

APPENDICES

Appendix A1: Materials Shared with Small Entity Representatives for the Pre-Panel Outreach Meeting held on May 2, 2023

Appendix A2: Materials Shared with Small Entity Representatives for the Panel Outreach Meeting held on July 17, 2023

Appendix B1: Written Comments Submitted by Small Entity Representatives following the May 2, 2023 Pre-Panel Outreach Meeting

Appendix B2: Written Comments Submitted by Small Entity Representatives following the July 17, 2023 Panel Outreach Meeting

Appendix A1: Materials Shared with Small Entity Representatives for the Pre-Panel Outreach Meeting held on May 2, 2023

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Pre-Panel Meeting Agenda

EPA's SBAR Pre-Panel Outreach Meeting with Small Entity Representatives on Proposed Amendments to the Meat and Poultry Products Effluent Limitations Guidelines Rulemaking

May 2, 2023, 1:00pm-3:30pm, Eastern time zone

Agenda

- 1:00 Welcome and Opening Remarks
- Bill Nickerson (EPA Small Business Advocacy Chair (SBAC) / Office of Policy)
 - Rob Wood (Director, Engineering and Analysis Division, EPA Office of Water)
 - David Rostker (Small Business Administration, Office of Advocacy)
 - Steph Tatham (Office of Management and Budget, Office of Information and Regulatory Affairs)
- 1:15 SER Introductions
- 1:25 Presentation on Panel process (Bill Nickerson, EPA SBAC)
- 1:35 Presentation on Proposed Amendments to Meat and Poultry Products Effluent Limitations Guidelines Rulemaking (Office of Water)
- 2:05 Discussion Proposed Amendments to the Meat and Poultry Products Effluent Limitations Guidelines Rulemaking
- 2:40 Break
- 2:50 Discussion (continued)
- 3:15 Closing session
- Closing remarks from EPA, SBA, and OMB
 - Wrap up and next steps (what to expect next)
- 3:30 Adjourn

SBAR Panel Process Presentation

An Overview of the Small Business Advocacy Review (SBAR) Panel Process

May 2023



Bill Nickerson, EPA's Small Business Advocacy Chair
Office of Regulatory Policy and Management
Office of Policy

Why does EPA convene an SBAR Panel?

The Regulatory Flexibility Act (RFA) as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA), requires agencies to:

“assure that small entities have been given an **opportunity to participate** in the rulemaking process” for any rule “which will have a **significant economic impact** on a substantial number of small entities.”

What is an SBAR Panel?

An EPA Small Business Advocacy Review (SBAR) Panel is made up of **four** managers from **three** federal agencies:



- EPA's Small Business Advocacy **Chair** (EPA's SBAC is from OP)
- A **manager** from the EPA program responsible for writing the rule



- The Small Business Administration's **Chief Counsel** for Advocacy



- The **Administrator** of the Office of Management and Budget's (OMB's) Office of Information and Regulatory Affairs (OIRA)

What does an SBAR Panel do?

The RFA tasks the Panel with **reviewing the material** the Agency has available concerning the rulemaking, and **collecting advice and recommendations** from small entity representatives (SERs) on issues related to the following **four** elements:

- Who are the small entities to which the proposed rule will apply?
- What are the anticipated compliance requirements of the upcoming proposed rule?
- Are there any existing federal rules that may overlap or conflict with the regulation?
- Are there any significant regulatory alternatives that could minimize the impact on small entities?

SERs Participation in the Pre-panel and Panel process

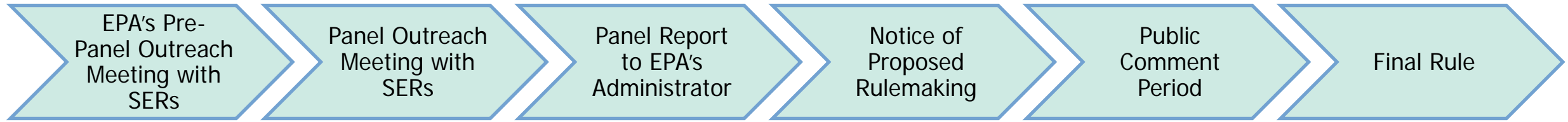
SERs are invited to 2 meetings: **Pre-panel Outreach** meeting and **Panel Outreach** meeting

- At each meeting, SERs participate in the discussion about how the rule might impact them and provide suggestions about how to minimize that impact.
- Panel Outreach meeting will focus on further refining SER advice and recommendations from the Pre-panel Outreach

SERs are invited to supplement the verbal meeting discussions with **written comments** (due 2 weeks after each meeting)

SER FAQ webpage <https://www.epa.gov/reg-flex/frequent-questions-small-entities>^{A1-9}

Where does the Panel process fit within the rulemaking process?



It is EPA's goal to host SBAR Panels well **before a proposed rule** is written so there is adequate time to incorporate Panel recommendations into senior management decision-making about the proposed rule

SER participation in the Pre-panel and Panel Outreach meetings **does not preclude** or take the place of participation in the normal public comment period at the time the rule is proposed

What does the Panel do with the information, advice, and recommendations from SERs?

The Panel prepares a Panel Report

- SER comments are **summarized**, and written comments are included as an appendix
- SER information, advice, and recommendations are **synthesized** into a set of Panel recommendations
- **Submitted** to the EPA Administrator
- Considered during senior-management decision-making **prior** to the issuance of the proposed rule
- Placed in the **rule's docket** when the proposed rule is published

Thank You

We realize that small entities make significant sacrifices to participate in this process

Thank you for taking time and effort away from your business or organization to assist the Panel in this important work

Contact Information for SBAC Staff

Lanelle Wiggins, RFA/SBREFEA Team Leader

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Pre-Panel Rulemaking Presentation

Meat & Poultry Products Effluent Limitations Guidelines Rulemaking SBREFA Pre-Panel Outreach

May 2, 2023



Overview

- **Background**
- **Applicable Small Entity Definitions**
- **Small Entities Potentially Subject to Regulation**
- **Rulemaking Scope**
- **Wastewater Treatment Option Development**
- **Potential Economic Impact on Small Entities**
- **Questions and Next Steps**

Key Terms Used in this Briefing

- **Effluent Limitations** – Discharge standards, typically expressed as numeric pollutant limits (e.g., 10 mg/L of Nitrogen). May also include “non-numeric” requirements such as management practices or process changes to reduce pollution (pollution prevention)
- **Direct Discharger** – An industrial facility that discharges industrial process wastewater directly to a surface water
- **Publicly Owned Treatment Works (POTW)** – A municipal wastewater treatment plant that treats domestic waste (sewage) along with any industrial wastewaters that are discharged to the collection system
- **Indirect Discharger** – An industrial facility that introduces pollutants into a POTW from any non-domestic source regulated under section 307(b), (c) or (d) of the Act.
- **Pretreatment Standards** – Effluent limitations that apply to indirect discharging facilities
- **Conventional Pollutants** – Oil and grease, total suspended solids (TSS), biochemical oxygen demand (BOD), and fecal coliform
- **Nutrients** – Various forms of nitrogen and phosphorus

Background: Effluent Limitations Guidelines (ELGs)

- ELGs are national standards developed under the Clean Water Act (CWA) that apply to industrial wastewater discharges
 - These standards are based on available treatment technology and pollution control measures
 - The technology selected must be economically achievable for the industry as a whole
- ELG pollutant limits are incorporated into National Pollutant Discharge Elimination System (NPDES) and pretreatment permits
 - NPDES permits provide pollutant-specific limits that direct dischargers are required to meet before sending their wastewater to a surface water
 - Pretreatment permits provide pollutant-specific limits that indirect dischargers are required to meet before sending their wastewater to a publicly owned treatment works (POTWs). There are currently no industry specific pretreatment standards for the MPP industry

Background: Meat and Poultry Products ELG

- The original MPP ELGs rule was issued in 1974
- The MPP ELGs were last revised in 2004
- In September 2021 (Preliminary Effluent Guidelines Program Plan 15), EPA announced a rulemaking to revise the existing discharge standards for the meat and poultry products industry

MPP Questionnaire – Thank you!

- All facilities should have received a questionnaire
 - Census or detailed
- Questionnaire status
 - Received about 2,800 short (census) questionnaires
 - Received about 830 detailed questionnaires
- Reviewing response data and following up for clarification
- Response data is used in the engineering, environmental, and economic analyses

Small Entity Definitions

NAICS	Industry Description	Monthly Average # of Full/Part time Employees over last 24 months*
311611	Animal (except Poultry) Slaughtering	1,000
311612	Meat Processed from Carcasses	1,000
311613	Rendering and Meat Byproduct Processing	750
311615	Poultry Processing	1,250

The definitions of small entities for the MPP industry are listed in SBA's regulations at 13 CFR 121.201 (SBA's method of calculation can be found in 13 CFR 121.106). The SBA definitions for small businesses vary by NAICS category and are regularly updated.

Small Entities Potentially Subject to Revisions

NAICS	Industry Description	Number of Small Firms with in-scope facilities (preliminary analysis)	Number of Large Firms with in-scope facilities (preliminary analysis)
311611	Animal (except Poultry) Slaughtering	469	18
311612	Meat Processed from Carcasses	592	12
311613	Rendering and Meat Byproduct Processing	33	3
311615	Poultry Processing	276	23
	Other	362	75
	Total	1732	131

Consultation with Small Entity Representatives

- EPA is interested in information, advice, and recommendations from the small entity representatives (SERs)
- This information will be used to develop a regulatory flexibility analysis, which becomes part of the record for the potential regulation
- For rules that may have a significant economic impact on a substantial number of small entities, the Regulatory Flexibility Act (RFA) requires agencies to evaluate regulatory alternatives that may minimize the burden on small entities expected to be regulated.
- Your feedback can help shape selection of regulatory alternatives

Consideration of Regulatory Alternatives

- The RFA notes that the regulatory alternatives must be consistent with the stated objectives of applicable statutes (i.e., the Clean Water Act (CWA)), and suggests significant alternatives such as:
 - the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities
 - the clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities;
 - the use of performance rather than design standards; and
 - an exemption from coverage of the rule, or any part thereof, for such small entities.

CWA 301(b) and 304(b) – Statutory Factors for Revising ELGs:

- The industry processes, raw materials, products, and byproducts
- Locations, age of equipment and plant size
- Types and amounts of pollutants discharged
- Control technology performance and cost
- Financial status of the industry
- Impacts of the regulations on other media such as air pollution and solid waste (sludge disposal)

Current ELG Applies To Direct Dischargers Only

Subparts	Facility Type	Facility Size	# of facilities	Currently Regulated Pollutants
A – D	Meat Slaughterhouses and Packinghouses	>50M lb/yr	39	Conventional, Ammonia, Total Nitrogen
		<50M lb/yr	13	Conventional
E	Small Processors of finished meat products	<6000 lb/day	18	Conventional
F - I	Meat Cutters, sausage & luncheon meats, ham, and canned meat processors	>50M lb/yr	20	Conventional, Ammonia, Total Nitrogen
		<50M lb/yr	14	Conventional, Ammonia
J	Renderers*	>10M lb/yr	19	Conventional, Ammonia, Total Nitrogen
K	Poultry First Processors**	>100M lb/yr	79	Conventional, Ammonia, Total Nitrogen
L	Poultry Further Processors***	>7M lb/yr	1	Conventional, Ammonia, Total Nitrogen

Conventional Pollutants = BOD, Fecal Coliform, Oil & Grease, Total Suspended Solids

*Renderers processing <10M lb/yr are not subject to ELGs. Estimate there are 4 such direct discharge facilities.

Existing Poultry First processors processing <100M lb/yr are not subject to ELGs. Estimate there are 4 direct discharge facilities.*Existing Poultry Further processors processing <7M lb/yr are not subject to ELGs. Estimate there are no direct discharge facilities.

Rulemaking Scope: Potential Revisions to the ELG

1. Update nutrient effluent limits for nitrogen (TN) and phosphorus (TP) - Part of EPA's strategy to reduce nutrient discharges to the nation's waters
2. Evaluate and consider setting effluent limits for other pollutants including: conventionals and chlorides
3. Add pretreatment standards for facilities that discharge to POTWs. Considering: conventionals, nitrogen, phosphorus, chlorides
4. Revise production size thresholds and subcategories

Wastewater Treatment Options Development

- **Considerations for Direct Dischargers to update limits to reflect current technology:**
 - Phosphorus removal
 - More complete denitrification to reduce TN
 - Chlorides removal
 - *E. coli*
- **Considerations for Indirect Dischargers to protect POTWs from passthrough and interference:**
 - Screening, oil and grease removal, and equalization
 - Phosphorus removal
 - Nitrogen removal including denitrification to address nitrate
 - Chlorides removal
 - Conditional limits to allow off-ramp from pretreatment standards for nutrients where POTW already removing nutrients.
 - Reduces costs for indirect dischargers and eliminates redundant treatment

Example Treatment Technologies

- **Pretreatment** - Screens, grit removal, DAF
- **Anaerobic lagoon**
- **Bio = Biological treatment with Nitrification/Denitrification**
 - Activated sludge
 - Anoxic, aerobic basins (4-5 stage or SBR)
 - Secondary clarifier
- **Solids** - Belt filter press, gravity thickening, hauling and landfilling
- **Phosphorus Removal** - Alum or ferric chloride chemical addition
- **Disinfection** - Chlorination/dechlorination
- **Chlorides for specific waste streams** - evaporation, haul off-site, deep-well injection

Facilities may comply with effluent limits using any technologies they choose.

Economic Analysis: Data Sources

- 2022 MPP Detailed and Census questionnaires
- Hoovers Dun & Bradstreet - estimates for revenue and employment
- Economic census data
- USDA-Food Safety and Inspection Service (FSIS) data
 - Facility employment information
 - Facility production information
- USDA-Economic Research Service (ERS) data
 - Meat and poultry prices
 - Sales volumes
 - Market trends

Economic Analysis

- **The Economic Analysis will assess:**
 - Facility-level Impacts
 - Firm-level Impacts
 - Market-level Impacts
 - Societal Benefits
- **Considerations for the analysis:**
 - Potential revisions to the ELGs may expand regulations to cover small facilities and indirect dischargers, which may impact small entities.
 - This emphasizes the importance of Regulatory Flexibility Analysis requirements to consider impacts to small businesses.

Example: Indirect Meat Slaughterhouse

- Beef slaughter, 30 million lbs/yr, discharges to POTW
- Not currently covered by the MPP ELGs
- Treatment in Place (TIP): Pretreatment

***Other:** Capital - site prep, engineering, contingency, etc.
Annual – auxiliary functions, lab/admin staff, etc

Capital Costs						
	Pretreatment	Anaerobic Lagoon	Bio	Chem P Removal	Solids	Other*
Add C	\$0	\$0	\$0	\$0	\$0	\$0
Add C, N, P	\$0	\$52,000	\$720,000	\$22,000	\$1,090,000	\$800,000

Annual O&M Costs							
	Pretreatment	Anaerobic Lagoon	Bio	Chem P Removal	Solids	Other*	Monitoring
Add C	\$0	\$0	\$0	\$0	\$0	\$0	\$6,000
Add C, N, P	\$0	\$10,000	\$230,000	\$40,000	\$79,000	\$44,000	\$110,000

Example: Indirect Poultry Slaughterhouse

- Poultry slaughter, 42 million lbs/yr, discharges to POTW
- Not currently covered by the MPP ELGs
- TIP: Pretreatment

Capital Costs						
	Pretreatment	Anaerobic Lagoon	Bio	Chem P Removal	Solids	Other
Add C	\$0	\$0	\$0	\$0	\$0	\$0
Add C, N, P	\$0	\$110,000	\$1,370,000	\$22,000	\$1,100,000	\$1,120,000

Annual O&M Costs							
	Pretreatment	Anaerobic Lagoon	Bio	Chem P Removal	Solids	Other	Monitoring
Add C	\$0	\$0	\$0	\$0	\$0	\$0	\$6,000
Add C, N, P	\$0	\$10,000	\$302,000	\$29,000	\$192,000	\$64,000	\$110,000

Example: Indirect Meat Further Processor

- Beef deboning/marinating, 25 million lbs/yr, discharges to POTW
- Not currently covered by the MPP ELGs
- TIP: Pretreatment

Capital Costs						
	Pretreatment	Anaerobic Lagoon	Bio	Chem P Removal	Solids	Other
Add C	\$0	\$0	\$0	\$0	\$0	\$0
Add C, N, P	\$0	\$26,000	\$428,000	\$22,000	\$1,160,000	\$705,000

Annual O&M Costs							
	Pretreatment	Anaerobic Lagoon	Bio	Chem P Removal	Solids	Other	Monitoring
Add C	\$0	\$0	\$0	\$0	\$0	\$0	\$6,000
Add C, N, P	\$0	\$6,000	\$142,000	\$43,000	\$70,000	\$31,000	\$110,000

Example: Indirect Renderer

- Beef and chicken rendering, 60 million lbs/yr, discharges to POTW
- Not currently covered by the MPP ELGs
- TIP: Pretreatment

Capital Costs						
	Pretreatment	Anaerobic Lagoon	Bio	Chem P Removal	Solids	Other
Add C	\$0	\$0	\$0	\$0	\$0	\$0
Add C, N, P	\$0	\$88,000	\$2,000,000	\$22,000	\$995,000	\$1,340,000

Annual O&M Costs							
	Pretreatment	Anaerobic Lagoon	Bio	Chem P Removal	Solids	Other	Monitoring
Add C	\$0	\$0	\$0	\$0	\$0	\$0	\$6,000
Add C, N, P	\$0	\$10,000	\$403,000	\$38,000	\$154,000	\$54,000	\$110,000

Example: Direct Poultry Slaughterhouse

- Chicken slaughter and cutting/seasoning, 190 million lbs/yr, discharges to river
- 40 CFR 432 subpart K and L
- TIP: Pretreatment, BOD removal, nitrification, partial denitrification, disinfection

Capital Costs

	Pretreatment	Anaerobic Lagoon	Bio	Chem P Removal	Solids	Other
Add partial N, P	\$0	\$0	\$0	\$94,000	\$0	\$41,000
Add full N, P	\$0	\$225,000	\$1,290,000	\$22,000	\$1,380,000	\$1,270,000

Annual O&M Costs

	Pretreatment	Anaerobic Lagoon	Bio	Chem P Removal	Solids	Other	Monitoring
Add partial N, P	\$0	\$0	\$0	\$31,000	\$0	\$3,000	\$6,000
Add total N, P	\$0	\$16,000	\$457,000	\$45,000	\$256,000	\$92,000	\$110,000

Implementation schedule

- Existing Direct dischargers limits will be implemented as permits are renewed according to their 5-year permitting cycle.
- Existing Indirect dischargers must comply with pretreatment standards no later than 3 years after the final rule is published.
 - Required to submit to the Control Authority a report which contains the information listed in paragraphs 40 CFR 403.12 (b)(1)-(7) within 180 days after the effective date of a categorical Pretreatment Standard
- New Facilities/Sources (direct and indirect dischargers) must comply with the limitations and standards on the date they begin discharging after promulgation of the rule.
 - New Sources shall be required to submit to the Control Authority a report which contains the information listed in paragraphs 40 CFR 403.12 (b)(1)-(5) at least 90 days prior to commencement of discharge.

Outreach and Schedule

- Small Business Regulatory Enforcement Fairness Act
 - Sent news releases Jan. 18 requesting small entity representative volunteers
 - Pre-Panel meeting May 2023
 - Formal Panel meeting June 2023
- Proposed Rule: December 2023

Questions for Small Entity Representatives

- How may proposed amendments affect your business?
 - Revised limits; new limits on additional pollutants
 - Pretreatment Standards
- What recommendations do you have for small business flexibilities to reduce burden?
- Do you anticipate any unique legal, administrative, or recordkeeping burdens associated with this action? Any issues not addressed?
- Are there other federal regulations that apply to small entities that may overlap with this EPA action?
- Any other feedback for EPA on the MPP ELG

*This information will be used to develop a regulatory flexibility analysis, which becomes part of the record for the potential regulation

Closing Session

- Closing remarks from EPA, SBA, and OMB
- Next Steps:
 - Written comments submitted to Lanelle Wiggins by May 16, 2023

Contact Information

EPA SBAR Contact: Lanelle Wiggins (Wiggins.Lanelle@epa.gov)
EPA MPP Contact(s): Steve Whitlock (Whitlock.Steve@epa.gov)
Erica Mason (Mason.Erica@epa.gov)
Todd Doley (Doley.Todd@epa.gov)
SBA Advocacy: Dave Rostker (David.Rostker@sba.gov)
OMB OIRA: Steph Tatham (Stephanie.J.Tatham@omb.eop.gov)

Pre-Panel Questions for SERs

Pre-Panel Outreach Small Entity Representative (SER) Questions for Discussion on the Meat and Poultry Products Effluent Limitations Guidelines Rulemaking

The input and feedback EPA receives will be used to inform the Small Business Advocacy Review (SBAR) Panel Outreach meeting materials. The input will also be used to inform proposed amendments to the Meat and Poultry Products Effluent Limitations Guidelines (MPP ELGs).

For rules that may have a significant economic impact on a substantial number of small entities, the Regulatory Flexibility Act (RFA) requires agencies to evaluate regulatory alternatives that may minimize the burden on small entities expected to be regulated. The RFA notes that the regulatory alternatives must be consistent with the stated objectives of applicable statutes (i.e., the Clean Water Act (CWA)), and suggests significant alternatives such as:

- the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities;
- the clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities;
- the use of performance rather than design standards; and
- an exemption from coverage of the rule, or any part thereof, for such small entities.

To that end, these informal questions on your work practices and your experiences with meat and poultry processing operations are aimed at guiding our discussion today, and your later written feedback, towards ideas for minimizing the economic impact on your business while remaining within the constraints of the CWA. We are not seeking a structured response on each question; rather, we are interested in any feedback or details you can provide, and hope that these questions let you know what type of information would be most useful as we consider advice from the small entity representatives concerning this proposed action.

If you are interested in providing this or other information in writing, please see the contact information below.

We ask that you refrain from providing Confidential Business information (CBI) during the discussion or in email to EPA. If you choose to provide CBI, we will provide special instructions.

Contact Information:

Lanelle Wiggins
Office of Regulatory Policy and Management
Office of Policy
Phone: (202) 566-2372
E-mail: wiggins.lanelle@epa.gov

Overarching Topics

1. How do you anticipate any proposed amendments to the MPP ELG would affect your business? For example, would it impact the service you provide, require the hiring of additional staff, require process changes, or require the purchase and installation of new equipment?
2. What recommendations do you have for small business flexibilities that may reduce burden? In what way can these flexibilities be structured to better aid small entities in reducing potential burdens? Are there any specific flexibilities that would help your business?
3. What are the characteristics of a small business in your industry that make it different from a large business?
4. Is there any information that would improve EPA's understanding of the number of small entities that may be affected by this proposed rulemaking?
5. Do you anticipate any significant issues or circumstances not addressed in the materials provided?
6. Do you have any other feedback for EPA related to MPP ELG?

Meat and Poultry Products Industry

1. How would an amended ELG impact investments and new projects?
2. Are there any sector-unique business or competitive issues that EPA should understand? Are there any specific business or competitive issues associated with your business?
3. How often do you currently conduct wastewater sampling at your facility?
 - a. What is the cost of the analysis per sample (including lab and labor)?
 - b. What pollutants do you currently sample?
4. Are there any production or processing operations that are unique to small businesses that EPA should consider as it develops the proposed rule?

