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**PART 5: STANDARDS FOR TOXIC AIR CONTAMINANTS  
AND HAZARDOUS AIR POLLUTANTS**

**REGULATION 5.00 Definitions**

**Louisville Metro Air Pollution Control District**

**Jefferson County, Kentucky**

[Pursuant To: KRS Chapter 77 Air Pollution Control](#)

**Relates To:** KRS Chapter 77 Air Pollution Control

**Necessity And Function:** KRS 77.180 authorizes the Air Pollution Control Board to adopt and enforce all orders, rules, and regulations necessary or proper to accomplish the purposes of KRS Chapter 77. This regulation defines terms used in the [Strategic Toxic Air Reduction](#) Program.

[SECTION 1 Definitions](#)

[The following definitions apply to Part 5 of the District’s regulations and to ~~Regulations 5.01, 5.20, 5.21, 5.22, 5.23, 5.30, and sec. 5 of~~ Regulation 1.06 Section 5. Terms not defined in this regulation shall have the meaning given to them in Regulation 1.02.](#)

1.1 “Acute noncancer effect” means a biochemical change, functional impairment, or pathological lesion that [is produced within a short period of time following an exposure and that](#) affects the performance of the whole organism, or reduces ~~the~~<sup>an</sup> organism’s ability to respond to ~~an~~ additional environmental challenges ~~that is produced within a short period of time following an exposure.~~

1.2 “Benchmark ambient concentration” ([BAC](#)) means the concentration of a toxic air

24 contaminant (TAC) that is determined pursuant to Regulation 5.20 ~~that is used in~~  
25 ~~determining to meet the~~ environmental acceptability goals of ~~pursuant to~~ Regulation 5.21  
26 *Environmental Acceptability for Toxic Air Contaminants.*

27 1.2.1 The benchmark ambient concentration for a carcinogen (BAC<sub>C</sub>) is the concentration,  
28 ~~including an averaging time frame,~~ of a ~~toxic air contaminant~~ TAC that is  
29 representative of an additional lifetime cancer risk of one in one million ( $1 \times 10^{-6}$ ).  
30 ~~The benchmark ambient concentration for a carcinogen is established pursuant to~~  
31 ~~Regulation 5.20 Methodology for Determining Benchmark Ambient Concentration for~~  
32 ~~a Toxic Air Contaminant Section 3.~~

33 1.2.2 The benchmark ambient concentration for the noncarcinogenic effects of a TAC ~~toxic~~  
34 ~~air contaminant~~ (BAC<sub>NC</sub>) is the concentration of a TAC at or below which no adverse  
35 effects are expected. The BAC<sub>NC</sub> represents a Hazard Quotient of 1.0, ~~including an~~  
36 ~~averaging time frame, of a toxic air contaminant that is likely to be without an~~  
37 ~~appreciable risk of deleterious effects during a lifetime. The benchmark ambient~~  
38 ~~concentration for the noncarcinogenic effects of a toxic air contaminant is established~~  
39 ~~pursuant to Regulation 5.20 Section 4.~~

40 1.3 “Best available technology for toxics” ~~or “(T-BAT)”~~ means an emission standard that  
41 reflects the maximum ~~degree of toxic air contaminant (TAC) emission and risk~~  
42 ~~reduction~~ reduction in emissions of, and risk from, a TAC that the District determines can  
43 ~~be~~ reasonably be achieved by ~~at~~ the process or process equipment, taking into account  
44 energy, environmental, and economic impacts and other costs, and health and welfare  
45 benefits. T-BAT may include one or more of the following: ~~In determining T-BAT, the~~  
46 ~~District shall consider~~

