

Table VI.B.1 summarizes EPA's estimated trade elasticities under the methodology used for proposal and for

the revised methodology described above.

TABLE VI.B.1.—ESTIMATES OF ARMINGTON TRADE ELASTICITIES FOR THE MPP MARKET MODEL

Import elasticities <sup>a</sup>			Export elasticities <sup>b</sup>	
Meat type	Proposal <sup>c</sup>	Revised	Proposal	Revised
Beef .....	0.9588	1.9994	– 1.5584	– 1.5316
Pork .....	0.8519	1.3337	– 1.5745	– 1.5711
Broilers .....	0.8767	1.1458	– 1.2017	– 1.1903
Turkeys .....	0.7145	1.1600	– 1.1865	– 1.1557

<sup>a</sup> The percent change in U.S. demand for rest of the world (ROW) meat products resulting from a one percent change in U.S. price.

<sup>b</sup> The percent change in ROW demand for U.S. meat products resulting from a one percent change in U.S. price.

<sup>c</sup> In reviewing the trade elasticities used for proposal, EPA found an error in its calculation. Therefore the trade elasticities presented in this table differ from those used in the proposal economic impact analysis.

Based on the preferred option at the time of proposal (BAT 3), EPA compared trade impacts using the proposal elasticities and the revised elasticities. Annual imports were projected to be larger using the revised elasticities. Beef imports were 1.5 million pounds per year larger (a difference of 0.001 percent) under the revised elasticities; pork imports were about 280,000 pounds per year larger, while poultry imports were less than 20,000 pounds per year larger. Exports were slightly smaller using the revised elasticities. Beef exports were projected to be about 160,000 pounds per year smaller; the difference in pork and poultry exports was less than 100,000 pounds per year for each product. The difference in export projections is less than 0.006 percent of baseline. Revised estimates of market impacts including export and import quantities under the modified options using revised cost estimates are presented in Table X.A–7. EPA solicits comment on its revised trade elasticity methodology.

## VII. Changes to EPA's Environmental Assessment

EPA received comments on the methodologies used to estimate MPP pollutant loadings and those used to estimate environmental benefits associated with the proposed regulatory options. At proposal, EPA based its estimates of monetary benefits of the rule on the suitability, as determined by concentrations of four specific water quality variables, of affected waters for a range of recreational uses (boating, fishing, and swimming). EPA employed the National Water Pollution Control Assessment Model (NWPCAM) version 1.1 to derive its benefit estimates. Ecological effects such as habitat degradation were noted but not quantified to avoid double-counting benefits derived using NWPCAM version 1.1.

Based on public comments received on the proposal and as discussed in the proposed rule, EPA is considering possible revisions to its approach as described in more detail below. Briefly, these revisions include (1) inclusion of nitrate and phosphate in the water quality variables modeled by NWPCAM to estimate the water quality index (WQI); (2) use of alternative or supplemental environmental models to more thoroughly characterize the environmental benefits of the regulation; (3) improvements to the algorithm relating changes in water quality to households' willingness to pay for improved water quality; and (4) consideration of other benefit categories (e.g., reduced adverse human health effects from consuming fish and water contaminated by toxic compounds in MPP effluents; reduced costs of treatment associated with lower total suspended solids (TSS) loads in community water systems' (CWSs) intake water; reduced episodic fish kills resulting from discharges from MPP facilities; and a Regional Vulnerability Assessment (ReVA) that was designed to predict future environmental risk and support informed decision-making and prioritization of issues for risk management). EPA may consider other approaches for estimating benefits that are not specified in this NODA but may be a result of comments on today's notice. Note that revised results based on these methodological changes are not yet available, but will be placed in the record for this rulemaking as they become so. To the extent practicable, EPA will consider public comment on these results, even if filed after the comment period for the NODA, as it prepares the benefits analysis for the final rule.

### A. Water Quality Modeling: What Changes and Information Are Being Considered?

#### 1. National Water Pollution Control Assessment Model (NWPCAM)

EPA used NWPCAM version 1.1 to estimate environmental impacts to surface water quality resulting from implementation of the proposed rule. NWPCAM version 1.1 modeled instream concentrations of dissolved oxygen (DO), total Kjeldahl nitrogen (TKN), biochemical oxygen demand (BOD), TSS, and fecal coliforms (FC). Four of these indicators (DO, BOD, TSS, and FC) were combined to generate a water quality index (WQI–4). The WQI is a 0 to 100 scale structured so that each water quality parameter is weighted to reflect its significance in determining the suitability of water for progressively more demanding uses. Changes in the WQI–4 were converted to monetary values based on a contingent valuation survey (Carson and Mitchell, 1993). Commenters remarked that this approach was an over-simplification because it may have ignored several other classes of pollutants discharged from MPP facilities including nitrogen (N) and phosphorous (P). For more details about valuation of water quality, see Section VII.B of this NODA.

NWPCAM version 1.1, used for the proposal, does not model nutrients discharged by MPP facilities. Since proposal, EPA has developed NWPCAM version 1.6 which simulates concentrations of the nutrients, nitrogen and phosphorus. Since the updated model addresses two additional components of wastewater discharges from MPP facilities, EPA is considering using the updated model to estimate the water quality change and the associated monetized benefits for the final MPP rule. Commenters also had concerns about the missing sources of loadings in the model, especially nonpoint and