

Chapter G7: Conclusions

As indicated in Chapter G4, average impingement losses at Seabrook are valued at between \$3,000 and \$5,000 per year, and average entrainment losses are valued at between \$139,000 and \$309,000 per year (all in \$2000). Average impingement losses at Pilgrim are valued at between \$3,000 and \$5,000 per year, and average entrainment losses are valued at between \$513,000 and \$744,000 per year (all in \$2000). These values reflect estimates derived using benefits transfer.

Benefits estimates were based on percentage reductions in estimated current I&E at Seabrook and Pilgrim (Chapter G6). EPA also developed an HRC analysis to value I&E losses at Pilgrim (Chapter G5). Using the HRC approach, the value of I&E losses at Pilgrim are approximately \$497,000 for impingement, and over \$19.1 million per year for entrainment (HRC annualized at 7 percent over 20 years). These HRC estimates were merged with the benefits transfer results (from Chapter G4) to develop a more comprehensive range of loss estimates for the Pilgrim facility. HRC results were used as an upper bound, while the midpoints of benefits transfer estimates were used as a lower bound. On this basis, EPA estimates potential annual benefits of reduced I&E at Pilgrim ranging from \$2,000 to \$298,000 per year for a 60% reduction in impingement, and from \$440,000 to \$6.4 million for a 70% reduction in entrainment. The annual benefits of reduced I&E at Seabrook are estimated to range from \$2,000 to \$3,000 for a 60% reduction in impingement and from \$97,000 to \$216,000 for a 70% reduction in entrainment.

In interpreting these results, it is important to consider several critical caveats and limitations of EPA's analysis. These caveats have been detailed in preceding chapters. EPA included forage species impacts in the economic benefits calculations, but because techniques for valuing such losses are limited, the final estimates may well underestimate the full ecological and economic value of these losses. Thus, on the whole, EPA believes the estimates developed here underestimate the economic benefits of reducing I&E at similar facilities.