

F/F Modeling for APFO manufacture



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RP026176

EID476984

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Chronic Off-Site Exposure Modeling

- Purpose: Identify the design parameters required so that the average daily concentration off-site is below the CEG and on-site is less than the AEL
 - Emission rate
 - Stack Height
 - Stack Height/building height ratio
 - Dilution Air flow
- Model used: Industrial Source Complex (ISC v.3); a model used by EPA for air toxics permitting
- Results shown are using RDU meteorology data; FAY data available this week; model results will be updated.

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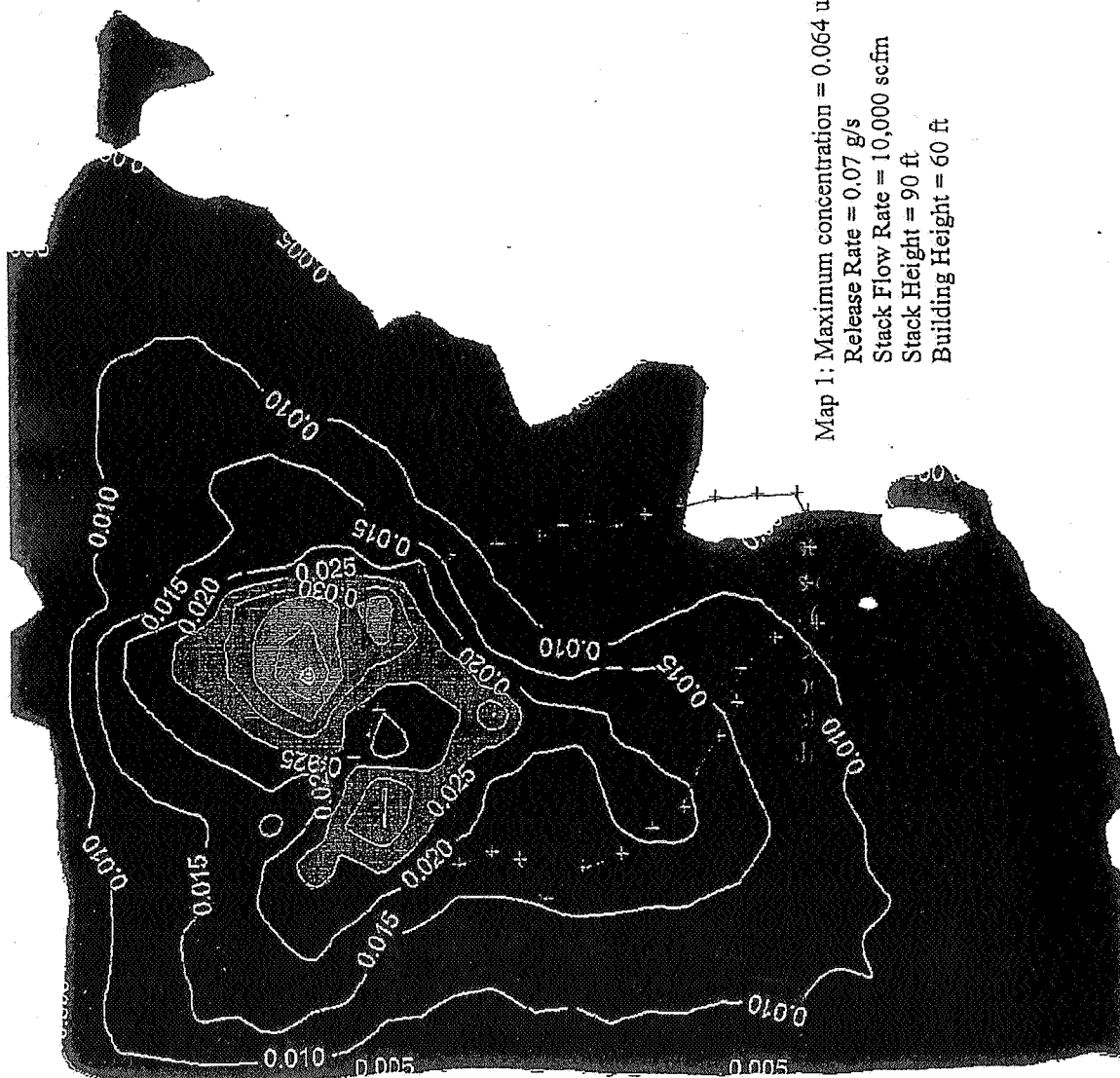
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Model Results

0.07 g/s=4900 lb/yr CEG=0.3 $\mu\text{g}/\text{m}^3$

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Map 1: Maximum concentration = 0.064 $\mu\text{g}/\text{m}^3$
Release Rate = 0.07 g/s
Stack Flow Rate = 10,000 scfm
Stack Height = 90 ft
Building Height = 60 ft

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Preliminary Model Results

- With reasonable design parameters, the maximum yearly average concentration expected to exist off-site, with ZERO ABATEMENT of process vents and fugitive emissions is 10-30% of the CEG of $0.3\mu\text{g}/\text{m}^3$
- All process vent streams will be scrubbed with expected high efficiency (>90%, possibly >99.5%)

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Next Steps

- Update model with FAY data when available
- Document model results including assumptions
- Expand model to determine wet and dry deposition.