



JOHN GIARDIELLO, P.E.  
Director

**OFFICE OF BUILDING, ZONING AND PLANNING  
ADMINISTRATION AND ENFORCEMENT  
TOWN OF ORANGETOWN  
20 GREENBUSH ROAD  
ORANGETOWN, N.Y. 10962**

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**MEMORANDUM**

**DATE:** April 21, 2015  
**TO:** Planning Board Members  
**CC:** Robert Magrino, Assistant Town Attorney  
Cheryl Coopersmith, Chief Clerk of the Boards  
**FROM:** John Giardiello, PE, Director OBZPAE *[Signature]*  
**RE:** Proposed Parts 2 and 3 of the Full EAF for Anellotech

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Please find annexed the proposed parts 2 and 3 of the Full EAF for the Anellotech application.  
Please review the Full EAF in preparation of the Planning Board meeting on April 22, 2015.

JG:jg

**Full Environmental Assessment Form**  
**Part 2 - Identification of Potential Project Impacts**

Agency Use Only [If applicable]  
 Project: INTELLOTECH  
 Date: 4/21/15

**Part 2 is to be completed by the lead agency.** Part 2 is designed to help the lead agency inventory all potential resources that could be affected by a proposed project or action. We recognize that the lead agency's reviewer(s) will not necessarily be environmental professionals. So, the questions are designed to walk a reviewer through the assessment process by providing a series of questions that can be answered using the information found in Part 1. To further assist the lead agency in completing Part 2, the form identifies the most relevant questions in Part 1 that will provide the information needed to answer the Part 2 question. When Part 2 is completed, the lead agency will have identified the relevant environmental areas that may be impacted by the proposed activity.

If the lead agency is a state agency and the action is in any Coastal Area, complete the Coastal Assessment Form before proceeding with this assessment.

**Tips for completing Part 2:**

- Review all of the information provided in Part 1.
- Review any application, maps, supporting materials and the Full EAF Workbook.
- Answer each of the 18 questions in Part 2.
- If you answer "Yes" to a numbered question, please complete all the questions that follow in that section.
- If you answer "No" to a numbered question, move on to the next numbered question.
- Check appropriate column to indicate the anticipated size of the impact.
- Proposed projects that would exceed a numeric threshold contained in a question should result in the reviewing agency checking the box "Moderate to large impact may occur."
- The reviewer is not expected to be an expert in environmental analysis.
- If you are not sure or undecided about the size of an impact, it may help to review the sub-questions for the general question and consult the workbook.
- When answering a question consider all components of the proposed activity, that is, the "whole action".
- Consider the possibility for long-term and cumulative impacts as well as direct impacts.
- Answer the question in a reasonable manner considering the scale and context of the project.

<b>1. Impact on Land</b> Proposed action may involve construction on, or physical alteration of, the land surface of the proposed site. (See Part 1, D.1) <i>If "Yes", answer questions a - j. If "No", move on to Section 2.</i>		<input type="checkbox"/> NO	<input checked="" type="checkbox"/> YES
	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may involve construction on land where depth to water table is less than 3 feet.	E2d	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. The proposed action may involve construction on slopes of 15% or greater.	E2f	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. The proposed action may involve construction on land where bedrock is exposed, or generally within 5 feet of existing ground surface.	E2a	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. The proposed action may involve the excavation and removal of more than 1,000 tons of natural material.	D2a	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. The proposed action may involve construction that continues for more than one year or in multiple phases.	D1e	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. The proposed action may result in increased erosion, whether from physical disturbance or vegetation removal (including from treatment by herbicides).	D2e, D2q	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. The proposed action is, or may be, located within a Coastal Erosion hazard area.	B1i	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h. Other impacts: _____		<input type="checkbox"/>	<input type="checkbox"/>

<b>2. Impact on Geological Features</b> The proposed action may result in the modification or destruction of, or inhibit access to, any unique or unusual land forms on the site (e.g., cliffs, dunes, minerals, fossils, caves). (See Part 1. E.2.g) <i>If "Yes", answer questions a - c. If "No", move on to Section 3.</i>			
		<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Identify the specific land form(s) attached: _____	E2g	<input type="checkbox"/>	<input type="checkbox"/>
b. The proposed action may affect or is adjacent to a geological feature listed as a registered National Natural Landmark. Specific feature: _____	E3c	<input type="checkbox"/>	<input type="checkbox"/>
c. Other impacts: _____		<input type="checkbox"/>	<input type="checkbox"/>

<b>3. Impacts on Surface Water</b> The proposed action may affect one or more wetlands or other surface water bodies (e.g., streams, rivers, ponds or lakes). (See Part 1. D.2, E.2.h) <i>If "Yes", answer questions a - i. If "No", move on to Section 4.</i>			
		<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may create a new water body.	D2b, D1h	<input type="checkbox"/>	<input type="checkbox"/>
b. The proposed action may result in an increase or decrease of over 10% or more than a 10 acre increase or decrease in the surface area of any body of water.	D2b	<input type="checkbox"/>	<input type="checkbox"/>
c. The proposed action may involve dredging more than 100 cubic yards of material from a wetland or water body.	D2a	<input type="checkbox"/>	<input type="checkbox"/>
d. The proposed action may involve construction within or adjoining a freshwater or tidal wetland, or in the bed or banks of any other water body.	E2h	<input type="checkbox"/>	<input type="checkbox"/>
e. The proposed action may create turbidity in a waterbody, either from upland erosion, runoff or by disturbing bottom sediments.	D2a, D2h	<input type="checkbox"/>	<input type="checkbox"/>
f. The proposed action may include construction of one or more intake(s) for withdrawal of water from surface water.	D2c	<input type="checkbox"/>	<input type="checkbox"/>
g. The proposed action may include construction of one or more outfall(s) for discharge of wastewater to surface water(s).	D2d	<input type="checkbox"/>	<input type="checkbox"/>
h. The proposed action may cause soil erosion, or otherwise create a source of stormwater discharge that may lead to siltation or other degradation of receiving water bodies.	D2e	<input type="checkbox"/>	<input type="checkbox"/>
i. The proposed action may affect the water quality of any water bodies within or downstream of the site of the proposed action.	E2h	<input type="checkbox"/>	<input type="checkbox"/>
j. The proposed action may involve the application of pesticides or herbicides in or around any water body.	D2q, E2h	<input type="checkbox"/>	<input type="checkbox"/>
k. The proposed action may require the construction of new, or expansion of existing, wastewater treatment facilities.	D1a, D2d	<input type="checkbox"/>	<input type="checkbox"/>

1. Other impacts: _____		<input type="checkbox"/>	<input type="checkbox"/>
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<b>4. Impact on groundwater</b> The proposed action may result in new or additional use of ground water, or may have the potential to introduce contaminants to ground water or an aquifer. (See Part 1, D.2.a, D.2.c, D.2.d, D.2.p, D.2.q, D.2.t) If "Yes", answer questions a - h. If "No", move on to Section 5.			
		<input type="checkbox"/> NO	<input checked="" type="checkbox"/> YES
	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may require new water supply wells, or create additional demand on supplies from existing water supply wells.	D2c	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Water supply demand from the proposed action may exceed safe and sustainable withdrawal capacity rate of the local supply or aquifer. Cite Source: _____	D2c	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. The proposed action may allow or result in residential uses in areas without water and sewer services.	D1a, D2c	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. The proposed action may include or require wastewater discharged to groundwater.	D2d, E2l	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. The proposed action may result in the construction of water supply wells in locations where groundwater is, or is suspected to be, contaminated.	D2c, E1f, E1g, E1h	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. The proposed action may require the bulk storage of petroleum or chemical products over ground water or an aquifer.	D2p, E2l	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. The proposed action may involve the commercial application of pesticides within 100 feet of potable drinking water or irrigation sources.	E2h, D2q, E2l, D2c	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h. Other impacts: _____		<input type="checkbox"/>	<input type="checkbox"/>

<b>5. Impact on Flooding</b> The proposed action may result in development on lands subject to flooding. (See Part 1, E.2) If "Yes", answer questions a - g. If "No", move on to Section 6.			
		<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in development in a designated floodway.	E2l	<input type="checkbox"/>	<input type="checkbox"/>
b. The proposed action may result in development within a 100 year floodplain.	E2j	<input type="checkbox"/>	<input type="checkbox"/>
c. The proposed action may result in development within a 500 year floodplain.	E2k	<input type="checkbox"/>	<input type="checkbox"/>
d. The proposed action may result in, or require, modification of existing drainage patterns.	D2b, D2e	<input type="checkbox"/>	<input type="checkbox"/>
e. The proposed action may change flood water flows that contribute to flooding.	D2b, E2i, E2j, E2k	<input type="checkbox"/>	<input type="checkbox"/>
f. If there is a dam located on the site of the proposed action, is the dam in need of repair, or upgrade?	E1e	<input type="checkbox"/>	<input type="checkbox"/>

g. Other impacts: _____		<input type="checkbox"/>	<input type="checkbox"/>
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### 6. Impacts on Air

The proposed action may include a state regulated air emission source.  
(See Part 1. D.2.f., D.2.h, D.2.g)

☐ NO

☒ YES

If "Yes", answer questions a - f. If "No", move on to Section 7.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. If the proposed action requires federal or state air emission permits, the action may also emit one or more greenhouse gases at or above the following levels: i. More than 1000 tons/year of carbon dioxide (CO <sub>2</sub> ) ii. More than 3.5 tons/year of nitrous oxide (N <sub>2</sub> O) iii. More than 1000 tons/year of carbon equivalent of perfluorocarbons (PFCs) iv. More than .045 tons/year of sulfur hexafluoride (SF <sub>6</sub> ) v. More than 1000 tons/year of carbon dioxide equivalent of hydrochlorofluorocarbons (HFCs) emissions vi. 43 tons/year or more of methane	D2g D2g D2g D2g D2g D2h	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
b. The proposed action may generate 10 tons/year or more of any one designated hazardous air pollutant, or 25 tons/year or more of any combination of such hazardous air pollutants.	D2g	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. The proposed action may require a state air registration, or may produce an emissions rate of total contaminants that may exceed 5 lbs. per hour, or may include a heat source capable of producing more than 10 million BTU's per hour.	D2f, D2g	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. The proposed action may reach 50% of any of the thresholds in "a" through "c", above.	D2g	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. The proposed action may result in the combustion or thermal treatment of more than 1 ton of refuse per hour.	D2s	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Other impacts: <u>SEE NYSDEC LETTER OF 1/15/15, TRINITY CONSULTANTS LETTER OF 1/21/15 AND TITANUM RATE ENVIRONMENTAL LETTER OF 1/21/15.</u>		<input checked="" type="checkbox"/>	<input type="checkbox"/>

### 7. Impact on Plants and Animals

The proposed action may result in a loss of flora or fauna. (See Part 1. E.2. m.-q.)