- 47 1.3.1 work practices,
- 48 1.3.2 raw material substitutions,
- 49 1.3.3 alternative processes and process design characteristics,
- 50 1.3.4 air pollution control equipment,
- 51 1.3.5 pollution prevention measures,
- 52 1.3.6 equipment maintenance measures (including leak detection and repair), and
- 53 1.3.7 upset condition prevention measures.
- 54 1.4 “Cancer” means a disease of heritable, somatic mutations affecting cell growth and
- 55 differentiation, characterized by an abnormal, uncontrolled growth of cells.
- 56 1.5 “Carcinogen” means an agent capable of inducing cancer.
- 57 1.6 “Category 1 TAC” means a toxic air contaminant listed in Regulation 5.23 ~~Categories of~~
- 58 ~~Toxic Air Contaminants~~ Section 1.
- 59 1.7 “Category 2 TAC” means a toxic air contaminant listed in Regulation 5.23 Section 2.
- 60 1.8 “Category 3 TAC” means a toxic air contaminant listed in Regulation 5.23 Section 3.
- 61 1.9 “Category 4 TAC” means a toxic air contaminant listed in Regulation 5.23 Section 4.
- 62 1.10 “Chronic noncancer effect” means a biochemical change, functional impairment, or
- 63 pathological lesion that occurs as a result of repeated or long term exposure and that
- 64 affects the performance of the whole organism, or reduces ~~the~~<sup>an</sup> organism’s ability to
- 65 respond to ~~an~~ additional environmental challenges ~~that occurs as a result of repeated or~~
- 66 ~~long term exposures.~~
- 67 1.11 “De minimis emission” means ~~the any of the following~~ TAC emissions described in
- 68 Section 2 of Regulation 5.21.
- 69 1.12 “Environmentally acceptable” or “environmental acceptability” (EA) means the ambient

70 concentration, ~~including an averaging time frame~~, of a TAC, or the sum of the ambient  
71 concentrations, ~~including an averaging time frame~~, of multiple TACs, that is less than or  
72 equal to the ambient goals established in [Regulation 5.21](#) ~~this regulation~~ (EA goals).

73 1.13 “Exempt stationary source” means [a stationary source with only one or more](#) ~~any~~ of the  
74 following, ~~but does not include a stationary source that has a permitted process or process~~  
75 ~~equipment other than the~~ processes [or](#) ~~and~~ process equipment ~~identified in the following~~  
76 ~~sections~~:

77 1.13.1 A gasoline dispensing facility subject to ~~the provisions of~~ Regulation 6.40 ~~Standards~~  
78 ~~of Performance for Gasoline Transfer to Motor Vehicles (Stage II Vapor Recovery~~  
79 ~~and Control)~~, that may also include a cold cleaner subject to the provisions of  
80 ~~Regulation 6.18 Standards of Performance for Solvent Metal Cleaning Equipment~~  
81 ~~Section 4 Cold Cleaners.~~

82 1.13.2 [A solvent metal cleaner with a secondary reservoir subject to Regulation 6.18.](#)

83 1.13.3 A [motor vehicle refinishing operation](#) ~~stationary source~~ subject to ~~the provisions of~~  
84 Regulation 6.44 ~~Standards of Performance For Existing Commercial Motor Vehicle~~  
85 ~~And Mobile Equipment Refinishing Operations~~ or ~~Regulation 7.79 Standards of~~  
86 ~~Performance For New Commercial Motor Vehicle And Mobile Equipment~~  
87 ~~Refinishing Operations~~, that may also include a cold cleaner subject to the provisions  
88 ~~of Regulation 6.18, or~~ [Regulation 7.79.](#)

89 1.13.4 A [dry cleaner](#) ~~stationary source~~ subject to the provisions of Regulation 5.02 ~~Adoption~~  
90 ~~of National Emission Standards for Hazardous Air Pollutants section 3.12. National~~  
91 ~~Perchloroethylene Air Emission Standards for Dry Cleaning Facilities, or~~ 1.12.4 ~~—~~  
92 ~~—A stationary source whose only permitted process or process equipment is a cold~~

93 ~~cleaner subject to the provisions of Regulation 6.18 Section 4.~~

94 1.14 "Existing Group 1 or 2 source" means a Group 1 or 2 stationary source that was in  
95 operation on July 1, 2005.

