EPA GasSTAR
Annual Meeting

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The proposed IFF mechanism is an innovative approach to managing and reducing fuel on the Columbia Gulf system.

- Immediately reduces customer costs and provides rate certainty.
- Provides incentive to invest in fuel saving equipment and measurement technology improvements, resulting in reduced emissions.
Fuel Policy and Savings

- Previous Federal Energy Regulatory Commission requirement was that the reductions in LAUF and Fuel be quantified in relation to the investments in metering and compression is unachievable.
  - This requirement led El Paso to withdraw their filing and Texas Gas to not pursue an incentive mechanism
- Under Columbia Gulf’s proposal, this requirement is unnecessary.
  - Customers get clear, quantified benefits in lower rates regardless of the amount of LAUF/Fuel reductions resulting from the investment
  - Columbia Gulf will take losses if investments are not made
  - Should Columbia Gulf exceed the annual threshold, customers will obtain additional benefits from reductions in LAUF/Fuel stemming from the investments as well as the multitude of variables that impact both
IFF Provides Environmental Benefits

- More efficient compressor units with lower heat rates will produce significantly lower emissions.
- Targeted replacement turbines approximately 40% more efficient.
- Estimated annual emission reductions associated with IFF:
  - Tons of nitrogen oxides: 492.4 to 615.5
  - Tons of carbon monoxide: 444.3 to 555.4
  - Tons of particulate matter: 4.5 to 5.6
- Emission reductions equivalent to removing 128,000 vehicles from the road.
- Preserves limited resources for alternative uses.
**Expected Reduction to Emissions**

**Emission Reductions**

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Estimated Hourly Emission Reductions (lb/hr)</th>
<th>Estimated Annual Reductions @60% Utilization (Tons)</th>
<th>Estimated Annual Reductions @75% Utilization (Tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen Oxides</td>
<td>187.37</td>
<td>492.41</td>
<td>615.51</td>
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<tr>
<td>Carbon Monoxide</td>
<td>169.07</td>
<td>444.32</td>
<td>555.39</td>
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<tr>
<td>Particulate Matter</td>
<td>1.71</td>
<td>4.49</td>
<td>5.62</td>
</tr>
<tr>
<td>VOC</td>
<td>0.37</td>
<td>0.97</td>
<td>1.22</td>
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<tr>
<td>Sulfur dioxide</td>
<td>0.18</td>
<td>0.47</td>
<td>0.59</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>358.70</strong></td>
<td><strong>942.66</strong></td>
<td><strong>1,178.33</strong></td>
</tr>
</tbody>
</table>

- Emissions reductions associated with these proposed turbine replacements are equivalent to approximately 85,000 – 128,000 vehicles being removed from service.
- Replacement with more efficient turbines can help avoid future costs associated with the installation of emission control retrofits on existing equipment.