☒ NO

☐ YES

If "Yes", answer questions a - j. If "No", move on to Section 8.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may cause reduction in population or loss of individuals of any threatened or endangered species, as listed by New York State or the Federal government, that use the site, or are found on, over, or near the site.	E2o	<input type="checkbox"/>	<input type="checkbox"/>
b. The proposed action may result in a reduction or degradation of any habitat used by any rare, threatened or endangered species, as listed by New York State or the federal government.	E2o	<input type="checkbox"/>	<input type="checkbox"/>
c. The proposed action may cause reduction in population, or loss of individuals, of any species of special concern or conservation need, as listed by New York State or the Federal government, that use the site, or are found on, over, or near the site.	E2p	<input type="checkbox"/>	<input type="checkbox"/>
d. The proposed action may result in a reduction or degradation of any habitat used by any species of special concern and conservation need, as listed by New York State or the Federal government.	E2p	<input type="checkbox"/>	<input type="checkbox"/>

e. The proposed action may diminish the capacity of a registered National Natural Landmark to support the biological community it was established to protect.	E3c	<input type="checkbox"/>	<input type="checkbox"/>
f. The proposed action may result in the removal of, or ground disturbance in, any portion of a designated significant natural community. Source: _____	E2n	<input type="checkbox"/>	<input type="checkbox"/>
g. The proposed action may substantially interfere with nesting/breeding, foraging, or over-wintering habitat for the predominant species that occupy or use the project site.	E2m	<input type="checkbox"/>	<input type="checkbox"/>
h. The proposed action requires the conversion of more than 10 acres of forest, grassland or any other regionally or locally important habitat. Habitat type & information sources: _____	E1b	<input type="checkbox"/>	<input type="checkbox"/>
i. Proposed action (commercial, industrial or recreational projects, only) involves use of herbicides or pesticides.	D2q	<input type="checkbox"/>	<input type="checkbox"/>
j. Other impacts: _____		<input type="checkbox"/>	<input type="checkbox"/>

<b>8. Impact on Agricultural Resources</b> The proposed action may impact agricultural resources. (See Part 1, E.3.a. and b.) <i>If "Yes", answer questions a - h. If "No", move on to Section 9.</i>			
		<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may impact soil classified within soil group 1 through 4 of the NYS Land Classification System.	E2c, E3b	<input type="checkbox"/>	<input type="checkbox"/>
b. The proposed action may sever, cross or otherwise limit access to agricultural land (includes cropland, hayfields, pasture, vineyard, orchard, etc).	E1a, E1b	<input type="checkbox"/>	<input type="checkbox"/>
c. The proposed action may result in the excavation or compaction of the soil profile of active agricultural land.	E3b	<input type="checkbox"/>	<input type="checkbox"/>
d. The proposed action may irreversibly convert agricultural land to non-agricultural uses, either more than 2.5 acres if located in an Agricultural District, or more than 10 acres if not within an Agricultural District.	E1b, E3a	<input type="checkbox"/>	<input type="checkbox"/>
e. The proposed action may disrupt or prevent installation of an agricultural land management system.	E1 a, E1b	<input type="checkbox"/>	<input type="checkbox"/>
f. The proposed action may result, directly or indirectly, in increased development potential or pressure on farmland.	C2c, C3, D2c, D2d	<input type="checkbox"/>	<input type="checkbox"/>
g. The proposed project is not consistent with the adopted municipal Farmland Protection Plan.	C2c	<input type="checkbox"/>	<input type="checkbox"/>
h. Other impacts: _____		<input type="checkbox"/>	<input type="checkbox"/>

**9. Impact on Aesthetic Resources**  
The land use of the proposed action are obviously different from, or are in sharp contrast to, current land use patterns between the proposed project and a scenic or aesthetic resource. (Part 1, E.1.a, E.1.b, E.3.h.)  
If "Yes", answer questions a - g. If "No", go to Section 10.

☒ NO ☐ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Proposed action may be visible from any officially designated federal, state, or local scenic or aesthetic resource.	E3h	<input type="checkbox"/>	<input type="checkbox"/>
b. The proposed action may result in the obstruction, elimination or significant screening of one or more officially designated scenic views.	E3h, C2b	<input type="checkbox"/>	<input type="checkbox"/>
c. The proposed action may be visible from publicly accessible vantage points: i. Seasonally (e.g., screened by summer foliage, but visible during other seasons) ii. Year round	E3h	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
d. The situation or activity in which viewers are engaged while viewing the proposed action is: i. Routine travel by residents, including travel to and from work ii. Recreational or tourism based activities	E3h E2q, E1c	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
e. The proposed action may cause a diminishment of the public enjoyment and appreciation of the designated aesthetic resource.	E3h	<input type="checkbox"/>	<input type="checkbox"/>
f. There are similar projects visible within the following distance of the proposed project: 0-1/2 mile 1/2-3 mile 3-5 mile 5+ mile	D1a, E1a, D1f, D1g	<input type="checkbox"/>	<input type="checkbox"/>
g. Other impacts: _____		<input type="checkbox"/>	<input type="checkbox"/>

**10. Impact on Historic and Archeological Resources**  
The proposed action may occur in or adjacent to a historic or archaeological resource. (Part 1, E.3.e, f. and g.)  
If "Yes", answer questions a - e. If "No", go to Section 11.

☐ NO ☒ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may occur wholly or partially within, or substantially contiguous to, any buildings, archaeological site or district which is listed on or has been nominated by the NYS Board of Historic Preservation for inclusion on the State or National Register of Historic Places.	E3e	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. The proposed action may occur wholly or partially within, or substantially contiguous to, an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory.	E3f	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. The proposed action may occur wholly or partially within, or substantially contiguous to, an archaeological site not included on the NY SHPO inventory. Source: _____	E3g	<input checked="" type="checkbox"/>	<input type="checkbox"/>

d. Other impacts: _____		<input type="checkbox"/>	<input type="checkbox"/>
e. If any of the above (a-d) are answered "Yes", continue with the following questions to help support conclusions in Part 3:			
i. The proposed action may result in the destruction or alteration of all or part of the site or property.	E3e, E3g, E3f	<input type="checkbox"/>	<input type="checkbox"/>
ii. The proposed action may result in the alteration of the property's setting or integrity.	E3e, E3f, E3g, E1a, E1b	<input type="checkbox"/>	<input type="checkbox"/>
iii. The proposed action may result in the introduction of visual elements which are out of character with the site or property, or may alter its setting.	E3e, E3f, E3g, E3h, C2, C3	<input type="checkbox"/>	<input type="checkbox"/>

<b>11. Impact on Open Space and Recreation</b> The proposed action may result in a loss of recreational opportunities or a reduction of an open space resource as designated in any adopted municipal open space plan. (See Part 1. C.2.c, E.1.c., E.2.q.) If "Yes", answer questions a - e. If "No", go to Section 12.			
		<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in an impairment of natural functions, or "ecosystem services", provided by an undeveloped area, including but not limited to stormwater storage, nutrient cycling, wildlife habitat.	D2e, E1b, E2h, E2m, E2o, E2n, E2p	<input type="checkbox"/>	<input type="checkbox"/>
b. The proposed action may result in the loss of a current or future recreational resource.	C2a, E1c, C2c, E2q	<input type="checkbox"/>	<input type="checkbox"/>
c. The proposed action may eliminate open space or recreational resource in an area with few such resources.	C2a, C2c, E1c, E2q	<input type="checkbox"/>	<input type="checkbox"/>
d. The proposed action may result in loss of an area now used informally by the community as an open space resource.	C2c, E1c	<input type="checkbox"/>	<input type="checkbox"/>
e. Other impacts: _____		<input type="checkbox"/>	<input type="checkbox"/>

<b>12. Impact on Critical Environmental Areas</b> The proposed action may be located within or adjacent to a critical environmental area (CEA). (See Part 1. E.3.d) If "Yes", answer questions a - c. If "No", go to Section 13.			
		<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in a reduction in the quantity of the resource or characteristic which was the basis for designation of the CEA.	E3d	<input type="checkbox"/>	<input type="checkbox"/>
b. The proposed action may result in a reduction in the quality of the resource or characteristic which was the basis for designation of the CEA.	E3d	<input type="checkbox"/>	<input type="checkbox"/>
c. Other impacts: _____		<input type="checkbox"/>	<input type="checkbox"/>

**13. Impact on Transportation**

The proposed action may result in a change to existing transportation systems.  
(See Part 1. D.2.j)

☒ NO☐ YES

If "Yes", answer questions a - g. If "No", go to Section 14.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Projected traffic increase may exceed capacity of existing road network.	D2j	<input type="checkbox"/>	<input type="checkbox"/>
b. The proposed action may result in the construction of paved parking area for 500 or more vehicles.	D2j	<input type="checkbox"/>	<input type="checkbox"/>
c. The proposed action will degrade existing transit access.	D2j	<input type="checkbox"/>	<input type="checkbox"/>
d. The proposed action will degrade existing pedestrian or bicycle accommodations.	D2j	<input type="checkbox"/>	<input type="checkbox"/>
e. The proposed action may alter the present pattern of movement of people or goods.	D2j	<input type="checkbox"/>	<input type="checkbox"/>
f. Other impacts: _____		<input type="checkbox"/>	<input type="checkbox"/>

**14. Impact on Energy**

The proposed action may cause an increase in the use of any form of energy.  
(See Part 1. D.2.k)

☐ NO☒ YES

If "Yes", answer questions a - e. If "No", go to Section 15.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action will require a new, or an upgrade to an existing, substation.	D2k	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. The proposed action will require the creation or extension of an energy transmission or supply system to serve more than 50 single or two-family residences or to serve a commercial or industrial use.	D1f, D1q, D2k	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. The proposed action may utilize more than 2,500 MWhrs per year of electricity.	D2k	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. The proposed action may involve heating and/or cooling of more than 100,000 square feet of building area when completed.	D1g	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Other Impacts: _____		<input type="checkbox"/>	<input type="checkbox"/>

**15. Impact on Noise, Odor, and Light**

The proposed action may result in an increase in noise, odors, or outdoor lighting.  
(See Part 1. D.2.m, n., and o.)

☐ NO☒ YES

If "Yes", answer questions a - f. If "No", go to Section 16.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may produce sound above noise levels established by local regulation.	D2m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. The proposed action may result in blasting within 1,500 feet of any residence, hospital, school, licensed day care center, or nursing home.	D2n, E1d	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. The proposed action may result in routine odors for more than one hour per day.	D2o	<input checked="" type="checkbox"/>	<input type="checkbox"/>

d. The proposed action may result in light shining onto adjoining properties.	D2n	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. The proposed action may result in lighting creating sky-glow brighter than existing area conditions.	D2n, E1a	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Other impacts: _____		<input type="checkbox"/>	<input type="checkbox"/>

<b>16. Impact on Human Health</b> The proposed action may have an impact on human health from exposure to new or existing sources of contaminants. (See Part I.D.2.q., E.1. d. f. g. and h.) If "Yes", answer questions a - m. If "No", go to Section 17.			
		<input type="checkbox"/> NO	<input checked="" type="checkbox"/> YES
	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action is located within 1500 feet of a school, hospital, licensed day care center, group home, nursing home or retirement community.	E1d	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. The site of the proposed action is currently undergoing remediation.	E1g, E1h	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. There is a completed emergency spill remediation, or a completed environmental site remediation on, or adjacent to, the site of the proposed action.	E1g, E1h	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. The site of the action is subject to an institutional control limiting the use of the property (e.g., easement or deed restriction).	E1g, E1h	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. The proposed action may affect institutional control measures that were put in place to ensure that the site remains protective of the environment and human health.	E1g, E1h	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. The proposed action has adequate control measures in place to ensure that future generation, treatment and/or disposal of hazardous wastes will be protective of the environment and human health.	D2t	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. The proposed action involves construction or modification of a solid waste management facility.	D2q, E1f	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h. The proposed action may result in the unearthing of solid or hazardous waste.	D2q, E1f	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i. The proposed action may result in an increase in the rate of disposal, or processing, of solid waste.	D2r, D2s	<input checked="" type="checkbox"/>	<input type="checkbox"/>
j. The proposed action may result in excavation or other disturbance within 2000 feet of a site used for the disposal of solid or hazardous waste.	E1f, E1g, E1h	<input checked="" type="checkbox"/>	<input type="checkbox"/>
k. The proposed action may result in the migration of explosive gases from a landfill site to adjacent off site structures.	E1f, E1g	<input checked="" type="checkbox"/>	<input type="checkbox"/>
l. The proposed action may result in the release of contaminated leachate from the project site.	D2s, E1f, D2r	<input checked="" type="checkbox"/>	<input type="checkbox"/>
m. Other impacts: _____		<input type="checkbox"/>	<input type="checkbox"/>

**17. Consistency with Community Plans**  
 The proposed action is not consistent with adopted land use plans.  
 (See Part I. C.1, C.2. and C.3.)  
 If "Yes", answer questions a - h. If "No", go to Section 18.