Pretreatment Standards

1. Do you discharge wastewater to a POTW? Do you have a pretreatment permit or control agreement?
 - a. What pollutants does the POTW require your facility to monitor?
 - b. Does the POTW require management practices, such as segregation of waste streams or use of pollution prevention best management practices to limit discharge of pollutants to the POTW?
2. Do you have concerns with how pretreatment standards may affect your relationship with the POTW? For example, costs or new or updated permits?
3. Are there any constraints unique to small entities, such as available space at your facility, that may present challenges to installing wastewater treatment technologies?
4. What flexibilities would you recommend that EPA consider when developing pretreatment standards for small MPP facilities?
5. Are there specific production thresholds or wastewater flow thresholds that EPA should consider when developing pretreatment standards for MPP facilities to minimize impacts to small entities?

Reporting and Recordkeeping

1. What recommendations do you have for reducing the recordkeeping and reporting burden on small businesses?
2. Do you anticipate any unique legal, administrative, or recordkeeping burdens associated with compliance with the proposed action?

Other Federal Regulations

1. Are there regulations from other federal agencies that apply to small entities that may overlap with this EPA action? Do you have suggestions on how to minimize conflicting requirements?

Appendix A2: Materials Shared with Small Entity Representatives for the Panel Outreach Meeting held on July 17, 2023

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Agenda

**SBAR Panel Outreach Meeting with Small Entity Representatives for
EPA’s Upcoming Proposed Rulemaking,
“Meat & Poultry Products Effluent Limitations Guidelines”**

Monday, July 17, 2023 – 1:00 pm to 3:00 pm (Eastern)

AGENDA

1:00 Welcome and Introductions

- Introductory Remarks
 - [Bill Nickerson](#), *EPA’s Small Business Advocacy Chair, Office of Policy (OP)*
 - [Rob Wood](#), *Director, Engineering and Analysis Division, EPA’s Office of Water (OW)*
 - [Nick Goldstein](#), *Office of Advocacy, Small Business Administration (SBA)*
 - [Steph Tatham](#), *Office of Information and Regulatory Affairs (OIRA), Office of Management and Budget (OMB)*
- Roll Call of SERs – [Lanelle Wiggins](#), *EPA’s RFA Team Leader, OP*

1:20 Presentation on Rulemaking – [Erica Mason](#), *Engineering and Analysis Division, OW*

1:45 Discussion/Consultation with SERs – [All](#)

2:45 Closing Remarks and Next Steps

- Closing Remarks
 - EPA: [Bill Nickerson](#), [Rob Wood](#)
 - SBA: [Nick Goldstein](#)
 - OMB: [Steph Tatham](#)
- Next Steps and Reminders – [Lanelle Wiggins](#)

3:00 Adjourn

Rule Presentation

Meat & Poultry Products Effluent Limitations Guidelines Rulemaking SBREFA Formal Panel Meeting

July 17, 2023



Overview

- **Background**
- **Applicable Small Entity Definitions**
- **Small Entities Potentially Subject to Regulation**
- **Rulemaking Scope**
- **Wastewater Treatment Option Development**
- **Potential Economic Impact on Small Entities**
- **Questions and Next Steps**

Key Terms Used in this Briefing

- **Effluent Limitations** – Discharge standards, typically expressed as numeric pollutant limits (e.g., 10 mg/L of Nitrogen). May also include “non-numeric” requirements such as management practices or process changes to reduce pollution (pollution prevention)
- **Direct Discharger** – An industrial facility that discharges industrial process wastewater directly to a surface water
- **Publicly Owned Treatment Works (POTW)** – A municipal wastewater treatment plant that treats domestic waste (sewage) along with any industrial wastewaters that are discharged to the collection system
- **Indirect Discharger** – An industrial facility that introduces pollutants into a POTW from any non-domestic source regulated under section 307(b), (c) or (d) of the Act.
- **Pretreatment Standards** – Effluent limitations that apply to indirect discharging facilities
- **Conventional Pollutants** – Oil and grease, total suspended solids (TSS), biochemical oxygen demand (BOD), and fecal coliform
- **Nutrients** – Various forms of nitrogen and phosphorus

Background Terms

- **Pretreatment** – Treatment technologies that may include screens, oil and grease traps, equalization, DAF. Used to remove grit, large solids, oil and grease.
- **Dissolved Air Flotation (DAF)** – Wastewater clarification process, often used in pretreatment to remove oil and grease and solids. Air bubbles released in the treatment unit attach to oils and solids, bringing them to the surface where they are skimmed off.
- **Anaerobic Lagoon** – A lagoon or basin that undergoes anaerobic digestion, where organic matter is broken down by bacteria without oxygen. Wastewater stays in the lagoon for days to months before continuing to the next treatment stage. Solids settle at the bottom and eventually need to be dredged.
- **Biological Treatment** – Organic matter is broken down by bacteria. Contaminants are destroyed or removed, leaving cleaner water. Biomass will need to be removed. May include aerobic and anaerobic basins.
- **Nitrification** – Reduced nitrogen compounds are oxidized to nitrite and nitrate by autotrophic nitrifying bacteria.
- **Denitrification** – Nitrates are reduced to gaseous nitrogen with anaerobes.
- **Gravity Thickener/Belt Filter Press** – Technologies used to condense biosolids/remove water to produce a more concentrated solid product. Used to reduce the amount of sludge.

Background Terms

- **In-Scope** – Facilities in the MPP industry that discharge wastewater and may be regulated by the current or revised MPP ELGs.
- **Out-of-Scope** – Facilities that are not regulated by the current MPP ELGs and are not going to be regulated by proposed changes to the MPP ELGs. For example, facilities that do not discharge wastewater are out-of-scope. Facilities that have closed are out-of-scope.
- **Firm** – A business that may include one or more facilities.

Background: Effluent Limitations Guidelines (ELGs)

- ELGs are national standards developed under the Clean Water Act (CWA) that apply to industrial wastewater discharges
 - These standards are based on available treatment technology and pollution control measures
 - The technology selected must be economically achievable for the industry as a whole
- ELG pollutant limits are incorporated into National Pollutant Discharge Elimination System (NPDES) and pretreatment permits
 - NPDES permits provide pollutant-specific limits that direct dischargers are required to meet before sending their wastewater to a surface water
 - Pretreatment permits provide pollutant-specific limits that indirect dischargers are required to meet before sending their wastewater to a publicly owned treatment works (POTWs). There are currently no industry specific pretreatment standards for the MPP industry

Background: Meat and Poultry Products ELG

- The original MPP ELGs rule was issued in 1974 and they were last revised in 2004
- There are about 5,300 MPP facilities that generate wastewater
 - 180 facilities have NPDES permits and discharge wastewater directly to receiving waters
 - 5,100 facilities indirectly discharge wastewater via POTWs or have no discharge
- The current MPP ELGs
 - Apply only to large, direct dischargers
 - Do not have limits for phosphorus
 - Are not based on the most stringent technologies available for removing nutrients

Background: Meat and Poultry Products ELG

- In 2019 as part of effluent guidelines preliminary plan 14, EPA published results of its cross-cutting review of nutrients in industrial wastewater, where EPA showed that MPP direct discharge effluents contained the highest phosphorus loads and the fifth highest nitrogen loads of all the industrial point source categories.
- In 2020, EPA announced a detailed study of the MPP industry and found:
 - There are existing, affordable technologies that can reduce nutrient concentrations in MPP wastewater
 - Pretreatment standards may be needed as publicly available data shows pollutants from MPP facilities may passthrough and cause interference for some POTWs
- In September 2021 (Preliminary Effluent Guidelines Program Plan 15), EPA announced a rulemaking to revise the existing discharge standards for the meat and poultry products industry

Pollutants and Environmental Impact (Context)

- Excess nutrients contribute to harmful algal blooms and areas of low oxygen (“dead zones”).
- Nitrates contaminate waters used as sources for drinking water and recreation while negatively impacting farming and ranching uses, aquatic life, and ecosystem health.
- 58% of the nation’s rivers and streams and 45% of our lakes have excess levels of phosphorus.
- 43% of the nation’s rivers and streams and 46% of our lakes have excess levels of nitrogen.
- Communities near MPP facilities are likely to experience multiple environmental stressors, and in these communities, minority and low-income percentiles exceed U.S. averages.

MPP Indirect Dischargers and POTWs

- Nationally, POTWs are not required to treat wastewater for nutrients. Nutrients from MPP facilities passthrough to the environment
- Some POTWs have no pretreatment programs for Industrial Users
- An initial analysis of 100+ POTWs found 73% of the POTWs receiving MPP wastewater have violation(s) for pollutants found in MPP wastewater including: conventional pollutants, nutrients, and chlorides
 - 33 U.S. Code § 1317 (b) (1) Pretreatment standards shall be established to prevent the discharge of any pollutant through treatment works which are publicly owned, which pollutant interferes with, passes through, or otherwise is incompatible with such works.
 - 40 CFR 403.3 (p) Pass Through means a Discharge which exits the POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit

Current ELG (direct dischargers)

Subparts	Facility Type	Facility Size lb/yr production	# of Facilities	Currently Regulated Pollutants
A – D	Meat Slaughterhouses and Packinghouses	>50M lb/yr	39	Conventional, Ammonia, Total Nitrogen
		<50M lb/yr	13	Conventional
E	Small Processors of finished meat products	<6000 lb/day	18	Conventional
F - I	Meat further processors	>50M lb/yr	20	Conventional, Ammonia, Total Nitrogen
		<50M lb/yr	14	Conventional, Ammonia
J	Renderers	>10M lb/yr	19	Conventional, Ammonia, Total Nitrogen
K	Poultry First Processors	>100M lb/yr	79	Conventional, Ammonia, Total Nitrogen
L	Poultry Further Processors	>7M lb/yr	1	Conventional, Ammonia, Total Nitrogen

Current General Pretreatment Regulations (indirect dischargers)

Subparts	Facility Type	Facility Size lb/yr production	Prohibitions	Currently Regulated Pollutants
All	All	All	General	A User may not introduce into a POTW any pollutant(s) which cause Pass Through or Interference.
			Specific	Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW resulting in Interference
				Any pollutant, including oxygen demanding pollutants (BOD, etc.) released in a Discharge at a flow rate and/or pollutant concentration which will cause Interference with the POTW.

Small Entity Definitions

NAICS	Industry Description	Monthly Average # of Full/Part time Employees over last 24 months*
311611	Animal (except Poultry) Slaughtering	1,000
311612	Meat Processed from Carcasses	1,000
311613	Rendering and Meat Byproduct Processing	750
311615	Poultry Processing	1,250

The definitions of small entities for the MPP industry are listed in SBA's regulations at 13 CFR 121.201 (SBA's method of calculation can be found in 13 CFR 121.106). The SBA definitions for small businesses vary by NAICS category and are regularly updated.

Small Entities Potentially Subject to Revisions

NAICS	Industry Description	Number of Small Firms with in-scope facilities (preliminary analysis)	Number of Large Firms with in-scope facilities (preliminary analysis)
311611	Animal (except Poultry) Slaughtering	469	18
311612	Meat Processed from Carcasses	592	12
311613	Rendering and Meat Byproduct Processing	33	3
311615	Poultry Processing	276	23
	Other	362	75
	Total	1732	131

Consultation with Small Entity Representatives

- EPA is interested in information, advice, and recommendations from the small entity representatives (SERs) to minimize impacts to small entities
- This information will be used to develop a regulatory flexibility analysis, which becomes part of the record for the potential regulation
- For rules that may have a significant economic impact on a substantial number of small entities, the Regulatory Flexibility Act (RFA) requires agencies to evaluate regulatory alternatives that may minimize the burden on small entities expected to be regulated.
- Your feedback can help shape selection of regulatory alternatives

Consideration of Regulatory Alternatives

- The RFA notes that the regulatory alternatives must be consistent with the stated objectives of applicable statutes (i.e., the Clean Water Act (CWA)), and suggests significant alternatives such as:
 - the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities
 - the clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities;
 - the use of performance rather than design standards; and
 - an exemption from coverage of the rule, or any part thereof, for such small entities.

CWA 301(b) and 304(b) – Statutory Factors for Revising ELGs:

- The industry's processes, raw materials, products, and byproducts
- Locations, age of equipment and plant size
- Types and amounts of pollutants discharged
- Control technology performance and cost
- Economic achievability for the industry
- Impacts of the regulations on other media such as air pollution and solid waste (sludge disposal)

Rulemaking Scope: Potential Revisions to the ELG

1. Consider updating nutrient effluent limits for nitrogen (TN) and establishing limits for phosphorus (TP) - Part of EPA's strategy to reduce nutrient discharges to the nation's waters
2. Evaluate and consider setting effluent limits for other pollutants including: conventional pollutants and chlorides
3. Consider adding pretreatment standards for facilities that discharge to POTWs. Considering: conventional pollutants, nitrogen, phosphorus, chlorides
4. Consider revisions to production size thresholds and subcategories. The proposed rule may have production thresholds where facilities below that threshold may be subject to less stringent ELGs, best management practices, or no limitations at all

Engineering Analysis: Data Sources

- Questionnaire – Thank you! Sent out to all MPP facilities identified by EPA
- Sampling events at 6 facilities
- Discharge Monitoring Report data, permits, fact sheets, facility process and wastewater flow diagrams
- Presentations and Discussions with facilities, POTWs, industry groups and leaders, stakeholders, vendors
- Discussions with EPA regions, permit writers
- Discussions with USDA
- CAPDET modelling – wastewater treatment plant design and cost estimation

Engineering Analysis: Wastewater Treatment Options Development

- **Considerations for Direct Dischargers to update limits to reflect current technology:**
 - Phosphorus removal
 - More complete denitrification to reduce TN
 - Chlorides removal
 - *E. coli*
- **Considerations for Indirect Dischargers to protect POTWs from passthrough and interference:**
 - Screening, oil and grease removal, and equalization
 - Phosphorus removal
 - Nitrogen removal including denitrification to address nitrate
 - Chlorides removal
 - Conditional limits to allow off-ramp from pretreatment standards for nutrients where POTW already removing nutrients.
 - Reduces costs for indirect dischargers and eliminates redundant treatment

Treatment Technologies

Conventional Pollutant Removal: Oil & Grease, TSS, BOD, fecal coliforms

- Screens, grit removal
- DAF (Dissolved Air Flotation) – removes oil & grease, solids, BOD

Chemical Phosphorus Removal: (Total Phosphorus)

- Alum or ferric chloride chemical addition. Generally added before the DAF or secondary clarifier

Nitrogen Removal: (Total Nitrogen)

- Anaerobic lagoon
- Bio = Biological treatment with Nitrification/Denitrification
- Effectively – 5 stage Bardenpho Process

Treatment Technologies

Pathogen Removal - Disinfection

- Chlorination/dechlorination
- Applies to direct dischargers only

Chlorides Removal – hides, Kosher slaughter, curing, brining, water softening, etc

- Separation, evaporation system or haul off-site

Solids Handling

- Facilities with flows >10,000 GPD - Belt filter press, gravity thickening
- All Facilities: hauling and landfilling

Facilities may comply with effluent limits using any technologies they choose.

Economic Analysis: Data Sources

- 2022 MPP Detailed and Census questionnaires
- Hoovers Dun & Bradstreet - estimates for revenue and employment
- Economic census data
- USDA-Food Safety and Inspection Service (FSIS) data
 - Facility employment information
 - Facility production information
- USDA-Economic Research Service (ERS) data
 - Meat and poultry prices
 - Sales volumes
 - Market trends

Economic Analysis

- **The Economic Analysis will assess:**
 - Facility-level Impacts
 - Firm-level Impacts
 - Market-level Impacts
 - Societal Benefits
- **Considerations for the analysis:**
 - Potential revisions to the ELGs may expand regulations to cover additional facilities and indirect dischargers. This may include some small entities (firms).
 - This emphasizes the importance of Regulatory Flexibility Analysis requirements to consider potential impacts to small entities and alternatives to minimize those impacts.

Example Regulatory Structure: Indirect Meat Further Processor

Production (million lbs/yr)*	<1	1 – 20	>20
Regulated Pollutants	No numeric discharge standards	Oil & Grease, TSS, BOD	Nitrogen, Phosphorus, TSS, BOD, Oil & Grease, Ammonia
Technology Basis	Pollution Prevention	Dissolved Air Flotation (DAF)	DAF, Chemical P Removal, Nitrification/Denitrification
High-Chloride Waste Streams	No requirements	Pollution Prevention	Segregation and management via zero discharge
Example Facility Size (Mlb/yr)	0.5	10	30
Wastewater flow (gal/day)	1,500	8,500	80,000
Capital Cost (one time)	\$5,000	\$800,000	\$3.2 M
Annual O&M	\$5,000	\$41,000	\$400,000
Annual Monitoring Cost**	No requirements	\$4,000	\$6,000

*Examples for illustration – production thresholds in proposed rule will be based on statutory factor analysis

**Assumes monthly samples for all regulated pollutants

Example: Indirect Poultry Further Processor

- Chicken deboning/marinating, 6 million lbs/yr, discharges to POTW
- Flow: 7,000 GPD
- TIP: None

***Other:** Capital - site prep, engineering, contingency
Annual – auxiliary functions, lab/admin staff

Capital Costs (one time capital costs)

	Pretreatment	Anaerobic Lagoon	Bio	Chem P Removal	Solids	Other
Add C	\$147,000	\$0	\$0	\$0	\$255,000	\$330,000

Annual O&M Costs

	Pretreatment	Anaerobic Lagoon	Bio	Chem P Removal	Solids	Monitoring
Add C	\$13,000	\$0	\$0	\$0	\$44,000	\$4,000

Example: Indirect Meat Slaughterhouse

- Beef slaughter and hides processing, 30 million lbs/yr, discharges to POTW
- 24,000 GPD, **hides processing: 200 GPD, evaporation system****
- TIP: None

Capital Costs (one time capital costs)

	Pretreatment	Anaerobic Lagoon	Bio	Chem P Removal	Solids	Chlorides**	Other*
Add C	\$140,000	\$0	\$0	\$0	\$1 M	\$74,000	\$1 M
Add C, N, P	\$170,000	\$35,000	\$700,000	\$534,000	\$1 M	\$74,000	\$1.9 M

Annual O&M Costs

	Pretreatment	Anaerobic Lagoon	Bio	Chem P Removal	Solids	Chlorides**	Monitoring
Add C	\$35,000	\$0	\$0	\$0	\$35,000	\$18,000	\$4,000
Add C, N, P	\$35,000	\$10,000	\$200,000	\$80,000	\$75,000	\$18,000	\$6,000

Example: Indirect Poultry Slaughterhouse

- Poultry slaughter, 42 million lbs/yr, discharges to POTW
- Flow: 150,000 GPD
- Treatment in Place (TIP): Pretreatment

Capital Costs (one time capital costs)						
	Pretreatment	Anaerobic Lagoon	Bio	Chem P Removal	Solids	Other
Add C	\$0	\$0	\$0	\$0	\$0	\$0
Add C, N, P	\$0	\$45,000	\$1.45M	\$600,000	\$400,000	\$2 M

Annual O&M Costs						
	Pretreatment	Anaerobic Lagoon	Bio	Chem P Removal	Solids	Monitoring
Add C	\$0	\$0	\$0	\$0	\$0	\$4,000
Add C, N, P	\$0	\$10,000	\$290,000	\$210,000	\$130,000	\$6,000

Example: Indirect Renderer

- Beef and chicken rendering, 28 million lbs/yr, discharges to POTW
- Flow: 22,000 GPD
- TIP: Pretreatment

Capital Costs (one time capital costs)						
	Pretreatment	Anaerobic Lagoon	Bio	Chem P Removal	Solids	Other
Add C	\$0	\$0	\$0	\$0	\$0	\$0
Add C, N, P	\$0	\$36,000	\$860,000	\$22,000	\$310,000	\$1 M

Annual O&M Costs						
	Pretreatment	Anaerobic Lagoon	Bio	Chem P Removal	Solids	Monitoring
Add C	\$0	\$0	\$0	\$0	\$0	\$6,000
Add C, N, P	\$0	\$10,000	\$230,000	\$36,000	\$34,000	\$6,000

Example: Direct Meat Further Processor

- Beef deboning/marinating, 8 million lbs/yr, discharges to a river
- Flow: 30,000 GPD
- TIP: Pretreatment, partial biological treatment, disinfection

Capital Costs (one time capital costs)						
	Pretreatment	Anaerobic Lagoon	Bio	Chem P Removal	Solids	Other
Add C	\$0	\$0	\$0	\$0	\$0	\$0
Add full N, P	\$0	\$0	\$550,000	\$260,000	\$110,000	\$760,000

Annual O&M Costs						
	Pretreatment	Anaerobic Lagoon	Bio	Chem P Removal	Solids	Monitoring
Add C	\$0	\$0	\$0	\$0	\$0	\$6,000
Add total N, P	\$0	\$0	\$180,000	\$80,000	\$25,000	\$8,000

Example: Direct Poultry Slaughterhouse

- Chicken slaughter and cutting/seasoning, 190 million lbs/yr, discharges to river
- Flow: 700,000 GPD
- TIP: Pretreatment, partial biological treatment, disinfection

Capital Costs (one time capital costs)						
	Pretreatment	Anaerobic Lagoon	Bio	Chem P Removal	Solids	Other
Add partial N, P	\$0	\$0	\$0	\$890,000	\$200,000	\$900,000
Add full N, P	\$0	\$0	\$1.5 M	\$890,000	\$550,000	\$2.4 M

Annual O&M Costs						
	Pretreatment	Anaerobic Lagoon	Bio	Chem P Removal	Solids	Monitoring
Add partial N, P	\$0	\$0	\$0	\$850,000	\$180,000	\$6,000
Add total N, P	\$0	\$0	\$130,000	\$850,000	\$480,000	\$7,000

Implementation schedule

- Existing Direct dischargers limits would be implemented as permits are renewed according to their 5-year permitting cycle.
- Existing Indirect dischargers would have to comply with pretreatment standards no later than 3 years after the final rule is published.
 - Would be required to submit to the Control Authority a report which contains the information listed in paragraphs 40 CFR 403.12 (b)(1)-(7) within 180 days after the effective date of a categorical Pretreatment Standard
- New Facilities/Sources (direct and indirect dischargers) would have to comply with the limitations and standards on the date they begin discharging after promulgation of the rule.
 - New Sources would be required to submit to the Control Authority a report which contains the information listed in paragraphs 40 CFR 403.12 (b)(1)-(5) at least 90 days prior to commencement of discharge.

Outreach and Schedule

- Small Business Regulatory Enforcement Fairness Act
 - Sent news releases Jan. 18 requesting small entity representative volunteers
 - Pre-Panel meeting May 2023
 - Formal Panel meeting July 2023
- Proposed Rule: December 2023

Questions for Small Entity Representatives

Your oral or written feedback on these questions will help inform EPA's proposed rule, consideration of feasibility, requirements, alternatives, and impact estimates. We welcome your expert input.

- What is the production size of your facility?
- Do you know how much wastewater your facility generates?
- Do you discharge directly into a surface water or do you send your wastewater to a POTW?
- What is your relationship with your POTW?
 - What technical assistance does the POTW provide you?
 - Has the POTW discussed with you potential issues with the pollutants in your wastewater? Slug loads, quality/quantity of wastewater discharged, inconsistent flows, oil and grease issues
 - Does your facility have any limits from your POTW?
- Are there other MPP facilities in your region you could work cooperatively with along with your POTW to address pollution (e.g. hauling waste water to another facility)? Are there other opportunities for cooperation or cost-sharing related to wastewater treatment?