96 1.15 "Existing process or process equipment" means, ~~for the provisions of this regulation, one~~  
97 ~~of the following:~~ 1.3.1 ~~— A~~ a process or process equipment; for which the District  
98 received an administratively complete construction permit application ~~for a~~  
99 ~~construction permit was received by the District~~ before July 1, 2005, ~~that involves~~  
100 ~~the potential emission of a Category 1 or 2 TAC from a Group 1 or 2 stationary~~  
101 ~~source, excluding the potential emission of a Category 2 TAC if the owner or~~  
102 ~~operator of a Group 1 stationary source did not report the emission of that TAC to the~~  
103 ~~EPA for the 2006 Toxics Release Inventory Program or if the owner or operator of a~~  
104 ~~Group 2 stationary source did not report the emission of that TAC to the EPA for the~~  
105 ~~2007 Toxics Release Inventory Program, or~~

106 ~~1.3.2 — A process or process equipment located at a permitted stationary source, for which an~~  
107 ~~administratively complete application for a construction permit was received by the~~  
108 ~~District before July 1, 2005, that involves the potential emission of a TAC for which~~  
109 ~~the District determines that the emissions do not comply with the general duty clause~~  
110 ~~of Regulation 5.01 Section 3.~~

111 1.16 "Group 1 stationary source" means a stationary source that is not an Exempt stationary  
112 source and has an operating permit issued pursuant ~~subject~~ to Regulation 2.16. ~~Title V~~  
113 ~~Operating Permits.~~

114 1.17 "Group 2 stationary source" means a stationary source that ~~either:~~ 1.9.1 ~~—~~ is not a  
115 Group 1 or Exempt stationary source, and has an operating permit either:

- 116 ~~has applied for an operating permit issued~~ pursuant to Regulation 2.17. *Federally Enforceable*  
117 *District Origin Operating Permits*. (FEDOOP stationary source), or  
118 ~~1.9.2 — Is not a Group 1, FEDOOP, or Exempt stationary source, and the actual emissions~~  
119 ~~from the stationary source are 25 or more tons per year individually of sulfur dioxide,~~  
120 ~~particulate matter, volatile organic compounds, or oxides of nitrogen.~~
- 121 1.18 “Hazard quotient” or “(HQ)” means the ratio between the concentration of a TAC and the  
122 ~~benchmark ambient concentration for noncarcinogenic effects~~  $BAC_{NC}$  for that TAC  
123 ~~( $BAC_{NC}$ ). A hazard quotient is a unitless numerical value.~~
- 124 1.19 “Industrial property” means property on which ~~the~~non-residential, non-retail, non-  
125 agricultural activities are conducted, including:
- 126 1.19.1 ~~\_\_\_ industrial in nature, for example,~~ manufacturing,  
127 1.19.2 ~~\_\_\_ power generation~~utilities,  
128 1.19.3 ~~\_\_\_~~ industrial research and development,  
129 1.19.4 ~~\_\_\_ or~~ petroleum bulk storage,  
130 1.19.5 ~~\_\_\_ —This term includes, but is not limited to,~~ a permitted solid waste disposal facility,  
131 1.19.6 ~~\_\_\_ a~~ rail line or railroad switch yard,  
132 1.19.7 ~~\_\_\_ a public airport~~and, except for ~~a terminal building and any other~~ areas to which the  
133 general public has unrestricted access, ~~a public airport. —For the purpose of~~  
134 ~~demonstrating environmental acceptability pursuant to this regulation, industrial~~  
135 ~~property, whether or not a permitted stationary source, shall include~~
- 136 1.19.8 ~~\_\_\_ docks, unloading areas,~~ loading and unloading areas, and other appurtenances, areas  
137 or structures related to receiving and shipping materials via the Ohio River, whether  
138 or not at a permitted stationary source ~~and areas or structures related to these~~

139 ~~receiving and shipping activities. This term does not include a farm or a commercial~~  
140 ~~establishment.~~

141 1.20 “New or modified process or process equipment” means, ~~for the provisions of this~~  
142 ~~regulation, one of the following:~~ 1.6.1 ~~—~~ A a process or process equipment, for  
143 which the District received an administratively complete construction permit application  
144 ~~for a construction permit was received by the District~~ on or after July 1, 2005, and the  
145 permitted activity would result in either:

