

**Appendix J**

**Adjustment of Projected 1999 VOC and NO<sub>x</sub> Inventories  
for Contributions from DFW International Airport**

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### Adjustment of Projected 1999 VOC and NO<sub>x</sub> Inventories for Contributions from DFW International Airport

#### A. 1999 VOC Inventory

##### 1. Determine contribution of DFW Airport emissions to 1999 VOC inventory

Total aircraft VOC emissions in the projected 1999 emissions inventory = 5.91 tpod

- 1856 tpy

Aircraft emissions by category:

Commercial aircraft:	4.17 tpod
General aviation:	1.72 tpod
<u>Military aircraft:</u>	<u>0.02 tpod</u>
<b>TOTAL AIRCRAFT:</b>	<b>5.91 tpod</b>

According to the 1996 periodic emissions inventory reported by NCTCOG, the DFW Airport represented 71.9% of the annual reported commercial aircraft operations. Applying this percentage to the projected 1999 inventory gives:

$$0.719 \times 4.17 = 3.00 \text{ tpod (DFW Airport in 1999)}$$

##### 2. Subtract DFW Airport contribution from 1999 commercial aircraft inventory

The remainder of 1999 commercial aircraft VOC emissions, excluding the DFW Airport, are determined as follows:

$$4.17 - 3.00 = 1.17 \text{ tpod}$$

##### 3. Recalculate 1999 commercial aircraft inventory, using DFW Airport's estimates

In its 1999 weekday ozone season emissions inventory (submitted in a letter dated December 29, 1998), the DFW Airport estimated its VOC emissions at 5.56 tpod.

The adjusted commercial aircraft total then becomes:

$$1.17 + 5.56 = 6.73 \text{ tpod}$$

##### 4. Determine revised total aircraft VOC emissions

The revised aircraft emissions are determined as follows:

Commercial aircraft:	6.73 tpod
General aviation:	1.72 tpod
<u>Military aircraft:</u>	<u>0.02 tpod</u>
<b>TOTAL AIRCRAFT (REVISED):</b>	<b>8.47 tpod</b>

$$\text{Net increase in 1999 off-road mobile emissions inventory} = 8.47 - 5.91 = \mathbf{2.56 \text{ tpod}}$$

## B. 1999 NO<sub>x</sub> Inventory

### 1. Determine contribution of DFW Airport emissions to 1999 NO<sub>x</sub> inventory

Total aircraft NO<sub>x</sub> emissions in the projected 1999 emissions inventory = 5.99 tpod  
• 1882 tpy

Aircraft emissions by category:

Commercial aircraft:	4.56 tpod
General aviation:	1.44 tpod
Military aircraft:	<u>&lt; 0.01 tpod</u>
<b>TOTAL AIRCRAFT:</b>	<b>6.0 tpod</b>

According to the 1996 periodic emissions inventory reported by NCTCOG, the DFW Airport represented 71.9% of the annual reported commercial aircraft operations. Applying this percentage to the projected 1999 inventory gives:

$0.719 \times 4.56 = 3.28$  tpod (DFW Airport in 1999)

### 2. Subtract DFW Airport contribution from 1999 commercial aircraft inventory

The remainder of 1999 commercial aircraft NO<sub>x</sub> emissions, excluding the DFW Airport, are determined as follows:

$4.56 - 3.28 = 1.28$  tpod

### 3. Recalculate 1999 commercial aircraft inventory, using DFW Airport's estimates

In its 1999 weekday ozone season emissions inventory (submitted in a letter dated December 29, 1998), the DFW Airport estimated its NO<sub>x</sub> emissions at 16.78 tpod.

The adjusted commercial aircraft total then becomes:

$1.28 + 16.78 = 18.06$  tpod

### 4. Determine revised total aircraft NO<sub>x</sub> emissions

The revised aircraft emissions are determined as follows:

Commercial aircraft:	18.06 tpod
General aviation:	1.44 tpod
<u>Military aircraft:</u>	<u>0.00 tpod</u>
<b>TOTAL AIRCRAFT</b>	
<b>(REVISED):</b>	<b>19.5 tpod</b>

Net increase in 1999 off-road mobile emissions inventory =  $19.5 - 6.0 = 13.5$  tpod