Questions for Small Entity Representatives

- How does your facility currently manage or treat wastewater?
 - Best management practices can include dry clean up practices, grease and solids removal, segregate waste, minimize water usage, by-product recovery, animal pen waste management, blood handling, training, etc.
 - Does your facility employ any of these best management practices? If so, what type(s)?
 - Treatment technologies can include screens, oil & grease traps, equalization, dissolved air flotation, anaerobic lagoons, etc. Does your facility have any treatment technologies in place? If so, which ones?
 - Some treatment technologies require space. For example, the size of an anaerobic lagoon should be greater the more waste is treated. Does your facility have space it could use for treatment technologies? If so, how much?

Questions for Small Entity Representatives

- In thinking about the best management practices and treatment technologies discussed are there any that would be easier or more challenging for you to implement? Why?
- Are there practices or technologies where cost may be an issue?
- Are there other challenges that would make it difficult for you to adopt any of the best management practices or treatment technologies discussed?
- Have you had difficulty finding vendors to take by-products and blood?
 - Are there other options for management of these by-products?

Questions for Small Entity Representatives

- Are there specific concerns your facility has with the ability to comply with potential ELG revisions? For example: available space, lack of expertise, access to funding/borrowing to cover the cost of the capital equipment
 - What type of technical assistance would your facility need?
- Is this ongoing rulemaking affecting how your facility makes decisions on current plans? How can EPA mitigate this?
- What recommendations do you have for small business flexibilities to reduce burden? For example: delayed implementation schedule
- Are there other federal regulations currently under development that apply to small entities in this industry that may overlap with this EPA action?

Closing Session

- Closing remarks from EPA, SBA, and OMB
- Next Steps:
 - Written comments submitted to Lanelle Wiggins by July 31, 2023

Contact Information

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Appendix B1: Written Comments Submitted by Small Entity Representatives following the May 2, 2023 Pre-Panel Outreach Meeting

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Blue Grass Quality Meats

From: Dan Rice
To: Lanelle Wiggins
Subject: RE: EPA's Pre-Panel Outreach Meeting: Meat and Poultry Products Effluent Limitations Guidelines
Date: Tuesday, May 16, 2023 5:29:49 PM

Hi Lanelle,

Thank you for including me in the pre panel outreach. I was able to listen in on the meeting and, though I am definitely not our wastewater expert here at Blue Grass Quality Meats, I do own the business and function as the Chief Financial Officer. The past several years have been very difficult for our small business. In addition to the normal complexities of the meat business including substantial capital needs, narrow margins and highly volatile raw material costs, the last several years have had serious added difficulties caused by a shortage of available qualified labor, serious raw material supply chain disruptions and difficulties related to the Covid Pandemic. We have struggled to make capital improvements that are necessary for the operation of our business. If we were forced to make capital expenditures at this time without a financial return it would be disastrous for our business and for our employees who depend on it for their livelihood.

Meeting feedback from my small business would be please avoid any regulation that pushes a financial burden on small and very small businesses in our industry. Events of the past several years have left our businesses in a very fragile state.

Thank you ,

Dan

Dan Rice

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Kymeatprocessors.org



US Environmental Protection Agency
Washington, DC

MAY 16, 2023

RE: SER Comments - Meat & Poultry Products Effluent Limitations Guidelines Rulemaking

To whom it may concern,

My name is Allison Boone Porteus. I am a third-generation owner/operator of a slaughterhouse and meat processing plant, Boone's Abattoir, Inc. (DBA Boone's Butcher Shop), in Bardstown, KY. We employ approximately 40 people in our plant and engage in slaughter and processing of cattle, hogs, sheep, and goats, process deer meat for hunters, and have a retail store. We do minimal poultry processing for our retail store, so I am speaking as a red meat processing plant rather than poultry. I am also a founding member and Treasurer of the Kentucky Association of Meat Processors (KAMP), a trade organization representing approximately 100 very small and small meat processors in the state of Kentucky. I've also served as a Board Director of the Indiana Association of Meat Packers and Processors (IMPPA) for approximately 5 years. My experience as an owner of a small meat processing plant and my roles with KAMP and IMPPA have allowed me to interact with many small processors, and I have a deep understanding of the types of challenges and financial hardships small processors face.

Data Gathering and Questionnaire

I would like to start my comments on the presentation of the Meat & Poultry Products Effluent Limitations Guidelines Rulemaking with the process by which the EPA gathered their information on meat and poultry processors. I was a recipient of the EPA's Meat and Poultry Products Detailed Questionnaire. This was the first communication I've received from the EPA, and I had very little knowledge of how or why the EPA could regulate my business. Based on the questionnaire I received, I would respectfully submit that the EPA does not have significant knowledge or understanding of the meat processing industry. The detailed questionnaire was 60 pages of questions requiring a level of detail that is not required for us to track, nor is it easily obtained.

Section 3 of the detailed questionnaire not only asked for pounds of meat processed going back 5 years from when we received the questionnaire but went so far as to request the number of pounds we processed, and wanted that number broken down into fresh cuts, smoked product, cured product, sausage, luncheon meat, canned meat, and Kosher meat products. I have low confidence in the information I provided. USDA FSIS (Food Safety Inspection Services) inspected plants are only required to provide a range of quantities produced within their facilities and only for products that bear our legend of inspection. We must provide to the USDA estimated average daily product volumes by type (i.e. slaughter, raw intact, raw not intact, etc., and then by species) and the number of days per month produced on average. The range of pounds for each type of product and species is large; the ranges are 1-100, 101-1,000, 1,001-3,000, 3,001-6,000, 6,001-50,000, 50,000-250,000, 250,001-600,000, 600,001-1,000,000. Detailed record keeping is not required for the number of pounds produced under USDA. Furthermore, there is no requirement to track retail exempt or custom exempt pounds processed, both products that do not bear our USDA legend of inspection. Therefore, most small processors do not have the ability to report the information requested.

Section 3 and Section 11 included 2021 within the scope of understanding our processing volumes and finances. I would urge the EPA to carefully consider how much weight it gives to 2021 and how that year impacted processors financial viability.

For most processors, including me, 2020 and 2021 were unprecedented years in terms of volumes and profits. As some large processors were forced to suspend operations for periods of time due to COVID outbreaks, consumers were forced to seek out alternatives to their chain grocery and big box stores, and many turned to smaller processors to either purchase meat in bulk or shopped in the small processors' stores or bought animals or cuts from farmers that resulted in more animals processed in small plants. The addition of significant stimulus money pushed out to families across the country allowed consumers to spend more money on higher priced meat and to purchase larger quantities at once than they had in the past. EBT funds for families who received that benefit were increased during the pandemic, providing families with funds to cover their meat and grocery purchases. Additionally, the state of Kentucky provided families with school age children, who would not normally be eligible for EBT, with EBT funds. Other states may have done the same. In that light, our EBT sales more than tripled from 2019 through 2021, and we lost almost half of that growth in 2022. We expect to see those numbers, as well as sales, further decline in 2023 as pandemic era spending comes to an end and EBT benefits are reduced to pre-pandemic levels. Although we hope to continue to see sales and profits outpace 2019 and prior numbers, there is significant uncertainty as to whether consumers will revert to their pre-pandemic buying patterns.

Sections 5, 6, and 7 of the detailed questionnaire used vocabulary and asked questions that seemingly required a level of knowledge regarding wastewater, that I do not have and would assume other processors do not have either. Terms like DAF, outflow (diagrammed with latitude and longitude to three decimal places), design influent flow, average influent flow, design residence time, etc., are not terms that I am familiar with, nor did I know how to respond to the questions. I do know that a helpdesk was available to consult with while working through the survey. However, I had to complete this application during evenings and weekends, when we were not producing or operating our retail store. Most small processors, including myself, do not have staff available to work on projects like the questionnaire, so the owners were trying to figure out the answers in their limited amount of available time.

My comments on the questionnaire are to demonstrate that I found the questionnaire to be intimidating and very difficult to respond to with any degree of confidence. I am certain that other processors felt the same way and may not have responded. To understand how robust the data gathering effort was on the questionnaire and how representative the data being used by the EPA is, I would like to make the following inquiries:

1. How many detailed and how many short questionnaires were sent out? You provided the number of responses received in the presentation, but what is the response rate?
2. How did you determine the pool of processing plants to send the questionnaires to?
3. Did your population of questionnaire recipients include retail exempt or custom exempt plants? Are those plants considered in the number of small entities you included on slide 8 as potentially impacted by the revisions?
4. Why are grocery stores and other facilities that process boxed meat not considered within the scope of the revisions? The purge released from opening beef and pork primal cuts would be a source of nitrogen and phosphorous. Is there evidence that the impact from those types of processors is not significant vs. breaking down carcasses?
5. Did the EPA review the questionnaire with any entities (i.e. USDA, trade organizations, state inspection services) that may have provided feedback as to whether the questionnaire was written in a way that small processors would be able to answer the questions with accuracy?

Small Business Definition within the Meat and Poultry Processing Industry

The second topic I would like to address is the definition of a small business within the meat processing industry. The presentation listed small businesses within NAICS codes for animal slaughtering and meat processed from carcasses as 1,000 employees or less. The meat processing industry is a highly consolidated industry; per a White House Fact Sheet published on January 3, 2022 (<https://www.whitehouse.gov/briefing-room/statements-releases/2022/01/03/fact-sheet-the-biden-harris-action-plan-for-a-fairer-more-competitive-and-more-resilient-meat-and-poultry-supply-chain/>), "Four large meat packing companies control 85 percent of the beef market. In poultry, the four top processing firms control 54 percent of the market. And in pork, the top four processing firms control about 70 percent of the market." The result of such high consolidation in the industry has resulted in there being 4 very large processors in this country and the vast majority of the remaining processors are very small.

Of the approximately 100 processors in the state of Kentucky, excluding plants owned by the Big Four processors, I am aware of only two processors who have more than 100 employees. Most of the rest have less than 50 employees, and a large portion of those are less than 20 employees. As I noted in the section regarding the questionnaire, most processors do not track the number of pounds processed in their facilities, so looking at full-time employee equivalents is typically a meaningful number to determine size. The USDA uses employees as a means for determining size and identifies large establishments as having greater than 500 employees, small establishments as having more than 10 but less than 500 employees, and very small establishments as having fewer than 10 employees or annual sales of less than \$2.5 million (https://www.fsis.usda.gov/sites/default/files/media_file/2021-03/Docket_No.93%E2%80%9316F.pdf).

I submit the following questions to the EPA regarding how it views small meat processors:

1. Can the EPA or Small Business Administration further refine the definition of a small business within the meat processing industry?
2. Can the EPA use a more readily available statistic to measure processor size and reevaluate the industry with that information?
3. Has the EPA considered where the majority of the wastewater issues stemmed and whether regulating small processors has a significant impact on water quality?

Economic Impact to Small Meat Processing Facilities - Capital Costs

I can only describe my reaction to the financial burden to processors described within the presentation on slides 18-22 as shock and awe. The capital costs described on those slides range from \$2.3M to \$4.5M to regulate conventional, nitrogen, and phosphorous in wastewater. The only asset any small processor has that comes even close to that level of investment is the building from which we operate. We operate out of a 20,000 square foot building; I would estimate that to cost \$3M-\$4M to build this same building with current prices. We would not even consider spending that level of money on non-revenue generating equipment and construction. There is no financial analysis that would support making that kind of investment.

My business is fortunate in that it is located right in the middle of a small, growing community and we have a thriving retail store. If this kind of investment were required, we would stop our slaughter and processing activities and source all our meat from other processors. Unfortunately, most processors in Kentucky do not have the level of retail business we do to sustain their businesses; they rely heavily on their slaughter and processing revenues, if not exclusively, to continue operations. Regulations that would require such high capital costs would cause those processors to cease operations. I would then likely have to source my retail meats from one of the Big Four meat processors exclusively. Pushing more processing to the Big

Four processors has significant economic and societal impacts for both farmers and consumers, which I will expand on in a later section.

Another area in which I am fortunate is that, as a third-generation business owner and with the investment by the state of Kentucky in expanding small scale meat processing, we are financially sound. Even with that, we do not generate enough cash flow to be able to spend over \$2M without borrowing money. Many first- and second-generation small meat processors carry significant debt as they try to scale their operations. They would not have the cash flows to support taking on more debt to invest in wastewater treatment. The capital costs of this regulation alone would be a death blow to almost the entire small meat processing industry, with very few exceptions.

When financially logical, my business typically invests anywhere from \$50,000 to \$200,000 a year in facility upgrades, equipment, and technology. These are necessary investments to keep our plant running, especially considering the lack of skilled workers available in our industry. Technology and equipment are crucial to account for the challenges we face in finding employees. The capital costs described in the presentation would be the equivalent of what we spend in revenue-generating assets for at least a 10-year period.

Space is another challenge that some small processors, and perhaps some larger processors, will face if these regulations are implemented. My plant sits on a one-acre lot, and we have used every bit of available space. We purchased a lot across the street for overflow employee parking, and our parking lot is still not big enough. We have customers parking on grassy areas that adjoin our property when our parking lot is full, which occurs multiple days during the week. There is a steep hillside on one side and behind our building and a powerplant on the other side. There is no property to purchase that could be used for a lagoon or to install equipment. All square footage inside of our building is also maxed out with production equipment and cold storage. We simply do not have the space for additional equipment, and certainly have no space for a lagoon.

One other area where these regulations will impact small processors is in the relationship between the processors and renderers. Small meat processors are already paying renderers to pick up their solid waste. The capital costs described in the presentation for renderers would likely result in a further reduction of renderers, making disposing of solid waste even more expensive.

I submit the following questions regarding the capital costs:

1. What specific equipment would be required to treat wastewater at a small processing plant?
2. Is any of the equipment scalable to small processing plants?
3. How would the EPA regulate plants that do not have the space to implement all the necessary wastewater treatments?

Economic Impact to Small Meat Processing Facilities - Operation and Maintenance of Wasterwater Treatment Equipment

The annual operating and maintenance costs noted on slides 18-22 were equally mind-boggling. The estimated annual costs are between \$402,000 and \$769,000. I estimate that the addition of those annual costs could increase my wages and repairs/maintenance expenses by over 50%. Those costs alone would be the entirety of annual profits for me as a thriving small meat processor and would likely result in a loss. Businesses that are not thriving would not have the cash to pay such costs. I would not have the cash to pay those costs if I had to borrow money to implement the capital costs to meet regulatory requirements.

I am also concerned about how processors would find and retain the expertise needed to operate and maintain the equipment needed to comply with the regulations. I am not familiar with most of the equipment listed within the presentation. Based on the discussion during the meeting and the fact that the estimate to operate and maintain the equipment hovers around half of a million dollars, it did not sound like the equipment would be easy to learn how to operate and maintain. Of the 40 people employed at Boone's Butcher Shop, three of us have college degrees, and none of those degrees are in microbiology or water management. Many small processors have no employees who have college degrees. Meat processing equipment is designed to be operated and maintained by people who are trained within the plant and is not overly complicated. I do not believe that many plants would have staff who have the availability or the skill to operate and maintain what sounds like complex equipment. Small meat processors are already struggling with staffing and how to train people for the skilled manual labor of slaughtering and cutting meat; there are very few resources for training available to us.

I submit the following questions regarding the operation and maintenance of the treatments needed to comply with potential wastewater regulations:

1. What level of training or knowledge specifically is needed to operate and maintain the water treatment equipment with the understanding that nearly all small plants would have very little prior understanding of the treatments proposed? A 4-year degree, a 2-year degree, a 6-month course, a two-week course?
2. Does a workforce exist that can fill these roles?
3. To what degree does the EPA plan to provide technical assistance to small meat processors to comply with these requirements?

Societal Impact of Regulating Wastewater in Small Meat Processing Plants

As I've outlined in my preceding comments, regulating wastewater in small meat processing plants would be detrimental to the industry and would result in a widespread shuttering of hundreds of small meat processing plants across the country. I've also provided comments on how highly concentrated the meat processing industry already is. In a capitalist market, such a high concentration of the market is bad for both the producers (i.e. farmers) and for consumers. President Biden made remarks to this exact effect on January 3, 2022, saying the following about the four big processors in the United States:

"Without meaningful competition, farmers and ranchers don't get to choose who they sell to. Or put another way, our farmers and ranchers have to pay whatever these four big companies say they have to pay, by and large. But that's only half of it. These companies can use their position as middlemen to overcharge grocery stores and, ultimately, families ... I've said it before and I'll say it again: Capitalism without competition isn't capitalism; it's exploitation ... To bring down -- to bring in more competition and dignity and more farmers, ranchers, and customers, we're going to invest in new and innovative small businesses and meat processors -- the lifeblood of our economy. And when we do this, we'll give farmers and ranchers more options beyond giant processing conglomerates, shore up the weak points in our food supply chain."

Those remarks were made during a virtual meeting President Biden held to announce a \$1 billion investment in new and expanded meat and poultry processing (<https://www.whitehouse.gov/briefing-room/speeches-remarks/2022/01/03/remarks-by-president-biden-during-a-virtual-meeting-to-discuss-boosting-competition-and-reducing-prices-in-the-meat-processing-industry/>). Unfortunately, we are at the tail end of the distribution of those funds. As I mentioned during the meeting on May 2nd, the last \$75 million of grants is open for applications now through July 19, 2022. As small processors consider expansion plans, they will not know that another massive amount of money may be needed two years from now to treat their

wastewater. For larger grants, a 50% matching of funds is required. Many processors will take on debt to match the grant and may not have the ability to borrow additional funds to implement this regulation.

The timing of proposed wastewater treatment regulations appears to be in direct conflict with the Biden-Harris administration's efforts to expand meat processing capacity. This country is in the position where we are relying so heavily on four main processors due to many factors - high barriers to entry, both economic and in knowledge and skill, high regulatory compliance hurdles from both USDA's FSIS and OSHA, and a lack of workforce to support the industry- to name a few, that the federal government is stepping in to level the playing field. Additional regulations of the magnitude discussed by the EPA will cripple the small meat processing plants, putting the US back in the position we are trying to avoid - complete dominance by a handful of meat and poultry processors. As we saw during 2020 and 2021, reliance on only those large processors resulted in sky-high meat prices and near crippling of our food supply chain.

Small meat processors already struggle to compete with the large processors. We cannot slaughter and process meat on a small scale nearly as efficiently as the large processors can on an enormous scale. We compete by adding the value to consumers of allowing them to know where their meat comes from and in allowing farmers to market their meat directly to consumers at farmer's markets, small independent grocery stores, and online. If we attempt to pass these costs on to our customers, our products will no longer be competitive. The costs described in the presentation are pennies on the pound for large processors. Those same costs are dollars on the pound for small processors. As much as American families want to support their small, local farmers and processors, they will not be able to afford to pay those additional costs. The small processors will go out of business and the farmers will be forced to accept whatever price the Big Four processors want to pay for their livestock. The Big Four processors will get stronger, and we will be left with only the biggest processing plants and the largest ranches to provide the animal protein American consumers demand.

I urge you to read the two articles I cited directly from The White House's website describing the challenges this country is facing in the meat processing industry. Obviously, clean water has a positive societal and global impact. However, I hope you will consider how harmful these regulations would be to the American public if their small, local processors no longer exist.

I submit the following questions regarding the societal impact of these regulations:

1. Would the EPA consider setting limits on who is impacted by the regulations (i.e. processing plants with less than 1,000 employees would be exempt from these regulations)?
2. Can changes be made to existing water treatments and/or water treatment facilities that would lessen the impact of small meat processors' wastewater without requiring the small processors to pre-treat the water?

I appreciate your consideration of my comments and look forward to discussing this further in the formal panel discussion in June. I am available to answer any questions or clarify comments prior to the meeting.

Sincerely,



Allison Boone Porteus

Vice President and Co-Owner

Missouri Association of Meat Processors



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May 16, 2023

In response to the zoom meeting on May 2 in regards to potential regulatory action.

To start, thank you for allowing me to participate as a small entity representative. I appreciate this opportunity as this potential action could significantly impact members of the Missouri Association of Meat Processors (MAMP).

MAMP represents 145 small and very small meat processors in Missouri and surrounding states. We define “small and very small” as less than 100 employees. Some of our processors have 2 employees. Less than 2 dozen have more than 50 employees. In addition, with this small of a workforce equals a small amount of processing levels. The levels discussed in the presentation are nowhere near the level that MAMP members produce. ***MAMP urges the EPA to reconsider their definition of “small and very small.”***

MAMP members have been exceedingly busy since spring 2020 due to the pandemic. On top of that, the workforce is sparse. There is so much business, but not nearly enough workers to do the work. MAMP members are struggling significantly to meet their local community needs. Add to their already full plate this impending action and this could greatly impact many aspects of their business that need immediate attention. ***MAMP urges the EPA to reevaluate the implementation timeline of these potential regulatory actions.***

In addition to the potential this could happen quickly, the comprehension and understanding of “what” the processor will need to do is overwhelming. They are going to need significant technical support on understanding these rules and procedures. *Is the EPA willing to assist with this support? MAMP urges the EPA to highly consider providing substantial technical support in understand and upholding these actions.*

When meat processors received the surveys late summer/fall 2022, many were confused by the questions and thought process behind the questions. MAMP does not believe a true representation of processors sent in their results, therefore not giving the EPA a fair and balanced viewpoint of small and very small processors. Furthermore, looking at these businesses and reviewing the potential expected costs of the implementation of the potential regulatory action is downright scary. EPA is talking huge amounts that small businesses cannot feasibly finance in this short amount of time. Processors have been blessed with many state and federal grant programs since the pandemic to assist with further processing, but this potential action will be a substantial financial burden. I speculate that some may even decide being in business is not worth it. Implementation costs will be financially devastating to many of our members resulting in the shutting of multi-generational small businesses. This will hit home when local communities who support these businesses have to go elsewhere. 4H and FFA kids won't have a local meat processor to help them with projects and educational experiences. Local food banks will not be able to rely on assistance from programs such as Share the Harvest here in Missouri. ***MAMP urges the EPA to reevaluate the cost to implementation.***

MAMP appreciates the EPA considering these items while in this process. If MAMP can be of any more assistance, please contact me.

Sincerely,

Niki Mahan-Cloud

Niki Mahan-Cloud
Executive Director

Mark Reynolds

Mark Reynolds
MAMP President

U.S. Poultry and Egg Association



May 11, 2023

**U.S. Poultry & Egg
Association**

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Lanelle Wiggins
RFA/SBREFEA Team Leader
US EPA - Office of Policy (1803A)
1200 Penn Ave NW
Washington DC 20460

RE: EPA Pre-Panel Outreach Meeting on Meat and Poultry Products Effluent
Limitations Guidelines Rulemaking

Ms. Wiggins,

On behalf of the U.S. Poultry & Egg Association's (USPOULTRY) members who are classified as small entities, I would like to thank the US EPA Office of Policy for convening a Small Business Advocacy Review Panel to address the Agency's potential revision to Effluent Limitation Guidelines (ELGs) and development of pretreatment standards (PTS) for the Meat and Poultry Products (MPP) Industry.

I also want to thank EPA for holding the Pre-Panel Outreach meeting on Tuesday May 2, 2023 to provide an update on the ELG revision progress and accepting verbal comments on how the potential revisions would affect small business entities. As suggested during the May 2nd meeting, I am submitting the comments below as both a follow-up to discussions that were held during the meeting and to reiterate issues of concern for small businesses that would be affected by the development of PTS and revisions to the ELGs.

As a general comment, you recall from the response of participants in the meeting that the ramifications of the potential ELG revisions and development of PTS will be significant. The financial investment scenarios presented during the meeting are substantial and, in some cases, may be so prohibitive they would force a business to close their doors.

