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Category: 48 — General VOC Issues

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

DATE: DEC 7, 1978

SUBJECT: Selection of Oxidants Design Value

FROM: Richard G. Rhoads, Director
Control Programs Development Division (MD-15)

TO: Director, Air and Hazardous Materials Division
Region I - X

As you know, the selection of the design value for photochemical oxidants is an important step in the implementation planning process. This value will serve as the basic foundation on which acceptable strategies must be developed. It also serves as one of the key indicators regarding the amount of new source growth consistent with reasonable further progress that may be permitted within a given area.

In light of the importance of these design values, we feel that it is appropriate at this time for all Regional Offices to review with their respective States the design values which have been selected for each area. We have enclosed for your information a copy of what we understand to be the oxidant design values for all urbanized nonattainment areas. Also included is a list of the highest second high oxidant values during the last three years for each of those same areas as contained in SAROAD. Where there are questions regarding specific design values or variations from the value indicated in SAROAD, it is advisable that a justification be available to support the particular value selected. This is particularly important where potential challenges of the plan are anticipated.

Table 1 has been prepared by CPDD and no attempt has been made to screen the data for anomalous values. Historically, measurements above .30 but less than .40 ppm have only been recorded outside California in the State of Connecticut, and the Philadelphia and the Houston AQCRs. Values in excess of .30 ppm in other areas of the country should be viewed with suspicion, especially those in excess of 0.50 ppm. Values to be found in error should be removed as expeditiously as possible from the NADB. This includes not only possible anomalies in Table 1, but other values in the same data set which may be in error.

If you have any questions, please contact Darryl D. Tyler at 629-5497.

Enclosure

cc: Air Branch Chief, Regions I-X
T. Helms
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Enclosure

Table 1 OZONE DESIGN VALUES FOR 90 NONATTAINMENT AIR QUALITY CONTROL REGIONS (AQCRS) BASED ON THE MOST RECENT THREE YEARS OF DATA

AQCR NUMBER	AQCR NAME	DESIGN VALUE BASED ON HIGHEST SECOND HIGH, 1976-1978* SITE	VALUE PPM
002	Columbus-Phoenix, GA	no data	
004	Metropolitan Birmingham	011300003 G02	.16
005	Mobile-Pensacola, FL	103540004 F01	.20
013	Clark-Mohave, AZ-NV	290320009 G01	.48*
015	Phoenix-Tucson, AZ	030600002 G01	.16
016	Central Arkansas	041880002 P05	.16
018	Metropolitan Memphis, AR-MS-TN	250680002 F01	.19
022	Shreveport, LA	452180001 F03	.16
024	Metropolitan Los Angeles	052680001 I01	.38
025	North Central Coast, CA	054860001 I01	.09
028	Sacramento Valley, CA	056600001 I01	.19
029	San Diego, CA	055320003 I01	.29
030	San Francisco, CA	056980004 J01	.19
031	San Joaquin Valley, CA	052800002 F01	.22
033	Southeast Desert, CA	050560002 I01	.27
036	Metropolitan Denver, CO	060580010 F01	.26
038	San Isabel, CO	060380004 F01	.10
041	Eastern Connecticut	070350123 F01	.26
042	Hartford-New Haven-Springfield, CT-MA	220400004 F01	.40
043	New Jersey-New York-Connecticut (NJ-NY-CT)	315060001 F01	.32
045	Metropolitan Philadelphia, NJ-PA	no data	
047	National Capital (DC-MD-VA)	090020011 I01	.31
048	Central Florida	104900002 F01	.10*
049	Jacksonville-Brunswick (FL-GA)	101960070 H01	.22*
050	Southeast Florida	104760001 G01	.15*
052	West Central Florida	104360022 G02	.22*
055	Chattanooga, TN-GA	440380024 G01	.15*
056	Metropolitan Atlanta, GA	111600002 F01	.15
060	State of Hawaii	120120001 F01	.21
062	Eastern Washington-Northern Idaho	no data	
065	Burlington-Keokut, IA	146080024 F01	.13
067	Metropolitan Chicago, IL	141240001 G01	.34
069	Metropolitan Quad Cities, IL-IA	146700002 F01	.50
070	Metropolitan St. Louis, IL-MO	264800007 H01	.32

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AQCR NUMBER	AQCR NAME	DESIGN VALUE BASED ON HIGHEST SECOND HIGH, 1976-1978* SITE	VALUE PPM
073	Rockford-Janesville-Beloit, IL-WI	141780002 F01	.17
078	Metropolitan Louisville, KY	152980004 F01	.23
079	Metropolitan Cincinnati, KY-OH	361220034 A05	.22
080	Metropolitan Indianapolis, IN	152040031 H01	.20
081	Northeast Indiana	no data	
082	South Bend-Elkhart-Benton Harbor, IN-MI	no data	
085	Metropolitan Omaha-Council Bluff, IA-NE	281880026 G01	.13*
092	South Central Iowa	161180037 G01	.12
094	Metropolitan Kansas City, KS-MO	171800011 F01	.13
099	South Central Kansas	173320001 F01	.13
106	Southern Louisiana-Southeast Texas	192260001 P05	.21
113	Cumberland-Keyser, MD-WV	210860004 F01	.15
115	Metropolitan Baltimore, MD	210120018 F01	.25
118	Central Massachusetts	222640012 F01	.20
119	Metropolitan Boston, MA	222340003 F01	.23
120	Metropolitan Providence, MA-RI	220570001 F01	.22
121	Merrimack Valley-Southern New Hampshire, MA-NH	300540003 F01	.23
122	Central Michigan	231580011 H01	.19*
123	Metropolitan Detroit-Port Huron, MI	234340003 F01	.27
124	Metropolitan Toledo, MI-OH	366600006 H09	.18
125	South Central Michigan	232840007 F01	.10*
128	Souteast Minnesota-La Crosse, MN-WI	242660016 G01	.59*
131	Minneapolis-St. Paul, MN	242260047 F01	.37
151	Northeast Pennsylvania-Upper Delaware Valley, PA-NJ-DE	390780017 F01	.25*
152	Albuquerque-Mid Rio Grande, NM	320040017 H02	.16
153	El Paso-Las Cruces-Alamagordo, NM-TX	451700027 F01	.17

