

APPENDIX C
Trans-Boundary Notification

DRAFT

The Canada/U.S. Air Quality Agreement Transboundary Notification Under Article V

Date Submitted:

Name and full address of proponent including a contact for technical information:

Name : Covanta Durham/York, Inc

Address :

Contact phone:

Fax:

Brief description of the proposed project. (major products, process, capacity, etc):

The proposed EFW Facility will process about 140,000 tonnes of municipal solid waste annually. There will be two completely independent waste processing trains at the Facility. Each train will consist of a feed chute, stoker, integrated furnace/boiler, acid gas scrubber, a fabric filter baghouse and associated ash and residue collection systems. Steam produced in the boilers will drive a turbine-generator to produce electricity for delivery to the grid, and internal use.

Latitude and Longitude of proposed facility:

43 Degrees 52'29" **N**

78 Degrees 45'11" **W**

Distance to the Canada/U.S. border (to the nearest kilometre):

27 **km**

For combustion processes, list capacity (tonnes/year), fuel type and grade.

Capacity: 400,000 tonnes/year

Fuel Type: Municipal solid waste

Fuel Grade: N/A

What are the estimated annual quantities of the following pollutants released to the atmosphere (tonnes per year)?

SO₂ 124 tonnes/year

PM 31.8 tonnes/year

VOC 173 tonnes/year

CO 159 tonnes/year

NO_x (equivalent to NO₂) 428 tonnes/year

List hazardous air pollutants with emissions estimate (tonnes/year) for any hazardous pollutants with expected annual emission rates of greater than 1 tonne per year:

Ammonia: 19.1 tonnes/year

Hydrochloric Acid: 31.8 tonnes/year

Hydrogen Fluoride: 3.2 tonnes/year

Forward completed forms to:

Transboundary Air Issues Branch
Environmental Protection Service
Environment Canada
Ottawa, Ontario
K1A 0H3

Substances Listed on the National Pollutant Release Inventory for 2000

The substance numbers (#1-268) correspond to the numbers used in the Canada Gazette notice, published December 25, 1999.

Name **CAS Registry Number**

PART 1

| | |
|----------------------------------|------------|
| 1. Acetaldehyde | 75-07-0 |
| 2. Acetonitrile | 75-05-8 |
| 3. Acetophenone | 98-86-2 |
| 4. Acrolein ² | 107-02-8 |
| 5. Acrylamide | 79-06-1 |
| 6. Acrylic acid ³ | 79-10-7 |
| 7. Acrylonitrile | 107-13-1 |
| 8. Alkanes, C6-18, chloro | 68920-70-7 |
| 9. Alkanes, C10-13, chloro | 85535-84-8 |
| 10. Allyl alcohol | 107-18-6 |
| 11. Allyl chloride | 107-05-1 |
| 12. Aluminum ⁴ | 7429-90-5 |
| 13. Aluminum oxide ⁵ | 1344-28-1 |
| 14. Ammonia (total) ⁶ | * |
| 15. Aniline ³ | 62-53-3 |
| 16. Anthracene | 120-12-7 |
| 17. Antimony ⁷ | * |
| 18. Arsenic ⁷ | * |
| 19. Asbestos ⁸ | 1332-21-4 |
| 20. Benzene | 71-43-2 |
| 21. Benzoyl chloride | 98-88-4 |
| 22. Benzoyl peroxide | 94-36-0 |
| 23. Benzyl chloride | 100-44-7 |
| 24. Biphenyl | 92-52-4 |
| 25. Bis(2-ethylhexyl) adipate | 103-23-1 |
| 26. Bis(2-ethylhexyl) phthalate | 117-81-7 |
| 27. Boron trifluoride | 7637-07-2 |
| 28. Bromine | 7726-95-6 |
| 29. 1-Bromo-2-chloroethane | 107-04-0 |
| 30. Bromomethane | 74-83-9 |
| 31. 1,3-Butadiene | 106-99-0 |
| 32. 2-Butoxyethanol | 111-76-2 |
| 33. Butyl acrylate | 141-32-2 |
| 34. i-Butyl alcohol | 78-83-1 |
| 35. n-Butyl alcohol | 71-36-3 |
| 36. sec-Butyl alcohol | 78-92-2 |
| 37. tert-Butyl alcohol | 75-65-0 |
| 38. Butyl benzyl phthalate | 85-68-7 |
| 39. 1,2-Butylene oxide | 106-88-7 |
| 40. Butyraldehyde | 123-72-8 |
| 41. C.I. Acid Green 3 | 4680-78-8 |
| 42. C.I. Basic Green 4 | 569-64-2 |
| 43. C.I. Basic Red 1 | 989-38-8 |
| 44. C.I. Direct Blue 218 | 28407-37-6 |
| 45. C.I. Disperse Yellow 3 | 2832-40-8 |
| 46. C.I. Food Red 15 | 81-88-9 |
| 47. C.I. Solvent Orange 7 | 3118-97-6 |
| 48. C.I. Solvent Yellow 14 | 842-07-9 |
| 49. Cadmium ⁷ | * |
| 50. Calcium cyanamide | 156-62-7 |
| 51. Calcium fluoride | 7789-75-5 |
| 52. Carbon disulphide | 75-15-0 |
| 53. Carbon tetrachloride | 56-23-5 |
| 54. Catechol | 120-80-9 |