☒ NO ☐ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action's land use components may be different from, or in sharp contrast to, current surrounding land use pattern(s).	C2, C3, D1a E1a, E1b	<input type="checkbox"/>	<input type="checkbox"/>
b. The proposed action will cause the permanent population of the city, town or village in which the project is located to grow by more than 5%.	C2	<input type="checkbox"/>	<input type="checkbox"/>
c. The proposed action is inconsistent with local land use plans or zoning regulations.	C2, C2, C3	<input type="checkbox"/>	<input type="checkbox"/>
d. The proposed action is inconsistent with any County plans, or other regional land use plans.	C2, C2	<input type="checkbox"/>	<input type="checkbox"/>
e. The proposed action may cause a change in the density of development that is not supported by existing infrastructure or is distant from existing infrastructure.	C3, D1c, D1d, D1f, D1d, E1b	<input type="checkbox"/>	<input type="checkbox"/>
f. The proposed action is located in an area characterized by low density development that will require new or expanded public infrastructure.	C4, D2c, D2d D2j	<input type="checkbox"/>	<input type="checkbox"/>
g. The proposed action may induce secondary development impacts (e.g., residential or commercial development not included in the proposed action)	C2a	<input type="checkbox"/>	<input type="checkbox"/>
h. Other: _____		<input type="checkbox"/>	<input type="checkbox"/>

**18. Consistency with Community Character**  
 The proposed project is inconsistent with the existing community character.  
 (See Part I. C.2, C.3, D.2, E.3)  
 If "Yes", answer questions a - g. If "No", proceed to Part 3.

☒ NO ☐ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may replace or eliminate existing facilities, structures, or areas of historic importance to the community,	E3e, E3f, E3g	<input type="checkbox"/>	<input type="checkbox"/>
b. The proposed action may create a demand for additional community services (e.g. schools, police and fire)	C4	<input type="checkbox"/>	<input type="checkbox"/>
c. The proposed action may displace affordable or low-income housing in an area where there is a shortage of such housing.	C2, C3, D1f D1g, E1a	<input type="checkbox"/>	<input type="checkbox"/>
d. The proposed action may interfere with the use or enjoyment of officially recognized or designated public resources.	C2, E3	<input type="checkbox"/>	<input type="checkbox"/>
e. The proposed action is inconsistent with the predominant architectural scale and character.	C2, C3	<input type="checkbox"/>	<input type="checkbox"/>
f. Proposed action is inconsistent with the character of the existing natural landscape.	C2, C3 E1a, E1b E2g, E2h	<input type="checkbox"/>	<input type="checkbox"/>
g. Other impacts: _____		<input type="checkbox"/>	<input type="checkbox"/>

**PRINT FULL FORM**

*JLB*

Agency Use Only (If Applicable)

Project: ANWELLOTECH

Date: 4/21/15

**Full Environmental Assessment Form**  
**Part 3 - Evaluation of the Magnitude and Importance of Project Impacts**  
**and**  
**Determination of Significance**

Part 3 provides the reasons in support of the determination of significance. The lead agency must complete Part 3 for every question in Part 2 where the impact has been identified as potentially moderate to large or where there is a need to explain why a particular element of the proposed action will not, or may, result in a significant adverse environmental impact.

Based on the analysis in Part 3, the lead agency must decide whether to require an environmental impact statement to further assess the proposed action or whether available information is sufficient for the lead agency to conclude that the proposed action will not have a significant adverse environmental impact. By completing the certification on the next page, the lead agency can complete its determination of significance.

**Reasons Supporting This Determination:**

To complete this section:

- Identify the impact based on the Part 2 responses and describe its magnitude. Magnitude considers factors such as severity, size or extent of an impact.
- Assess the importance of the impact. Importance relates to the geographic scope, duration, probability of the impact occurring, number of people affected by the impact and any additional environmental consequences if the impact were to occur.
- The assessment should take into consideration any design element or project changes.
- Repeat this process for each Part 2 question where the impact has been identified as potentially moderate to large or where there is a need to explain why a particular element of the proposed action will not, or may, result in a significant adverse environmental impact.
- Provide the reason(s) why the impact may, or will not, result in a significant adverse environmental impact
- For Conditional Negative Declarations identify the specific condition(s) imposed that will modify the proposed action so that no significant adverse environmental impacts will result.
- Attach additional sheets, as needed.

*SEE ATTACHED SHEETS.*

**Determination of Significance - Type 1 and Unlisted Actions**

SEQR Status:

☐ Type 1

☒ Unlisted

Identify portions of EAF completed for this Project: ☒ Part 1

☒ Part 2

☒ Part 3

Upon review of the information recorded on this EAF, as noted, plus this additional support information.

~~NYSD DEC LETTER DATED JANUARY 15, 2015, TRINITY CONSULTANTS LETTER DATED JANUARY 21, 2015, TRIMVIRATE LETTER DATED JANUARY 21, 2015, VEDLIA ENVIRONMENTAL SERVICES LETTER OF JANUARY 6, 2015, ANELLOTECH LETTER OF APRIL 15, 2015, ANELLOTECH LETTER OF APRIL 20, 2015.~~

and considering both the magnitude and importance of each identified potential impact, it is the conclusion of the TOWN OF ORANGETOWN PLANNING BOARD as lead agency that:

☐ A. This project will result in no significant adverse impacts on the environment, and, therefore, an environmental impact statement need not be prepared. Accordingly, this negative declaration is issued.

☐ B. Although this project could have a significant adverse impact on the environment, that impact will be avoided or substantially mitigated because of the following conditions which will be required by the lead agency:

There will, therefore, be no significant adverse impacts from the project as conditioned, and, therefore, this conditioned negative declaration is issued. A conditioned negative declaration may be used only for UNLISTED actions (see 6 NYCRR 617.d).

☐ C. This Project may result in one or more significant adverse impacts on the environment, and an environmental impact statement must be prepared to further assess the impact(s) and possible mitigation and to explore alternatives to avoid or reduce those impacts. Accordingly, this positive declaration is issued.

Name of Action: ANELLOTECH ADDITION TO BUILDING 123

Name of Lead Agency: TOWN OF ORANGETOWN PLANNING BOARD

Name of Responsible Officer in Lead Agency: KEVIN GARNEY, CHAIRMAN

Title of Responsible Officer: CHAIRMAN OF THE PLANNING BOARD

Signature of Responsible Officer in Lead Agency:

Date:

Signature of Preparer (if different from Responsible Officer)

Date:

**For Further Information:**

Contact Person: JOHN GIARDIELLO, PE., DIRECTOR OCBPAE

Address: 20 GREENBUSH ROAD SOUTH, ORANGETOWN, N.Y. 10962

Telephone Number: 845-359-8410

E-mail: OCBPAE@ORANGETOWN.COM

For Type 1 Actions and Conditioned Negative Declarations, a copy of this Notice is sent to:

Chief Executive Officer of the political subdivision in which the action will be principally located (e.g., Town / City / Village of)

Other involved agencies (if any)

Applicant (if any)

Environmental Notice Bulletin: <http://www.dec.ny.gov/enb/enb.html>

**PRINT FULL FORM**

**Project :Anellotech**

**Date: 4/21/15**

**Part 3 – Project Assessment**

**1) Impact on Land.**

- 1.a) Ground water >11 feet as per soil borings. (No impact).
- 1.b) 8% of active site on slopes 15% or greater. (Small or no impact).
- 1.c) Bedrock > 25 feet as per soil borings. (No impact).
- 1.d) No large excavation. (No impact).
- 1.e) 6 – 9 month construction period. (No impact).
- 1.f) Erosion and sediment control measures will be implemented. (No impact).
- 1.g) No coastal erosion. (No impact).

**2) Impact on Geological Features**

No geological features. (No impact).

**3) Impact on Surface Water**

Pest management Practices used and pesticides not stored on site. (See Anellotech letter of April 15, 2015). (No impact)

No encroachment on water bodies or wetlands. (No impact)

Erosion and sediment control measures will be implemented. (No impact).

**4) Impact on Groundwater**

Sanitary wastewater to Orangetown Sewage Treatment Plant – 300 gal/day. (No impact).

Hazardous waste stored in Department of Transportation drums with secondary containment. (Small or no impact) (See Anellotech letter of April 15, 2015).

Hazardous waste will be transported offsite. (See Veolia Environmental Services letter January 16, 2015). (Small or no impact)

New York State Department of Environmental Conservation will regulate the facility as a solid waste facility. (No impact)

**5) Impact on Flooding**

Not in a 100 year flood zone as per Flood Insurance Rate Maps, map number 36087CO159G, panel 159 of 207, effective date March 3, 2014. (No impact).

**6) Impact on Air**

Process emissions, which have been identified as benzene/toluene/xylene (BTX) will be mitigated by air pollution control equipment and are far below New York State Department of Environmental Conservation and United States Department of Environmental Protection guidelines. (See New York State Department of Environmental Conservation letter of January 15, 2015; See independent reviews by: Trinity Consultants letter of January 21, 2015; Triumvirate Environmental letter of January 21, 2015 ). It should be noted the Board also received and reviewed a letter from William S. Bahary, Ph.D, a chemist and citizen activist opposed to the project dated April 15, 2015, which outlined his grave concern of the production and/or emission of BTX at this site, noted his objection to the project because it involves the production of benzene and toxic and carcinogenic substances, and noted it is too risky for the Town. Methane will be converted to CO2 and H2O emissions. Air emissions for the listed items in 6 a. were submitted by the applicant and are much less than the thresholds listed by the NYSDEC. (See Anellotech letter of April 20, 2015)

As set forth in the letter from Trinity Consultants, "Emissions from the proposed project are less than all regulatory thresholds, and the ambient air quality impact screening analysis conducted by Anellotech and reviewed by NYSDEC and Trinity demonstrates that the ambient impacts of the emissions from the project are well below health based acute or chronic exposure limits published by the NYSDEC."

The applicant will monitor and keep track of emissions and has agreed to an independent third party sampling schedule as acceptable to the Planning Board and to be reported to and overseen by the Town Director of Office of Building, Zoning, Planning, Administration and Enforcement (OBZPAE).

(Small or no impact)

**7) Impact on Plants and Animals**

Deer, rodents, rabbits and birds present.  
No loss of flora or fauna. (No impact).

**8) Impact on Agricultural Resources**

No farmland. (No impact).

**9) Impact on Aesthetic Resources**

No scenic resources on site.  
Publicly accessible resources are within five miles but proposed project is not visible from resources. (No impact).

**10) Impact on Historic and Archeological resources**

Some archeological and historic sites are in town but none known at the project site. (See Anellotech letter of April 15, 2015). (No impact).