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AQCR NUMBER	AQCR NAME	DESIGN VALUE BASED ON HIGHEST SECOND HIGH, 1976-1978* SITE	VALUE PPM
158	Central New York	336620005 F01	.14
160	Genesse-Finger Lake, NY	334380005 F01	.15
161	Hudson Valley, NY	333500002 F01	.19
162	Niagara Frontier, NY	330130002 F01	.20
167	Charlotte, NC	340700028 G01	.22
173	Dayton, OH	364500004 G01	.30
174	Greater Metropolitan Cleveland, OH	365320002 G02	.21
176	Metropolitan Columbus, OH	361460004 F01	.19
178	Northwest Pennsylvania-Youngstown, OH-PA	361480001 F01	.20
184	Central Oklahoma	372200033 F01	.14
186	Northeastern Oklahoma	373000127 F02	.23
193	Portland, OR-WA	381580011 F01	.17
195	Central Pennsylvania	394460011 F01	.17*
196	South Central Pennsylvania	399560008 F01	.20*
197	Southwest Pennsylvania	391560005 F01	.23*
199	Charleston, SC	no data	
200	Columbia, SC	421900003 F01	.17
208	Middle Tennessee	443320007 F01	.19
212	Austin-Waco, TX	450220012 F01	.15
214	Corpus Christi-Victoria, TX	455340002 P05	.17
215	Metropolitan Dallas-Fort Worth, TX	451310045 F01	.19
216	Metropolitan Houston-Galveston, TX	452560034 F01	.30
217	Metropolitan San Antonio, TX	454570036 F01	.19
220	Wasatch Front, UT	460060001 F01	.19
223	Hampton Roads, VA	482140013 F01	.17
225	State Capital, VA	482660012 H01	.25
229	Puget Sound, WA	490980010 F05	.17
230	South Central Washington	no data	
239	Southeastern Wisconsin	511560899 F01	.56
240	Southern Wisconsin	510600008 J02	.16

* Data for 1978 is not available. Value listed represents highest second high during 1975-1977.

(1) No attempt has been made to screen SAROAD data for anomalous values. The Table has been prepared by CPDD.

Table 1 OZONE DESIGN VALUES FOR 90 NONATTAINMENT AIR QUALITY CONTROL REGIONS (AQCRS) BASED ON THE MOST RECENT THREE YEARS OF DATA

State	City	Design Value	To	Tf	Type
Connecticut	Hartford	0.145	0.06	0.04	EKMA
	Bridgeport	"	"	"	"
	New Haven	"	"	"	"
Maine	None	-	-	-	-
Massachusetts	Boston	0.169	0.04	?	EKMA
	Springfield	0.15	"	"	"
	Worchester	"	"	"	"
	Lawrence-Haverhill	"	"	"	"
New Hampshire	None	-	-	-	-
Rhode Island	Providence	0.2	0.08	0.1	EKMA
Vermont	None	-	-	-	-
New Jersey	Trenton	0.25	0.14	0.06	EKMA
New York	New York City	0.32	?	0.06	EKMA*
	Buffalo	0.12-0.16	"	0.04-0.06	" .
	Rochester	"	"	"	"
	Albany-Schnectady-Troy	"	"	"	"
	Syracuse	"	"	"	"
Puerto Rico	None	-	-	-	-
Virgin Islands	None	-	-	-	-
Delaware	Wilmington	.21	.105	.04	Rollback
Maryland	Baltimore	.24	.12	.04	"
Pennsylvania	Philadelphia	.248	.08	.04	"
	Pittsburg	(.208)	-	-	"
	Allentown-Bethlehem-Easton	(.208)	-	-	"
	Harrisburg	(.185)	-	-	"
	Wilkes-Barre	(.184)	-	-	"
	Scranton	(.174)	-	-	"

* EKMA possibly

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State	City	Design Value	To	Tf	Type
Virginia	Norfolk-Portsmouth	.180	-	-	Rollback
	Richmond	.225	-	-	"
	Newport News-Hampton	.140	-	-	"
West Virginia	None	-	-	-	-
District of Columbia	Washington	0.19	-	-	Rollback
Alabama	Birmingham	(.134)	-	-	-
	Mobile	(.137)	-	-	-
Florida	Miami	(.098)	-	-	-
	Fort Lauderdale-Hollywood	.140	-	-	-
	Jacksonville	.150	-	-	-
	St. Petersburg	.145	-	-	-
	Tampa	.140	-	-	-
	Orlando	.140	-	-	-
	West Palm Beach	.142	-	-	-
Georgia	Atlanta	(.162)	-	-	-
	Columbus	(.095)	-	-	-
Kentucky	Louisville	.234	.06	.02	Rollback
Mississippi	None	-	-	-	-
North Carolina	Charlotte	.190	-	-	Rollback
South Carolina	Columbia	.18	-	-	-
	Charleston	.13	-	-	-
Tennessee	Memphis	.132	-		