

PART B OF THE SUPPORTING STATEMENT

1. QUESTIONNAIRE RATIONALE

The MPP Questionnaires will provide information essential to establishing a need for and developing, as necessary, revised regulations under Section 304(m) of the Clean Water Act. These data are essential for characterizing the nationwide and industry-specific status of MPP facilities' locations, the types of operations, wastewater characteristics, wastewater management technology, and for assessing the financial status of the industry potentially affected by proposed regulations.

1(a) Population of Interest

EPA intends to use responses from these questionnaires to inform further and more detailed analyses in the future. To obtain valuable information on the MPP industry's wastewater management practice, EPA has targeted MPP facilities with slaughtering, by-product processing, rendering, and further processing operations. The basic 5 domains of interest are: 1) Poultry slaughterers, 2) Meat slaughterers, 3) Poultry further processors, 4) Meat further processors, and 5) Renderers.

For the Census Questionnaire, EPA estimates the target population to consist of all MPP facilities in the US, approximately 7,000 facilities. This includes facilities of all sizes that perform operations across all five domains of interest.

For the Detailed Questionnaire, EPA estimates the target population to consist of 1,633 MPP facilities in the US, distributed across the industry based on size and type of operation. Large facilities are defined as those with operating production values based on data available from USDA. Details on how this target population was defined is addresses in Part B Section 2(a) Stratification/Sample Selection.

1(b) Response rate/Non-response

Non-response is relatively low for questionnaires sent under the authority of Section 308 of the Clean Water Act. The typical non-response rate for effluent guidelines questionnaires is 10 percent. EPA will employ several measures to reduce non-responses. The cover letter and instructions will explain the legal authority, responsibility to respond, reasons for the questionnaires, and penalty for nonresponse. Delivery or non-delivery of cover letters will be tracked using Federal Express or other traceable delivery option; thus, signatures of the recipients will be required to confirm receipt. E-mail and telephone helplines will be operated while the questionnaires are in the field so that technical, financial, and administrative questions can be addressed. Recipients not responding to the Census Questionnaire or Detailed Questionnaire by the deadline date may be telephoned or notified again by mail to encourage response, to answer questions, and to determine the reason(s) for the nonresponse.

To minimize non-response, EPA solicited comments on a draft list of questions and worked closely with industry experts to refine questions so that they are easy to understand with clearly defined and familiar terms, are formatted in a logical sequence, and request data that are

readily available within the industry. In this manner, EPA expects to minimize inaccurate or incomplete responses to questions that can occur due to misunderstanding and misinterpretation as well as the unintentional skipping of questions by respondents who respond via hardcopy (the electronic version of the questionnaires will prevent incomplete submissions).

The design and implementation of the questionnaires will employ several quality assurance techniques to reduce the frequency of such errors. These techniques include the following:

- Review of question language for ambiguity and clarity.
- Use of an easily followed sequence of questions and stopping points.
- Avoidance of questions requiring an open-ended response.
- Provision of a limited number of carefully considered responses to each question.
- Provision of clear definitions of units of measurement and of technical terms.
- Provision of clear instructions with references to the definitions.
- Provision of helplines via e-mail and a toll-free number to assist respondents.
- Review of questions by engineers, scientists, and economists who will telephone respondents to obtain missing information and resolve problems and inconsistencies.
- Use of a web-based questionnaire platform (Qualtrics) to require completion of all required questions.
- Provision of the Qualtrics platform to require specific response formats (e.g., numeric values where a number is requested) and acceptable value ranges.
- Use of double-entry keypunch verification on any hardcopy submittals.

2. COLLECTION OF INFORMATION

2(a) Stratification/Sample Selection

As the Census Questionnaire is to be distributed as a census, intended for response by all MPP facilities, no stratification or sampling scheme has been designed. The main data sources that contributed to the industry population are described in Part A Section 2(a) What Information Will Be Collected, Reported, or Recorded?

A stratification/sampling scheme has been designed for distribution of the Detailed Questionnaire. EPA will survey approximately 1,633 facilities with the Detailed Questionnaire. Stratification increases precision (reducing one source of uncertainty) for estimates of costs, benefits, and other quantities. The strata will be based on the stage of operation (slaughterer, processor, renderer), the meat type (meat, poultry), and the production volume based on production categories available from USDA FSIS. EPA has defined strata of 32 groups; however, five of these 32 groups have zero facilities, and therefore, will not be included in the Detailed Questionnaire population. This leaves a remaining 27 strata. Using the data available from USDA FSIS, EPA identified the following production volume categories:

- Volume 1 (very small facilities) – Less than 10,000 pounds per month processed and less than 1,000 head slaughters per year,
- Volume 2 (small facilities) – Between 10,000 and 100,000 pounds per month processed and between 1,000 and 10,000 head slaughtered per year,
- Volume 3 (medium facilities) – Between 100,000 and 1,000,000 pounds per month processed and between 10,000 and 100,000 head slaughtered per year,
- Volume 4 (large facilities) – Between 1,000,000 and 10,000,000 pounds per month processed and between 100,000 and 10,000,000 head slaughtered per year,
- Volume 5 (very large facilities) – Greater than 10,000,000 pounds per month processed and greater than 100,000,000 head slaughtered per year.