**11) Impact on Open Space and Recreation**

No recreation or open space at the project site. (No impact).

**12) Impact on Critical Environmental Area**

Not in or adjacent to the Critical Environmental area. (No impact).

**13) Impact on Transportation**

No change to existing transportation system. (No impact).

**14) Impact on energy**

Incremental electricity demand handled by existing infrastructure. (No impact).

**15) Impact on Noise, Odor and Light**

Potential odors to be emitted as a result of the project include benzene, methane, carbon dioxide (odorless), and water (odorless), but any such odors will be far below the thresholds as set forth in Town Code Section 4.182. (See Anellotech letter dated April 20, 2015). See Response to Item 6 above. (Small or no impact).

**16) Impact on Human Health**

The Applicant must obtain a Research, Development and Demonstration Permit pursuant to 6 NYCRR §360-1.13 for solid waste management facilities, which will include requirements as the DEC determines necessary to protect human health and the environment, including but not limited to monitoring and such requirements as the DEC deems necessary regarding testing and providing information to the DEC about the operation of the facility. See New York State Department of Environmental Conservation letter of January 15, 2015); (See New York State Department of Environmental Conservation Letter of April 16, 2015

Hazardous waste will have secondary containment on site and all Hazardous waste and materials will be removed from site by hauler. (See Veolia letter dated January 16, 2015).

See also, Response to Item 6, above.  
(Small or no impact).

**17) Consistency with Community Plans**

The proposed action is consistent with adopted land use plans. It is noted that objections to the project have been raised by some community members, while other community members have expressed support for the project.

The project is located in an LI zone district (Light Industrial) on the Pfizer campus formerly American Cyanamid/Lederle Laboratories. American Cyanamid had their main manufacturing and research facilities located at this site. (No impact).

**18) Consistency with Community Character**

The proposed project is consistent with the existing community character since it is located in an LI zone district, which permits all manufacturing uses, including Laboratory and Research Facilities and Light Manufacturing. (See Town Code §11.2). The project site is located on a 203 acre existing light industrial campus and the proposed building addition is similar in appearance to other buildings on the campus. See also Response to Item 17, above. (No impact).

**New York State Department of Environmental Conservation**

**Division of Environmental Permits, Region 3**

21 South Putt Corners Road, New Paltz, New York 12561-1620

Phone: (845) 256-3054 FAX: (845) 255-4659

Website: [www.dec.ny.gov](http://www.dec.ny.gov)



January 15, 2015

John Giardiello, Director  
Town of Orangetown ZBA  
20 Greenburg Road  
Orangeburg, New York 10962

Re: Anellotech Inc Site Plan – Addition to Building 123 Pearl River (Pfizer Campus)  
Proposed Research and Development Facility  
Town of Orangetown, Rockland County

Dear Mr. Giardiello:

This is in response to the Town of Orangetown Zoning Board of Appeals notice dated November 24, 2014 regarding the proposed Anellotech Site Plan – Addition to Building 123 Pearl River Pfizer Campus. Based upon the information provided, the proposal consists of a Research and Development facility that will produce organic chemicals from sustainable and renewable biomass.

Based upon our review of the circulated documents, the New York State Department of Environmental Conservation (DEC) provides the following comments:

1. **Air Resources** – Research and Development facilities are exempt from Air permitting requirements under 6 NYCRR Part 201. However, Department staff have reviewed the submitted documents with respect to permitting guidelines found within 6 NYCRR Part 212, General Process Air Sources. See the attached comments prepared by DEC R3 Division of Air.
2. **Materials Management** – This facility will be subject to solid waste permitting. However, the Department requires additional information in order to determine if the project is eligible for coverage under a Research, Development, and Demonstration Permit, or if a full Part 360 Permit for Solid Waste Management Facilities will be required. By copy of this letter we are making the project sponsor aware of the following information required by the Department in order to make that determination:
  - i. Type of waste (biomass) that will be accepted at the facility. A description of the components of the waste and their origin must be given;
  - ii. The amount of waste per day that will be received at the facility;
  - iii. A flow diagram of the process with a brief description of each piece of equipment and its function;

SEQR LEAD AGENCY DESIGNATION  
Anellotech, Inc. - Proposed Research and Development Facility  
Town of Orangetown, Rockland County

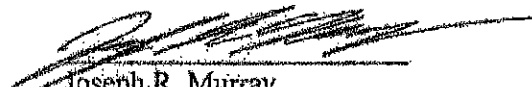
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- iv. A description of any bi-products (other than BTXs and ash) that will be generated;
- v. Characterization of the ash (hazardous or non-hazardous);
- vi. Disposal location of the ash
- vii. Days and time of operation;
- viii. Number of employees;
- ix. Approximately, how long the research and development phase will last and when would full scale operation begin;
- x. The intended use of the final products.

Questions regarding Part 360 requirements should be addressed to James Lansing at (845) 256-3123.

Thank you for providing the Department with the opportunity to provide these comments with regard to this proposal. If you have any questions or comments about this letter, please contact me at (845) 256-3040.

Sincerely,



Joseph R. Murray  
Environmental Analyst  
Division of Environmental Permits

enc: Comments prepared by NYSDEC R3 Division of Air

cc: G. Sweikert, DEC R3 Air  
J. Lansing, DEC R3 Materials Management  
Anellotech, Inc.

## Anellotech

The DEC Region 3 DAR has received a request for review the Anellotech expansion project from the Town of Orangetown Zoning Board of Appeals. Anellotech is a Research and Development company that is proposing to build a process development test facility to measure the yield of mixed benzene/toluene/xylene (BTX) samples made from sustainable biomass.

Research and Development activities under the State Air regulations are defined as:

The primary purpose of such activities is to conduct research and development into processes and products, where such activities are conducted under the close supervision of technically trained personnel. Research and development activities do not include activities whose primary purpose is to produce commercial quantities of materials.

The Department has no Air permitting jurisdiction since Research and Development is exempt under 6NYCRR PART 201.

### §201-3.1 Applicability

(a) Except as provided in subdivision (c) of this section, the owner or operator of an emission source listed as an exempt or trivial activity in this Subpart is exempt from the registration and permitting provisions of Subparts 201-4, 201-5, and 201-6 of this Part.

(44) Research and development activities, including both stand-alone and activities within a major facility

The owner or operator of an emission source or activity that is listed as being exempt may be required to certify that it is operated within the specific criteria described in this Subpart. The owner or operator of any such emission source or activity must maintain all records necessary for demonstrating compliance with this Subpart on-site for a period of five years, and make them available to representatives of the department upon request.

The project was reviewed under DEC permitting guidelines of Part 212(Air Toxics).

Anellotech's proposed exhaust vent pipe parameters and Benzene emission rates are listed in the tables below. The emission rates assume a 98% benzene abatement. Projected actual benzene destruction percentage is 99.5% from the catalytic oxidizer.

Anellotech: Proposed Exhaust Vent Pipe Parameters				
Height*	Inner Diameter	Exit Temperature	Plume Exit Velocity	Flow Rate
99.08 ft	0.25 ft	751.7 °F	36.09 ft/s	105 ACFM

\* Height value is from the ground. Vent pipe will be located on top of an 84-foot-tall building.

Comments Prepared by NYSDEC R3 Division of Air for  
Anellotech Inc. - Proposed Research and Development Facility

Anellotech: BTX Emissions (from proposed exhaust vent pipe)					
Emission Rate (lb/hr)			Potential To Emit (lb/yr)*		
Benzene	Toluene	Xylenes	Benzene	Toluene	Xylenes
0.00183	0.00074	0.00006	16.03	6.44	0.54

\*Potential to emit calculation is based on 8760 hours of operation per year (operating 24 hrs/day, 365 days/year).

The emissions of air pollutants from the facility will be controlled using a catalytic oxidizer which is the same kind of technology used to treat car & truck mobile emission sources. This technology is proven to be very reliable since its introduction in 1975. They propose to monitor the performance of the converter by continuous monitoring of the delta T across the unit. They propose to continuously monitor the signal from the oxidizer's air blower. These two measurements will tell if the oxidizer is mechanically working and that hydrocarbon oxidation reaction is occurring. The facility will commence shutdown procedures if these measurements show the oxidizer is not properly working.

#### Anellotech: Benzene Concentration Analysis

The table below compares the modeled values of Anellotech's benzene emission concentrations with the state and federal guidance standards. Modeling was conducted by NYSDEC Division of Air Resources personnel.

DEC standard modeling utilizing the BEE-Line AerScreen program produced a short term (1 hour) maximum concentration of 0.072  $\mu\text{g}/\text{m}^3$ . DEC personnel utilized specific terrain and meteorological data unique to the facility's location. The model shows a concentration level that is 18,000x less than the DEC's short term guidance concentration (SGC).

When the modeled annual value is compared to the state and federal standard limits, the projected maximum annual concentration is shown to be 18x lower than both the DEC's annual guidance concentration (AGC) and the EPA's "one in a million" cancer risk level<sup>3</sup> (E-6). See attached map for concentration gradient.

Comments Prepared by NYSDEC R3 Division of Air for  
Anellotech Inc. – Proposed Research and Development Facility

Benzene Emission Concentrations	Maximum Short term, 1 hour ( $\mu\text{g}/\text{m}^3$ )		Maximum Long term, 1 year ( $\mu\text{g}/\text{m}^3$ )
DEC Modeling	0.072		0.0072
DEC Guidance Concentrations <sup>1</sup>	1300		0.13 <sup>4</sup>
EPA Cancer Risk Levels <sup>2</sup> ( $\mu\text{g}/\text{m}^3$ )	1 in 10,000 (E-4)	1 in 100,000 (E-5)	1 in 1,000,000 <sup>3</sup> (E-6)
	13.0	1.30	0.13

1. NYSDEC derived Short Term and Annual Guidance Concentrations (Benzene).
2. EPA Integrated Risk Information System, II.C. Quantitative Estimate of Carcinogenic Risk from Inhalation Exposure, II.C.1.2. Extrapolation Method (Benzene).
3. EPA Definition, "1 in a million cancer risk": A risk level of 1 in a million implies a likelihood that up to one person, out of one million equally exposed people would contract cancer if exposed continuously (24 hours per day) to the specific concentration over 70 years (an assumed lifetime). This risk would be an excess cancer risk that is in addition to any cancer risk borne by a person not exposed to these air toxics.
4. DEC's Annual Guidance Concentration uses the same "1 in a million" cancer risk concentration as EPA's E-6 range.

Toluene and Xylene have significantly higher acceptable exposure limits compared to benzene, are present at considerably lower concentration, thus making the public's risk for these even smaller. The State of New York has published a list of hazardous chemical short term (SGC) and annual lifetime (AGC) reference concentrations and the list includes toluene and mixed xylenes. The link to the list is;

[http://www.dec.ny.gov/docs/air\\_pdf/agcsgc14.pdf](http://www.dec.ny.gov/docs/air_pdf/agcsgc14.pdf)

### Summary

Anellotech is an R&D facility and is exempt from Air permitting requirements

Research and development activities do not include activities whose primary purpose is to produce commercial quantities of materials.

Anellotech must maintain all records necessary for demonstrating compliance on-site for a period of five years, and make them available to representatives of the department upon request. These records will include verification of all emission rate parameters used in model.

Facility will install and monitor control equipment.

