

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
) R 2025-24
POTENTIALLY INFECTIOUS MEDICAL)
WASTE: DESIGN AND OPERATION OF) (Rulemaking)
FACILITIES; PROPOSED AMENDMENT TO)
35 Ill. ADM. CODE 1422.APPENDIX A,)
TABLE B – INDICATOR MICROORGANISMS)

NOTICE

TO: Don A. Brown, Clerk	Carlie Leoni, Hearing Officer
Illinois Pollution Control Board	Illinois Pollution Control Board
60 E. Van Buren Street	60 E. Van Buren Street
Suite 630	Suite 630
Chicago, Illinois 60605	Chicago, Illinois 60605
(VIA ELECTRONIC MAIL)	(VIA ELECTRONIC MAIL)

See attached Service List

PLEASE TAKE NOTICE that I have today electronically filed with the Office of the Clerk of the Illinois Pollution Control Board Illinois Environmental Protection Agency's Pre-Filed Questions for BioSAFE Engineering, a copy of which are herewith served upon you along with this notice.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY

By: /s/ Trevor D. Dell'Aquila
Trevor D. Dell'Aquila
Assistant Counsel
Division of Legal Counsel

DATED: June 12, 2025

115 South LaSalle Street
Suite 2203
Chicago, Illinois 60603
312-832-0025
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**ILLINOIS ENVIRONMENTAL PROTECTION AGENCY’S PRE-FILED QUESTIONS
FOR BIOSAFE ENGINEERING**

Illinois Environmental Protection Agency’s (“IEPA” or “Agency”) Questions for BioSAFE Engineering (“BioSAFE” or “Proponent”) based upon its Pre-Filed Testimony of Brandon Ross on Behalf of BioSAFE (“Ross PFT”) and Pre-Filed Testimony of Daniel Nelson on Behalf of BioSAFE (“Nelson PFT”), submitted on May 22, 2025:

“Other states—including those with comparable environmental and health standards—have adopted *Bacillus atrophaeus* as a scientifically valid alternative for low-pressure steam validation. Our experience in those jurisdictions has been positive. *Bacillus atrophaeus* provides a reliable, appropriately resistant benchmark organism and allows for more accurate assessments of system performance.” Ross PFT at 2. “Approval of *Bacillus atrophaeus* as an additional indicator organism would also improve validation accuracy for technologies like ours that are specifically designed for lower-pressure, lower-temperature inactivation—without compromising the health or safety of the public.” Ross PFT at 3.

“Low-pressure alkaline hydrolysis systems operate at lower temperatures and pressures compared to high-pressure units or traditional technologies like incinerators and autoclaves. These conditions are sufficient to achieve complete tissue breakdown and microbial inactivation, while avoiding the production of hazardous byproducts.” Nelson PFT at 2. “Across many jurisdictions, *Bacillus atrophaeus* is recognized as a suitable indicator organism for validating low-pressure systems. It offers a reliable resistance profile and aligns with the physical parameters under which these systems operate—parameters where organisms like *Geobacillus stearothermophilus* may be unnecessarily restrictive.” Nelson PFT at 3.

1. Would the Proponent be willing to clarify that the use of *Bacillus atrophaeus* be limited specifically to low pressure/low temperature destruction method?
2. Please also clarify the specific conditions that qualify as low pressure/low temperature destruction.

“*Geobacillus stearothermophilus*, one of the currently approved organisms, often overestimates the required treatment intensity for low-pressure systems. This mismatch can create false negatives in validation testing, leading to unnecessary system design changes or rejection of safe, effective technologies.” Ross PFT at 2.

3. If *Geobacillus stearothermophilus* overestimates the required treatment intensity for low pressure systems, thereby creating false negatives in validation testing, can the opposite be realized where the use of this microorganism, for systems that are not low pressure/temperature, allow for false positives?

Respectfully submitted,

ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY

By: /s/ Trevor D. Dell'Aquila
Trevor D. Dell'Aquila
Assistant Counsel
Division of Legal Counsel

DATED: June 12, 2025

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CERTIFICATE OF SERVICE

I, the undersigned, an attorney, state the following:

I have served the attached Illinois Environmental Protection Agency's Pre-Filed Questions for Biosafe Engineering upon the following:

See attached Service List

I affirm that my e-mail address is trevor.dellaquila@illinois.gov; the number of pages in the e-mail transmission is 5; and the e-mail transmission took place before 5:00 p.m. on June 12, 2025.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY

By: /s/ Trevor D. Dell'Aquila
Trevor D. Dell'Aquila
Assistant Counsel
Division of Legal Counsel

DATED: June 12, 2025

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Chicago, Illinois 60603
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SERVICE LIST

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Illinois Department of Natural Resources Renee Snow General Counsel Office of Legal Services One Natural Resource Way Springfield, Illinois 62702 renee.snow@illinois.gov	Office of the Illinois Attorney General Environmental Bureau 69 West Washington Street Suite 1800 Chicago, Illinois 60602 enviro@ilag.gov