A size measure based on water discharged would be preferable, but this information does not exist in any available data source. It is assumed that the largest water dischargers will have larger production volumes, so using production as a stratification variable is a logical alternative. Table 2 -1 presents the stratification scheme developed for the MPP industry. Table 2 -2 shows the count of facilities in each stratum. These strata are based on the information in EPA’s facility list and include production volume, meat type, and type of processing. These counts include 316 renderers and 493 animal feeds facilities of unknown production. EPA also included separate strata for facilities that directly discharge wastewater. EPA identified these facilities as those with individual NPDES permits.

The sample for the Detailed Questionnaire will be from approximately 7,000 facilities. Facilities can fall into multiple strata with stratification as described above. Approximately 50 facilities will be selected with certainty to obtain information determined to be necessary for evaluating facility operations and best technology options. Also, it is anticipated that many very small facilities will not be eligible for the Detailed Questionnaire (e.g., out of business, not discharging water), not all sections and questions will be applicable. In drawing a sample, EPA used systematic sampling (with a random starting point in the frame) within each stratum, and sampling the same proportion across strata. Table 2-3 presents the sample size by stratum for the Detailed Questionnaire.

Table 2-1. Detailed Questionnaire Stratification Levels

Strata Level 1	Strata Level 2	Strata Level 3 ^a
Further Processing- Identified by SIC code 2047 and 2048 (dog and cat food, animal feed)		
Renderers		
Meat Slaughter	Production Volume 1	
Poultry Slaughter	Production Volume 1	
Further Processing (All Types)	Production Volume 1	
Meat Slaughter	Production Volume 1	Direct discharge
Poultry Slaughter- Direct	Production Volume 1	Direct discharge
Further Processing (All Types)	Production Volume 1	Direct discharge
Meat Slaughter	Production Volume 2	
Poultry Slaughter	Production Volume 2	
Further Processing (All Types)	Production Volume 2	

Table 2-1. Detailed Questionnaire Stratification Levels

Strata Level 1	Strata Level 2	Strata Level 3^a
Meat Slaughter	Production Volume 2	Direct discharge
Poultry Slaughter- Direct	Production Volume 2	Direct discharge
Further Processing (All Types)	Production Volume 2	Direct discharge
Meat Slaughter	Production Volume 3	
Poultry Slaughter	Production Volume 3	
Further Processing (All Types)	Production Volume 3	
Meat Slaughter	Production Volume 3	Direct discharge
Poultry Slaughter- Direct	Production Volume 3	Direct discharge
Further Processing (All Types)	Production Volume 3	Direct discharge
Meat Slaughter	Production Volume 4	
Poultry Slaughter	Production Volume 4	
Further Processing (All Types)	Production Volume 4	
Meat Slaughter	Production Volume 4	Direct discharge
Poultry Slaughter- Direct	Production Volume 4	Direct discharge
Further Processing (All Types)	Production Volume 4	Direct discharge
Meat Slaughter	Production Volume 5	
Poultry Slaughter	Production Volume 5	
Further Processing (All Types)	Production Volume 5	
Meat Slaughter	Production Volume 5	Direct discharge
Poultry Slaughter- Direct	Production Volume 5	Direct discharge
Further Processing (All Types)	Production Volume 5	Direct discharge

a – Strata level 3, those that have a direct discharge were identified based on which facilities have an individual NPDES permit.

Table 2-2. Detailed Questionnaire Stratification

Strata	Production Volume 1 ^a	Production Volume 2 ^b	Production Volume 3 ^c	Production Volume 4 ^d	Production Volume 5 ^e	Unknown Production Volume	All Production Volumes
Meat Slaughter	268	276	134	100	3	0	781
Poultry Slaughter	4	19	32	78	119	0	252
Further Processing - All	1,057	1,790	1,108	713	345	2	5,015
Further Processing - Dog and cat food, animal feed						493	493
Renderers						316	316
Meat Slaughter - Direct discharge	0	2	5	23	0	0	30
Poultry Slaughter - Direct discharge	0	0	0	6	48	0	54
Further Processing All - Direct discharge	1	6	13	25	75	0	120
Total	1,330	2,093	1,292	945	590	811	7,061

a - Less than 10,000 pounds per month processed and less than 1,000 head slaughters per year,

b - Between 10,000 and 100,000 pounds per month processed and between 1,000 and 10,000 head slaughtered per year,

c - Between 100,000 and 1,000,000 pounds per month processed and between 10,000 and 100,000 head slaughtered per year,

d - Between 1,000,000 and 10,000,000 pounds per month processed and between 100,000 and 10,000,000 head slaughtered per year,

e - Greater than 10,000,000 pounds per month processed and greater than 100,000,000 head slaughtered per year.