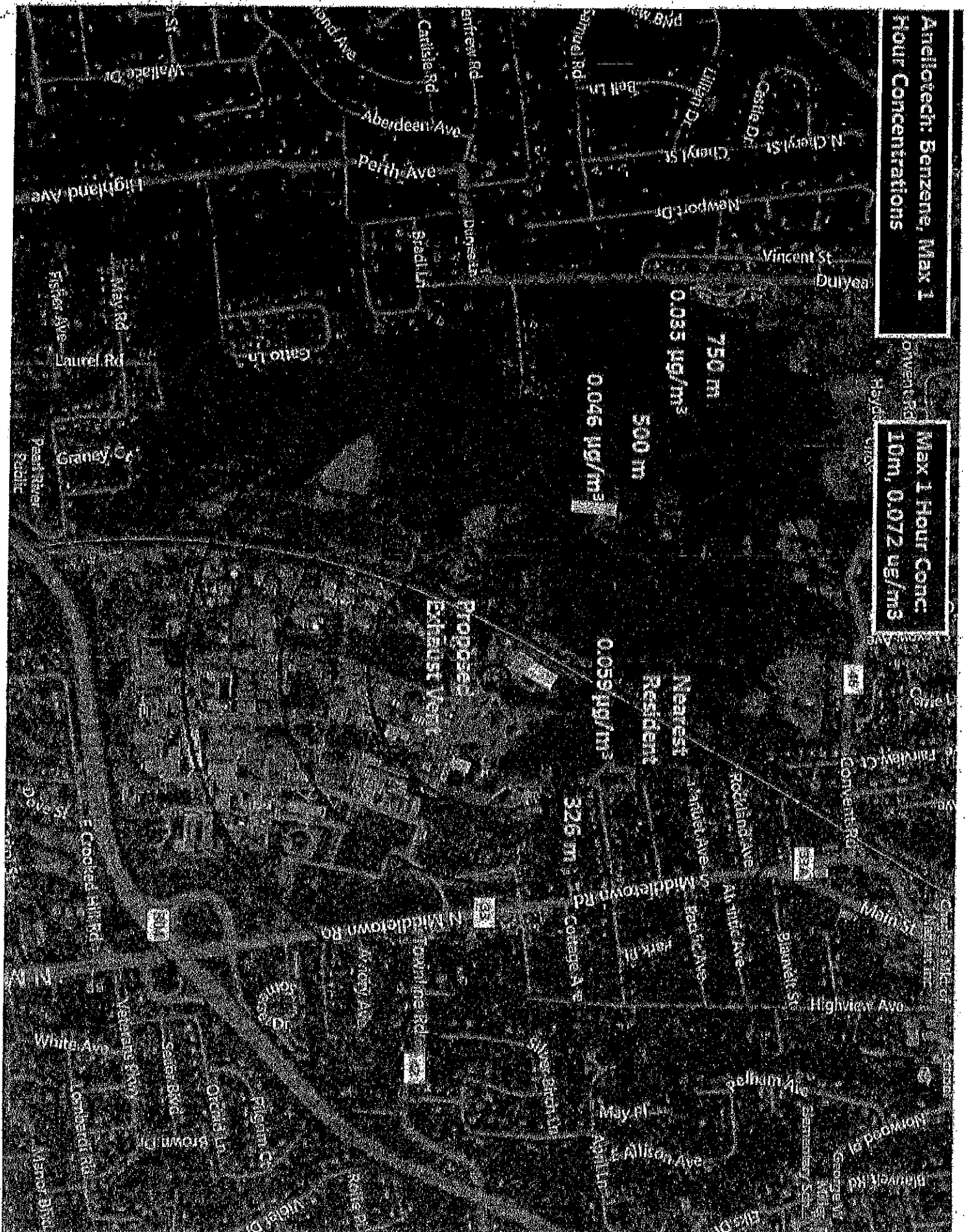
Comments Prepared by NYSDEC R3 Division of Air for  
Anellotech Inc. — Proposed Research and Development Facility

Potential Benzene emission rate of less than 20 pounds per year. Toluene and Xylene will be present in lower concentrations than benzene.

When the modeled annual value is compared to the state and federal standard limits, the projected maximum annual concentration is shown to be 18x lower than both the DEC's annual guidance concentration (AGC) and the EPA's "one in a million" cancer risk level <sup>3</sup> (E-6).

Aneliotech: Benzene, Max 1  
Hour Concentrations

Max 1 Hour Conc:  
10m, 0.072 ug/m3





102 Pickering Way | Suite 506 | Exton, PA 19341 | P (610) 280-3902  
trinityconsultants.com

Trinity  
Consultants

January 21, 2015

John Giardiello  
Director  
Town of Orangetown  
Office of Building, Zoning, Planning, Administration & Enforcement  
20 Greenbush Road  
Orangeburg, New York 10962

RE: *Air Quality Review of Anellotech Zoning Board of Appeals Application for Proposed Addition to Building 123*

Dear Mr. Giardiello:

Trinity Consultants (Trinity) has reviewed the air quality impacts associated with Anellotech Inc. (Anellotech)'s proposed addition to Building 123. According to the Zoning Board of Appeals application submitted by Anellotech, the addition will house a Research and Development facility to develop processes for the production of organic chemicals from sustainable and renewable biomass. The air quality review is outlined in the following sections.

## BACKGROUND

Anellotech submitted an application to the Zoning Board of Appeals for the Town of Orangetown on September 30, 2014 for the construction of a new building to house a skid-mounted pilot reactor to be built on the premises of their existing facility located at 401 N. Middletown Road in Pearl River, New York. The reactor will be used to study the conversion of biomass to green chemicals for use in renewable plastics. Anellotech submitted documentation regarding the project to NYSDEC, and NYSDEC issued a response to air quality and materials management related to the project on January 15, 2015.<sup>1,2</sup>

The Town of Orangetown Planning Board issued a Negative Declaration regarding the zoning application indicating that the project has no negative impacts to the environment on September 10, 2014. Condon & Associates, PLLC, representing STOP ANELLOTECH and the members of the Orangetown and Clarkstown communities requested that the Negative Declaration be rescinded in a letter on December 22, 2014. The letter requests that environmental studies be completed by independent environmental engineers. The letter also states that the local communities would be adversely impacted by the chemicals emitted from the proposed Anellotech smokestack.

The Town of Orangetown has requested that Trinity conduct an air quality review of the available information for the proposed project by January 21, 2015, when the Zoning Board of Appeals will next meet on the issue.

<sup>1</sup> Letter from Joseph R. Murray, Environmental Analyst, Division of Environmental Permits, NYSDEC, to John Giardiello, Director, Town of Orangetown ZBA on January 15, 2015.

<sup>2</sup> Materials management and solid waste permitting were not included in the scope of Trinity's review.

## AIR QUALITY REVIEW

The Town of Orangetown provided information submitted by Anellotech in support of the Zoning Board of Appeals application.<sup>3</sup> Trinity also received additional information directly from Anellotech including the information and documentation that was submitted to the New York State Department of Environmental Conservation (NYSDEC).<sup>4</sup>

Trinity reviewed the information provided by both Town of Orangetown and Anellotech regarding the potential impacts to air quality related to the operation of the proposed pilot-scale reactor. Our review is summarized in the following sections.

### Compliance with Applicable State and Federal Air Quality Requirements

Research and development activities are exempt from air permitting under the NYSDEC in accordance Title 6 of the New York Codes, Rules, and Regulations (NYCRR), subpart 201-3.2(c)(44). Research and development activities under the State Air regulations are defined under 6 NYCRR 201-2.1(b)(27) as:

*The primary purpose of such activities is to conduct research and development into processes and products, where such activities are conducted under the close supervision of technically trained personnel. Research and development activities do not include activities whose primary purposes is to produce commercial quantities of materials.*

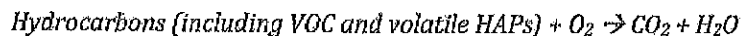
Based on conversations with Anellotech, the operation of the pilot-scale reactor will meet the definition of a research and development activity and is therefore exempt from permitting. This determination was confirmed by NYSDEC in the letter dated January 15, 2015.<sup>5</sup> As noted in the letter from NYSDEC, Anellotech is required to maintain all records necessary for demonstrating the exemption for a period of five years.

The project was also reviewed under 6 NYCRR 212, which provides requirements for General Process Emission Sources. This regulation requires that toxic ambient contaminants are reviewed for new or modified emission sources under Policy DAR-1, which requires an Ambient Air Quality Impact Screening Analysis. Anellotech conducted an air impact analysis. Trinity reviewed the analysis (see separate section) and determined that the impact from the project meet the requirements of 6 NYCRR 212.

No other state or federal air quality requirements apply to the proposed project.

### Air Emissions Controls

Air pollutants from the proposed pilot-scale reactor will be controlled using a catalytic oxidizer. Catalytic oxidizers control volatile organic compounds (VOC) and volatile hazardous air pollutants (HAP) emissions, which include benzene, toluene and xylene. Catalytic oxidizers use a catalyst to promote the oxidation of VOCs and volatile HAP to carbon dioxide (CO<sub>2</sub>) and water (H<sub>2</sub>O). The catalyst has the effect of increasing the oxidation reaction rate, enabling conversion at lower reaction temperatures. The simplified chemical equation for oxidation is as follows:



<sup>3</sup> December 30, 2014 emails from Debbie Arbolino, Orangetown, to Liz Gorman, Trinity Consultants, including the Zone Board of Appeals application, chemical usage information and Material Safety Data Sheets, floor plans, catalytic oxidizer spec sheets, and the Condon & Associates, PLLC letter.

<sup>4</sup> January 12-13, 2014 emails from Chuck Sorenson, Anellotech, to Liz Gorman, Trinity Consultants, including AERSCREEN modeling files and emission calculation spreadsheet.

<sup>5</sup> Letter from Joseph R. Murray, Environmental Analyst, Division of Environmental Permits, NYSDEC, to John Giardiello, Director, Town of Orangetown ZBA on January 15, 2015.

The catalytic oxidizer proposed to be installed on the pilot-scale reactor will reduce emissions by oxidizing or combusting the VOCs and volatile HAPs in the exhaust stream before the stream enters the atmosphere. The catalytic oxidizer to be used to control emissions from the pilot-scale reactor is Falmouth Products' FALCO 300.<sup>6</sup> The spec sheet indicates that the destruction efficiency is up to 99.5%. This means that up to 99.5% of the VOCs and volatile HAPs generated by the proposed pilot-scale reactor will be destroyed by the catalytic oxidizer.

EPA's fact sheet for Catalytic Incinerators indicates that control efficiencies of 98-99% are achievable for catalytic incinerators, depending on site-specific design.<sup>7</sup> Based on this information, the destruction efficiency proposed by Falmouth meets or exceeds expectations for catalytic oxidizers.

Anellotech is not subject to any regulatory requirements to control emissions with a control device.<sup>8</sup> Instead, the catalytic oxidizer is being installed voluntarily to limit emissions from the proposed pilot-scale reactor.

Anellotech proposes to monitor the catalytic oxidizer's performance by continuously monitoring the change in temperature across the unit as well as the signal from the oxidizer's air blower. The two measurements will tell if the oxidizer is mechanically working and that the hydrocarbon oxidation reaction is occurring. The facility will commence shutdown procedures if these measurements show that the oxidizer is not working properly.

### Emission Calculations Prepared by Anellotech

Biomass enters the reactor and is converted into products that may be used to produce renewable plastics. The emissions from all sources are routed to the catalytic oxidizer.