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| 55. CFC-11 | 75-69-4 | |
| 56. CFC-12 | 75-71-8 | |
| 57. CFC-13 | 75-72-9 | |
| 58. CFC-114 | 76-14-2 | |
| 59. CFC-115 | 76-15-3 | |
| 60. Chlorendic acid | 115-28-6 | |
| 61. Chlorine | 7782-50-5 | |
| 62. Chlorine dioxide | 10049-04-4 | |
| 63. Chloroacetic acid ³ | 79-11-8 | |
| 64. Chlorobenzene | 108-90-7 | |
| 65. Chloroethane | 75-00-3 | |
| 66. Chloroform | 67-66-3 | |
| 67. Chloromethane | 74-87-3 | |
| 68. 3-Chloro-2-methyl-1-propene | | 563-47-3 |
| 69. 3-Chloropropionitrile | 542-76-7 | |
| 70. Chromium ⁷ | * | |
| 71. Cobalt ⁷ | * | |
| 72. Copper ⁷ | * | |
| 73. Cresol ^{3, 9} | 1319-77-3 | |
| 74. m-Cresol ³ | 108-39-4 | |
| 75. o-Cresol ³ | 95-48-7 | |
| 76. p-Cresol ³ | 106-44-5 | |
| 77. Crotonaldehyde | 4170-30-3 | |
| 78. Cumene | 98-82-8 | |
| 79. Cumene hydroperoxide | 80-15-9 | |
| 80. Cyanides ¹⁰ | * | |
| 81. Cyclohexane | 110-82-7 | |
| 82. Cyclohexanol | 108-93-0 | |
| 83. Decabromodiphenyl oxide | 1163-19-5 | |
| 84. 2,4-Diaminotoluene ³ | 95-80-7 | |
| 85. 2,6-Di-t-butyl-4-methylphenol | | 128-37-0 |
| 86. Dibutyl phthalate | 84-74-2 | |
| 87. o-Dichlorobenzene | 95-50-1 | |
| 88. p-Dichlorobenzene | 106-46-7 | |
| 89. 3,3'-Dichlorobenzidine dihydrochloride | | 612-83-9 |
| 90. 1,2-Dichloroethane | 107-06-2 | |
| 91. Dichloromethane | 75-09-2 | |
| 92. 2,4-Dichlorophenol ³ | 120-83-2 | |
| 93. 1,2-Dichloropropane | 78-87-5 | |
| 94. Dicyclopentadiene | 77-73-6 | |
| 95. Diethanolamine ³ | 111-42-2 | |
| 96. Diethyl phthalate | 84-66-2 | |
| 97. Diethyl sulphate | 64-67-5 | |
| 98. Dimethylamine | 124-40-3 | |
| 99. N,N-Dimethylaniline ³ | 121-69-7 | |
| 100. Dimethyl phenol | 1300-71-6 | |
| 101. Dimethyl phthalate | 131-11-3 | |
| 102. Dimethyl sulphate | 77-78-1 | |
| 103. 4,6-Dinitro-o-cresol ³ | 534-52-1 | |
| 104. 2,4-Dinitrotoluene | 121-14-2 | |
| 105. 2,6-Dinitrotoluene | 606-20-2 | |
| 106. Dinitrotoluene ⁹ | 25321-14-6 | |
| 107. Di-n-octyl phthalate | 117-84-0 | |
| 108. 1,4-Dioxane | 123-91-1 | |
| 109. Diphenylamine | 122-39-4 | |
| 100. Epichlorohydrin | 106-89-8 | |
| 111. 2-Ethoxyethanol | 110-80-5 | |