Table 2-3. Detailed Questionnaire Sample Size

Strata	Production Volume 1^a	Production Volume 2^b	Production Volume 3^c	Production Volume 4^d	Production Volume 5^e	Unknown Production Volume	All Production Volumes
Meat Slaughter	106	107	84	73	3	0	373
Poultry Slaughter	4	19	32	65	80	0	200
Further Processing - All	132	136	132	126	112	0	638
Further Processing - Dog and cat food, animal feed						120	120
Renderers						110	110
Meat Slaughter - Direct discharge	0	2	5	23	0	0	30
Poultry Slaughter - Direct discharge	0	0	0	6	48	0	54
Further Processing All - Direct discharge	1	6	13	25	63	0	108
Totals	242	270	266	318	306	230	1,633^f

a - Less than 10,000 pounds per month processed and less than 1,000 head slaughters per year,

b - Between 10,000 and 100,000 pounds per month processed and between 1,000 and 10,000 head slaughtered per year,

c - Between 100,000 and 1,000,000 pounds per month processed and between 10,000 and 100,000 head slaughtered per year,

d - Between 1,000,000 and 10,000,000 pounds per month processed and between 100,000 and 10,000,000 head slaughtered per year,

e - Greater than 10,000,000 pounds per month processed and greater than 100,000,000 head slaughtered per year.

f – Approximately 50 facilities across all strata will be selected with certainty.

3. ESTIMATION PROCEDURE

As the Census Questionnaire is designed as a census, no sample size estimation is needed. However, there will be some nonresponse, thus EPA will not have perfect information and will analyze this after results are received.

The sample size identified in Table 2-3 is based on anticipated response rates. EPA estimated the response rate when calculating the sample size based on historic data and information from the ICR conducted in support of the previous MPP ELG. As noted previously in this supporting statement, the typical non-response rate for effluent guidelines questionnaires is 10 percent. The ICR conducted as part of the 2004 MPP ELG was consistent with this standard, with response rates from 91 to 93 percent (a non-response rate of 7 to 9 percent). EPA expects the non-response rate to the Detailed Questionnaire to be similar, roughly 10 percent. The rate of full responses, facilities that found all or almost all sections of the previous MPP ICR applicable, was roughly 67 percent. To estimate the required sample size for this Detailed Questionnaire, EPA assumed a similar rate of full responses. EPA estimates that 10 percent of facilities will not respond, 23 percent of facilities will be non-applicable for all parts of the questionnaire, and the remaining 67 percent will provide full responses.

4. ACCURACY/PRECISION

The Census Questionnaire is being distributed as a census; therefore, no estimation of sample size is needed. While 5,367 facilities will complete only the Census Questionnaire, the same questions will be completed by those facilities selected to complete the Detailed Questionnaire. As a result, EPA's resulting dataset will include responses to the Census questions for all MPP facilities.

EPA is developing a national rule and is concerned with the precision of the overall facility-level estimates which inform the industry profile, and the estimates made within strata which inform the industry subcategories and economics at various production scales. Because a sample of facilities will be given the Detailed Questionnaire rather than all facilities within the target population, it follows that some degree of uncertainty will be associated with estimates made from the data collected. The precision of these estimates depends on both the sample design and the sample size – that is, the number of facilities selected. One measure of precision is the width of the confidence interval for the estimate. Confidence intervals provide a range of values for a particular estimate that would be likely if the study were repeated an infinite number of times. EPA estimated the number of questionnaire responses needed for each stratum based on a 95 percent confidence level and 10 percent acceptable sampling error within each stratum (with a conservative assumption about percentage responding to a binary yes/no question). A survey plan must balance the desired level of detail, acceptable error, and sample size. More detail, such as sampling each production volume category, meat type and process type requires more strata, which requires a larger sample size. A low acceptable error also requires a larger sample size. For example, an error of +/- 5 percent would require 3,715 facilities receive the questionnaire. Aggregating strata and/or increasing the acceptable error are ways to decrease the sample size but results in lower detail and higher error. For example, an error of 20 percent would reduce the sample size to 590 facilities. The numbers and analysis discussed above are all based on reporting unweighted statistics at the level of the strata.