Detailed emission calculation information is considered confidential by Anellotech; however, Trinity can provide the following analysis:

- Emissions are calculated using chemical process simulation software and based on intimate knowledge of the streams entering the reactor and the reactions occurring with the reactor. Energy and mass balances are utilized in determining emissions resulting from the reaction.
- Emissions are calculated based maximum design throughput of the reactor. This ensures that calculated emissions represent worst-case potential emissions from the reactor. It is expected that the throughput will be lower during actual operation of the reactor.
- Annual potential emissions are calculated assuming continuous operation (i.e., assuming the unit will operate 24 hours per day and 365 days per year). This also ensures that calculated emissions are worst-case potential emissions from the reactor. It is expected that actual operation of the reactor will be less than continuous.
- Emissions are calculated based on 98% control of volatile organic compounds, including benzene, toluene, and xylene. The spec sheet provided by the catalytic oxidation manufacturer indicates that the control efficiency is up to 99.5%.<sup>9</sup> This also ensures that calculated emissions are worst-case potential emissions from the reactor.

<sup>6</sup> "FALCO 300 with VFD controlled 10hp dilution blower," Rev 10-08-14, Falmouth Products ([www.falmouthproducts.com](http://www.falmouthproducts.com)).

<sup>7</sup> U.S. EPA Air Pollution Control Technology Fact Sheet, "Catalytic Incinerator," EPA-452/F-03-018 (<http://www.epa.gov/ttn/catc/dir1/fcataly.pdf>).

<sup>8</sup> Letter from Joseph R. Murray, Environmental Analyst, Division of Environmental Permits, NYSDEC, to John Giardiello, Director, Town of Orangetown ZBA on January 15, 2015.

<sup>9</sup> "FALCO 300 with VFD controlled 10hp dilution blower," Rev 10-08-14, Falmouth Products ([www.falmouthproducts.com](http://www.falmouthproducts.com)).

Potential to emit on a mass basis calculated by Anellotech are much lower than any regulatory thresholds. Based on Trinity's review of the calculation methodology, the potential to emit values calculated provide a conservative assessment of maximum emissions and meets NYSDEC's definition of potential to emit.<sup>10</sup>

*The maximum capacity of an air contamination source to emit any regulated air pollutant under its physical and operational design.*

Potential emissions are calculated in accordance with the methodologies that Trinity would use to calculate potential emissions. The emissions calculated are conservative, and actual emissions are expected to be significantly lower.

### Air Testing Requirements

Anellotech is not subject to any regulatory requirements to conduct air testing. As confirmed in the January 15, 2015 letter from the NYSDEC, the proposed pilot-scale reactor is exempt from air permitting.<sup>11</sup>

### AERSCREEN Dispersion Modeling Conducted by Anellotech

The NYSDEC has promulgated state-specific health-effect based annual guideline concentrations (AGCs) and short-term (1-hour) guideline concentrations (SGCs) for toxic air contaminants. These AGCs and SGCs provide maximum air quality concentrations (in micrograms per cubic meter or  $\mu\text{g}/\text{m}^3$ ) that are not to be exceeded at any location in the state. SGCs are chosen to protect the general population from adverse acute one-hour exposures. The SGCs for benzene, toluene, and xylene were developed by the NYSDEC. Some of these limits are derived independently by the NYSDEC and others are based upon exposure data published by other agencies such as the California Environmental Protection Agency (CalEPA). AGCs are chosen to protect against adverse chronic exposure and are based upon the most conservative carcinogenic or non-carcinogenic annual exposure limit. The AGCs for benzene, toluene, and xylene were derived by the U.S. EPA.<sup>12</sup> Relevant AGCs and SGCs are provided in the table below.

Table 1 AGCs and SGCs for Benzene, Toluene, and Xylene

Pollutant	Short-Term Guideline Concentration (SGC) <sup>a</sup> ( $\mu\text{g}/\text{m}^3$ )	Annual Guideline Concentration (AGC) <sup>a</sup> ( $\mu\text{g}/\text{m}^3$ )
Benzene	1,300	0.13
Toluene	37,000	5,000
Xylene	22,000	100

<sup>a</sup> NYSDEC AGC/SGC Reference Assignments, [http://www.dec.ny.gov/docs/air\\_pdf/agcsgc14.pdf](http://www.dec.ny.gov/docs/air_pdf/agcsgc14.pdf).

An Ambient Air Quality Impact Screening Analysis must be conducted for new and modified emission sources in accordance with 6 NYCRR 212 and Policy DAR-1 to determine that no ambient impacts exceed the AGCs and SGCs. Anellotech conducted an air quality screening analysis to compare the maximum impacts of benzene to the AGC and SGC.

Anellotech's screening analysis used U.S. EPA's AERSCREEN model. AERSCREEN is a screening dispersion model approved by the EPA for evaluating preliminary ambient air impacts and for determining a conservative, maximum impact of an emission source. AERSCREEN results are generally expected to be more conservative than results from more robust dispersion models such as EPA's AERMOD which allow for more refined

<sup>10</sup> 6 NYCRR 200.1(b)

<sup>11</sup> Letter from Joseph R. Murray, Environmental Analyst, Division of Environmental Permits, NYSDEC, to John Giardiello, Director, Town of Orangetown ZBA on January 15, 2015.

<sup>12</sup> NYSDEC AGC/SGC Reference Assignments, [http://www.dec.ny.gov/docs/air\\_pdf/agcsgc14.pdf](http://www.dec.ny.gov/docs/air_pdf/agcsgc14.pdf).

modeling.<sup>13</sup> Since AERSCREEN is a simplified model intended to be used for screening purposes, the model uses some conservative or "worst-case" assumptions to simplify the inputs required and the model runtime required where refined models require actual, detailed inputs.

Trinity reviewed the modeling analysis conducted by Anellotech and determined that the analysis was conducted correctly to predict maximum ambient impacts from the proposed project, based on the available information on stack parameters and emission rates. Trinity confirmed that the modeling analysis used EPA's conservative screening model, AERSCREEN, and used the conservative, maximum potential to emit values described in a previous section. As such, the results of the modeling analysis represent a worst-case assessment, and the actual impacts are expected to be significantly lower.

The impacts predicted by AERSCREEN demonstrate that the maximum ambient benzene impact from the proposed project will not exceed the AGC or SGC established by the NYSDEC. The maximum benzene impact is approximately 5% of the AGC and is well below 1% of the SGC. Since toluene and xylene are present in considerably lower concentrations in the exhaust stream from the proposed reactor, the maximum impacts of these pollutants would be even lower than the maximum impacts modeled for benzene. As such, the maximum ambient toluene and xylene impacts are also less than the AGC and SGCs established by the NYSDEC.

NYSDEC confirms that ambient impacts from the proposed project are in compliance with requirements in a letter dated January 15, 2015.<sup>14</sup>