Our more detailed comments are as follows:

- 1) The Likely ELG Burden on Small Processors is Contrary to the Goal of the Administration's Action Plan for Expanding Small Meat & Poultry Processors – As underscored during the meeting, the current estimated costs for wastewater treatment systems under the ELG would be unobtainable by many smaller processors. One of the top priorities of the administration is providing funding for and supporting the nationwide expansion of small meat and poultry processors. However, the estimated costs associated with the ELG for small processors' wastewater treatment systems could present a major obstacle to achieving the administration's goals.

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Jasper, IN

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Claxton, GA

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Mike Levensgood
Perdue Farms
Salisbury, MD

President
John Starkey
U.S. Poultry & Egg Association
Tucker, GA

- 2) **Additional Small Processor Engagement** – Additional outreach is needed to get more small processors engaged and educated on the ELG process and the potential impacts the revisions will have on business operations and finances. As noted in the general comment above, the consequence of the final revisions is substantial on many levels. This ELG revision process is being expedited by the Consent Decree at an accelerated pace. The compressed timeframe poses significant challenges for EPA and small entities...
- 3) **POTW Community Engagement** – Additional outreach to publicly owned treatment works (POTWs) is needed to get a better understanding of the potential impacts of small processor discharges, if any, on municipal wastewater treatment systems. Our own industry discussions with the National Association of Clean Water Agencies confirm that POTWs in their membership largely have not identified the MPP industry as a primary cause for their facilities failure to meet their discharge limitations, contrary to statements to that effect in Program Plan 15. While it is possible there may be concerns in some localities, these cases would not appear to be the typical experience for POTWs across the nation.
- 4) **POTW Relationship with MPP Facilities** – Municipal wastewater treatment plants are generally designed and operated to handle the pollutants associated with MPP plants. As we have explained to the team leading the ELG revision process, many municipal plants have strong and mutually beneficial relationships with MPP plants, especially “small” MPP plants. It is not uncommon for municipal wastewater treatment plans to rely on surcharge fees they obtain from MPP plants to expand plant efficiencies and simply cover expenses associated with daily operation. Eliminating these fees may trigger higher water and sewer rates taxes for the citizens of these communities.
- 5) **EPA’s Current Cost Estimates Must be Revised to Reflect Current Engineering and Construction Trends** – Information is needed pertaining to EPA’s estimated cost estimates for treatment system options to meet ELGs for small processors. Costs for water and wastewater treatment systems have significantly increased over the last several years and are continuing to increase at a rapid pace. Do the EPA cost estimates sufficiently take these increases into account? Other regulatory initiatives (e.g., PFAS, new lead and copper rule, other new federal and state water pollution rules and regulations, federal grants for water treatment system upgrades, etc.) are also putting, and will continue to put, significant upward pressures on costs for water treatment systems. The March 20/27, 2023, Engineering News-Record magazine indicated an annualized total construction cost for “*Sewage and Water Disposal*” and “*Water Supply*” projects increased by 15.6% and 16.0%, respectively (January 2022-January 2023) in the past year.
- 6) **Outreach and Education for Small Processors** – Additional outreach and education are needed for small processors on wastewater treatment technology, pollutants of concern, operational issues, residuals/waste management, chloride waste stream management, etc. related to the proposed ELGs. This recommendation was expressed by a member of the Panel during the May 2nd meeting.

- 7) **Consideration of Other Environmental Factors** – Deep well injection of chloride waste streams is prohibited in certain areas (e.g., Minnesota) and not practical in many others (a very challenging permitting process at best). Practicality of the other options listed for chloride wastes (segregation and management offsite and evaporation) are also questionable given costs and/or availability in various areas. What about the air emission from burning to evaporate high chloride waste streams? Shouldn't these other environmental factors be included into the "equation"?
- 8) **Determination of Actual POTW Impacts** – EPA should perform mass balances for chloride and other pollutants of concern (TN, TP) for small MPP plants to determine if impacts on POTWs and associated effluent is significant. If not, new ELG requirements and limitations should not be required. This would provide the flexibility that was discussed during the May 2nd meeting.
- 9) **Analysis of Small Processors and "Further Processing"** – Many of the small processors are "further processing" meat products generated at other plants. These different "further processed" products can result in a wide range in wastewater characteristics. We are concerned that EPA may not fully understand this aspect of the industry.
- 10) **Analysis of Downstream Treatment Processes** – EPA listed various treatment trains to meet ELGs. Use of certain treatment units can have impacts on downstream treatment processes and costs. Examples include:
 - Anaerobic processes will remove significant BOD/COD without any total nitrogen removal. This can result in insufficient carbon for total nitrogen removal in downstream activated sludge treatment processes requiring purchase of external carbon sources.
 - Requirements for pretreatment systems to remove ammonia nitrogen or total nitrogen (TN) requires advanced wastewater treatment systems. The effluent from these systems will commonly contain very low effluent BOD and TSS levels. This can cause compliance (many POTWs have minimum removal requirements for BOD and TSS) and/or operational issues for downstream POTWs.
 - Alkalinity and/or pH neutralization is required for biological treatment systems, which can require the use of water treatment chemicals that increase chloride, TDS, sodium, conductivity, etc. levels in treated effluent.

Our concerns in this area prompt several questions, including:

- Whether current EPA assumptions take these factors into account; and
- Whether EPA estimates for wastewater treatment systems include costs for additional land acquisition or pump stations/pipelines to transport wastewater to another site for treatment.

11) **EPA Should Solicit Expertise from Other Federal and State Agencies** – EPA should reach out to other federal agencies on the ELG to address multiple analytical and related issues:

- USDA-FSIS/FDA – food safety requirements (water softeners for hardness removal use of chlorinated food safety and sanitation chemicals).
- USDA provides grants/loans for wastewater treatment systems and may be able to provide current cost data for water treatment projects.
- Other agencies that should be engaged include:

State Departments of Agriculture, USDA-NRCS [2023 EQUIP unit cost payment rates – see attached), extension agencies.

12) **Availability and Capacity of WWT Design and Operator Resources** – Advanced biological treatment systems require design professionals and sophisticated operators. The ability of small processors to secure applicable technical resources can be challenging at best. Various states require licensing of operators, and we hear there are shortages of licensed operators in many areas.

13) **Closer Attention Must be Given to Small Flow Treatment Unit Costs** – Treatment unit costs (\$/gallon) for small flows can be significantly higher than those for the larger flows at the bigger processors. Do the EPA economic assumptions take this into account?

14) **Technical Support** – Small processors need technical support and outreach on environmental issues, which should be a major component of any regulatory initiative for ELGs aimed at these small processors.

On behalf of USPOULTRY’s members who are classified as small entities, I again would like to thank the EPA Office of Policy for convening a Small Business Advocacy Review Panel to address the Agency’s potential revision to Effluent Limitation Guidelines and development of pretreatment standards for the Meat and Poultry Products Industry. Likewise, I would like to thank the EPA for seeking comments and considering the observations and questions listed above.

Sincerely,



Paul J. Bredwell III, P.E.
Executive Vice President – Regulatory Programs
pbredwell@uspoultry.org

Code	Practice	Component	Units	Unit Cost
101	CNMP Design and Implementation Activity	Design- Dairy greater than 300 AU and less than 700 AU with Land Application	No	\$8,462.63
101	CNMP Design and Implementation Activity	HU-Design- Dairy greater than 300 AU and less than 700 AU with Land Application	No	\$10,155.15
101	CNMP Design and Implementation Activity	Design- Dairy greater than or equal to 700 AU with Land Application	No	\$9,429.21
101	CNMP Design and Implementation Activity	HU-Design- Dairy greater than or equal to 700 AU with Land Application	No	\$11,315.05
101	CNMP Design and Implementation Activity	Design- Dairy less than 300 AU Land Application	No	\$7,975.95
101	CNMP Design and Implementation Activity	HU-Design- Dairy less than 300 AU Land Application	No	\$9,571.14
101	CNMP Design and Implementation Activity	Design- Livestock Operations greater than 300 AU without Land Application	No	\$5,606.78
101	CNMP Design and Implementation Activity	HU-Design- Livestock Operations greater than 300 AU without Land Application	No	\$6,728.13
101	CNMP Design and Implementation Activity	Design- Livestock Operations greater than 300 AU without Land Application and Minimal Engineering	No	\$3,697.35
101	CNMP Design and Implementation Activity	HU-Design- Livestock Operations greater than 300 AU without Land Application and Minimal Engineering	No	\$4,436.82
101	CNMP Design and Implementation Activity	Design- Livestock Operations less than or equal to 300 AU without Land Application and Minimal Engineering	No	\$4,995.15
101	CNMP Design and Implementation Activity	HU-Design- Livestock Operations less than or equal to 300 AU without Land Application and Minimal Engineering	No	\$5,994.18
101	CNMP Design and Implementation Activity	Design- Non Dairy Operation greater 700 AU with Land Application	No	\$9,584.67
101	CNMP Design and Implementation Activity	HU-Design- Non Dairy Operation greater 700 AU with Land Application	No	\$11,501.60
101	CNMP Design and Implementation Activity	Design- Non Dairy Operation greater than 300 AU and less than 700 AU with Land Application	No	\$7,989.48
101	CNMP Design and Implementation Activity	HU-Design- Non Dairy Operation greater than 300 AU and less than 700 AU with Land Application	No	\$9,587.38
101	CNMP Design and Implementation Activity	Design- Non Dairy Operation Less than 300 AU with Land Application	No	\$7,127.69
101	CNMP Design and Implementation Activity	HU-Design- Non Dairy Operation Less than 300 AU with Land Application	No	\$8,553.22
101	CNMP Design and Implementation Activity	Design- Small Livestock Operations greater than 300 AU with Land Application and Minimal Engineering	No	\$6,546.44
101	CNMP Design and Implementation Activity	HU-Design- Small Livestock Operations greater than 300 AU with Land Application and Minimal Engineering	No	\$7,855.72
101	CNMP Design and Implementation Activity	Design- Small Livestock Operations less than 300 AU with Land Application and Minimal Engineering	No	\$5,157.38

Code	Practice	Component	Units	Unit Cost
101	CNMP Design and Implementation Activity	HU-Design- Small Livestock Operations less than 300 AU with Land Application and Minimal Engineering	No	\$6,188.85
101	CNMP Design and Implementation Activity	Design- Small Livestock Operations less than 300 AU without Land Application	No	\$5,150.54
101	CNMP Design and Implementation Activity	HU-Design- Small Livestock Operations less than 300 AU without Land Application	No	\$6,180.65
101	CNMP Design and Implementation Activity	Design-CNMP Revision	No	\$3,633.15
101	CNMP Design and Implementation Activity	HU-Design-CNMP Revision	No	\$4,359.78
102	Comprehensive Nutrient Management Plan	Planning Dairy Greater than 300 AU, less than 700 AU with Land	No	\$7,050.75
102	Comprehensive Nutrient Management Plan	HU-Planning Dairy Greater than 300 AU, less than 700 AU with Land	No	\$8,460.90
102	Comprehensive Nutrient Management Plan	Planning Dairy Greater than 700 AU with Land	No	\$8,849.55
102	Comprehensive Nutrient Management Plan	HU-Planning Dairy Greater than 700 AU with Land	No	\$10,619.46
102	Comprehensive Nutrient Management Plan	Planning Dairy Less than 300 AU with Land	No	\$5,957.03
102	Comprehensive Nutrient Management Plan	HU-Planning Dairy Less than 300 AU with Land	No	\$7,148.43
102	Comprehensive Nutrient Management Plan	Planning Livestock Greater than 300 AU, less than 700 AU with Land	No	\$6,589.88
102	Comprehensive Nutrient Management Plan	HU-Planning Livestock Greater than 300 AU, less than 700 AU with Land	No	\$7,907.85
102	Comprehensive Nutrient Management Plan	Planning Livestock Greater than 300 AU, No-Land	No	\$5,251.95
102	Comprehensive Nutrient Management Plan	HU-Planning Livestock Greater than 300 AU, No-Land	No	\$6,302.34
102	Comprehensive Nutrient Management Plan	Planning Livestock Greater than 700 AU with Land	No	\$8,000.03
102	Comprehensive Nutrient Management Plan	HU-Planning Livestock Greater than 700 AU with Land	No	\$9,600.03
102	Comprehensive Nutrient Management Plan	Planning Livestock Less than 300 AU with Land	No	\$4,897.70
102	Comprehensive Nutrient Management Plan	HU-Planning Livestock Less than 300 AU with Land	No	\$5,877.23
102	Comprehensive Nutrient Management Plan	Planning Livestock Less than 300 AU, No-Land	No	\$3,841.80
102	Comprehensive Nutrient Management Plan	HU-Planning Livestock Less than 300 AU, No-Land	No	\$4,610.16
106	Forest Management Plan	FMP 101 to 250 acres	No	\$2,898.00
106	Forest Management Plan	HU-FMP 101 to 250 acres	No	\$3,477.60
106	Forest Management Plan	FMP 21 to 100 acres	No	\$1,764.00
106	Forest Management Plan	HU-FMP 21 to 100 acres	No	\$2,116.80
106	Forest Management Plan	FMP 251 to 500 acres	No	\$4,284.00
106	Forest Management Plan	HU-FMP 251 to 500 acres	No	\$5,140.80
106	Forest Management Plan	FMP 501 to 1000 acres	No	\$5,229.00
106	Forest Management Plan	HU-FMP 501 to 1000 acres	No	\$6,274.80

Code	Practice	Component	Units	Unit Cost
106	Forest Management Plan	FMP Greater Than 1000 acres	No	\$6,804.00
106	Forest Management Plan	HU-FMP Greater Than 1000 acres	No	\$8,164.80
106	Forest Management Plan	FMP Less Than or Equal to 20 acres	No	\$1,197.00
106	Forest Management Plan	HU-FMP Less Than or Equal to 20 acres	No	\$1,436.40
110	Grazing Management Plan	Conservation Plan for Grazed Lands <100 acres.	No	\$1,841.04
110	Grazing Management Plan	HU-Conservation Plan for Grazed Lands <100 acres.	No	\$2,209.25
110	Grazing Management Plan	Conservation Plan for Grazed Lands >10,000 acres	No	\$4,142.34
110	Grazing Management Plan	HU-Conservation Plan for Grazed Lands >10,000 acres	No	\$4,970.81
110	Grazing Management Plan	Conservation Plan for Grazed Lands 1,501 to 5,000 acres	No	\$3,221.82
110	Grazing Management Plan	HU-Conservation Plan for Grazed Lands 1,501 to 5,000 acres	No	\$3,866.18
110	Grazing Management Plan	Conservation Plan for Grazed Lands 101 to 500 acres	No	\$2,301.30
110	Grazing Management Plan	HU-Conservation Plan for Grazed Lands 101 to 500 acres	No	\$2,761.56
110	Grazing Management Plan	Conservation Plan for Grazed Lands 5,001 to 10,000 acres	No	\$3,682.08
110	Grazing Management Plan	HU-Conservation Plan for Grazed Lands 5,001 to 10,000 acres	No	\$4,418.50
110	Grazing Management Plan	Conservation Plan for Grazed Lands 501 to 1,500 acres	No	\$2,761.56
110	Grazing Management Plan	HU-Conservation Plan for Grazed Lands 501 to 1,500 acres	No	\$3,313.87
116	Soil Health Management Plan	Crops, <5	No	\$1,392.27
116	Soil Health Management Plan	HU-Crops, <5	No	\$1,670.72
116	Soil Health Management Plan	Crops, 5 or more	No	\$1,771.98
116	Soil Health Management Plan	HU-Crops, 5 or more	No	\$2,126.38
116	Soil Health Management Plan	Crops+Livestock, <5	No	\$1,518.84
116	Soil Health Management Plan	HU-Crops+Livestock, <5	No	\$1,822.61
116	Soil Health Management Plan	Crops+Livestock, 5 or more	No	\$1,898.55
116	Soil Health Management Plan	HU-Crops+Livestock, 5 or more	No	\$2,278.26
116	Soil Health Management Plan	Organic Crops + Livestock, <5	No	\$2,151.69
116	Soil Health Management Plan	HU-Organic Crops + Livestock, <5	No	\$2,582.03
116	Soil Health Management Plan	Organic Crops + Livestock, 5 or more	No	\$2,278.26
116	Soil Health Management Plan	HU-Organic Crops + Livestock, 5 or more	No	\$2,733.91
116	Soil Health Management Plan	Organic Crops, <5	No	\$1,645.41

Code	Practice	Component	Units	Unit Cost
116	Soil Health Management Plan	HU-Organic Crops, <5	No	\$1,974.49
116	Soil Health Management Plan	Organic Crops, 5 or more	No	\$2,025.12
116	Soil Health Management Plan	HU-Organic Crops, 5 or more	No	\$2,430.14
116	Soil Health Management Plan	Small Farm	No	\$1,265.70
116	Soil Health Management Plan	HU-Small Farm	No	\$1,518.84
120	Agricultural Energy Design	High Complexity, 1 Design	No	\$4,439.66
120	Agricultural Energy Design	HU-High Complexity, 1 Design	No	\$5,327.59
120	Agricultural Energy Design	High Complexity, 2-3 Designs	No	\$5,650.46
120	Agricultural Energy Design	HU-High Complexity, 2-3 Designs	No	\$6,780.55
120	Agricultural Energy Design	High Complexity, 4-5 Designs	No	\$6,861.26
120	Agricultural Energy Design	HU-High Complexity, 4-5 Designs	No	\$8,233.51
120	Agricultural Energy Design	High Complexity, 6+ Designs	No	\$8,072.06
120	Agricultural Energy Design	HU-High Complexity, 6+ Designs	No	\$9,686.47
120	Agricultural Energy Design	Low Complexity, 1 Design	No	\$2,233.46
120	Agricultural Energy Design	HU-Low Complexity, 1 Design	No	\$2,680.15
120	Agricultural Energy Design	Low Complexity, 2-3 Designs	No	\$3,444.26
120	Agricultural Energy Design	HU-Low Complexity, 2-3 Designs	No	\$4,133.11
120	Agricultural Energy Design	Low Complexity, 4-5 Designs	No	\$4,655.06
120	Agricultural Energy Design	HU-Low Complexity, 4-5 Designs	No	\$5,586.07
120	Agricultural Energy Design	Low Complexity, 6+ Designs	No	\$5,865.86
120	Agricultural Energy Design	HU-Low Complexity, 6+ Designs	No	\$7,039.03
120	Agricultural Energy Design	Medium Complexity, 1 Design	No	\$3,336.56
120	Agricultural Energy Design	HU-Medium Complexity, 1 Design	No	\$4,003.87
120	Agricultural Energy Design	Medium Complexity, 2-3 Designs	No	\$4,547.36
120	Agricultural Energy Design	HU-Medium Complexity, 2-3 Designs	No	\$5,456.83
120	Agricultural Energy Design	Medium Complexity, 4-5 Designs	No	\$5,758.16
120	Agricultural Energy Design	HU-Medium Complexity, 4-5 Designs	No	\$6,909.79
120	Agricultural Energy Design	Medium Complexity, 6+ Designs	No	\$6,968.96
120	Agricultural Energy Design	HU-Medium Complexity, 6+ Designs	No	\$8,362.75

Code	Practice	Component	Units	Unit Cost
138	Conservation Plan Supporting Organic Transition	Conservation Plan Supporting Organic Transition CAP Crops and Livestock	No	\$4,746.38
138	Conservation Plan Supporting Organic Transition	HU-Conservation Plan Supporting Organic Transition CAP Crops and Livestock	No	\$5,695.65
138	Conservation Plan Supporting Organic Transition	Conservation Plan Supporting Organic Transition CAP Crops or Livestock	No	\$4,050.24
138	Conservation Plan Supporting Organic Transition	HU-Conservation Plan Supporting Organic Transition CAP Crops or Livestock	No	\$4,860.29
138	Conservation Plan Supporting Organic Transition	Transition to Organic- Crop and Livestock, High Complexity	No	\$6,933.83
138	Conservation Plan Supporting Organic Transition	HU-Transition to Organic- Crop and Livestock, High Complexity	No	\$8,320.59
138	Conservation Plan Supporting Organic Transition	Transition to Organic- Crop and Livestock, Low Complexity	No	\$4,746.38
138	Conservation Plan Supporting Organic Transition	HU-Transition to Organic- Crop and Livestock, Low Complexity	No	\$5,695.65
138	Conservation Plan Supporting Organic Transition	Transition to Organic- Crop, High Complexity	No	\$4,746.38
138	Conservation Plan Supporting Organic Transition	HU-Transition to Organic- Crop, High Complexity	No	\$5,695.65
138	Conservation Plan Supporting Organic Transition	Transition to Organic- Crop, Low Complexity	No	\$4,113.53
138	Conservation Plan Supporting Organic Transition	HU-Transition to Organic- Crop, Low Complexity	No	\$4,936.23
138	Conservation Plan Supporting Organic Transition	Transition to Organic-Livestock, High Complexity	No	\$6,617.40
138	Conservation Plan Supporting Organic Transition	HU-Transition to Organic-Livestock, High Complexity	No	\$7,940.88
138	Conservation Plan Supporting Organic Transition	Transition to Organic-Livestock, Low Complexity	No	\$4,429.95
138	Conservation Plan Supporting Organic Transition	HU-Transition to Organic-Livestock, Low Complexity	No	\$5,315.94
140	Transition to Organic Design	High Complexity, 1 -4 CPS	No	\$9,328.22
140	Transition to Organic Design	HU-High Complexity, 1 -4 CPS	No	\$11,193.86
140	Transition to Organic Design	High Complexity, 5+ CPS	No	\$12,032.16
140	Transition to Organic Design	HU-High Complexity, 5+ CPS	No	\$14,438.59
140	Transition to Organic Design	Low Complexity 1-4 CPS	No	\$3,628.34
140	Transition to Organic Design	HU-Low Complexity 1-4 CPS	No	\$4,354.00
140	Transition to Organic Design	Low Complexity, 5+ CPS	No	\$7,207.14
140	Transition to Organic Design	HU-Low Complexity, 5+ CPS	No	\$8,648.57
144	Fish and Wildlife Habitat Design	Fish & Wildlife Habitat DIA	No	\$2,401.38
144	Fish and Wildlife Habitat Design	HU-Fish & Wildlife Habitat DIA	No	\$2,881.66
144	Fish and Wildlife Habitat Design	Fish & Wildlife Habitat DIA (2 Land Uses)	No	\$2,935.02
144	Fish and Wildlife Habitat Design	HU-Fish & Wildlife Habitat DIA (2 Land Uses)	No	\$3,522.02
144	Fish and Wildlife Habitat Design	Fish & Wildlife Habitat DIA (3 or More Land Uses)	No	\$3,468.66