EPA expects to include certainty select facilities as part of the Detailed Questionnaire sample frame. These certainty selects will be primarily larger facilities.

5. SPECIALIZED SAMPLING PROCEDURES

No special sampling procedures are planned for this questionnaire.

6. DATA COLLECTION

This will be a single incident data collection; no periodic data collection is planned at this stage. Under this ICR, EPA intends to conduct a Census Questionnaire and Detailed Questionnaire of the MPP industry. The collection methods for each of these efforts have been described previously in this supporting statement.

7. RESPONSE RATE/NON-RESPONSE/DATA UTILITY

7(a) Response Rate

EPA expects that the response rate will be relatively high for this mandatory questionnaire effort, which will be conducted under the authority of Section 308 of the Clean Water Act. The sample size for the Census and Detailed Questionnaire is 7,000 facilities. The typical non-response rate for effluent guidelines questionnaires is 10 percent. EPA has adjusted the sample size for the Detailed Questionnaire to help ensure that the effective sample sizes (i.e., respondents) would be sufficient for precision requirements based on the non-response rate and estimated full responses described in Part B, Section 3. In addition to increasing the initial sample size, EPA would strive to improve the response rate by reminder letters, emails, and/or telephone calls. Furthermore, after receiving the responses, EPA intends to adjust the questionnaire weights based on the actual non-response rate and to review publicly available information in order to determine if non-respondents appear to have different characteristics than respondents. EPA would examine these characteristics both for the entire industry and for subgroups in the analyses. For any differences, EPA intends to determine the major causes, and to incorporate appropriate adjustments for bias.¹

7(b) Non- response

EPA recognizes that some non-response is unavoidable, and in past questionnaire efforts, EPA has waived the duty to respond in extreme and rare cases (e.g., natural disasters) which also might occur for this survey effort. As noted throughout this supporting statement, EPA will implement efforts to reduce non-response, including use of an easy-to-use format, operating helplines, and following up with potential non-respondents.

7(c) Burden Reduction

EPA designed the Census and Detailed Questionnaires to include burden-reducing features. The Census Questionnaire contains initial screening questions that direct respondents

¹ Bias is the difference between the expected value of an estimate and the true value of a parameter or quantity being estimated. If the data collection process generates estimates that are consistently (or on average) above or consistently below the true value, the data collection process is biased

that do not qualify as MPP facilities to indicate their status and then submit their initial responses without the need to respond to the remaining questions. The sections within the Detailed Questionnaire also contain screening questions which direct respondents to skip questions or whole sections that reference activities or operations that are not conducted at the MPP facility. The Census and Detailed Questionnaires also group similar topic questions together and will offer drop-down menu and checkbox selections to simplify responses, thus minimizing the number of text responses requiring input.

The Census Questionnaire consists of 24 questions and should not require a burden of more than 6 hours (on average) for each facilities' respondents to complete, verify, and submit. The Detailed Questionnaire consists of 81 questions and should not require a burden of more than 24 hours (on average) for each facility's respondents to complete, verify, and submit. EPA will implement the questionnaires online which will facilitate access and completion.

For those respondents without internet access, the cover letter and instruction packet will inform the respondent on how to request a paper questionnaire that can then be completed and mailed to EPA's contractor for input into the electronic system. EPA therefore concludes that completing the questionnaires does not represent an overly burdensome task.

7(d) Data Utility

The data collected through this ICR will serve to update current information, fill in missing data, and profile the universe of MPP facilities with sufficient information to support ELG revisions. Subsequently, if EPA pursues a rulemaking, data will be used to conduct further analyses of the MPP industry and support proposed and/or final rulemaking analyses.

8. TESTS OF PROCEDURES

EPA does not intend to pre-test the questionnaires. For more than 30 years, EPA's Engineering and Analysis Division (EAD) has conducted surveys of numerous industrial sectors to collect information to support regulation development activities in the effluent guidelines program. While EPA develops different questionnaires for each industry, there are common elements for all industries. The questionnaires collect the same basic data such as information about processes, treatment, and financial status. Thus, when EPA develops a questionnaire for a particular industry, it generally tailors the questions for specific terms and processes used by that industry. In past years, EPA has relied predominantly on active participation by trade groups and their members in reviewing the questionnaires. In EPA's experience, such collaboration generally tends to better reflect the industry at large than pre-tests. As discussed in Part A of this supporting statement, EPA has already engaged several trade associations and industry experts regarding this data collection. EPA expects to continue to discuss and refine this questionnaire with industry experts prior to implementation. For this reason, EPA considers additional review through the pre-test process to be unnecessary for this industry.

9. CONTACT INFORMATION

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