gas line; 2" water return line; 3" water return line; 12" CO2 vapor supply line).	345-022-0120
10	Please provide best management practices, mitigation measures or updated plan for hazardous and non-hazardous waste management during construction and operation of the CO2 system's interconnecting components to the CEP ethanol plant (i.e. natural gas line; 2" water return line; 3" water return line; 12" CO2 vapor supply line)..	345-022-0120
11	Please provide a cost estimate for retirement of facility modifications related to piping, infrastructure, motors, and blowers installed on or in connection with the existing energy facility as a result of the CO2 system.	345-022-0050
12	Please confirm the recirculation rate of CEP's cooling towers (gpm) pre- and post-operation of the CO2 system	345-022-0022
13	Please provide an analysis of potential drift impacts from CEP's cooling towers following installation and operation of the CO2 system on surrounding soils and natural resources/protected areas	345-022-0022
14	Please provide documentation to support determination of compliance with existing site certificate conditions V.A.1 and V.A.2 if modifications to the existing natural gas pipeline occurred as a result of the CO2 system.	

CEP Sugar Addition System RAI #2		
RAI NUMBER	Request for Additional Information	OAR
1	The previous evaluation did not provide sufficient information for the department to determine if the sugar addition system required(s) PEC to make a change to the design or construction of the CEP ethanol plant, requiring an amendment to the site certificate. Please provide a detailed narrative of the ethanol process, with and without the sugar addition system. The description should clearly describe the process from onsite delivery of sugar through the process of ethanol production and export from the facility, before and after installation and operation of the sugar addition system.	345-021-0010(1)(b)(A)
2	The Process Flow Diagram titled "61001-P1-1202 REV 0 10-1-14.pdf" indicates that the new screw conveyor (SC-515) has a capacity of 10,000 lb/hr. Please provide a description of equipment, piping/infrastructure, water usage, electricity, additives/ingredients/chemicals used, and indicate which required modification or that are new, as a result of the maximum capacity increase of 10,000 lb/hr of sugar during ethanol production.	345-021-0010(1)(b)(A)
3	In the existing site certificate, a related and supporting facility includes a 1,700-foot, 13.5-kV distribution line. Please explain the modification, if any, to this related and supporting facility/facility description as a result of construction and operation of the sugar addition system.	345-027-0020(3)(a)
4	Please provide the footprint (in acres) of the project site/area of disturbance for the sugar addition system. Provide approximate cubic yards of fill and excavated material. Provide approximate CY of concrete needed during construction of the free standing tank concrete support slab.	345-022-0120
5	Please identify all federal, state and local permits that were obtained prior to construction and for operation of the sugar addition system.	345-022-0010
6	Please provide a description of each permit obtained for the sugar addition system and provide an explanation of why it was needed.	345-022-0010
7	Please provide a description of any third-party permits obtained for construction and operation of the sugar addition system.	345-022-0010
8	Please confirm if the existing WPCF permit, owned by the Port of Morrow and used by CEP for wastewater treatment, was required to be modified to accept new sources of wastewater related to changes in throughput from the sugar addition system. Please provide a copy of the approved, modified permit.	345-022-0010
9	Please provide an inventory of industrial materials used during construction of the sugar addition system.	345-022-0120
10	Please provide an inventory of industrial materials used during operation of the sugar addition system that differ from materials used during operation of the corn grinding system and/or ethanol facility.	345-022-0120
11	Please provide best management practices, mitigation measures or updated plan for hazardous and non-hazardous waste management during construction and operation of the sugar addition system.	345-022-0120

CEP Sugar Addition System RAI #2		
RAI NUMBER	Request for Additional Information	OAR
12	Please provide a cost estimate for retirement of facility modifications related to screw conveyors, tanks, infrastructure, and dust collector/filters installed on or in connection with the existing energy facility as a result of the sugar addition system.	345-022-0050
13	Please confirm the recirculation rate of CEP's cooling towers (gpm) pre- and post-operation of the sugar addition system combined with the CO2 system.	345-022-0022
14	Please provide an analysis of potential drift impacts from CEP's cooling towers following installation and operation of the sugar addition system combined with CO2 system on surrounding soils and natural resources/protected areas	345-022-0022
15	Please provide an analysis of traffic impacts, with increased traffic numbers resulting from operation of the sugar addition system (incoming and outgoing trucks) on recreational opportunities within the analysis area.	345-022-0100

Esterson, Sarah

From: Esterson, Sarah
Sent: Friday, February 5, 2016 12:52 PM
To: 'ljones@pacificethanol.com'; 'vanthofd30@gmail.com'
Cc: 'drichards@pacificethanol.com'; 'paulk@pacificethanol.com'; Gustafson, Virginia; Cornett, Todd; FRANCE Renee M; 'Kilsdonk, Duane'
Subject: CEP Change Request 1 RAI-2 Evaluation - Sugar Addition System and CO2 Processing Plant
Attachments: CEP Change Request 1 Eval Final 2016-02-05.pdf

Good afternoon Lyndon,

Please find attached the department's evaluation of CEP's change request documentation (i.e. RAI-2 responses) for the sugar addition system and CO2 processing plant. As stated in the letter, a request for amendment (RFA) is required for the sugar addition system and the vapor supply line, piping support, and skid (interconnecting components) which function to transfer the CO2 rich gas stream from CEP's energy facility to the CO2 processing facility. The department requests for CEP to submit an RFA for the proposed modifications on or before **April 11, 2016**.

