PPDIMCZ.TXT
12/21/99

Model Clearinghouse Information Storage and Retrieval System

Record Information Report

Record Number: 00-VII -01 Fiscal Year: 1900 Region: 07 Last Update: 12/21/99
Name: PPDI-Nov. 99

State(s): IOWA
Pollutant(s): O3
Regulation(s): NSR
Source(s): Chemical Plant
Model(s): ISC3
Subject(s): Downwash
Interpretation of Regulatory Guidance
Reactive Pollutant Modeling/Chemical Transformations
Urban/Rural: Rural Only
Oral/Written: Oral
Terrain: Low Terrain (below stack height)
Guideline: Guideline
Database: Off-site
Involvement: Review and Comment
Record Comments:
Background
10/27/99
The source is a 24-hour ozone source in a light industrial area. The ozone is emitted through
stacks as well as from the building, i.e., fugitive sources. The plant's property line, ambient air, is
about 40 to 50 yards from the source. About 16 tons/year of ozone are emitted. There will be
building downwash..Perhaps the ISCST3 model can be used as a first guess and maybe more for
receptors located close to the source where the maximum concentrations will probably occur.
Issue 1: Is the C/H aware of anyone using the ISCST3 model to predict concentrations from an ozone source? How much may the ozone be changed over short distances? There aren't any current NO2 monitor data for the area. There are some ozone monitors used for background data located outside the urban area.
C/H Comment: (NSR Group)
The case of sources emitting ozone has come up a time or two (or three). I can't find my info but
my recollection is that there is not much concern because the ozone is very

unstable and breaks
down in the atmoshpere pretty quickly. I recall having a conversation with John Silvasi about this
and he sent me a scientific article which explained it.
Follow Up: From Region VII
11/16/99
Fax to D. Wilson
FYI: Copy of PPDI's letter to the Polk County, Iowa, local agency concerning the modeling of
ozone that I sent to Warren. I believe that the ISCST3 model was appropriate and that the
distance from the property line or the stack height should not determine if the source should, or
should not, be modeled. I have not reviewed what Iowa has on its web site.
Mick Daye, Region VII

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PECHINEY
PLASTIC PACKAGING
2301 Industrial Drive, Neenah WI 54956 Telephone: (920)727-6155
Fax: (920)727-6050
November11, 1999
HAND-DELIVERED
Mr. Gary Young, MES, RSHS, Air Quality Engineer
Polk County Public Works Department/Air Quality Division
5395 NE 14th Street
Des Moines, IA 50313
RE: VOLUNTARY OZONE DISPERSION MODELING
PECHINISY PLASTIC PACKAGING, INC. (PPPI)
1500 EAST AURORA AVENUE, DES MOINES, POLK COUNTY
EIQ NO.92-0207
Dear Mr. Young:
Pursuant to our letter of November 2, 1999 to you, we herein voluntarily submit the ozone
dispersion modeling analysis that has been requested by your office. As expected, the analysis
including background concentrations demonstrates that the health and welfare of citizens living in
the neighborhood of our Des Moines plant is not threatened in any manner by operation of the
plant's corona devices.
Nonetheless, we would like to bring to your attention that we have reviewed Iowa DNR'S
Dispersion Modeling Guidelines (June 1997) which are posted on the Iowa DNR Internet
site. This written guidance appears to indicate that non-Prevention of significant Deterioration
(PSD) new or modified stacks which are greater than 100 feet away from the nearest property line
are not subject to dispersion modeling. All corona devices and their stacks at PPDI-Des Moines
are greater than 100 feet away from the nearest property line, and the corona devices at the plant
ace non-PSD sources. therefore, it appears that the Polk county AQD's request for this dispersion
modeling analysis goes beyond the Iowa DNR's written dispersion modeling guidance
Since non-photochemical ozone is a highly unstable and reactive chemical that is expected to
rapidly attenuate in the lower troposphere, we believe that the maximum predicted downwind
impacts excluding background concentrations from the plant's corona devices

(122.7 micrograms
per cubic meter, one-hour basis; and 49.7 micrograms per cubic meter, eight-hour basis) are
overestimated, if realistic at all.
We do not believe that USEPA's Guideline on Air Quality Models (codified at 40 CFR Part 51,
Appendix W) supports the use of dispersion modeling for estimating the downwind impact of
non-photochemical ozone that is directly emitted from stationary sources. your attention is
specifically referred to sections 2.2.b-, 5.2.1., 8.2.5., and 11.2.3,2. of the USEPA guideline). we
believe that the authors of USEPA's modeling guideline prudently considered this issue when the
guideline was established. Since the guideline is codified in federal regulation, changes to the
guideline must follow formal rulemaking requirements. we are not aware that USEPA is formally
proposing changes to this guideline in this regard.
We believe that the USEPA modeling guideline carefully recognizes, as does the Clean Air Act
and ensuing USEPA regulation, that volatile organic compounds and oxides of nitrogen are the
two classes of (precursor) pollutants that are legally regulated for the purpose of attaining and
maintaining compliance with the ambient ozone standard. Also, this belief is consistent with
USEPA's Part 70 white paper (July 1995) which recognizes corona devices as trivial emission
sources.
As the Polk County AQD is aware, a construction permit application was recently submitted for a
new corona treater (to be installed at Press DF-11). As indicated in the construction permit
application, Des Moines plant personnel plan to route exhaust from the new DF-1 1 corona treater
to the exhaust stack for the corona treater at Press DF-10. The attached dispersion modeling
analysis reflects the addition of the new DF-11 corona treater. Because the volumetric flow rate
of exhaust gas through the DF-10 corona treater exhaust stack will be increased, it will be
necessary to increase the diameter of this stack to 14 inches (circular). The attached dispersion
modeling analysis also reflects the increased diameter of this stack.