Code	Practice	Component	Units	Unit Cost
144	Fish and Wildlife Habitat Design	HU-Fish & Wildlife Habitat DIA (3 or More Land Uses)	No	\$4,162.39
148	Pollinator Habitat Design	Pollinator Habitat Enhancement Plan CAP	No	\$2,801.61
148	Pollinator Habitat Design	HU-Pollinator Habitat Enhancement Plan CAP	No	\$3,361.93
148	Pollinator Habitat Design	Pollinator Habitat Enhancement Plan CAP - No Local TSP	No	\$4,069.01
148	Pollinator Habitat Design	HU-Pollinator Habitat Enhancement Plan CAP - No Local TSP	No	\$4,882.81
157	Nutrient Management Design and Implementation Activity	Design Nutrient Management for 101 to less than 300 Acres and No Manure	No	\$3,244.50
157	Nutrient Management Design and Implementation Activity	HU-Design Nutrient Management for 101 to less than 300 Acres and No Manure	No	\$3,893.40
157	Nutrient Management Design and Implementation Activity	Design Nutrient Management for greater than 101 Acres and less than or equal to 300 Acres Fertilizer and Manure	No	\$5,677.88
157	Nutrient Management Design and Implementation Activity	HU-Design Nutrient Management for greater than 101 Acres and less than or equal to 300 Acres Fertilizer and Manure	No	\$6,813.45
157	Nutrient Management Design and Implementation Activity	Design Nutrient Management for greater than 300 Acres and No Manure	No	\$4,055.63
157	Nutrient Management Design and Implementation Activity	HU-Design Nutrient Management for greater than 300 Acres and No Manure	No	\$4,866.75
157	Nutrient Management Design and Implementation Activity	Design Nutrient Management for greater than 300 Acres Fertilizer and Manure	No	\$6,894.56
157	Nutrient Management Design and Implementation Activity	HU-Design Nutrient Management for greater than 300 Acres Fertilizer and Manure	No	\$8,273.48
157	Nutrient Management Design and Implementation Activity	Design Nutrient Management for less than or equal to 100 Acres and No Manure	No	\$2,433.38
157	Nutrient Management Design and Implementation Activity	HU-Design Nutrient Management for less than or equal to 100 Acres and No Manure	No	\$2,920.05
157	Nutrient Management Design and Implementation Activity	Design Nutrient Management for less than or equal to 100 Acres Fertilizer and Manure	No	\$4,055.63
157	Nutrient Management Design and Implementation Activity	HU-Design Nutrient Management for less than or equal to 100 Acres Fertilizer and Manure	No	\$4,866.75
158	Feed Management Design	Feed Management Plan	No	\$3,244.50
158	Feed Management Design	HU-Feed Management Plan	No	\$3,893.40
159	Grazing Management Design	Design and Implementation Activities for Grazed Lands <100 acres	No	\$1,227.36
159	Grazing Management Design	HU-Design and Implementation Activities for Grazed Lands <100 acres	No	\$1,472.83
159	Grazing Management Design	Design and Implementation Activities for Grazed Lands >10,000 acres	No	\$2,761.56
159	Grazing Management Design	HU-Design and Implementation Activities for Grazed Lands >10,000 acres	No	\$3,313.87
159	Grazing Management Design	Design and Implementation Activities for Grazed Lands 1,501 to 5,000 acres	No	\$2,147.88
159	Grazing Management Design	HU-Design and Implementation Activities for Grazed Lands 1,501 to 5,000 acres	No	\$2,577.46
159	Grazing Management Design	Design and Implementation Activities for Grazed Lands 101 to 500 acres	No	\$1,534.20
159	Grazing Management Design	HU-Design and Implementation Activities for Grazed Lands 101 to 500 acres	No	\$1,841.04
159	Grazing Management Design	Design and Implementation Activities for Grazed Lands 5,001 to 10,000 acres	No	\$2,454.72

Code	Practice	Component	Units	Unit Cost
159	Grazing Management Design	HU-Design and Implementation Activities for Grazed Lands 5,001 to 10,000 acres	No	\$2,945.66
159	Grazing Management Design	Design and Implementation Activities for Grazed Lands 501 to 1,500 acres	No	\$1,841.04
159	Grazing Management Design	HU-Design and Implementation Activities for Grazed Lands 501 to 1,500 acres	No	\$2,209.25
160	Prescribed Burning Design	Prescribed Burning Plan (DIA) greater than 1,000 acres	No	\$3,780.00
160	Prescribed Burning Design	HU-Prescribed Burning Plan (DIA) greater than 1,000 acres	No	\$4,536.00
160	Prescribed Burning Design	Prescribed Burning Plan (DIA) greater than 101 acres and less than 250 acres	No	\$1,575.00
160	Prescribed Burning Design	HU-Prescribed Burning Plan (DIA) greater than 101 acres and less than 250 acres	No	\$1,890.00
160	Prescribed Burning Design	Prescribed Burning Plan (DIA) greater than 21 acres and less than 100 acres	No	\$1,260.00
160	Prescribed Burning Design	HU-Prescribed Burning Plan (DIA) greater than 21 acres and less than 100 acres	No	\$1,512.00
160	Prescribed Burning Design	Prescribed Burning Plan -DIA greater than 251 acres and less than 500 acres	No	\$1,890.00
160	Prescribed Burning Design	HU-Prescribed Burning Plan -DIA greater than 251 acres and less than 500 acres	No	\$2,268.00
160	Prescribed Burning Design	Prescribed Burning Plan DIA less than or equal to 20 acres	No	\$945.00
160	Prescribed Burning Design	HU-Prescribed Burning Plan DIA less than or equal to 20 acres	No	\$1,134.00
160	Prescribed Burning Design	Prescribed Burning Plan-DIA greater than 501 acres and less than 1,000 acres	No	\$2,520.00
160	Prescribed Burning Design	HU-Prescribed Burning Plan-DIA greater than 501 acres and less than 1,000 acres	No	\$3,024.00
161	Pest Management Conservation System Design	High Complexity, 1 -4 CPS	No	\$5,063.84
161	Pest Management Conservation System Design	HU-High Complexity, 1 -4 CPS	No	\$6,076.60
161	Pest Management Conservation System Design	High Complexity, 5+ CPS	No	\$6,243.78
161	Pest Management Conservation System Design	HU-High Complexity, 5+ CPS	No	\$7,492.54
161	Pest Management Conservation System Design	Low Complexity 1-4 CPS	No	\$2,384.66
161	Pest Management Conservation System Design	HU-Low Complexity 1-4 CPS	No	\$2,861.59
161	Pest Management Conservation System Design	Low Complexity, 5+ CPS	No	\$3,564.60
161	Pest Management Conservation System Design	HU-Low Complexity, 5+ CPS	No	\$4,277.52
162	Soil Health Management System Design	Crops + Livestock, <5	No	\$3,244.50
162	Soil Health Management System Design	HU-Crops + Livestock, <5	No	\$3,893.40
162	Soil Health Management System Design	Crops + Livestock, 5 or more	No	\$4,055.63
162	Soil Health Management System Design	HU-Crops + Livestock, 5 or more	No	\$4,866.75
162	Soil Health Management System Design	Crops, <5	No	\$3,082.28
162	Soil Health Management System Design	HU-Crops, <5	No	\$3,698.73

Code	Practice	Component	Units	Unit Cost
162	Soil Health Management System Design	Crops, 5 or more	No	\$3,731.18
162	Soil Health Management System Design	HU-Crops, 5 or more	No	\$4,477.41
162	Soil Health Management System Design	Organic Crops + Livestock, <5	No	\$5,191.20
162	Soil Health Management System Design	HU-Organic Crops + Livestock, <5	No	\$6,229.44
162	Soil Health Management System Design	Organic Crops + Livestock, 5 or more	No	\$6,489.00
162	Soil Health Management System Design	HU-Organic Crops + Livestock, 5 or more	No	\$7,786.80
162	Soil Health Management System Design	Organic Crops, <5	No	\$3,568.95
162	Soil Health Management System Design	HU-Organic Crops, <5	No	\$4,282.74
162	Soil Health Management System Design	Organic Crops, 5 or more	No	\$4,866.75
162	Soil Health Management System Design	HU-Organic Crops, 5 or more	No	\$5,840.10
162	Soil Health Management System Design	Small Farm	No	\$2,433.38
162	Soil Health Management System Design	HU-Small Farm	No	\$2,920.05
163	Irrigation Water Management Design	1-2 Designs - With Pump Test	No	\$6,104.01
163	Irrigation Water Management Design	HU-1-2 Designs - With Pump Test	No	\$7,324.81
163	Irrigation Water Management Design	1-2 Designs - Without Pump Test	No	\$5,131.17
163	Irrigation Water Management Design	HU-1-2 Designs - Without Pump Test	No	\$6,157.40
163	Irrigation Water Management Design	3 or More Designs - With Pump Test	No	\$9,695.90
163	Irrigation Water Management Design	HU-3 or More Designs - With Pump Test	No	\$11,635.07
163	Irrigation Water Management Design	3 or More Designs - Without Pump Test	No	\$8,372.06
163	Irrigation Water Management Design	HU-3 or More Designs - Without Pump Test	No	\$10,046.47
164	Improved Management of Drainage Water Design	1-2 Designs - No Tile Map Available	No	\$6,833.97
164	Improved Management of Drainage Water Design	HU-1-2 Designs - No Tile Map Available	No	\$8,200.76
164	Improved Management of Drainage Water Design	1-2 Designs - Tile Map Available	No	\$5,015.61
164	Improved Management of Drainage Water Design	HU-1-2 Designs - Tile Map Available	No	\$6,018.73
164	Improved Management of Drainage Water Design	3 or More Designs - No Tile Map Available	No	\$8,589.68
164	Improved Management of Drainage Water Design	HU-3 or More Designs - No Tile Map Available	No	\$10,307.61
164	Improved Management of Drainage Water Design	3 or More Designs - Tile Map Available	No	\$7,887.68
164	Improved Management of Drainage Water Design	HU-3 or More Designs - Tile Map Available	No	\$9,465.21
165	Forest Management Practice Design	DIA 101 to 250 acres	No	\$756.00

Code	Practice	Component	Units	Unit Cost
165	Forest Management Practice Design	HU-DIA 101 to 250 acres	No	\$907.20
165	Forest Management Practice Design	DIA 21 to 100 acres	No	\$504.00
165	Forest Management Practice Design	HU-DIA 21 to 100 acres	No	\$604.80
165	Forest Management Practice Design	DIA 251 to 500 acres	No	\$1,008.00
165	Forest Management Practice Design	HU-DIA 251 to 500 acres	No	\$1,209.60
165	Forest Management Practice Design	DIA 501 to 1000 acres	No	\$1,197.00
165	Forest Management Practice Design	HU-DIA 501 to 1000 acres	No	\$1,436.40
165	Forest Management Practice Design	DIA Greater Than 1000 acres	No	\$1,449.00
165	Forest Management Practice Design	HU-DIA Greater Than 1000 acres	No	\$1,738.80
165	Forest Management Practice Design	DIA Less Than or Equal to 20 acres	No	\$315.00
165	Forest Management Practice Design	HU-DIA Less Than or Equal to 20 acres	No	\$378.00
199	Conservation Plan	High Complexity Plan, <200 acres	No	\$6,085.44
199	Conservation Plan	HU-High Complexity Plan, <200 acres	No	\$7,302.53
199	Conservation Plan	High Complexity Plan, >1,000 acres	No	\$8,557.34
199	Conservation Plan	HU-High Complexity Plan, >1,000 acres	No	\$10,268.80
199	Conservation Plan	High Complexity Plan, 200-1,000 acres	No	\$7,415.69
199	Conservation Plan	HU-High Complexity Plan, 200-1,000 acres	No	\$8,898.82
199	Conservation Plan	Low Complexity Plan, <200 acres	No	\$3,100.50
199	Conservation Plan	HU-Low Complexity Plan, <200 acres	No	\$3,720.60
199	Conservation Plan	Low Complexity Plan, >1,000 acres	No	\$6,085.44
199	Conservation Plan	HU-Low Complexity Plan, >1,000 acres	No	\$7,302.53
199	Conservation Plan	Low Complexity Plan, 200-1,000 acres	No	\$4,566.60
199	Conservation Plan	HU-Low Complexity Plan, 200-1,000 acres	No	\$5,479.92
199	Conservation Plan	Medium Complexity Plan, <200 acres	No	\$4,566.60
199	Conservation Plan	HU-Medium Complexity Plan, <200 acres	No	\$5,479.92
199	Conservation Plan	Medium Complexity Plan, >1,000 acres	No	\$7,415.69
199	Conservation Plan	HU-Medium Complexity Plan, >1,000 acres	No	\$8,898.82
199	Conservation Plan	Medium Complexity Plan, 200-1,000 acres	No	\$6,085.44
199	Conservation Plan	HU-Medium Complexity Plan, 200-1,000 acres	No	\$7,302.53

Code	Practice	Component	Units	Unit Cost
199	Conservation Plan	Small Farm – less than or equal to 10 acres	No	\$2,445.53
199	Conservation Plan	HU-Small Farm – less than or equal to 10 acres	No	\$2,934.63
201	Edge-of-Field Water Quality Monitoring-Data Collection and Evaluation	Data Collect Surface Last Year	No	\$21,123.68
201	Edge-of-Field Water Quality Monitoring-Data Collection and Evaluation	HU-Data Collect Surface Last Year	No	\$25,348.42
201	Edge-of-Field Water Quality Monitoring-Data Collection and Evaluation	Data Collect Surface Last Year with two treatment sites	No	\$30,643.34
201	Edge-of-Field Water Quality Monitoring-Data Collection and Evaluation	HU-Data Collect Surface Last Year with two treatment sites	No	\$36,772.01
201	Edge-of-Field Water Quality Monitoring-Data Collection and Evaluation	Data Collect Surface Year 1 plus - NO QAPP	No	\$17,768.48
201	Edge-of-Field Water Quality Monitoring-Data Collection and Evaluation	HU-Data Collect Surface Year 1 plus - NO QAPP	No	\$21,322.18
201	Edge-of-Field Water Quality Monitoring-Data Collection and Evaluation	Data Collect Surface Year 1+ less QAPP (pre-install information) with two treatment sites	No	\$25,610.54
201	Edge-of-Field Water Quality Monitoring-Data Collection and Evaluation	HU-Data Collect Surface Year 1+ less QAPP (pre-install information) with two treatment sites	No	\$30,732.65
201	Edge-of-Field Water Quality Monitoring-Data Collection and Evaluation	Data Collect Surface Year 1-QAPP	No	\$24,143.36
201	Edge-of-Field Water Quality Monitoring-Data Collection and Evaluation	HU-Data Collect Surface Year 1-QAPP	No	\$28,972.03
201	Edge-of-Field Water Quality Monitoring-Data Collection and Evaluation	Data Collect Surface Year 1-QAPP with two treatment Sites	No	\$33,495.26
201	Edge-of-Field Water Quality Monitoring-Data Collection and Evaluation	HU-Data Collect Surface Year 1-QAPP with two treatment Sites	No	\$40,194.32
201	Edge-of-Field Water Quality Monitoring-Data Collection and Evaluation	Data Collect Tile Last Year	No	\$47,027.09
201	Edge-of-Field Water Quality Monitoring-Data Collection and Evaluation	HU-Data Collect Tile Last Year	No	\$56,432.50
201	Edge-of-Field Water Quality Monitoring-Data Collection and Evaluation	Data Collect Tile Last Year with two treatment sites	No	\$67,761.49

Code	Practice	Component	Units	Unit Cost
201	Edge-of-Field Water Quality Monitoring-Data Collection and Evaluation	HU-Data Collect Tile Last Year with two treatment sites	No	\$81,313.79
201	Edge-of-Field Water Quality Monitoring-Data Collection and Evaluation	Data Collect Tile Year 1 plus - NO QAPP	No	\$43,671.89
201	Edge-of-Field Water Quality Monitoring-Data Collection and Evaluation	HU-Data Collect Tile Year 1 plus - NO QAPP	No	\$52,406.26
201	Edge-of-Field Water Quality Monitoring-Data Collection and Evaluation	Data Collect Tile Year 1+ less QAPP (pre-install information) with two treatment sites	No	\$62,728.69
201	Edge-of-Field Water Quality Monitoring-Data Collection and Evaluation	HU-Data Collect Tile Year 1+ less QAPP (pre-install information) with two treatment sites	No	\$75,274.43
201	Edge-of-Field Water Quality Monitoring-Data Collection and Evaluation	Data Collect Tile Year 1-QAPP	No	\$50,046.77
201	Edge-of-Field Water Quality Monitoring-Data Collection and Evaluation	HU-Data Collect Tile Year 1-QAPP	No	\$60,056.12
202	Edge-of-Field Water Quality Monitoring-System Installation	System Installation-Above And Below	No	\$30,026.08
202	Edge-of-Field Water Quality Monitoring-System Installation	HU-System Installation-Above And Below	No	\$36,031.29
202	Edge-of-Field Water Quality Monitoring-System Installation	System Installation-Above And Below cold climate	No	\$32,913.42
202	Edge-of-Field Water Quality Monitoring-System Installation	HU-System Installation-Above And Below cold climate	No	\$39,496.11
202	Edge-of-Field Water Quality Monitoring-System Installation	System Installation-Retrofit 1	No	\$3,781.18
202	Edge-of-Field Water Quality Monitoring-System Installation	HU-System Installation-Retrofit 1	No	\$4,537.42
202	Edge-of-Field Water Quality Monitoring-System Installation	System Installation-Retrofit 2	No	\$8,190.82
202	Edge-of-Field Water Quality Monitoring-System Installation	HU-System Installation-Retrofit 2	No	\$9,828.98
202	Edge-of-Field Water Quality Monitoring-System Installation	System Installation-Retrofit 3	No	\$10,894.61
202	Edge-of-Field Water Quality Monitoring-System Installation	HU-System Installation-Retrofit 3	No	\$13,073.54
202	Edge-of-Field Water Quality Monitoring-System Installation	System Installation-Retrofit Above 3	No	\$17,949.67
202	Edge-of-Field Water Quality Monitoring-System Installation	HU-System Installation-Retrofit Above 3	No	\$21,539.60
202	Edge-of-Field Water Quality Monitoring-System Installation	System Installation-Retrofit Above and Below 1	No	\$4,280.26
202	Edge-of-Field Water Quality Monitoring-System Installation	HU-System Installation-Retrofit Above and Below 1	No	\$5,136.31
202	Edge-of-Field Water Quality Monitoring-System Installation	System Installation-Surface	No	\$22,003.01
202	Edge-of-Field Water Quality Monitoring-System Installation	HU-System Installation-Surface	No	\$26,403.62
202	Edge-of-Field Water Quality Monitoring-System Installation	System Installation-Surface Cold Climate	No	\$22,581.94

Code	Practice	Component	Units	Unit Cost
202	Edge-of-Field Water Quality Monitoring-System Installation	HU-System Installation-Surface Cold Climate	No	\$27,098.32
202	Edge-of-Field Water Quality Monitoring-System Installation	System Installation-Tile	No	\$29,962.69
202	Edge-of-Field Water Quality Monitoring-System Installation	HU-System Installation-Tile	No	\$35,955.23
202	Edge-of-Field Water Quality Monitoring-System Installation	System Installation-Tile Cold Climate	No	\$29,962.69
202	Edge-of-Field Water Quality Monitoring-System Installation	HU-System Installation-Tile Cold Climate	No	\$35,955.23
207	Site Assessment and Soil Testing for Contaminants Activity	Site Evaluation and Soil Testing for Contaminants	No	\$10,065.60
207	Site Assessment and Soil Testing for Contaminants Activity	HU-Site Evaluation and Soil Testing for Contaminants	No	\$12,078.72
207	Site Assessment and Soil Testing for Contaminants Activity	Site Evaluation for Potential Contaminants	No	\$3,355.20
207	Site Assessment and Soil Testing for Contaminants Activity	HU-Site Evaluation for Potential Contaminants	No	\$4,026.24
207	Site Assessment and Soil Testing for Contaminants Activity	Soil Testing and Subsurface Investigation	No	\$6,710.40
207	Site Assessment and Soil Testing for Contaminants Activity	HU-Soil Testing and Subsurface Investigation	No	\$8,052.48
207	Site Assessment and Soil Testing for Contaminants Activity	Soil Testing for Contaminants on Low Risk Sites	kSqFt	\$131.93
207	Site Assessment and Soil Testing for Contaminants Activity	HU-Soil Testing for Contaminants on Low Risk Sites	kSqFt	\$158.32
209	PFAS Testing in Water or Soil	PFAS Testing: Complicated (High Complexity) Sampling - Multiple Samples	No	\$789.65
209	PFAS Testing in Water or Soil	HU-PFAS Testing: Complicated (High Complexity) Sampling - Multiple Samples	No	\$947.58
209	PFAS Testing in Water or Soil	PFAS Testing: Simple (Low Complexity) Sampling - Single Sample	No	\$923.86
209	PFAS Testing in Water or Soil	HU-PFAS Testing: Simple (Low Complexity) Sampling - Single Sample	No	\$1,108.63
209	PFAS Testing in Water or Soil	PFAS Testing: Simple (Low Complexity) Sampling - Multiple Samples	No	\$655.44
209	PFAS Testing in Water or Soil	HU-PFAS Testing: Simple (Low Complexity) Sampling - Multiple Samples	No	\$786.53
216	Soil Health Testing	Basic Soil Health Suite	No	\$112.29
216	Soil Health Testing	HU-Basic Soil Health Suite	No	\$134.75
216	Soil Health Testing	Basic Soil Health Suite - No Labor	No	\$98.93
216	Soil Health Testing	HU-Basic Soil Health Suite - No Labor	No	\$118.72
216	Soil Health Testing	Basic Soil Health Suite + Chemical	No	\$154.21
216	Soil Health Testing	HU-Basic Soil Health Suite + Chemical	No	\$185.05
216	Soil Health Testing	Basic Soil Health Suite + Comprehensive Chemical - No Labor	No	\$140.85
216	Soil Health Testing	HU-Basic Soil Health Suite + Comprehensive Chemical - No Labor	No	\$169.02
216	Soil Health Testing	Single Indicator - No Labor	No	\$40.55
216	Soil Health Testing	HU-Single Indicator - No Labor	No	\$48.66

Code	Practice	Component	Units	Unit Cost
216	Soil Health Testing	Soil Health and Dynamic Soil Properties	No	\$2,021.28
216	Soil Health Testing	HU-Soil Health and Dynamic Soil Properties	No	\$2,425.54
217	Soil and Source Testing for Nutrient Management	Manure or Compost Only	No	\$783.33
217	Soil and Source Testing for Nutrient Management	HU-Manure or Compost Only	No	\$940.00
217	Soil and Source Testing for Nutrient Management	Small scale - Soil and Nutrient Source Test	No	\$340.06
217	Soil and Source Testing for Nutrient Management	HU-Small scale - Soil and Nutrient Source Test	No	\$408.07
217	Soil and Source Testing for Nutrient Management	Soil and Source Material Test	No	\$2,692.44
217	Soil and Source Testing for Nutrient Management	HU-Soil and Source Material Test	No	\$3,230.92
217	Soil and Source Testing for Nutrient Management	Soil Test Only	No	\$667.91
217	Soil and Source Testing for Nutrient Management	HU-Soil Test Only	No	\$801.49
217	Soil and Source Testing for Nutrient Management	Soil Test Only Garden Plots/Raised Beds	No	\$430.78
217	Soil and Source Testing for Nutrient Management	HU-Soil Test Only Garden Plots/Raised Beds	No	\$516.93
217	Soil and Source Testing for Nutrient Management	Soil Test- pH Emphasis	No	\$186.60
217	Soil and Source Testing for Nutrient Management	HU-Soil Test- pH Emphasis	No	\$223.92
217	Soil and Source Testing for Nutrient Management	Source Water Nutrient Test	No	\$594.24
217	Soil and Source Testing for Nutrient Management	HU-Source Water Nutrient Test	No	\$713.09
217	Soil and Source Testing for Nutrient Management	Zone or Grid Soil Test	No	\$1,346.73
217	Soil and Source Testing for Nutrient Management	HU-Zone or Grid Soil Test	No	\$1,616.07
218	Carbon Sequestration and Greenhouse Gas Mitigation Assessment	High Complexity	No	\$1,342.08
218	Carbon Sequestration and Greenhouse Gas Mitigation Assessment	HU-High Complexity	No	\$1,610.50
218	Carbon Sequestration and Greenhouse Gas Mitigation Assessment	Low Complexity	No	\$671.04
218	Carbon Sequestration and Greenhouse Gas Mitigation Assessment	HU-Low Complexity	No	\$805.25
218	Carbon Sequestration and Greenhouse Gas Mitigation Assessment	Medium Complexity	No	\$1,006.56
218	Carbon Sequestration and Greenhouse Gas Mitigation Assessment	HU-Medium Complexity	No	\$1,207.87
221	Soil Organic Carbon Stock Measurement	Carbon Stock Monitoring	No	\$1,251.51