146 1.20.1 ~~a~~ An increase in the amount of any Category 1 - 4 TAC emitted by that process or  
147 process equipment, or

148 1.20.2 ~~that results in~~ The emission of any other TAC not previously emitted by process or  
149 process equipment that the District determines does not meet the general duty clause  
150 of Regulation 5.01. ~~, that involves the potential emission of a Category 1, 2, 3, or 4~~  
151 ~~TAC from a Group 1 or 2 stationary source, or~~ 1.6.2 ~~—~~ ~~The~~ ~~application~~  
152 ~~involves the potential emission of a TAC from a permitted stationary source, for~~  
153 ~~which an administratively complete application for a construction permit was~~  
154 ~~received by the District on or after July 1, 2005, and the District determines that the~~  
155 ~~emission would not comply with the general duty clause of Regulation 5.01 Section~~  
156 ~~3.~~

157 1.21 “Peer review” means a documented, in-depth assessment of the assumptions, calculations,  
158 extrapolations, alternate interpretations, methodology, acceptance criteria, and  
159 conclusions pertaining to a specific scientific or technical work product and its supporting  
160 documentation. A peer review shall:

161 1.21.1 ~~b~~ Be conducted by qualified organizations or individuals who are independent of, but

- 162 collectively at least equivalent in technical expertise to, those who performed the  
163 original work, and.
- 164 1.21.2 ~~A peer review shall a~~Assess whether the evaluated activities were technically  
165 adequate, competently performed, properly documented, and satisfied ~~established~~  
166 quality control requirements. ~~—A peer review is usually characterized by a one-time~~  
167 ~~interaction or a limited number of interactions by the independent peer reviewers.~~
- 168 1.22 “Permitted stationary source” means a stationary source that has an operating permit  
169 pursuant to ~~is subject to the permit requirements of~~ Regulation 2.03 ~~section 1.1 or 1.2.~~  
170 ~~For the purpose of demonstrating environmental acceptability pursuant to this regulation,~~  
171 ~~the property of a permitted stationary source shall include docks, unloading areas, loading~~  
172 ~~areas, and other appurtenances related to receiving and shipping materials via the Ohio~~  
173 ~~River, and areas or structures related to these receiving and shipping activities.~~
- 174 1.23 “STAR” means the Strategic Toxic Air Reduction program found in Chapter 5 of the  
175 District’s regulations.
- 176 1.24 “Toxic air contaminant” (~~also “TAC”~~) means any air contaminant for which there is no  
177 national ambient air quality standard and that is, or may become, harmful to public health  
178 or the environment when present in sufficient quantities and duration in the ambient air.  
179 As used in these regulations, toxic air contaminant does not include the substances listed  
180 in Regulation 5.23 *Categories of Toxic Air Contaminants* Section 5 *Exemptions from the*  
181 *Definition of Toxic Air Contaminant.*
- 182 1.25 “Toxic air pollutant” (TAP) means a substance listed in either 401 KAR 63:021 (11-11-  
183 86) or 401 KAR 63:022 (11-11-86).
- 184 1.26 “Target-organ-specific hazard index” (TOSHI) means the sum of the Hazard Quotients

185 for the toxic air contaminant that may cause an adverse effect to the same target organ or  
186 same major effect. Adverse effect by target organ includes hepatic, renal, respiratory,  
187 cardiovascular, gastrointestinal, hematological, musculoskeletal, and dermal/ocular  
188 effects. Major effect categories include neurotoxicity, developmental toxicity,  
189 reproductive toxicity, and immunotoxicity. Because a TAC may affect more than one  
190 target organ or major effect category, the determination of a TOSHI prompted by the  
191 emission of one TAC may require determining multiple TOSHIs for multiple target  
192 organs or major effect categories.

