

Cost Effectiveness Methodology

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Total Resource Effectiveness

TRE = NTAC/RRC where

- TRE = Total Resource Effectiveness;
- NTAC = Net Total Annualized Cost;
- RRC = Risk Reduction Cost; and

Generally, a TRE < 1.0 indicates effective use of control technique, while TRE > 1.0 may indicate ineffective use of resources and needs more discussion.

2

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Net Total Annual Costs (NTAC)

NTAC = CRC + OMC - SAV - REV where

- CRC = Capital Recovery Cost;
- OMC = Annual Operating and Maintenance Cost;
- SAV = Total Annual Cost Savings; and
- REV = Total Annual Revenues.

3

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Risk Reduction Cost

RRC = Risk Reduction Cost = R x EER x 10E4 where

- R = Risk Score = RQ x W_{cs} x W_L;
- RQ = Risk Quotient = [(C_{max})/MOE Standard];
- C_{max} = the maximum POI concentration (or at sensitive receptor with MOE approval);
- W_{cs} = GIASO Table A-1 substance specific consequence category converted into a weighting factor.
- W_L = Percentage of time the model predicts an exceedence of the MOE standard;

4

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Risk Reduction Cost

RRC = Risk Reduction Cost = R x EER x 10E4 where

- EER = Equivalent Emission Reduction is the Potential annual tonnes of substance reduced by control technique being evaluated.
- $EER = a \times (h/100)$

where

- a. Annual emission estimated for source being evaluated.
- h. POI improvement may result from material or process change or add-on control device (control efficiency) (% change).
- Source emission before change X Potential POI Improvement; and
- $10E4 = \$10,000$

5