## SUMMARY

In summary, the proposed pilot-scale reactor complies with all state and federal air quality requirements. The project is not subject to air permitting under the NYSDEC. The project is not subject to any requirements to install a control devices or conduct testing; however, Anellotech is voluntarily proposing to control emissions from the reactor using a catalytic oxidizer, which will control emissions by up to 99.5%. Emissions from the proposed project are less than all regulatory thresholds, and the ambient air quality impact screening analysis conducted by Anellotech and reviewed by NYSDEC and Trinity demonstrates that the ambient impacts of the emissions from the project are well below health-based acute or chronic exposure limits published by the NYSDEC.

~~~~~

<sup>13</sup> AERSCREEN User's Guide. Section 1. U.S. EPA, Office of Air Quality Planning and Standards, Air Quality Assessment Division, Air Quality Modeling Group. EPA-454/B-11-001.

[http://www.epa.gov/scram001/models/screen/aerscreen\\_userguide.pdf](http://www.epa.gov/scram001/models/screen/aerscreen_userguide.pdf)

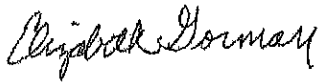
<sup>14</sup> Letter from Joseph R. Murray, Environmental Analyst, Division of Environmental Permits, NYSDEC, to John Giardiello, Director, Town of Orangetown ZBA on January 15, 2015.

Mr. John Giardiello - Page 6  
January 21, 2015

Trinity appreciates this opportunity to assist the Town of Orangetown with this project. If you have any questions or comments about the information presented in this review, please contact me at (610) 280-3902 x302.

Sincerely,

TRINITY CONSULTANTS



Elizabeth Gorman  
Senior Consultant

cc: Ms. Wendy Marz - Trinity  
Mr. Mike Trupin - Trinity  
Ms. Debbie Arbolino - Town of Orangetown



**Review for the Town of Orangetown, NY  
Of Anellotech Air Emissions**

*January 21, 2015*

## Summary of Triumvirate Environmental

### Executive Summary

Triumvirate is a rapidly growing, multi-dimensional environmental services firm, headquartered in Somerville, Massachusetts, offering comprehensive services that serve the full complement of our clients' regulatory compliance needs. The depth and breadth of our professional services provide a "one-stop shop" with a menu of bundled services unparalleled in the industry. We are experts in all facets of Environmental Health and Safety (EH&S) regulatory compliance and an industry leader in the hazardous materials management and transportation market.

Founded in 1988, the Triumvirate provides comprehensive services including multi-media EH&S compliance consulting, onsite support, engineering and remediation, decommissioning, wastewater, field service, and waste management. We believe that our approach is predicated upon our client's overall business objectives, incorporating financial aspects in combination with risk management, technical, and compliance-related needs.

Distinguished by our long-term, partnership philosophy, we provide tailored environmental services to industrial, higher education, healthcare, and life sciences clients. To better integrate with your business, we have national, corporate divisions dedicated to each industry.

We are a customer-intimate focused organization employing nearly 400 environmental health and safety professionals serving four primary vertical markets -- industrial, including high technology and energy/utilities, colleges and universities, life science and healthcare.

### Corporate Qualifications

Triumvirate's team of EH&S Compliance Advisors are well qualified to provide the requested services based on our expertise with the federal, state, and local regulatory requirements specific to your facilities and operations. Our consulting services are designed to meet the needs of your specific EH&S compliance programs, utilizing the most efficient and cost effective staffing strategies.

Triumvirate provides assistance for compliance with applicable regulatory requirements including, but not limited to:

1. CWA - Process wastewater discharge permit and pretreatment requirements in accordance with Clean Water Act regulations set forth by the Massachusetts Water Resource Authority (MWRA), Massachusetts Department of Environmental Protection (MassDEP), and U.S. Environmental Protection Agency (EPA), including NPDES permitting, Stormwater Pollution Prevention Plan development, implementation and training, Sewer Use permitting and compliance oversight, and full facility audits;
2. CAA - Air emission permitting and reporting requirements in accordance with Clean Air Act (CAA) regulations as set forth by the MassDEP and U.S. EPA, including Major Source permitting, Limited and Comprehensive Plans, Restricted Emissions Status, Source Registration, and Risk Management Plans;

3. **EPCRA/TUR** - Chemical inventory and release reporting for hazardous materials above Threshold Reporting Quantities as required by Emergency Planning & Community Right-to-Know Act (EPCRA), including Tier II reporting and SARA 313 Toxic Chemical Release Inventory Reporting, and MA Toxics Use Reduction Act reporting and plan development;
4. **DOT** - U.S. Department of Transportation (DOT) and International Air Transport Agency (IATA) hazardous material/waste and dangerous goods shipping requirements, including development of facility shipping protocols, audits, hazmat transportation security plan development and training and onsite assistance for packaging in accordance with IATA;
5. **RCRA** - Hazardous and Universal waste management requirements set forth by the MassDEP and U.S. EPA, including onsite program assistance, Contingency Plan development and training, biennial reporting, and employee training;
6. **OSHA** - Employee safety and health programs and practices in accordance with the Occupational Safety & Health Agency (OSHA) Agency standards for industry (e.g., Hazard Communication, Emergency Spill Response, Respiratory Protection, Electrical Safety, Confined Space Entry, Noise Protection, etc.);
7. **Fire Prevention** - Flammable materials storage in conformance with local Fire Department and state fire prevention regulations including permitting for storage and compliance with the Hazardous Materials Processing regulations;
8. **ISO 14001 and OHSAS 18001** - International standards for the establishment and implementation of Environmental Management Systems and Safety Programs, including program development, tracking, implementation and maintenance.
9. **Chemical Facility And Counter-Terrorism Act** - Identification and establishment of programs for Chemicals of Interest as determined by the U.S. Department of Homeland Security, including chemical inventory review, Top Screen assistance and security planning;
10. **Oil Pollution Prevention** requirements for Spill Prevention Control & Countermeasures planning as required by the U.S. EPA, including SPCC Plan development, facility inspections, and full compliance audits.

## **Summary of Anellotech Findings**

Triumvirate was retained by the Town of Orangetown to evaluate the proposed addition to Anellotech and the potential impact from emissions from the site to the general public. Triumvirate reviewed documentation supplied by the Town of Orangetown, Anellotech and the New York State Department of Environmental Conservation.

### **Introduction**

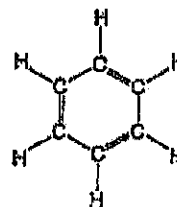
Anellotech is a research and development (R&D) company that is proposing to build a process development test facility as an addition to Building 123 Pearl River (Pfizer campus). This new addition is referred to as DS3 test facility.

With this new addition, Anellotech intends to turn organic waste materials (other than food) into a benzene/toluene/xylene (BTX) mixture.

Based on information provided by Anellotech, Triumvirate Environmental understands that this facility will be used for research and development purposes only. Therefore, according to the New York State Air regulations, the facility is exempt from air permitting jurisdiction under 6NYCRR PART 201.

After extensive review, independently and with the information supplied by Anellotech, we have come to the following conclusions:

# Benzene Fact Sheet



## Chemical Information:

Is a colorless or light yellow liquid at room temperature.

Has a sweet (petroleum-like) odor.

Is highly flammable.

Is a carcinogen (long-term exposure) according to EPA and NIOSH.

Causes skin and eye irritation (short-term exposure).

Evaporates into the air very quickly.

Vapor is heavier than air and may sink into low-lying areas.

Dissolves only slightly in water and will float on top of water.

## Common Sources of Benzene

Benzene is formed from both natural processes and human activities.

**Natural Sources:** volcanoes and forest fires.

**By-Products of:** crude oil, gasoline, and cigarette smoke.

Benzene is widely used in the United States. It ranks in the top 20 chemicals for production volume.

**Industrial Uses:** making plastics, resins, and nylon and synthetic fibers, some types of lubricants, rubbers, dyes, detergents, drugs, and pesticides.

## Types of Exposure to Benzene

### High Exposure: Indoor Air

Cigarette smoke, motor vehicle exhaust, smoke from wood burning fires, petroleum-based household products

### Medium Exposure: Outdoor Air, Groundwater and Drinking Water

Exhaust from motor vehicles, motor vehicle service stations; contamination from leaking storage tanks (gasoline and petroleum products).

### Low Exposure: Soil and Sediment

Benzene evaporates rapidly and does not accumulate in soil. Low concentrations may be detected if a gasoline or petroleum spill occurs.

Benzene in the environment does not build up in plants and animals.

*The seriousness of poisoning caused by benzene depends on the amount, route, and length of time of exposure, as well as the age and preexisting medical condition of the exposed person.*

*The use of Benzene is highly regulated by OSHA, DOT, EPA, NIOSH ADGIH, NFPA, and ARC.*

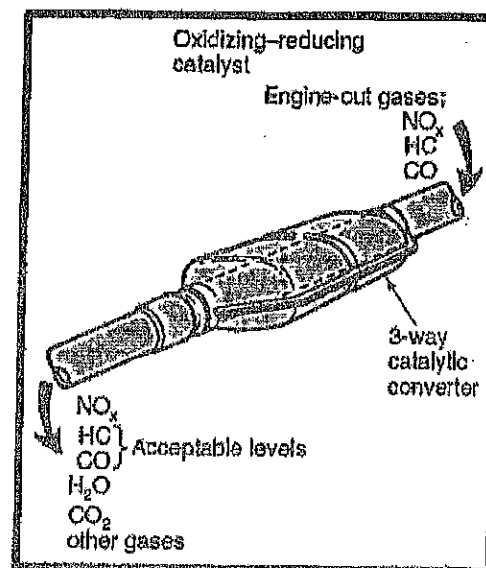
## Environmental Impact on Community

If Anellotech was operating the DS3 test facility at maximum operating limits (24 hours/day, 365 days/year), the projected emission, after the control device, are as follows:

| Chemical    | Pounds per Year | % of Total |
|-------------|-----------------|------------|
| Benzene     | 15              | 56%        |
| Toluene     | 10              | 37%        |
| Xylene      | 2               | 1%         |
| BTX (Total) | 27              |            |

These numbers represent potential emissions from the facility after passing through an emission control device. The facility proposes to install a catalytic oxidizer that will remove  $\geq 98\%$  of the chemicals from the system's by-product. This control device is an integral part of the entire process.

*The catalytic oxidizer operates similarly to the catalytic converter used in all motor vehicles. The figure here shows the basic mechanics of a catalytic converter.*



Benzene will be the largest constituent of the emissions from Anellotech. Triumvirate Environmental focused the research on benzene for this reason.

### Comparison of Anellotech Proposed Benzene Emissions to Common Benzene Exposures

|          | Anellotech | Automobiles | Lawnmowers |
|----------|------------|-------------|------------|
| lbs/hour | 0.0017     | 0.254       | 0.114      |
| lbs/year | 15         | 2225        | 995        |

*Assuming this equipment is running 24 hours/day, 365 days/year.*

In comparison, a person who smokes one pack of cigarettes per day/per year, directly ingests 1 pound of benzene.

### Emission Exposures Based on Distance

| Distance in Meters | micrograms/hour |
|--------------------|-----------------|
| 2                  | 0.072           |
| 163                | 0.065           |
| 326                | 0.059           |
| 500                | 0.046           |
| 750                | 0.035           |

*1 pound = 453592370 micrograms*

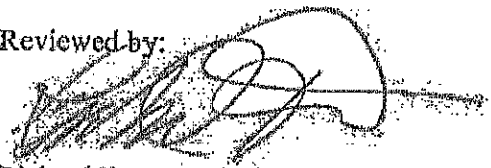
This table was based on air dispersion modeling. Based on benzenes emission rate in 1 hour, the recordable levels decrease as the distance from the vent pipe. As mentioned before, benzene readily evaporates in ambient air.

### In Conclusion:

Based upon the constituents of the emissions properties, we focused upon benzene since this material will be the predominant material emitted. We reviewed data supplied by Anellotech, as well as from the Environmental Protection Agency, Occupational Safety and Health Agency and Center for Disease Control to assist in our conclusion of the proposed addition.

In our professional opinion, the level of benzene potentially emitted from the facility is below any regulatory levels and therefore, poses minimum or any potential impact to the surrounding community. This information is based upon readily published EPA Emission Levels for the State of New York and nearby community.