Code	Practice	Component	Units	Unit Cost
221	Soil Organic Carbon Stock Measurement	HU-Carbon Stock Monitoring	No	\$1,501.82
222	Indigenous Stewardship Methods Evaluation	ISME 1001 to 3,000 Acres	No	\$16,686.57
222	Indigenous Stewardship Methods Evaluation	HU-ISME 1001 to 3,000 Acres	No	\$20,023.89
222	Indigenous Stewardship Methods Evaluation	ISME 11 to 300 Acres	No	\$6,750.30
222	Indigenous Stewardship Methods Evaluation	HU-ISME 11 to 300 Acres	No	\$8,100.36
222	Indigenous Stewardship Methods Evaluation	ISME 301 to 1,000 Acres	No	\$12,535.91
222	Indigenous Stewardship Methods Evaluation	HU-ISME 301 to 1,000 Acres	No	\$15,043.09
222	Indigenous Stewardship Methods Evaluation	ISME Less Than or Equal to 10 Acres	No	\$5,057.29
222	Indigenous Stewardship Methods Evaluation	HU-ISME Less Than or Equal to 10 Acres	No	\$6,068.75
223	Forest Management Assessment	CEMA 101 to 250 acres	No	\$2,268.00
223	Forest Management Assessment	HU-CEMA 101 to 250 acres	No	\$2,721.60
223	Forest Management Assessment	CEMA 21 to 100 acres	No	\$1,197.00
223	Forest Management Assessment	HU-CEMA 21 to 100 acres	No	\$1,436.40
223	Forest Management Assessment	CEMA 251 to 500 acres	No	\$3,402.00
223	Forest Management Assessment	HU-CEMA 251 to 500 acres	No	\$4,082.40
223	Forest Management Assessment	CEMA 501 to 1000 acres	No	\$4,284.00
223	Forest Management Assessment	HU-CEMA 501 to 1000 acres	No	\$5,140.80
223	Forest Management Assessment	CEMA Greater Than 1000 acres	No	\$5,733.00
223	Forest Management Assessment	HU-CEMA Greater Than 1000 acres	No	\$6,879.60
223	Forest Management Assessment	CEMA less than or equal to 20 acres	No	\$630.00
223	Forest Management Assessment	HU-CEMA less than or equal to 20 acres	No	\$756.00
224	Aquifer Flow Test	Aquifer Flow Test	No	\$1,369.23
224	Aquifer Flow Test	HU-Aquifer Flow Test	No	\$1,643.08
228	Agricultural Energy Assessment	Large size, 1 Enterprise	No	\$3,753.11
228	Agricultural Energy Assessment	HU-Large size, 1 Enterprise	No	\$4,503.73
228	Agricultural Energy Assessment	Large size, 2 Enterprises	No	\$4,982.01
228	Agricultural Energy Assessment	HU-Large size, 2 Enterprises	No	\$5,978.41
228	Agricultural Energy Assessment	Large size, 3 Enterprises	No	\$6,210.92
228	Agricultural Energy Assessment	HU-Large size, 3 Enterprises	No	\$7,453.10

Code	Practice	Component	Units	Unit Cost
228	Agricultural Energy Assessment	Large size, 4+ Enterprises	No	\$7,439.82
228	Agricultural Energy Assessment	HU-Large size, 4+ Enterprises	No	\$8,927.78
228	Agricultural Energy Assessment	Medium size, 1 Enterprise	No	\$2,855.93
228	Agricultural Energy Assessment	HU-Medium size, 1 Enterprise	No	\$3,427.11
228	Agricultural Energy Assessment	Medium size, 2 Enterprises	No	\$4,084.83
228	Agricultural Energy Assessment	HU-Medium size, 2 Enterprises	No	\$4,901.80
228	Agricultural Energy Assessment	Medium size, 3 Enterprises	No	\$5,313.74
228	Agricultural Energy Assessment	HU-Medium size, 3 Enterprises	No	\$6,376.48
228	Agricultural Energy Assessment	Medium size, 4+ Enterprises	No	\$6,542.64
228	Agricultural Energy Assessment	HU-Medium size, 4+ Enterprises	No	\$7,851.17
228	Agricultural Energy Assessment	Small size, 1 Enterprise	No	\$2,114.21
228	Agricultural Energy Assessment	HU-Small size, 1 Enterprise	No	\$2,537.05
228	Agricultural Energy Assessment	Small size, 2 Enterprises	No	\$3,343.11
228	Agricultural Energy Assessment	HU-Small size, 2 Enterprises	No	\$4,011.73
228	Agricultural Energy Assessment	Small size, 3 Enterprises	No	\$4,572.02
228	Agricultural Energy Assessment	HU-Small size, 3 Enterprises	No	\$5,486.42
228	Agricultural Energy Assessment	Small size, 4+ Enterprises	No	\$5,800.92
228	Agricultural Energy Assessment	HU-Small size, 4+ Enterprises	No	\$6,961.10
313	Waste Storage Facility	Bedded Pack - Concrete Floor and Concrete Walls	SqFt	\$10.15
313	Waste Storage Facility	HU-Bedded Pack - Concrete Floor and Concrete Walls	SqFt	\$12.18
313	Waste Storage Facility	Bedded Pack - Earth Floor and Concrete Walls	SqFt	\$4.61
313	Waste Storage Facility	HU-Bedded Pack - Earth Floor and Concrete Walls	SqFt	\$5.53
313	Waste Storage Facility	Bedded Pack - Earth Floor and Wood Walls	SqFt	\$3.04
313	Waste Storage Facility	HU-Bedded Pack - Earth Floor and Wood Walls	SqFt	\$3.65
313	Waste Storage Facility	Bedded Pack - Earth Floor with Concrete Walls and Concrete Apron	SqFt	\$6.35
313	Waste Storage Facility	HU-Bedded Pack - Earth Floor with Concrete Walls and Concrete Apron	SqFt	\$7.63
313	Waste Storage Facility	Buried Concrete Tank, Between 15,000 to 110,000 c.f. of storage	Cu-Ft	\$2.08
313	Waste Storage Facility	HU-Buried Concrete Tank, Between 15,000 to 110,000 c.f. of storage	Cu-Ft	\$2.50
313	Waste Storage Facility	Buried Concrete Tank, Greater than 110,000 c.f. of storage	Cu-Ft	\$2.02

Code	Practice	Component	Units	Unit Cost
313	Waste Storage Facility	HU-Buried Concrete Tank, Greater than 110,000 c.f. of storage	Cu-Ft	\$2.42
313	Waste Storage Facility	Buried Concrete Tank, Less than 14,999 c.f. of storage	Cu-Ft	\$3.20
313	Waste Storage Facility	HU-Buried Concrete Tank, Less than 14,999 c.f. of storage	Cu-Ft	\$3.84
313	Waste Storage Facility	Dry Stack - Concrete floor and concrete walls	SqFt	\$8.61
313	Waste Storage Facility	HU-Dry Stack - Concrete floor and concrete walls	SqFt	\$10.33
313	Waste Storage Facility	Dry Stack - Concrete floor and no walls	SqFt	\$6.30
313	Waste Storage Facility	HU-Dry Stack - Concrete floor and no walls	SqFt	\$7.57
313	Waste Storage Facility	Embankment Storage Pond	Cu-Ft	\$0.06
313	Waste Storage Facility	HU-Embankment Storage Pond	Cu-Ft	\$0.07
313	Waste Storage Facility	Excavated Storage Pond	Cu-Ft	\$0.10
313	Waste Storage Facility	HU-Excavated Storage Pond	Cu-Ft	\$0.12
313	Waste Storage Facility	Steel or Concrete Above Ground Storage Structure	Cu-Ft	\$3.09
313	Waste Storage Facility	HU-Steel or Concrete Above Ground Storage Structure	Cu-Ft	\$3.71
314	Brush Management	Chemical - Riparian	Ac	\$118.67
314	Brush Management	HU-Chemical - Riparian	Ac	\$142.41
314	Brush Management	Chemical, Foliar Spot Treatment	Ac	\$31.51
314	Brush Management	HU-Chemical, Foliar Spot Treatment	Ac	\$37.81
314	Brush Management	Chemical, Uplands	Ac	\$23.99
314	Brush Management	HU-Chemical, Uplands	Ac	\$28.79
314	Brush Management	Mechanical and Chemical, Heavy Infestation	Ac	\$308.35
314	Brush Management	HU-Mechanical and Chemical, Heavy Infestation	Ac	\$370.02
314	Brush Management	Mechanical and Chemical, Low Infestation	Ac	\$46.19
314	Brush Management	HU-Mechanical and Chemical, Low Infestation	Ac	\$55.42
314	Brush Management	Mechanical and Chemical, Medium Infestation	Ac	\$117.93
314	Brush Management	HU-Mechanical and Chemical, Medium Infestation	Ac	\$141.51
314	Brush Management	Mechanical and Chemical, Severe Infestation	Ac	\$468.45
314	Brush Management	HU-Mechanical and Chemical, Severe Infestation	Ac	\$562.14
314	Brush Management	Mechanical, Hand tools	Ac	\$52.38
314	Brush Management	HU-Mechanical, Hand tools	Ac	\$62.86

Code	Practice	Component	Units	Unit Cost
327	Conservation Cover	Introduced Species	Ac	\$159.68
327	Conservation Cover	HU-Introduced Species	Ac	\$191.62
327	Conservation Cover	Introduced with Foregone Income	Ac	\$382.35
327	Conservation Cover	HU-Introduced with Foregone Income	Ac	\$405.15
327	Conservation Cover	Monarch Species Mix	Ac	\$671.23
327	Conservation Cover	HU-Monarch Species Mix	Ac	\$805.47
327	Conservation Cover	Native Species	Ac	\$175.17
327	Conservation Cover	HU-Native Species	Ac	\$210.20
327	Conservation Cover	Native Species with Foregone Income	Ac	\$443.55
327	Conservation Cover	HU-Native Species with Foregone Income	Ac	\$478.59
327	Conservation Cover	Pollinator Species	Ac	\$538.37
327	Conservation Cover	HU-Pollinator Species	Ac	\$646.04
327	Conservation Cover	Pollinator Species with Foregone Income	Ac	\$680.53
327	Conservation Cover	HU-Pollinator Species with Foregone Income	Ac	\$762.96
328	Conservation Crop Rotation	Pr_Basic Rotation Organic and Non-Organic	Ac	\$12.27
328	Conservation Crop Rotation	Pr_Irrigated to Dryland Rotation Organic and Non-Organic	Ac	\$203.22
329	Residue and Tillage Management, No Till	No-Till/Strip-Till	Ac	\$16.48
329	Residue and Tillage Management, No Till	HU-No-Till/Strip-Till	Ac	\$19.78
332	Contour Buffer Strips	Introduced Species, Foregone Income (Organic and Non-Organic)	Ac	\$372.73
332	Contour Buffer Strips	HU-Introduced Species, Foregone Income (Organic and Non-Organic)	Ac	\$394.44
332	Contour Buffer Strips	Native Species, Foregone Income (Organic and Non-organic)	Ac	\$393.05
332	Contour Buffer Strips	HU-Native Species, Foregone Income (Organic and Non-organic)	Ac	\$418.83
340	Cover Crop	Cover Crop - Adaptive Management	No	\$2,114.63
340	Cover Crop	HU-Cover Crop - Adaptive Management	No	\$2,537.55
340	Cover Crop	Cover Crop - Basic (Organic and Non-organic)	Ac	\$44.91
340	Cover Crop	HU-Cover Crop - Basic (Organic and Non-organic)	Ac	\$65.32
340	Cover Crop	Cover Crop - Multiple Species (Organic and Non-organic)	Ac	\$56.22
340	Cover Crop	HU-Cover Crop - Multiple Species (Organic and Non-organic)	Ac	\$81.77
340	Cover Crop	Cover Crop Multiple Species Frost Terminated Organic and Non-Organic	Ac	\$43.57

Code	Practice	Component	Units	Unit Cost
340	Cover Crop	HU-Cover Crop Multiple Species Frost Terminated Organic and Non-Organic	Ac	\$63.38
342	Critical Area Planting	Native or Introduced Vegetation - Normal Tillage (Organic and Non-Organic)	Ac	\$315.24
342	Critical Area Planting	HU-Native or Introduced Vegetation - Normal Tillage (Organic and Non-Organic)	Ac	\$378.29
342	Critical Area Planting	Native Vegetation - Heavy Grading	Ac	\$1,071.15
342	Critical Area Planting	HU-Native Vegetation - Heavy Grading	Ac	\$1,285.38
342	Critical Area Planting	Native Vegetation - Moderate Grading	Ac	\$743.17
342	Critical Area Planting	HU-Native Vegetation - Moderate Grading	Ac	\$891.80
362	Diversion	Diversion	CuYd	\$2.83
362	Diversion	HU-Diversion	CuYd	\$3.40
367	Roofs and Covers	Flex Membrane w/Flare	SqFt	\$7.81
367	Roofs and Covers	HU-Flex Membrane w/Flare	SqFt	\$9.37
367	Roofs and Covers	Flexible Membrane Cover Only	SqFt	\$0.89
367	Roofs and Covers	HU-Flexible Membrane Cover Only	SqFt	\$1.07
367	Roofs and Covers	Hoop Structure Roof	SqFt	\$8.96
367	Roofs and Covers	HU-Hoop Structure Roof	SqFt	\$10.75
367	Roofs and Covers	Timber or Steel Sheet Roof	SqFt	\$12.20
367	Roofs and Covers	HU-Timber or Steel Sheet Roof	SqFt	\$14.64
382	Fence	Barbed Wire, Multi-strand	Ft	\$2.11
382	Fence	HU-Barbed Wire, Multi-strand	Ft	\$2.53
382	Fence	Barbed Wire, Multi-strand with Fence Markers	Ft	\$2.23
382	Fence	HU-Barbed Wire, Multi-strand with Fence Markers	Ft	\$2.67
382	Fence	Barbed Wire, Multi-strand with fence markers, difficult terrain	Ft	\$2.58
382	Fence	HU-Barbed Wire, Multi-strand with fence markers, difficult terrain	Ft	\$3.09
382	Fence	Barbed Wire, Multi-strand, difficult terrain	Ft	\$2.50
382	Fence	HU-Barbed Wire, Multi-strand, difficult terrain	Ft	\$3.00
382	Fence	Confinement	Ft	\$4.77
382	Fence	HU-Confinement	Ft	\$5.72
382	Fence	Electric, high tensile with energizer	Ft	\$0.99
382	Fence	HU-Electric, high tensile with energizer	Ft	\$1.19

Code	Practice	Component	Units	Unit Cost
382	Fence	Electric, high tensile with energizer and fence markers	Ft	\$1.12
382	Fence	HU-Electric, high tensile with energizer and fence markers	Ft	\$1.35
382	Fence	Portable Fence	Ft	\$0.21
382	Fence	HU-Portable Fence	Ft	\$0.25
382	Fence	Protective Fence	Ft	\$1.91
382	Fence	HU-Protective Fence	Ft	\$2.29
382	Fence	Woven Wire	Ft	\$2.03
382	Fence	HU-Woven Wire	Ft	\$2.43
386	Field Border	Pr_Field Border, Introduced Species, Forgone Income	Ac	\$378.33
386	Field Border	Pr_Field Border, Native Species, Forgone Income	Ac	\$438.06
386	Field Border	Pr_Field Border, Pollinator, Forgone Income	Ac	\$722.43
390	Riparian Herbaceous Cover	Native Species	Ac	\$129.71
390	Riparian Herbaceous Cover	HU-Native Species	Ac	\$155.65
390	Riparian Herbaceous Cover	Native Species with foregone income	Ac	\$175.21
390	Riparian Herbaceous Cover	HU-Native Species with foregone income	Ac	\$201.15
391	Riparian Forest Buffer	Pr_Bare-root, machine planted (FI)	Ac	\$1,714.15
391	Riparian Forest Buffer	Pr_Direct Seeding (FI)	Ac	\$1,085.27
391	Riparian Forest Buffer	Pr_Small container, machine planted (FI)	Ac	\$2,615.53
393	Filter Strip	Pr_Filter Strip, Introduced species, Forgone Income	Ac	\$470.11
393	Filter Strip	Pr_Filter Strip, Native species, Forgone Income	Ac	\$513.14
410	Grade Stabilization Structure	Concrete Block Chute	SqFt	\$5.18
410	Grade Stabilization Structure	HU-Concrete Block Chute	SqFt	\$6.22
410	Grade Stabilization Structure	Concrete Box Drop	CuYd	\$812.96
410	Grade Stabilization Structure	HU-Concrete Box Drop	CuYd	\$975.55
410	Grade Stabilization Structure	Embankment, No PS	CuYd	\$3.81
410	Grade Stabilization Structure	HU-Embankment, No PS	CuYd	\$4.57
410	Grade Stabilization Structure	Embankment, Pipe <24 inch	CuYd	\$5.14
410	Grade Stabilization Structure	HU-Embankment, Pipe <24 inch	CuYd	\$6.17
410	Grade Stabilization Structure	Embankment, Pipe >=24 inch	CuYd	\$4.14

Code	Practice	Component	Units	Unit Cost
410	Grade Stabilization Structure	HU-Embankment, Pipe >=24 inch	CuYd	\$4.97
410	Grade Stabilization Structure	Gabion Rock Drop Structures	CuYd	\$146.34
410	Grade Stabilization Structure	HU-Gabion Rock Drop Structures	CuYd	\$175.61
410	Grade Stabilization Structure	Modular Concrete Block Drop	CuYd	\$169.01
410	Grade Stabilization Structure	HU-Modular Concrete Block Drop	CuYd	\$202.81
410	Grade Stabilization Structure	Pipe Drop, CMP	SqFt	\$17.02
410	Grade Stabilization Structure	HU-Pipe Drop, CMP	SqFt	\$20.43
410	Grade Stabilization Structure	Pipe Drop, Plastic - NP Reg 1	SqFt	\$51.99
410	Grade Stabilization Structure	HU-Pipe Drop, Plastic - NP Reg 1	SqFt	\$62.39
410	Grade Stabilization Structure	Rock Chute	CuYd	\$103.06
410	Grade Stabilization Structure	HU-Rock Chute	CuYd	\$123.67
410	Grade Stabilization Structure	Sheet Pile Weir Drop	SqFt	\$48.44
410	Grade Stabilization Structure	HU-Sheet Pile Weir Drop	SqFt	\$58.13
410	Grade Stabilization Structure	Tied Concrete Block Mat	SqFt	\$8.65
410	Grade Stabilization Structure	HU-Tied Concrete Block Mat	SqFt	\$10.38
412	Grassed Waterway	Waterway with Side Dikes or Checks	Ac	\$5,019.01
412	Grassed Waterway	HU-Waterway with Side Dikes or Checks	Ac	\$6,022.81
412	Grassed Waterway	Waterway, 25 to 50 ft2	Ac	\$3,777.29
412	Grassed Waterway	HU-Waterway, 25 to 50 ft2	Ac	\$4,532.74
430	Irrigation Pipeline	PVC, 10-in by the foot	Ft	\$12.45
430	Irrigation Pipeline	HU-PVC, 10-in by the foot	Ft	\$14.94
441	Irrigation System, Microirrigation	SDI (Subsurface Drip Irrigation)	Ac	\$1,907.66
441	Irrigation System, Microirrigation	HU-SDI (Subsurface Drip Irrigation)	Ac	\$2,289.20
442	Sprinkler System	Gravity to Pivot Conversion	Ft	\$31.14
442	Sprinkler System	HU-Gravity to Pivot Conversion	Ft	\$50.60
442	Sprinkler System	Gravity to Pivot Conversion with VRI	Ft	\$51.96
442	Sprinkler System	HU-Gravity to Pivot Conversion with VRI	Ft	\$84.43
442	Sprinkler System	Linear Move System	Ft	\$93.23
442	Sprinkler System	HU-Linear Move System	Ft	\$111.88

Code	Practice	Component	Units	Unit Cost
442	Sprinkler System	System Renovation, Renozzle with Drops	No	\$27.94
442	Sprinkler System	HU-System Renovation, Renozzle with Drops	No	\$33.53
442	Sprinkler System	VRI System Retrofit Zone	Ft	\$41.11
442	Sprinkler System	HU-VRI System Retrofit Zone	Ft	\$49.33
449	Irrigation Water Management	Consulatant Based IWM No Equipment	No	\$545.28
449	Irrigation Water Management	HU-Consulatant Based IWM No Equipment	No	\$654.34
449	Irrigation Water Management	IWM, Advanced Technique	No	\$2,286.72
449	Irrigation Water Management	HU-IWM, Advanced Technique	No	\$2,744.06
449	Irrigation Water Management	IWM, Advanced Technique Incorporating Precision Irrigation	No	\$3,796.56
449	Irrigation Water Management	HU-IWM, Advanced Technique Incorporating Precision Irrigation	No	\$4,555.87
472	Access Control	Pr_Animal exclusion from sensitive areas (FI)	Ac	\$45.67
500	Obstruction Removal	Removal and Disposal of Brush and Trees <= 6 inch Diameter	Ac	\$856.45
500	Obstruction Removal	HU-Removal and Disposal of Brush and Trees <= 6 inch Diameter	Ac	\$1,027.74
500	Obstruction Removal	Removal and Disposal of Brush and Trees > 6 inch Diameter	Ac	\$1,638.30
500	Obstruction Removal	HU-Removal and Disposal of Brush and Trees > 6 inch Diameter	Ac	\$1,965.96
500	Obstruction Removal	Removal and Disposal of Concrete Slab	SqFt	\$0.61
500	Obstruction Removal	HU-Removal and Disposal of Concrete Slab	SqFt	\$0.73
500	Obstruction Removal	Removal and Disposal of Fence, Feedlot	Ft	\$3.01
500	Obstruction Removal	HU-Removal and Disposal of Fence, Feedlot	Ft	\$3.61
500	Obstruction Removal	Removal and Disposal of Fence, landscape	Ft	\$0.95
500	Obstruction Removal	HU-Removal and Disposal of Fence, landscape	Ft	\$1.14
500	Obstruction Removal	Removal and disposal of individual landscape structures	SqFt	\$4.78
500	Obstruction Removal	HU-Removal and disposal of individual landscape structures	SqFt	\$5.74
500	Obstruction Removal	Removal and Disposal of Power Lines and Poles	Ft	\$2.71
500	Obstruction Removal	HU-Removal and Disposal of Power Lines and Poles	Ft	\$3.25
500	Obstruction Removal	Removal and Disposal of Steel and or Concrete Structures	SqFt	\$10.20
500	Obstruction Removal	HU-Removal and Disposal of Steel and or Concrete Structures	SqFt	\$12.23
500	Obstruction Removal	Removal and Disposal of Wood Structures	SqFt	\$5.31
500	Obstruction Removal	HU-Removal and Disposal of Wood Structures	SqFt	\$6.38