Please ensure that the RFA is submitted to the following ODOE staff:

Todd Cornett at todd.cornett@state.or.us
Ginny Gustafson at Virginia.gustafson@state.or.us
Sarah Esterson at sarah.esterson@state.or.us

Thanks,
Sarah

Sarah T. Esterson
Energy Facility Siting Analyst
Oregon Department of Energy
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Toll Free: 1-800-221-8035
Fax: (503) 373-7806
www.Oregon.gov/ENERGY

February 5, 2016

Mr. Lyndon T. Jones
Plant Manager, Pacific Ethanol, Inc.
71335 Rail Loop Drive
PO Box 469
Boardman, Oregon 97818

Sent via email: ljones@pacificethanol.com; vanthofd30@gmail.com; drichards@pacificethanol.com ;
paulk@pacificethanol.com

RE: Change Request Evaluation – Request for Additional Information (RAI)-2 for the Sugar Addition System and Carbon Dioxide Processing Plant

Dear Mr. Jones,

The Oregon Department of Energy (department) has reviewed Columbia Ethanol Project's (CEP) responses to Request for Additional Information (RAI)-2 submitted on January 15, 2016 for the sugar addition system and carbon dioxide (CO₂) processing plant. After reviewing the documentation, the department has determined that a site certificate amendment is required pursuant to OAR 345-027-0050(1) for the sugar addition system and vapor supply line, piping, piping support and skid (interconnecting components) of the CO₂ processing plant to CEP's ethanol facility.

Applicable Rule Requirements

OAR 345-027-0050(1) requires a certificate holder to submit a request to amend the site certificate to design, construct or operate a facility in a manner different from the description in the site certificate if the proposed change:

- (a) Could result in a significant adverse impact that the Council has not addressed in an earlier order and the impact affects a resource protected by Council standards;
- (b) Could impact the certificate holder's ability to comply with a site certificate condition; or,
- (c) Could require a new condition or change to a condition in the site certificate.

OAR 345-027-0050(2) provides a list of proposed changes that do not require an amendment. Under that rule, in order to qualify as a change that does not require an amendment, the change must be in substantial compliance with the terms and conditions of the site certificate and be a change that is expressly listed in subsections (a) through (e) of the rule. OAR 345-027-0050(2)(a) – (d) are not applicable to CEP.

The energy facility is addressed in Section III.A of the site certificate. Based on the department's evaluation, the sugar addition system and interconnecting components of the CO₂ processing plant would be considered substantial modifications to the energy facility, as described in Section III.A of the site certificate, or could require a change of an existing site certificate condition.

Evaluation of Energy Facility Modifications

Sugar Addition System

As described in Section III.A of the site certificate, the energy facility produces ethanol by mixing ground corn with water and enzymes to make a mash. The mash is then cooked in a series of retention tanks to break the complex sugars down into simple (fermentable) sugars. Yeast and additional enzymes are added to produce a liquid, containing 10 to 15 percent ethanol by weight, and a solids by-product called distiller's wet grain (DWGS). Liquid (10-15 percent ethanol) is piped to the Distillation, Drying and Evaporation (DD&E) Building, where it is separated from carbon dioxide and water vapor to produce a liquid that is 100 percent ethanol. Ethanol is then stored in ethanol storage tanks prior to shipment. DWGS is transferred and stored in the Wet Cake Building, and transported offsite for local dairy and cattle feed.

As described above, the ethanol production utilizes corn as the ethanol feedstock. The sugar addition system results in a change to the feedstock by replacing up to 15 percent of the corn feedstock with granulated sugar. The sugar addition system includes a 100-ton stainless steel tank/bin, rotary feeder, screw conveyor, and dust collector which required an Air Contaminant Discharge Permit from the Oregon Department of Environmental Quality.

CEP explains that construction and operation of the sugar addition system was a result of a short-term Department of Agriculture initiative and that operation of the system concluded in 2013. However, the sugar addition system was added and operated without prior notification to the department or the Energy Facility Siting Council, and the fact that it may have been intended for short-term use does not obviate the need for an amendment to the site certificate or alter the amendment requirements. In addition, the sugar addition system remains in place at the energy facility, and could be used during future operations.

