C. Costs of the Long-term HACCP Intervention

Federal plants—\$279.7 million State plants—88.5 million Total—\$368.2 million Small establishments—\$157.6 million

The near-term initiatives are a prelude to the types of activities that are required under a HACCP process control system. The HACCP costs above, which represent the full 36-month implementation period, include continuing components of the previous initiatives and the new costs listed below:

1. Industry HACCP Training

FSIS would require that each establishment have at least one person complete a course of at least three days in the application of HACCP principles. The total estimated cost of \$27.9 million was calculated by multiplying a percourse cost of \$2,514 (for tuition, travel expenses, and labor replacement) by the number of Federal and State establishments now lacking someone with the necessary training (assumed to be 95 percent of establishments).

2. Plan Development

FSIS would require each inspected establishment to have and implement a HACCP plan that is specific to each kind of meat or poultry process performed in the establishment. The Agency is aware that the requirement may be especially burdensome to small establishments producing small amounts of a variety of products.

In estimating the cost of the plans, FSIS considered the difficulty of writing a plan for each of the 14 HACCP processes that encompass all meat and poultry products. The cost for developing a plan ranges from \$2,000 to \$15,000 according to the degree of difficulty and its order of development. The overhead costs of developing the plant's first plan do not appear again for its subsequent plans.

Total plan development costs are estimated at \$42.9 million: \$30.7 million for Federal establishments and \$12.2 million for State establishments. (In the absence of production information for State establishments, it was assumed that each will have 1.5 plans.) The total for small establishments is \$21.6 million.

3. Aseptic Training

Plants not covered by the near-term microbiological testing requirement and that do not have their own quality control laboratory would have to train an employee to collect specimens for analysis. Estimated costs are \$1.5 million for Federal plants and \$.6 million for State plants. The total for small establishments is \$1.5 million. (This cost is related to product testing. See item 4 below.)

4. Product Testing

The pre-HACCP product testing in slaughter plants and plants producing raw, ground product would continue under HACCP as described above under short-term initiatives. In addition, the Agency intends to require product testing in the processing plants not covered by the short-term requirement. Although the precise nature of this testing is not yet known, the Agency expects that in every establishment, at least one sample a day would have to be taken for each process. This would amount to nearly six million samples a year, at an estimated annual cost of \$149.8 million. Although this testing requirement is not included in the proposed rule, it is discussed in the preamble and is included in the proposed costs in order to give a realistic estimate of the ultimate costs of the effort that is being initiated by this proposal.

5. Recordkeeping

A fundamental HACCP principle calls for recording and reviewing observations at critical points in the manufacturing process on an ongoing basis. The cost of recording this information is expected to total \$47.9 million annually: \$41.7 million for Federal establishments and \$6.3 million for State establishments. The recording costs for small establishments are estimated at \$11.9 million.

The cost of reviewing the records generated is expected to total \$28.0 million annually: \$24.5 million for Federal establishments; \$3.5 for State establishments. The annual reviewing cost for small establishments is estimated at \$6.7 million.

The annual cost of maintaining (storing) HACCP records as required would be \$671,813: \$575,852 for Federal establishments; \$95,961 for State establishments.

6. FSIS HACCP Training

FSIS would provide employees with awareness training and HACCP inspection activity training. The estimated cost is \$416,880.

D. Estimated Costs Per Plant

The following charts show the estimated costs for the near-term initiatives and for HACCP that would be incurred by various types of plants. The following steps can be followed to estimate, on the basis of FSIS estimates of cost, how much a particular establishment could expect to spend on one-time and recurring costs during the implementation period:

1. Determine the establishment's size (small, medium, or large) according to its annual sales volume, using the following criteria:

Small=less than \$2.5 million sales Medium=\$2.5-\$50 million sales Large=over \$50 million sales

2. Using the table for that size plant, find the column that describes its function (meat slaughter, poultry slaughter, or processing). Note that each type of operation is subdivided into two groups: those with and those without their own quality control laboratory. Plants with a laboratory will not have to spend as much in some cost categories. On the table for small plants, it is assumed that none have their own laboratory. On the table for large plants, it is assumed that all processing but not all slaughter plants have their own laboratory.

3. In meat slaughter plants, the HACCP costs for plan development and record keeping are per process, with each species counted as a separate process. For meat plants slaughtering more than one species, both costs must be multiplied by the number of species.

In poultry slaughter plants, only the HACCP cost for record keeping should be multiplied by the number of species slaughtered (chicken, turkey, and/or duck).

4. In processing plants, the HACCP costs for plan development and record keeping vary from process to process according to whether the process—and thus its HACCP plan—is easy, moderate, or difficult. To calculate a plant's total HACCP plan development and record keeping costs, perform these steps:

• For each process, use Table 6 to determine its degree of difficulty, and then, again using the relevant plant-size chart, find the plan development cost and the record keeping cost for that process. Write them down.

- Add all the plan development costs.
- Add all the record keeping costs.

Use the two sums instead of the table's per-process costs when the plant's total HACCP costs are calculated.

5. Under near-term interventions, note that modifying a cooler to comply with time-and-temperature requirements would cost an estimated \$6,000. Any plant needing such modification should add \$6,000 to the near-term interventions subtotal.