Code	Practice	Component	Units	Unit Cost
512	Pasture and Hay Planting	Introduced Perennial & Native Grass Mix	Ac	\$57.63
512	Pasture and Hay Planting	HU-Introduced Perennial & Native Grass Mix	Ac	\$69.16
512	Pasture and Hay Planting	Introduced Perennial & Native Grass Mix, foregone income	Ac	\$245.97
512	Pasture and Hay Planting	HU-Introduced Perennial & Native Grass Mix, foregone income	Ac	\$263.75
512	Pasture and Hay Planting	Introduced Perennial Grasses with lime application	Ac	\$132.98
512	Pasture and Hay Planting	HU-Introduced Perennial Grasses with lime application	Ac	\$159.57
512	Pasture and Hay Planting	Introduced Perennial Grasses-Legume	Ac	\$60.48
512	Pasture and Hay Planting	HU-Introduced Perennial Grasses-Legume	Ac	\$72.58
512	Pasture and Hay Planting	Introduced Perennial Grasses-Legume, foregone income	Ac	\$217.58
512	Pasture and Hay Planting	HU-Introduced Perennial Grasses-Legume, foregone income	Ac	\$229.67
512	Pasture and Hay Planting	Introduced Perennial Grasses-Legumes on irrigated cropland	Ac	\$94.57
512	Pasture and Hay Planting	HU-Introduced Perennial Grasses-Legumes on irrigated cropland	Ac	\$113.49
512	Pasture and Hay Planting	Native Perennial Grasses, multi species	Ac	\$121.57
512	Pasture and Hay Planting	HU-Native Perennial Grasses, multi species	Ac	\$145.89
512	Pasture and Hay Planting	Native Perennial Grasses, multi species, forgone income	Ac	\$278.67
512	Pasture and Hay Planting	HU-Native Perennial Grasses, multi species, forgone income	Ac	\$302.98
512	Pasture and Hay Planting	Organic	Ac	\$98.66
512	Pasture and Hay Planting	HU-Organic	Ac	\$118.39
512	Pasture and Hay Planting	Organic, forgone income	Ac	\$255.75
512	Pasture and Hay Planting	HU-Organic, forgone income	Ac	\$275.49
516	Livestock Pipeline	Backhoe, 2 inch dia. or less	Ft	\$4.65
516	Livestock Pipeline	HU-Backhoe, 2 inch dia. or less	Ft	\$5.59
516	Livestock Pipeline	Backhoe, greater than 2 inch dia.	Ft	\$6.57
516	Livestock Pipeline	HU-Backhoe, greater than 2 inch dia.	Ft	\$7.88
516	Livestock Pipeline	Boring, any diameter	Ft	\$58.14
516	Livestock Pipeline	HU-Boring, any diameter	Ft	\$69.76
516	Livestock Pipeline	Rural Water Connection Equipment	No	\$3,296.75
516	Livestock Pipeline	HU-Rural Water Connection Equipment	No	\$3,956.10
516	Livestock Pipeline	Shallow or Above Ground Pipeline, any diameter	Ft	\$2.35

Code	Practice	Component	Units	Unit Cost
516	Livestock Pipeline	HU-Shallow or Above Ground Pipeline, any diameter	Ft	\$2.82
516	Livestock Pipeline	Standard Installation, 2 inch dia. or less (KS/NE)	Ft	\$2.37
516	Livestock Pipeline	HU-Standard Installation, 2 inch dia. or less (KS/NE)	Ft	\$2.85
516	Livestock Pipeline	Standard Installation, greater than 2 inch dia.	Ft	\$4.42
516	Livestock Pipeline	HU-Standard Installation, greater than 2 inch dia.	Ft	\$5.31
520	Pond Sealing or Lining, Compacted Soil Treatment	Soil Dispersant - Covered	CuYd	\$5.21
520	Pond Sealing or Lining, Compacted Soil Treatment	HU-Soil Dispersant - Covered	CuYd	\$6.25
520	Pond Sealing or Lining, Compacted Soil Treatment	Use On-Site Material with Soil Cover	CuYd	\$4.45
520	Pond Sealing or Lining, Compacted Soil Treatment	HU-Use On-Site Material with Soil Cover	CuYd	\$5.34
521	Pond Sealing or Lining, Geomembrane or Geosynthetic Clay Liner	Flexible Membrane - Covered with liner drainage or venting	SqYd	\$15.50
521	Pond Sealing or Lining, Geomembrane or Geosynthetic Clay Liner	HU-Flexible Membrane - Covered with liner drainage or venting	SqYd	\$18.60
521	Pond Sealing or Lining, Geomembrane or Geosynthetic Clay Liner	Flexible Membrane - Covered without liner drainage or venting	SqYd	\$7.90
521	Pond Sealing or Lining, Geomembrane or Geosynthetic Clay Liner	HU-Flexible Membrane - Covered without liner drainage or venting	SqYd	\$9.47
521	Pond Sealing or Lining, Geomembrane or Geosynthetic Clay Liner	Flexible Membrane - Uncovered with liner drainage or venting	SqYd	\$14.49
521	Pond Sealing or Lining, Geomembrane or Geosynthetic Clay Liner	HU-Flexible Membrane - Uncovered with liner drainage or venting	SqYd	\$17.39
528	Prescribed Grazing	Cover Crop/Aftermath	Ac	\$6.05
528	Prescribed Grazing	HU-Cover Crop/Aftermath	Ac	\$7.27
528	Prescribed Grazing	Grazing Lands, 30-73% Rest	Ac	\$8.13
528	Prescribed Grazing	HU-Grazing Lands, 30-73% Rest	Ac	\$9.76
528	Prescribed Grazing	Grazing Lands, Greater than 73% Rest	Ac	\$11.19
528	Prescribed Grazing	HU-Grazing Lands, Greater than 73% Rest	Ac	\$13.42
528	Prescribed Grazing	Habitat Mgt	Ac	\$12.98
528	Prescribed Grazing	HU-Habitat Mgt	Ac	\$15.58
528	Prescribed Grazing	Habitat Mgt. Long Term Monitoring	Ac	\$24.12
528	Prescribed Grazing	HU-Habitat Mgt. Long Term Monitoring	Ac	\$28.94

Code	Practice	Component	Units	Unit Cost
528	Prescribed Grazing	Livestock Deferment (FI)	Ac	\$45.26
528	Prescribed Grazing	HU-Livestock Deferment (FI)	Ac	\$45.67
528	Prescribed Grazing	Livestock Deferment (FI) High Production Sites	Ac	\$58.91
528	Prescribed Grazing	HU-Livestock Deferment (FI) High Production Sites	Ac	\$59.32
528	Prescribed Grazing	Range Long Term Monitoring	Ac	\$16.94
528	Prescribed Grazing	HU-Range Long Term Monitoring	Ac	\$20.33
528	Prescribed Grazing	Range, 3-6 Pastures	Ac	\$5.31
528	Prescribed Grazing	HU-Range, 3-6 Pastures	Ac	\$6.38
528	Prescribed Grazing	Range, 7 or More Pastures	Ac	\$7.13
528	Prescribed Grazing	HU-Range, 7 or More Pastures	Ac	\$8.55
528	Prescribed Grazing	Small Ranch Unit	Ac	\$23.45
528	Prescribed Grazing	HU-Small Ranch Unit	Ac	\$28.14
533	Pumping Plant	Irrigation, Modify Pump	No	\$22,268.07
533	Pumping Plant	HU-Irrigation, Modify Pump	No	\$26,721.68
533	Pumping Plant	Irrigation, Submersible or Booster	No	\$6,833.18
533	Pumping Plant	HU-Irrigation, Submersible or Booster	No	\$8,199.81
533	Pumping Plant	irrigation, Surface Water	No	\$11,508.61
533	Pumping Plant	HU-irrigation, Surface Water	No	\$13,810.33
533	Pumping Plant	Irrigation, Variable Frequency Drive	No	\$5,121.75
533	Pumping Plant	HU-Irrigation, Variable Frequency Drive	No	\$6,146.10
533	Pumping Plant	Livestock, Manure Transfer	No	\$17,944.80
533	Pumping Plant	HU-Livestock, Manure Transfer	No	\$21,533.76
533	Pumping Plant	Livestock, Variable Frequency Drive	No	\$5,098.32
533	Pumping Plant	HU-Livestock, Variable Frequency Drive	No	\$6,117.98
533	Pumping Plant	Livestock, w/ Pressure Tank, Low HP	No	\$3,855.77
533	Pumping Plant	HU-Livestock, w/ Pressure Tank, Low HP	No	\$4,626.93
533	Pumping Plant	Livestock, without Pressure Tank (HP)	HP	\$1,765.14
533	Pumping Plant	HU-Livestock, without Pressure Tank (HP)	HP	\$2,118.17
533	Pumping Plant	Solar-Powered Pump 1hp	No	\$6,280.34

Code	Practice	Component	Units	Unit Cost
533	Pumping Plant	HU-Solar-Powered Pump 1hp	No	\$7,536.41
533	Pumping Plant	Windmill-Powered Pump - NP Region	No	\$6,303.51
533	Pumping Plant	HU-Windmill-Powered Pump - NP Region	No	\$7,564.21
550	Range Planting	Native, Heavy Prep	Ac	\$136.47
550	Range Planting	HU-Native, Heavy Prep	Ac	\$163.77
550	Range Planting	Native, Standard Prep	Ac	\$121.57
550	Range Planting	HU-Native, Standard Prep	Ac	\$145.89
550	Range Planting	Native, Standard Prep (FI)	Ac	\$167.08
550	Range Planting	HU-Native, Standard Prep (FI)	Ac	\$191.39
550	Range Planting	Native, Wildlife, or Pollinator (FI)	Ac	\$219.27
550	Range Planting	HU-Native, Wildlife, or Pollinator (FI)	Ac	\$254.02
561	Heavy Use Area Protection	Reinforced Concrete with sand or gravel foundation - cubic yard - NP Region	CuYd	\$348.05
561	Heavy Use Area Protection	HU-Reinforced Concrete with sand or gravel foundation - cubic yard - NP Region	CuYd	\$417.67
561	Heavy Use Area Protection	Rock/Gravel	CuYd	\$19.27
561	Heavy Use Area Protection	HU-Rock/Gravel	CuYd	\$23.13
561	Heavy Use Area Protection	Rock/Gravel on Geotextile - cubic yard - NP Region	CuYd	\$35.28
561	Heavy Use Area Protection	HU-Rock/Gravel on Geotextile - cubic yard - NP Region	CuYd	\$42.34
561	Heavy Use Area Protection	Rock/Gravel-GeoCell-Geotextile	SqFt	\$2.71
561	Heavy Use Area Protection	HU-Rock/Gravel-GeoCell-Geotextile	SqFt	\$3.25
578	Stream Crossing	Bridge	SqFt	\$51.32
578	Stream Crossing	HU-Bridge	SqFt	\$61.58
578	Stream Crossing	Culvert installation	DialnFt	\$2.62
578	Stream Crossing	HU-Culvert installation	DialnFt	\$3.14
578	Stream Crossing	Low water crossing, concrete block	SqFt	\$10.43
578	Stream Crossing	HU-Low water crossing, concrete block	SqFt	\$12.52
578	Stream Crossing	Low water crossing, concrete slab	SqFt	\$8.29
578	Stream Crossing	HU-Low water crossing, concrete slab	SqFt	\$9.95
578	Stream Crossing	Low water crossing, geocell	SqFt	\$4.32
578	Stream Crossing	HU-Low water crossing, geocell	SqFt	\$5.18

Code	Practice	Component	Units	Unit Cost
578	Stream Crossing	Low water crossing, rock armor	SqFt	\$5.63
578	Stream Crossing	HU-Low water crossing, rock armor	SqFt	\$6.76
587	Structure for Water Control	Flow Meter with Electronic Index & Telemetry	In	\$369.39
587	Structure for Water Control	HU-Flow Meter with Electronic Index & Telemetry	In	\$443.27
587	Structure for Water Control	Flow Meter with Mechanical Index	In	\$134.20
587	Structure for Water Control	HU-Flow Meter with Mechanical Index	In	\$161.04
590	Nutrient Management	Pr_Adaptive NM	No	\$2,588.70
590	Nutrient Management	Pr_Basic NM (Non-Organic/Organic)	Ac	\$8.75
590	Nutrient Management	Pr_Basic NM (Organic/NonOrganic) greater than or equal to 0.5-10 acres	No	\$295.16
590	Nutrient Management	Pr_Basic NM with Manure and/or Compost (Non-Organic/Organic)	Ac	\$18.56
590	Nutrient Management	Pr_Prescription Nutrient Efficiency	Ac	\$42.37
590	Nutrient Management	Pr_Prescription Nutrient Efficiency and Precision Application	Ac	\$57.01
595	Pest Management Conservation System	Pr_Basic IPM Field Crops – Herbicide Substitution	Ac	\$32.60
595	Pest Management Conservation System	Pr_Pest Management Precision Ag	Ac	\$57.39
595	Pest Management Conservation System	Pr_Water Quality Pesticide Mitigation = 30 Point AND/OR Beneficial Insect Pesticide Mitigation	Ac	\$35.81
595	Pest Management Conservation System	Pr_Water Quality Pesticide Mitigation = 30 Point AND/OR Beneficial Insect Pesticide Mitigation - Small Farm	No	\$1,052.87
595	Pest Management Conservation System	Pr_Water Quality Pesticide Mitigation > 30 Point AND/OR Beneficial Insect Pesticide Mitigation	Ac	\$62.35
595	Pest Management Conservation System	Pr_Water Quality Pesticide Mitigation > 30 Point AND/OR Beneficial Insect Pesticide Mitigation - Small Farm	No	\$1,748.56
614	Watering Facility	Enclosed Storage Tank	Gal	\$1.37
614	Watering Facility	HU-Enclosed Storage Tank	Gal	\$1.65
614	Watering Facility	Fiberglass Tank on Concrete	Gal	\$2.13
614	Watering Facility	HU-Fiberglass Tank on Concrete	Gal	\$2.56
614	Watering Facility	Fiberglass Tank on Earth	Gal	\$1.77
614	Watering Facility	HU-Fiberglass Tank on Earth	Gal	\$2.13
614	Watering Facility	Rubber Tire Tank on Concrete	Gal	\$1.83
614	Watering Facility	HU-Rubber Tire Tank on Concrete	Gal	\$2.19

Code	Practice	Component	Units	Unit Cost
614	Watering Facility	Rubber Tire Tank on Earth	Gal	\$1.46
614	Watering Facility	HU-Rubber Tire Tank on Earth	Gal	\$1.76
614	Watering Facility	Steel Rim Tank - Bottomless	Gal	\$0.39
614	Watering Facility	HU-Steel Rim Tank - Bottomless	Gal	\$0.46
614	Watering Facility	Steel Rim Tank - Concrete Base	Gal	\$1.56
614	Watering Facility	HU-Steel Rim Tank - Concrete Base	Gal	\$1.88
614	Watering Facility	Steel Tank	Gal	\$1.77
614	Watering Facility	HU-Steel Tank	Gal	\$2.12
620	Underground Outlet	>=12 inch Single Wall PE Pipe (non-perf or perf), Multi-Inlet System	Lnft	\$10.19
620	Underground Outlet	HU->=12 inch Single Wall PE Pipe (non-perf or perf), Multi-Inlet System	Lnft	\$12.22
620	Underground Outlet	10 inch Single Wall PE Pipe (non-perf or perf), Multi-Inlet System	Lnft	\$7.70
620	Underground Outlet	HU-10 inch Single Wall PE Pipe (non-perf or perf), Multi-Inlet System	Lnft	\$9.24
620	Underground Outlet	12 inch - 18 inch PVC or DW Pipe, Multi-Inlet System	Ft	\$22.08
620	Underground Outlet	HU-12 inch - 18 inch PVC or DW Pipe, Multi-Inlet System	Ft	\$26.50
620	Underground Outlet	12 inch - 18 inch PVC or DW Pipe, Single-Inlet System	Ft	\$30.38
620	Underground Outlet	HU-12 inch - 18 inch PVC or DW Pipe, Single-Inlet System	Ft	\$36.46
620	Underground Outlet	4 inch - 6 inch PVC or DW Pipe, Multi-Inlet System	Ft	\$6.48
620	Underground Outlet	HU-4 inch - 6 inch PVC or DW Pipe, Multi-Inlet System	Ft	\$7.78
620	Underground Outlet	6 inch - 10 inch PVC or DW Pipe, Single-Inlet System	Ft	\$18.59
620	Underground Outlet	HU-6 inch - 10 inch PVC or DW Pipe, Single-Inlet System	Ft	\$22.31
620	Underground Outlet	6 inch or smaller Single Wall PE Pipe(non-perf or perf), Multi-Inlet System	Ft	\$3.80
620	Underground Outlet	HU-6 inch or smaller Single Wall PE Pipe(non-perf or perf), Multi-Inlet System	Ft	\$4.55
620	Underground Outlet	8 inch - 10 inch PVC or DW Pipe, Multi-Inlet System	Ft	\$15.56
620	Underground Outlet	HU-8 inch - 10 inch PVC or DW Pipe, Multi-Inlet System	Ft	\$18.68
620	Underground Outlet	8 inch Single Wall PE Pipe (non-perf or perf), Multi-Inlet System	Lnft	\$5.31
620	Underground Outlet	HU-8 inch Single Wall PE Pipe (non-perf or perf), Multi-Inlet System	Lnft	\$6.37
620	Underground Outlet	Over 18 inch PVC or DW Pipe, Single- or Multi-Inlet System	Ft	\$38.12
620	Underground Outlet	HU-Over 18 inch PVC or DW Pipe, Single- or Multi-Inlet System	Ft	\$45.74
634	Waste Transfer	Agitator, Slurry Transfer	No	\$25,224.89

Code	Practice	Component	Units	Unit Cost
634	Waste Transfer	HU-Agitator, Slurry Transfer	No	\$30,269.87
634	Waste Transfer	Concrete Channel	SqFt	\$11.69
634	Waste Transfer	HU-Concrete Channel	SqFt	\$14.03
634	Waste Transfer	Gravity flow, less than or equal to 18 inch diameter conduit	Ft	\$25.26
634	Waste Transfer	HU-Gravity flow, less than or equal to 18 inch diameter conduit	Ft	\$30.31
634	Waste Transfer	Pressure flow, 10 inch diameter conduit	Ft	\$28.41
634	Waste Transfer	HU-Pressure flow, 10 inch diameter conduit	Ft	\$34.09
634	Waste Transfer	Pressure flow, 12 inch or greater diameter conduit	Ft	\$41.47
634	Waste Transfer	HU-Pressure flow, 12 inch or greater diameter conduit	Ft	\$49.77
634	Waste Transfer	Pressure flow, 8 inch diameter conduit	Ft	\$19.69
634	Waste Transfer	HU-Pressure flow, 8 inch diameter conduit	Ft	\$23.63
634	Waste Transfer	Pressure flow, less than or equal to 6 inch diameter conduit	Ft	\$13.36
634	Waste Transfer	HU-Pressure flow, less than or equal to 6 inch diameter conduit	Ft	\$16.04
635	Vegetated Treatment Area	Concrete Curb with major shaping	Ac	\$9,224.14
635	Vegetated Treatment Area	HU-Concrete Curb with major shaping	Ac	\$11,068.97
635	Vegetated Treatment Area	Concrete Curb, with or without flow spreaders	Ac	\$3,577.17
635	Vegetated Treatment Area	HU-Concrete Curb, with or without flow spreaders	Ac	\$4,292.60
635	Vegetated Treatment Area	Gated Pipe with major shaping	Ac	\$9,402.56
635	Vegetated Treatment Area	HU-Gated Pipe with major shaping	Ac	\$11,283.08
635	Vegetated Treatment Area	Gated Pipe, with or without flow spreaders	Ac	\$2,340.74
635	Vegetated Treatment Area	HU-Gated Pipe, with or without flow spreaders	Ac	\$2,808.88
635	Vegetated Treatment Area	Minor Shaping	Ac	\$1,032.02
635	Vegetated Treatment Area	HU-Minor Shaping	Ac	\$1,238.43
635	Vegetated Treatment Area	Sprinkler, Center Pivot	Ac	\$3,331.86
635	Vegetated Treatment Area	HU-Sprinkler, Center Pivot	Ac	\$3,998.24
635	Vegetated Treatment Area	Sprinkler, Mobile Pods	Ac	\$3,179.06
635	Vegetated Treatment Area	HU-Sprinkler, Mobile Pods	Ac	\$3,814.87
635	Vegetated Treatment Area	Sprinkler, Solid Set Distribution	Ac	\$6,308.25
635	Vegetated Treatment Area	HU-Sprinkler, Solid Set Distribution	Ac	\$7,569.90

Code	Practice	Component	Units	Unit Cost
642	Water Well	Dual Casing PVC	Ft	\$47.43
642	Water Well	HU-Dual Casing PVC	Ft	\$56.91
642	Water Well	Dug (Excavated) Well	Ft	\$417.05
642	Water Well	HU-Dug (Excavated) Well	Ft	\$500.46
642	Water Well	Single PVC Casing with pitless unit, greater than 100 ft. deep	Ft	\$42.26
642	Water Well	HU-Single PVC Casing with pitless unit, greater than 100 ft. deep	Ft	\$50.72
642	Water Well	Single PVC Casing, greater than 100 ft. deep	Ft	\$40.52
642	Water Well	HU-Single PVC Casing, greater than 100 ft. deep	Ft	\$48.62
642	Water Well	Steel or Copper, 100 ft. or deeper	Lnft	\$61.43
642	Water Well	HU-Steel or Copper, 100 ft. or deeper	Lnft	\$73.72
642	Water Well	Well Point	Ft	\$102.64
642	Water Well	HU-Well Point	Ft	\$123.17

Appendix B2: Written Comments Submitted by Small Entity Representatives following the July 17, 2023 Panel Outreach Meeting

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American Association of Meat Processors (AAMP)



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July 31, 2023

To Whom It May Concern,

I want to thank the Environmental Protection Agency (EPA) for the opportunity to serve on the panel as a small entity representative and give input during the current Effluent Limitations Guidelines rulemaking process. My name is Chris Young, and I am Executive Director of the American Association of Meat Processors (AAMP). AAMP is America's largest meat trade association, representing over 1600 establishments. There are 30 state, regional, and provincial associations of meat processors that are also affiliated with AAMP. The majority of our members are small and very small businesses, with most of them being family-owned and operated.

I would like to start my comments by addressing my concern with the sources from which EPA gathered the data they are using as a basis for some of the findings in their proposed rulemaking. I am specifically concerned with the accuracy of the answers to the EPA Meat and Poultry Products Detailed Questionnaire. As a trade association, AAMP attempted to work with small processors who contacted us about it and tried to help them understand and answer the questions in the survey. I fear most small and very small plant owners know very little about wastewater and really did not understand terms that were used in the questionnaire as they relate to wastewater, and therefore their answers may have been good guesses at best or left blank. Part of the survey asked about pounds produced; for most small processors these are numbers they do not need to track; USDA facilities are the only facilities that have to provide estimated daily averages. A large portion of small or very small processors engage in retail-exempt or custom-exempt processing as part or all of their business and have no need to track these numbers.