Reviewed by:

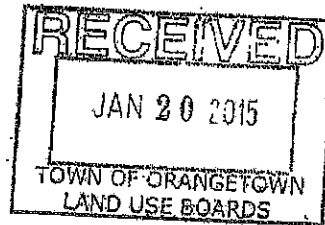


Richard Foote  
Principal Consultant, Triumvirate Environmental

 **VEOLIA**  
ENVIRONMENTAL SERVICES

January 16, 2015

Ms. Monica Arango  
Anellotech  
401 N. Middletown Road, BLDG 170A  
Pearl River, NY 10965



Dear Ms. Arango:

Re: Capacity to Accept Waste

As required by New York Regulation 6NYCRR Part 372.2(b)(2)(i), Veolia ES Technical Solutions, L.L.C., submits the following statement:

"Veolia ES Technical Solutions, L.L.C. is authorized by the New Jersey Department of Environmental Protection and the USEPA and has the capacity to store regulated containerized hazardous wastes prior to shipment to an ultimate treatment/disposal facility in compliance with all applicable regulations."

Additionally, as required by New York Regulation 6NYCRR Part 372.2 (b)(2)(ii), Veolia ES Technical Solutions, L.L.C. submits the following statement:

"Veolia ES Technical Solutions, L.L.C. is authorized to deliver the manifested waste to the designated treatment, storage or disposal facility under New York Permit Number NJ-410."

We currently handle the hazardous waste that you generate. We understand that near the end of 2015 or the beginning of 2016, the waste quantities that you will generate will increase. You indicate the increased volumes will be to waste stream profiles that you have already established with us.

We do not anticipate any problem handling the projected increase in quantity.

If you should require additional information, please do not hesitate to contact our office.

Sincerely,

Donald G. Lee  
Technical Services Manager  
Veolia ES Technical Solutions, L.L.C.  
Flanders, NJ



# Anellotech

Marc Schneidkraut, P.E.  
Anellotech, Inc.  
401 N. Middletown Road, Building 170A  
Pearl River, NY, 10965  
April 15, 2015

Mr. John Giardiello, P.E.  
Director  
Office of Building, Zoning, Planning, Administration & Enforcement (OBZPAE)  
Town of Orangetown Building Department  
20 Greenbush Road  
Orangeburg, New York, 10962

Dear Mr. Giardiello:

We spoke on the phone on April 8, 2015 to discuss Anellotech's recently submitted Full Environmental Assessment Form and relevant attachments. You asked for clarification on a few specific issues. This letter and attachments address your questions.

1. Secondary Containment (D.2.t.ii)

As answered, "BTX will be stored indoors within DOT-specified drums (maximum six 55-gallon drums with secondary containment)." Attached here is a data sheet for a "4 Drum Spill Containment Pallet with Drain". This is a typical example from ULINE. This is a common means of Secondary Containment for storage of 55-gallon drums.

2. Pest Management (D.2.q)

To clarify, there will be no storage of any pesticides (i.e., herbicides, insecticides) at the Anellotech Research and Development Facility. The Pest Control program at Anellotech (monthly or as-needed visits) will be similar to typical pest control done at a home or office. The certified Pest Control Professional visits the site with the necessary equipment and materials and takes them away at the end of the visit.

3. Archaeological Sensitive Areas (E.3.f)

As answered, "None known in project area. A large portion of the Town of Orangetown is in an Archaeological sensitive area. See map in E.3.f attachment." It is highly unlikely that the existing Building 123 would have been built so close to any potentially sensitive areas. This project is proposing an addition adjacent to the existing Building 123.

To gather more information, Anellotech spoke on the phone with a Historic Preservation Specialist-Archaeology at the Division for Historic Preservation, New York State Parks, Recreation & Historic Preservation. This individual told us that there is a pre-contact Native American archaeological site (i.e. prehistoric) in the marked circle, but detailed information on archaeological sites is confidential. Anellotech analyzed a zoomed-in map from the Cultural Resource Information System (CRIS). This map shows that the circles marking Archaeological Sensitive Areas are 0.5 mile radius or 1.0 mile diameter. The approximate center point of this circle is in Clarkstown, located very near to the train tracks. The Anellotech project site is over 1,500 feet away from the center point of this

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circle. Attached here are the Archaeological Sensitive Area Map and a zoomed-in image of the area of interest.

Please contact me if you have any questions.

Sincerely,

*Marc Schneidkraut*

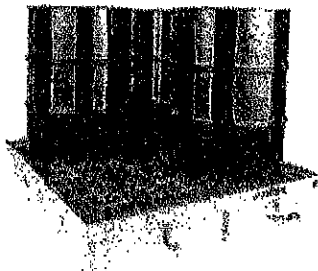
Marc Schneidkraut, P.E.  
Anellotech, Inc.

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Pearl River, NY 10965

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fx. 845 735 7799

## 4 Drum Spill Containment Pallet with Drain

### FOR FORKLIFT USE



Contains leaks and spills from 55-gallon drums.

- Outstanding corrosion resistance.
- Easy to handle with forklift.
- Non-skid, easy-to-clean removable grates.
- Chemical-resistant polyethylene.
- Meets EPA, SPCC and NPDES regulations.

Enlarge

| MODEL NO. | DESCRIPTION     | DIMENSIONS<br>L x W x H | LOAD CAP.<br>(lbs.) | SUMP<br>CAP. | WT.<br>(lbs.) | PRICE EACH |       | ADD TO CART |                                    |
|-----------|-----------------|-------------------------|---------------------|--------------|---------------|------------|-------|-------------|------------------------------------|
|           |                 |                         |                     |              |               | 1          | 3+    |             |                                    |
| H-4035    | 4-Drum w/ Drain | 49 x 49 x 11"           | 6,000               | 73 Gal.      | 77            | \$329      | \$309 | 1           | <input type="button" value="Add"/> |

SHIPS VIA MOTOR FREIGHT

Additional Info Small Page Request a Catalog

#### DIMENSIONS:

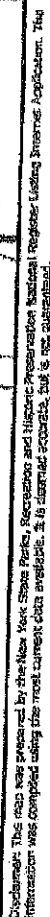
- Fork Pockets: 2 3/4 x 8 1/2" (H x W)
- Distance between holes: 15 1/4"

#### STYLE:

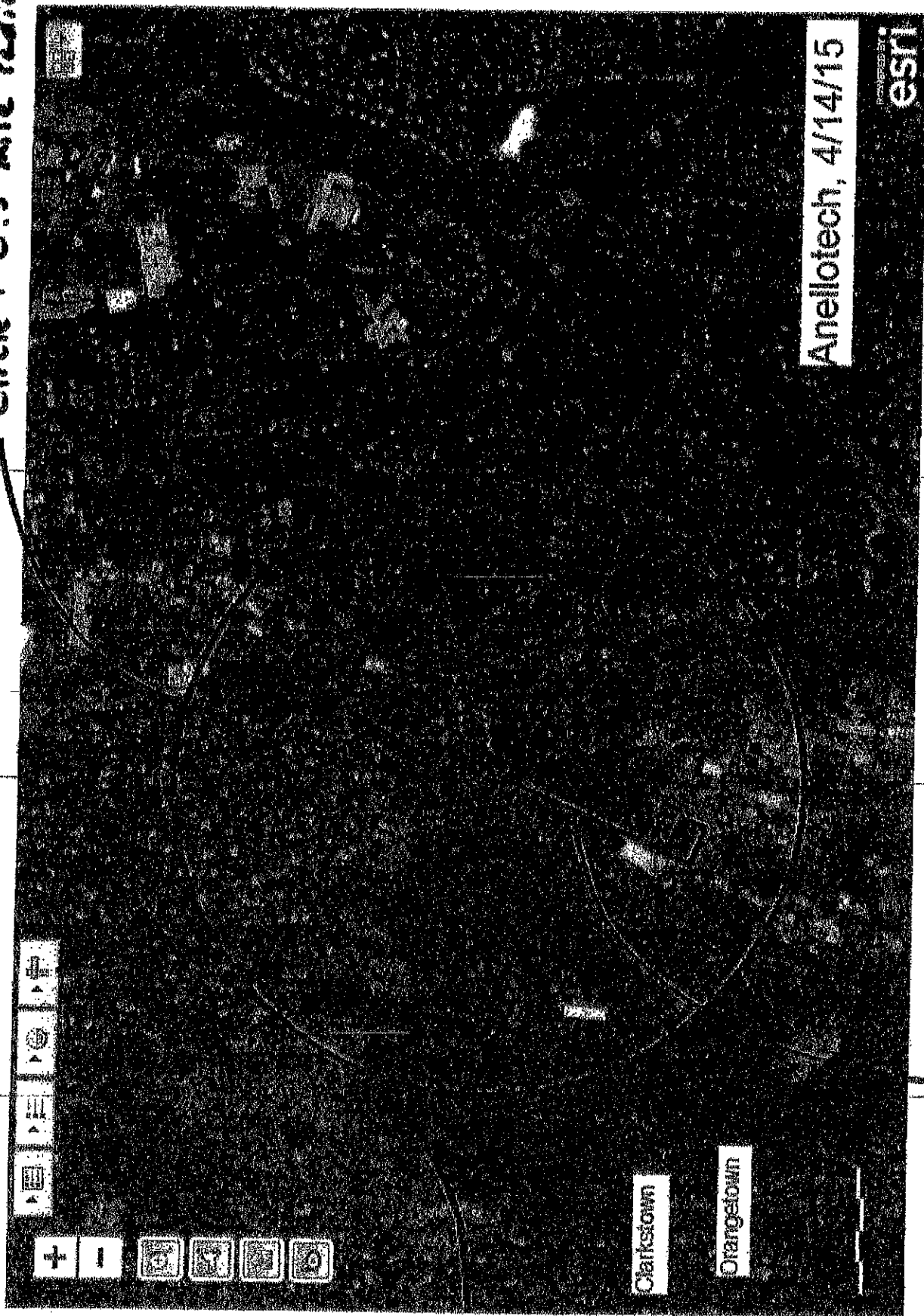
- Has 3/4" drain plug.

Availability: In Stock  
Unit Weight: 78 lbs.

Catalog Page 467



Circle : 0.5 mile radius



Approx Distance  
1,500 ft +

# Anellotech

Marc Schneidkraut, P.E.  
Anellotech, Inc.  
401 N. Middletown Road, Building 170A  
Pearl River, NY, 10965  
April 20, 2015

Mr. John Giardiello, P.E.  
Director  
Office of Building, Zoning, Planning, Administration & Enforcement (OBZPAE)  
Town of Orangetown Building Department  
20 Greenbush Road  
Orangeburg, New York, 10962

Dear Mr. Giardiello:

We spoke on April 15, 2015 to discuss Anellotech's recently submitted Full Environmental Assessment Form (FEAF) and relevant attachments. You asked for clarification on a few additional topics. Questions from a previous discussion on April 8, 2015 were addressed in a previously submitted letter (April 16, 2015). This letter and attachments address your additional questions.

1. Air Emissions (D.2.f. and D.2.g.)

D.2.f asks about potential sources of air emissions. D.2.g asks, "Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? Anellotech answered, "No" because Anellotech is not required to either register or apply for an emissions permit (consistent with the 1/15/15 letter from NYSDEC). If Anellotech were required to register or obtain a permit, we would be required to complete D.2.g.ii, which is a list of emissions. Anellotech is voluntarily disclosing this information to show that the emissions are well below the thresholds listed in Part II of the FEAF. Please keep in mind that the Anellotech values are a conservative value for maximum Potential to Emit.

There are three reasons why these are conservative estimates:

- Calculations assume that operations will be 24 hours per day, 7 days per week for 365 days per year (8,760 hours of operation).
  - In practice, operations will be less than the 8,760 hours per year.
  - Therefore, emissions will be less than the predicted values.
- Calculations assume that the facility will operate at its maximum conceivable rate.
  - In practice, the facility will operate at lower rates.
  - Therefore, emissions will be less than the predicted values.

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- Calculations assume that the destruction efficiency of Anellotech's Air Pollution control equipment is 98%.
  - Actual expected destruction efficiency is over 99.5%.
  - Therefore, emissions will be less than the predicted values.

The table below shows the threshold quantities and Anellotech's maximum potential to emit.

|                                                              | FEAF Part II<br>Threshold<br>(short tons/year) | Anellotech<br>(short tons/year) | Fraction of<br>Threshold (%) |
|--------------------------------------------------------------|------------------------------------------------|---------------------------------|------------------------------|
| Carbon Dioxide (CO <sub>2</sub> )                            | 1,000                                          | 212                             | 21%                          |
| Nitrous Oxide (N <sub>2</sub> O)                             | 3.5                                            | 0                               | -                            |
| Perfluorocarbons (PFCs)                                      | 1,000                                          | 0                               | -                            |
| Sulfur Hexafluoride (SF <sub>6</sub> )                       | 0.045                                          | 0                               | -                            |
| Carbon Dioxide equivalent<br>of Hydrofluorocarbons<br>(HFCs) | 1,000                                          | 0                               | -                            |
| Hazardous Air Pollutants<br>(HAPs)                           | 25                                             | 0.020                           | 0.08%                        |
| Methane*                                                     | 43                                             | 2                               | 5%                           |

\*Note: Methane is not asked about in Part I, D.2.g, but rather in D.2.h. We are showing this information here because it is asked about in the same Part II section as the other information shared above.

## 2. Odor (D.2.o)

D.2.o asks about the proposed action's potential to produce odors for more than one hour per day. As answered, "No". The topic of odor was also a part of the Performance Standards that Anellotech completed as part of the Orangetown Zoning Board of Appeals (ZBA) application and review process (Question #13). As you know, Performance Standards reviews must ensure that the facility can be carried on in such a manner that it will not create any issues (including odor) pursuant to Town Code section 4.1.

The Performance Standards address odors in Orangetown Town Code Section 4.1. The Code states, "No emission of odorous gases or other odorous matter in such quantities as to be offensive at the specified points of measurement." The Town Code mandates that odors be assessed "in LO, LIO and LI Districts at the boundary of the R or MFR District nearest the establishment in any direction..." The nearest boundary to an R District is approximately 1,000 feet away from the project area.

The Air Pollution Control equipment converts over 99.5% of the hydrocarbons into carbon dioxide (CO<sub>2</sub>) and water (H<sub>2</sub>O). Carbon dioxide and water are both odorless. The remaining components are all below the odor threshold vapor concentrations at the point of emission. These thresholds are set forth in Town Code Section 4.182, which cross references Table III (Odor Thresholds) in Chapter 5, Air Pollution Abatement Manual.

For example, in Table III (Odor Thresholds), the lowest listed vapor concentration for benzene is  $0.42 \times 10^{-1}$  ppm (vol.) (42 ppb). Per the 1/15/15 letter from NYSDEC, the highest projected concentration of benzene at the nearest resident is 0.019 ppb.

Comparing the concentration of 0.019 ppb to the threshold of 42 ppb, the estimated concentration is about 2,200 times below the odor threshold.

The concentration of any component in the vent stream is rapidly dissipated as the stream enters the atmosphere. Therefore, at the point of measurement mandated by the Code (property line) the odors will be even farther below the odor thresholds.

Please contact me if you have any questions.

Sincerely,

A handwritten signature in cursive script, appearing to read "Marc Schneidkraut".

Marc Schneidkraut, P.E.  
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