Carbon Dioxide Processing Plant

As described in the September 10, 2014 letter to the department re: Site Certificate Evaluation for the Carbon Dioxide Plant at Pacific Ethanol Columbia, a third-party (Kodiak Carbonics) proposed to install, own and operate a CO₂ processing plant within the existing energy facility site boundary, under sub-lease agreement with CEP. The new processing plant is now operating, and includes new interconnecting components installed to transfer the CO₂ rich gas stream from CEP's existing CO₂ scrubber to the CO₂ processing plant. CEP explained that the interconnecting components deliver up to 250 tons per day of raw gas to the processing facility and are estimated to require up to \$100,000 to disassemble and retire.

Site Certificate Amendment Applicability

Sugar Addition System

Based on the department's evaluation of OAR 345-027-0050(1), operation of the sugar addition system could impact CEP's ability to comply with existing site certificate conditions VI.A.3 and VII.1, and could require a change to existing site certificate condition IV.C.4. The department's evaluation of OAR 345-027-0050(1) is summarized below.

OAR 345-027-0050(1)(b)

- **Mandatory Condition VI.A.3 The certificate holder shall design, construct, operate, and retire the facility: (a) Substantially as described in the site certificate:** The sugar addition system includes a 100-ton stainless steel tank/bin with concrete base, rotary feeder, screw conveyor, and dust collector. The system has the capacity to process up to 150 tons per day of sugar for the ethanol production process. Due to the change in feedstock from corn to a corn:sugar blend, and because the system remains in place and could be used during future operation, this process results in a substantial change in energy facility operation as described in Section III.A of the site certificate and therefore could impact the certificate holder's ability to comply with this condition.
- **General Condition VII.1 The general arrangement of the Columbia Ethanol Project shall be substantially as shown in the ASC.** The sugar addition system includes a 100-ton stainless steel tank/bin with concrete base, rotary feeder, screw conveyor, and dust collector. The equipment, primarily the 100-ton stainless steel tank/bin and concrete base, and arrangement of this equipment results in a substantial change from the general arrangement shown in the ASC (Exhibit C, Figure C-3) and therefore could impact the certificate holder's ability to comply with this condition.

OAR 345-027-0050(1)(c)

- **Retirement and Financial Assurance Condition IV.C.4 Within 30 days after the effective date of the site certificate, the certificate holder shall submit to the State of Oregon, through the Council, a bond or letter of credit in the amount of \$800,000 (in Second Quarter 2007 dollars) naming the State of Oregon, acting by and through the Council, as beneficiary or payee.** The retirement cost of the sugar addition system was estimated at \$50,000 and was not included in the 2007 retirement and financial assurance estimate for the energy facility. Therefore, a change to this condition could be required.

Carbon Dioxide Processing Plant

The CO₂ processing plant is owned and operated by a third-party and does not substantially modify energy facility operations or the ethanol production process. Therefore, the department concludes that the CO₂ processing plant should not be considered a related and supporting facility to the energy facility. Moreover, based on an evaluation of OAR 345-027-0050(1), the department determined that operation and construction of the CO₂ processing plant would not trigger any of the criteria under OAR 356-027-0050(1) and therefore, the CO₂ processing plant is not required to be included in the request for amendment. However, the interconnecting components could require a change to existing site certificate condition IV.C.4. The department's evaluation of OAR 345-027-0050(1) is summarized below.

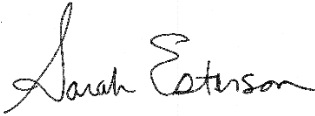
OAR 345-027-0050(1)(c)

- **Retirement and Financial Assurance Condition IV.C.4 Within 30 days after the effective date of the site certificate, the certificate holder shall submit to the State of Oregon, through the Council, a bond or letter of credit in the amount of \$800,000 (in Second Quarter 2007 dollars) naming the State of Oregon, acting by and through the Council, as beneficiary or payee.** The retirement cost of the interconnecting components was estimated at \$100,000 and was not included in the 2007 retirement and financial assurance estimate for the energy facility. Therefore, a change to this condition could be required.

Amendment Applicability Determination

For the reasons described above, an amendment to the site certificate is required for the sugar addition system and interconnecting components of the CO₂ processing plant to the energy facility. The department requests submittal of a Request for Amendment (RFA) on or before **April 11, 2016**. If you have any questions, please do not hesitate to call or email.

Sincerely,

A handwritten signature in black ink that reads "Sarah Esterson". The signature is written in a cursive style with a large initial 'S'.

Sarah Esterson, Siting Analyst
Oregon Department of Energy
E: Sarah.esterson@state.or.us
P: (503) 373-7945

cc (via e-mail distribution)

Todd Cornett, Oregon Department of Energy
Duane Kilsdonk, Oregon Department of Energy
Virginia Gustafson, Oregon Department of Energy
Renee France, Oregon Department of Justice