Additionally, I know that many small processors were also very hesitant to give financial information on the survey, and I am concerned that the financial number from 2021 will not show an accurate picture of the small side of the industry. Income for small and very small plants went up considerably during 2020 and 2021 due to the effects of Covid on the industry. There was a large rush on grocery stores when everything first shut down for Covid, and families were eating 3 meals a day at home. When grocery stores could not supply what consumers needed, they began looking elsewhere and found what they needed in small retail butcher shops. Consumers were also recipients of government assistance during this time, which enabled them to spend more on food. Many bought meat products in larger quantities. Small plants also processed many more animals for farmers as larger packing plants were temporarily closed or operating at a greatly reduced capacity. All these factors led to an increase in business and revenue during this time and is not indicative of what revenue may look like in the future.



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I am also concerned that the only wastewater tested came from 6 larger facilities and that no small facilities were monitored to see their output. Is there really enough phosphorus and nitrate discharge coming from these small plants to affect the recipient of direct discharge or the POTW receiving the discharge? I think EPA needs to take a closer look at what the discharge looks like coming from the smaller facilities, which do a number of different processes, to better understand what the actual wastewater discharge is in these small plants. I say this because small plants often are very diverse in their operations, and there are no two that are alike. A small plant may slaughter and process those animals for local farmers as well as buy in boxed beef, pork, etc., to further process into other products to sell in the retail store. Many small plants do a variety of processing, particularly further processing from boxed meat.

I want to address the definitions of “small” and “very small plants” to eliminate any confusion. USDA defines a small plant as one that has less than 500 employees and a very small plant as one that has less than 10 employees. The Small Business Administration defines small as 1,000 employees or less. However, there are many large-production processing facilities that fit in the SBA definition, and their processes and environmental impact are much different than what I would consider small and very small. When I reference a small plant, I think of one that is 200 employees or less; in truth, it probably should be 100 or less. A very small plant should be 25 or less employees. The majority of our almost 1700 members would fall into these categories, and this is what I am referencing in my comments today.

My greatest concern is the financial impact on the small and very small processor. I was not on the panel during your first presentation, but I have seen the slides of that presentation. I am happy to see that the latest slides regarding the economic impact on small and very small plants reflect lower capital and ongoing cost estimates. That said, the cost will still be very prohibitive to small and very small plants. I fear that many will look at this as the last nail in their business, and they will close their doors. I am not trying to be dramatic; I just am trying to explain the factual impact this rule in its current form will have on these small businesses. The majority of small and very small businesses are multigenerational family-owned companies that work on low margins in order to provide services and goods in their local communities — many of which are rural communities that rely on the small processor to process their livestock or provide protein for their families. Farmers and consumers rely heavily on these small plants, and the impact of losing them would be devastating in our small rural communities.

The need for processing capacity in our country is at an all-time high and was identified by the President in 2020. President Biden committed funds to help expand slaughter and processing capacity through ongoing grant programs. Those grants help small and very small processors upgrade their equipment and facilities in order to increase processing capacity. The grants were needed because small and very small processors did not have the capital needed to make these improvements on their own. I bring this to your attention, because as the President is working to increase capacity on the small side of the



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industry, the proposed regulations from the EPA would have the opposite effect. We would see many small plants close, only furthering the problem of low capacity and extreme industry consolidation. We need to make sure that we do what we can to keep the small processor operating in a financially solvent way to ensure they remain able to provide their goods and services at a price that local farmers and consumers can afford. This will ensure the continuation of competitive markets for not only small farmers with their animals, but also for consumers.

AAMP and its members understand the environmental concerns, and we all want to be good stewards of the resources we have been given, but we need to find some sort of balance that considers not only the environmental impact but also the impact that this rulemaking will have on thousands of small businesses, their families and employees, and the farmers and communities they serve. How do we work together to accomplish these things? I believe there is a need for more information to be gathered on the small side of the industry because of the diversity of processes that go on in these plants and the varying degree of impact they actually have on the environment. AAMP would be willing to work with EPA to collect more specific data from our members through surveys and possible meetings. This way, EPA would get better baseline data on what is actually happening in these small facilities and what their wastewater discharge looks like. I would suggest that EPA look at the Regulatory Flexibility Act and work with AAMP to find regulatory alternatives that would minimize or eliminate the burden of the rule on small and very small processors. Slide 24 identifies an example regulatory structure; we would suggest the adjustment be made to the lbs. per year to have tiers of less than 2 million, between 2 million and 20 million, and then greater than 20 million. I think we need to get a better understanding of wastewater discharge data from the small and very small plants, but ultimately AAMP would like to see a regulatory exemption for small and very small processors.

Thank you again for the opportunity to be a part of this process and I am available to answer any questions or help in any way.

Sincerely,

A handwritten signature in black ink that reads "Christopher Young".

Christopher Young
Executive Director
American Association of Meat Processors

Bob's Processing Inc. and Michigan Meat Association

Scott Filbrandt

Representing Bob's Processing Inc. and
Michigan Meat Association

I would like to start by thanking you for allowing me to participate in these meetings as a representative for small and very small meat processors. I am writing on behalf of Bob's Processing Inc. and the Michigan Meat Association that has 120 active Members and growing.

I feel as if these pending new regulations are geared for the large, very large plants and ones that potentially dump directly into a waterway. These regulations are too broad and will hurt a lot of small and very small plants from slight to substantial increases in their operating expenses. This could result in many plants closing, with a loss of jobs to the local communities. The Biden Administration has a concentrated focus for growing the small processors with grants and low interest loans, so our food chain is not controlled by bigger companies. These pending regulations could stop plants in underserved communities from even opening due to the cost. Additionally, the underserved communities also will need massive amounts of technical support with the implementation of these new regulations. The USDA/FSIS advisory board recently met and were tasked with how to get underserved and indigenous communities funding for opening new meat plants. One of the recommendations was to communicate with other departments such as EPA. As I mentioned, these pending regulations could hinder these initiatives as well.

Below are points that support my concern.

My biggest argument is the size category and pounds of production per year of who this will affect. A significant number of plants in the MI meat association are under 100 employees. The plants with under 100 employees will incur a more significant financial hardship if these new regulations are imposed, than plants with over 100 employees. I would like to suggest that we reclassify the employee count for very small, small, medium and large plants. Most meat associations would consider small plants to be less than 100 employees and very small less than 25. Our plant has 8 counting myself, my brother and daughter. Furthermore, the pounds per year for Indirect Further Processor would hinder growth due to the pounds being too close together causing significant cost increases for water treatment. A better structure may be <2, 2-20 and >20.

The EPA has gone into the larger facilities and done testing of wastewater discharge. How does this correlate to the small and very small plants? Where is the research showing that a plant that has under 100 employees is doing the same type of discharge as these larger plants? Specifically, nitrites and phosphorus. Additionally, where is the evidence that these plants are producing so many Nitrites and Phosphorus vs the farm runoff?

In the regards to using a water bill to determine discharge, further processors are at a disadvantage. I will explain with a few examples. First, we purchase some frozen products and thaw them in a water bath. This could be upwards of 100 gallons of water each time we thaw product. This water is then dumped down the drain. It is 100% clean water as all the products being thawed are vacuum sealed. Next, our smokehouses shower products that are in a casing and sometimes for upwards of an hour shower time. This all is being counted as discharge. Again, it is 100% clean water. With the above said,

we do have instances of “dirty” water only in our clean up procedures. Our cleanup is about 1 to 2 hours long, however by using pressure washers that reduce the amount of water used versus using a common hose, we use less water during those 1-2 hours of cleanup. In sum, our water bill will indicate a huge amount of water used, but a very small ratio of that water is “dirty” water each day.

Here in Michigan EGLE is imposing regulations on plants however we have not been shown any scientific backing at all. I feel this is what the EPA is doing also. The testing that EPA has done is not taking into consideration that we operate significantly different than large processing facilities.

In sum, the EPA could change the size category to expand the exemption for small and very small plants. This may help to not have the burden of the expense. EPA needs to look at where the technical support for these regulations is going to come from if imposed. Is the support out there that is not costly so that plants can afford to get the support needed?

Speaking on this as a 2nd generation meat cutter. I don’t know much about wastewater, and I feel most of the people in the industry don’t. We all do know that we need clean water and do our very best to mitigate what goes down the drain to the environment.

- What is the production size of your facility? **We are a very small further processor**
- Do you know how much wastewater your facility generates? **No**
- Do you discharge directly into a surface water or do you send your wastewater to a POTW?
POTW
- What is your relationship with your POTW?
 - What technical assistance does the POTW provide you? **NONE**
 - Has the POTW discussed with you potential issues with the pollutants in your wastewater? Slug loads, quality/quantity of wastewater discharged, inconsistent flows, oil and grease issues **NO, We only know they like having us on the line as it is a dead end and we provide enough flow to help the system**
 - Does your facility have any limits from your POTW? **No**
- Are there other MPP facilities in your region you could work cooperatively with along with your POTW to address pollution (e.g. hauling waste water to another facility)? Are there other opportunities for cooperation or cost-sharing related to wastewater treatment? **This does not affect us but, there is many plants throughout Michigan that are small and very rural. This would be very expensive**
- How does your facility currently manage or treat wastewater? **None**
 - Best management practices can include dry clean up practices, grease and solids removal, segregate waste, minimize water usage, by-product recovery, animal pen waste management, blood handling, training, etc.
 - Does your facility employ any of these best management practices? If so, what type(s)? **N/A to our facility. I do know that most of the small slaughter plants have blood pits and separate tanks for the holding pens**

- Treatment technologies can include screens, oil & grease traps, equalization, dissolved air flotation, anaerobic lagoons, etc. Does your facility have any treatment technologies in place? If so, which ones? **N/A most that I know of in Michigan have lagoon systems**
- Some treatment technologies require space. For example, the size of an anaerobic lagoon should be greater the more waste is treated. Does your facility have space it could use for treatment technologies? If so, how much? **N/A**
- In thinking about the best management practices and treatment technologies discussed are there any that would be easier or more challenging for you to implement? Why? **We don't know anything about this tech. This is all new to most of us, most likely the cost would be the biggest challenge for most plants.**
- Are there practices or technologies where cost may be an issue? **Again don't know about the practices or tech, cost will most likely be an issue**
- Are there other challenges that would make it difficult for you to adopt any of the best management practices or treatment technologies discussed?
- Have you had difficulty finding vendors to take by-products and blood? **Many in Michigan have a very hard time getting rid of the by-products**
 - Are there other options for management of these by-products? **There is composting but, most facilities don't have the space, money or equipment needed**
- Are there specific concerns your facility has with the ability to comply with potential ELG revisions? For example: available space, lack of expertise, access to funding/borrowing to cover the cost of the capital equipment **The lack of expertise is definitely going to be the biggest hurdle. The second would be the funding for many plants in Michigan. The last hurdle would be space if there is equipment involved, most plants don't have room to add equipment to an existing facility without an addition.**
 - What type of technical assistance would your facility need? **As much as possible. No one that I have talked to has any knowledge at all about what we may need to do.**
- Is this ongoing rulemaking affecting how your facility makes decisions on current plans? How can EPA mitigate this? **This is a definite concern. We have talked about moving locations to expand but, with this regulation looming with the potential costs involved, we may put this on hold. USDA and the Biden administration is giving grants for small processors to expand. But the EPA is making it harder for these expansions.**
- What recommendations do you have for small business flexibilities to reduce burden? For example: delayed implementation schedule **Maybe looking at the size of plants for exemptions and pounds produced. If this was changed just a little bit it would not affect a lot of small and very small plants**
- Are there other federal regulations currently under development that apply to small entities in this industry that may overlap with this EPA action? **Not to my knowledge**

Boone's Butcher Shop and Kentucky Association of Meat Processors

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JULY 31, 2023

RE: SER Comments to Formal Conference – Meat & Poultry Products Effluent Limitations Guidelines Rulemaking

To whom it may concern,

Thank you for again allowing the small entity representatives (SER) provide comments back to the information presented at the formal conference regarding Meat & Poultry Products Effluent Limitations Guidelines Rulemaking on July 17, 2023.

I did appreciate that we spent time during the formal conference to discuss how the EPA could identify small or very small meat and poultry processors who may be excluded from the potential regulations. The exclusion of small plants could save this sector of the meat processing industry.

To be frank, I was disappointed in the information provided in the formal conference on July 17th. I put a lot of time and effort into my comments submitted on May 16, 2023, after the initial informal conference and asked a lot of questions within my comment letter that were not addressed during the conference or in any other format prior to the formal conference or following it. We were encouraged to ask questions in those comments, and based on that encouragement, I fully expected to receive answers to my questions. There are only a handful of SERs participating in this process, and the EPA took over 8 weeks to review our comments. I, like the other SERs, spent a considerable amount of time and effort composing my thoughts. I do not think the EPA adequately responded to most of the questions I posed in my original comment letter.

I would like to resubmit questions from my original comment letter dated May 16, 2023 that I believe are critical for the EPA to answer:

Page 3:

3. Has the EPA considered where the majority of the wastewater issues stemmed and whether regulating small processors has a significant impact on water quality?

Page 4:

1. What specific equipment would be required to treat wastewater at a small processing plant?
Although I did note that the formal conference presentation did provide some additional details on what types of treatments could potentially be implemented to address the regulations, I did not find them to be in enough detail for me to understand what I would have to do to comply with the potential proposed regulation. For the EPA to seriously understand the impact the proposed regulations would have on small processors, I believe this information is needed.
2. Is any of the equipment scalable to small processing plants?
3. How would the EPA regulate plants that do not have the space to implement all the necessary wastewater treatments?

Page 5:

1. What level of training or knowledge specifically is needed to operate and maintain the water treatment equipment with the understanding that nearly all small plants would have very little prior understanding of the treatments proposed? A 4-year degree, a 2-year degree, a 6-month course, a two-week course?
This question is of critical importance to the overall cost of implementing equipment or processes to comply with potential EPA wastewater regulations.
2. Does a workforce exist that can fill these roles?
3. To what degree does the EPA plan to provide technical assistance to small meat processors to comply with these requirements?
I would submit that this question is also of critical importance to determining the impact the potential proposed regulations would have on small meat processors.

Following the formal conference, Lanelle Wiggins sent out a list of questions the EPA has for the SERs. Please see my responses below notated with my initials ABP:

- What is the production size of your facility?
ABP: I submitted a response to the detailed version of the EPA's Meat & Poultry Questionnaire. My facility ID was DPK2788. Although I expressed during the formal conference that I do not have a lot of confidence in my answers, those are the best answers I could come up with to provide facility size. Our facility has approximately 40 full-time employees.
- Do you know how much wastewater your facility generates?
APB: Per our water and sewer bills, we generate approximately 2.5 million gallons per year, which would be approximately 6,900 gallons per day.
- Do you discharge directly into a surface water or do you send your wastewater to a POTW?
APB: We discharge to a POTW.
- What is your relationship with your POTW?
APB: We do not have a relationship with our POTW.
 - What technical assistance does the POTW provide you?
ABP: None.
 - Has the POTW discussed with you potential issues with the pollutants in your wastewater? Slug loads, quality/quantity of wastewater discharged, inconsistent flows, oil and grease issues
ABP: Our POTW has never contacted us regarding our wastewater. After the informal conference with the EPA in May, I reached out to our POTW to ask whether they had ever had any problems with our wastewater. They had not. We are a very small user of their system.
 - Does your facility have any limits from your POTW?
ABP: No.
- Are there other MPP facilities in your region you could work cooperatively with along with your POTW to address pollution (e.g. hauling waste water to another facility)? Are there other opportunities for cooperation or cost-sharing related to wastewater treatment?
ABP: No. Most small and very small meat processors are at least 60 miles from other processors in Kentucky.
- How does your facility currently manage or treat wastewater?
 - Best management practices can include dry clean up practices, grease and solids removal, segregate waste, minimize water usage, by-product recovery, animal pen waste management, blood handling, training, etc.

- Does your facility employ any of these best management practices? If so, what type(s)?
ABP: Yes, we do. I am not aware of dry clean up that would be appropriate in the meat processing industry, other than that we do remove debris from equipment prior to starting washdown procedures. We also use grease traps, drain screens for solids removal, and segregate blood during slaughter to dispose of with our solid waste. We provide training to our sanitation personnel on proper cleaning techniques including the removal of solids prior to beginning washdown, the emptying of screens into solid waste receptacles, and segregating blood from wastewater during slaughter.
- Treatment technologies can include screens, oil & grease traps, equalization, dissolved air flotation, anerobic lagoons, etc. Does your facility have any treatment technologies in place? If so, which ones?
ABP: Yes, we use screens and grease traps.
- Some treatment technologies require space. For example, the size of an anerobic lagoon should be greater the more waste is treated. Does your facility have space it could use for treatment technologies? If so, how much?
ABP: We have zero buildable space on our property. We were grandfathered into our location from our original establishment from 1946 and we are completely landlocked in the middle of a downtown area.
- In thinking about the best management practices and treatment technologies discussed are there any that would be easier or more challenging for you to implement? Why?
ABP: As noted above, we have no space to implement a lagoon. I am not familiar with how dissolved air flotation works or the space it requires. I searched the July 17, 2023, EPA presentation and did not see a description of equalization and do not know what that is. This question continues to illustrate the enormous knowledge gap between what a small meat processor knows about wastewater management and what the EPA implies we might know about wastewater management. In the first bullet point about treatment technologies, the bullet says, "Treatment technologies can include screens, oil & grease traps, equalization, dissolved air flotation, anerobic lagoons, etc." The only treatment technologies that I am aware of are those that the EPA has defined for me. From the last presentation, I finally got an understanding of what a DAF is. However, I still do not understand what one looks like, how much it might cost, how big it is, what it requires to operate one. I can say that grease traps, screens, and lagoons are concepts I understand, but cannot speak to the other technologies listed.
- Are there practices or technologies where cost may be an issue?
ABP: As discussed in my written comments submitted on May 16, 2023, yes, I believe cost is still a significant issue to implementing these technologies. I can only take costs into consideration based on the information provided in the EPA's presentation. Please refer to my lengthy response regarding cost in my first comment letter.
- Are there other challenges that would make it difficult for you to adopt any of the best management practices or treatment technologies discussed?
ABP: Again, I know very little about wastewater management. Please consider the lack of knowledge our the small and very small processor portion of the meat processing industry has regarding wastewater management and the technologies that would be needed. Most of us cannot answer a question about challenges because we do not understand the technologies well enough to do so.
- Have you had difficulty finding vendors to take by-products and blood?
 - Are there other options for management of these by-products?
ABP: It is difficult for us to dispose of beef hides. The remainder of our by-products go to a renderer.
- Are there specific concerns your facility has with the ability to comply with potential ELG revisions? For example: available space, lack of expertise, access to funding/borrowing to cover the cost of the capital equipment.
ABP: Yes, I have concerns about all of the examples you listed above. Again, please refer back to my May 16, 2023 written comments.

- What type of technical assistance would your facility need?
ABP: We would need a lot of technical assistance. We would need to understand exactly what technology or equipment we would need, how to run it, how to test water to see if it is working, how to maintain it.
- Is this ongoing rulemaking affecting how your facility makes decisions on current plans? How can EPA mitigate this?
ABP: Absolutely this is a factor in our current plans. We considered building a small fully cooked products plant, and we were planning to submit an application for the USDA's Meat Capacity Grant. We chose not to submit an application or move forward with a building at this time, in part, due to the potential financial burden these regulations could have. The best way to mitigate that would be to exclude small and very small processing plants from these potential regulations. A large meat processing plant that might expect to profit millions of dollars annually would be able to absorb these costs and still be profitable. I am not aware of a single small meat processor with less than 100 employees who would be able to absorb these costs.
- What recommendations do you have for small business flexibilities to reduce burden? For example: delayed implementation schedule
ABP: At the financial costs described in both of the EPA's presentations to the SERs, I do not believe you can reduce the burden without excluding us from these regulations. The financial costs would require a plant of our size to forego profits for several years. For smaller plants, they would have to forego profits for a decade or more. People are not going to be willing to work for free for that many years. I believe those who are already carrying a significant amount of debt will elect to file for bankruptcy rather than shell out millions of dollars to install technologies that do not generate revenues for their businesses.
- Are there other federal regulations currently under development that apply to small entities in this industry that may overlap with this EPA action?
ABP: Not I am aware of.

I continue to urge the EPA to consider the exclusion of small and very small meat processors from this regulation all together. I also urge the Small Business Administration to consider the how devastating the financial impact of these regulations will be to 1,000s of small meat processing businesses across the country. The amount of consolidation that has occurred within the food industry is already terrifying. Many small, rural communities across the country have no access to healthy, fresh food other than their local farmers and butcher shops. These potential regulations would further reduce access for those communities.

Sincerely,



Allison Boone Porteus

Vice President and Co-Owner

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July 31, 2023

In response to the zoom meeting on July 17 in regards to potential regulatory action.

Once again, thank you for allowing me to participate as a small entity representative. I appreciate this opportunity as this potential action could significantly impact members of the Missouri Association of Meat Processors (MAMP). There are still several items of concern for our membership that I would like to note.

Cost-While the amounts/numbers have decreased since the last time, these costs still could be substantial to our small processors. Substantial enough some may decide it is no longer feasible to be in business. This will have such a domino effect on their local community. Many of these businesses, too, have been a mainstay in their community for many generations. The costs are referred to on page 24 of the PowerPoint.

Size of small processor-Please keep in mind, most of MAMP members are less than 100 employees. MAMP represents 145 small and very small meat processors in Missouri and surrounding states. We define “small and very small” as less than 100 employees. Some of our processors have 2 employees. Less than 2 dozen have more than 50 employees.

Technical support-The comprehension and understanding of “what” the processor will need to do is overwhelming. They are going to need significant technical support on understanding these rules and procedures. *Is the EPA willing to assist with this support?*

We would like to try and answer some of the questions asked at the end of the PowerPoint.

- In thinking about the best management practices and treatment technologies discussed are there any that would be easier or more challenging for you to

implement? Why? The less complicated, the better. Clean, specific instructions and expectations will be required to fulfill what is being asked of the processor.

- Are there practices or technologies where cost may be an issue? As mentioned, cost is a huge issue/concern. This aspect of the business is not a money-maker and will take away from the bottom line in a huge way.
- Are there other challenges that would make it difficult for you to adopt any of the best management practices or treatment technologies discussed? We are curious how this could impact USDA and state inspected facilities. Will the inspectors understand what is being asked? Will USDA and EPA understand each others rules and make it understandable for the processor?
- Have you had difficulty finding vendors to take by-products and blood? There has been great difficulty in the last few years with “offal” in our industry. Beef hides use to make processors money and now it is an expense. Other issues have occurred with deer season offal as well.
- Are there specific concerns your facility has with the ability to comply with potential ELG revisions? For example: available space, lack of expertise, access to funding/borrowing to cover the cost of the capital equipment
 - What type of technical assistance would your facility need? Putting this into effect will take a lot of technical support. Space could be an issue depending on the size of the location (are they landlocked?).
- Is this ongoing rulemaking affecting how your facility makes decisions on current plans? How can EPA mitigate this? There could be capital projects a processor is looking to do but if this is going to cost, those projects (which could bring in more jobs and revenue for their city) would have to be put to the side.
- What recommendations do you have for small business flexibilities to reduce burden? For example: delayed implementation schedule. Please make sure there is plenty of time for implementation. If something is needing to be built, there could be the need to purchase land for more space. You never know how long a construction project will really take, etc.
- Are there other federal regulations currently under development that apply to small entities in this industry that may overlap with this EPA action? Please make sure EPA and USDA, local/state health department, Department of Agriculture are all on the same page. This will help tremendously.

MAMP appreciates the EPA considering these items while in this process. If MAMP can be of any more assistance, please contact me.

Sincerely,

Niki Mahan-Cloud

Niki Mahan-Cloud

Mark Reynolds

Mark Reynolds

Executive Director

MAMP President