193 1.27 [“Toxics Release Inventory” \(TRI\) is a publicly available database, maintained by EPA,](#)  
194 [containing information reported annually by certain source sectors on toxic chemical](#)  
195 [releases and waste management activities.](#)

## 197 **SECTION 2 Acronyms**

198 [The following acronyms, used in these regulations, have the following meanings:](#)

199 [ATSDR Agency for Toxic Substances and Disease Registry](#)

200 [BAC Benchmark ambient concentration](#)

201 [BAC<sub>C</sub> Benchmark ambient concentration for a carcinogen](#)

202 [BAC<sub>NC</sub> - Benchmark ambient concentration for noncarcinogenic effects](#)

203 [BAC<sub>NCA</sub> - Benchmark ambient concentration for acute noncarcinogenic effects](#)

204 [BACT- Best available control technology](#)

205 [EA - Environmental acceptability, environmentally acceptable](#)

206 [EAG<sub>C</sub> - Environmental acceptability goal for carcinogenic risk](#)

207 [EAG<sub>NC</sub> - Environmental acceptability goal for noncarcinogenic risk](#)

208	<a href="#"><u>EPA</u></a>	<a href="#"><u>Environmental Protection Agency</u></a>
209	<a href="#"><u>HAP</u></a>	<a href="#"><u>Hazardous air pollutant</u></a>
210	<a href="#"><u>HQ -</u></a>	<a href="#"><u>Hazard quotient</u></a>
211	<a href="#"><u>IARC -</u></a>	<a href="#"><u>International Agency for Research on Cancer</u></a>
212	<a href="#"><u>IRIS -</u></a>	<a href="#"><u>Integrated Risk Information System</u></a>
213	<a href="#"><u>IRSL -</u></a>	<a href="#"><u>Initial risk screening level</u></a>
214	<a href="#"><u>ISC3 -</u></a>	<a href="#"><u>Industrial Source Complex Model</u></a>
215	<a href="#"><u>ITSL -</u></a>	<a href="#"><u>Initial threshold screening level</u></a>
216	<a href="#"><u>LC50 -</u></a>	<a href="#"><u>Lethal concentration, 50% mortality</u></a>
217	<a href="#"><u>LD50 -</u></a>	<a href="#"><u>Lethal dose, 50% mortality</u></a>
218	<a href="#"><u>LOAEL -</u></a>	<a href="#"><u>Lowest observed adverse affect level</u></a>
219	<a href="#"><u>MACT -</u></a>	<a href="#"><u>Maximum achievable control technology</u></a>
220	<a href="#"><u>MSDS -</u></a>	<a href="#"><u>Material Safety Data Sheet</u></a>
221	<a href="#"><u>NOAEL -</u></a>	<a href="#"><u>No observed adverse effect level</u></a>
222	<a href="#"><u>NSPS -</u></a>	<a href="#"><u>New Source Performance Standards</u></a>
223	<a href="#"><u>OEL -</u></a>	<a href="#"><u>Occupational exposure level</u></a>
224	<a href="#"><u>OSHA -</u></a>	<a href="#"><u>Occupational Health and Safety Administration</u></a>
225	<a href="#"><u>PTE -</u></a>	<a href="#"><u>Potential to emit</u></a>
226	<a href="#"><u>RAIMI -</u></a>	<a href="#"><u>Regional Air Impact Modeling Initiative</u></a>
227	<a href="#"><u>REL -</u></a>	<a href="#"><u>Reference exposure level</u></a>
228	<a href="#"><u>RfC -</u></a>	<a href="#"><u>Reference concentration</u></a>
229	<a href="#"><u>RfD -</u></a>	<a href="#"><u>Reference dose</u></a>
230	<a href="#"><u>RSEI -</u></a>	<a href="#"><u>Risk-Screening Environmental Indicators</u></a>

- 231 [STAR - Strategic Toxic Air Reduction](#)
- 232 [TAC - Toxic air contaminant](#)
- 233 [TAP - Toxic air pollutant](#)
- 234 [T-BAT - Best available technology for toxics](#)
- 235 [TLV - Threshold limit value](#)
- 236 [TOSHI - Target-organ-specific hazard index](#)
- 237 [TRI - Toxics Release Inventory](#)
- 238 [TSP - Total suspended particulates](#)
- 239 [UF - Uncertainty factor](#)
- 240 [URE - Unit risk estimate](#)

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242 [Adopted v1/](#)

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