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| 112. | 2-Ethoxyethyl acetate | | 111-15-9 |
| 113. | Ethoxynonyl benzene | | 28679-13-2 |
| 114. | Ethyl acrylate | 140-88-5 | |
| 115. | Ethylbenzene | 100-41-4 | |
| 116. | Ethyl chloroformate | | 541-41-3 |
| 117. | Ethylene | 74-85-1 | |
| 118. | Ethylene glycol | 107-21-1 | |
| 119. | Ethylene oxide | 75-21-8 | |
| 120. | Ethylene thiourea | | 96-45-7 |
| 121. | Fluorine | 7782-41-4 | |
| 122. | Formaldehyde | 50-00-0 | |
| 123. | Formic acid | 64-18-6 | |
| 124. | Halon 1211 | 353-59-3 | |
| 125. | Halon | 1301 75-63-8 | |
| 126. | HCFC-22 | 75-45-6 | |
| 127. | HCFC-122 and all isomers | 11 | 41834-16-6 |
| 128. | HCFC-123 and all isomers | 12 | 34077-87-7 |
| 129. | HCFC 124 and all isomers | 13 | 63938-10-3 |
| 130. | HCFC-141b | 1717-00-6 | |
| 131. | HCFC-142b | 75-68-3 | |
| 132. | Hexachlorocyclopentadiene | | 77-47-4 |
| 133. | Hexachloroethane | 67-72-1 | |
| 134. | Hexachlorophene | 70-30-4 | |
| 135. | n-Hexane | 110-54-3 | |
| 136. | Hydrazine | 302-01-2 | |
| 137. | Hydrochloric acid | | 7647-01-0 |
| 138. | Hydrogen cyanide | 74-90-8 | |
| 139. | Hydrogen fluoride | | 7664-39-3 |
| 140. | Hydrogen sulphide | | 7783-06-4 |
| 141. | Hydroquinone | 123-31-9 | |
| 142. | Iron pentacarbonyl | | 13463-40-6 |
| 143. | Isobutyraldehyde | 78-84-2 | |
| 144. | Isophorone diisocyanate | | 4098-71-9 |
| 145. | Isoprene | 78-79-5 | |
| 146. | Isopropyl alcohol | 67-63-0 | |
| 147. | p,p'-Isopropylidenediphenol | | 80-05-7 |
| 148. | Isosafrole | 120-58-1 | |
| 149. | Lead | * | |
| 150. | Lithium carbonate | 554-13-2 | |
| 151. | Maleic anhydride | 108-31-6 | |
| 152. | Manganese | * | |
| 153. | 2-Mercaptobenzothiazole | | 149-30-4 |
| 154. | Methanol | 67-56-1 | |
| 155. | 2-Methoxyethanol | 109-86-4 | |
| 156. | 2-Methoxyethyl acetate | | 110-49-6 |
| 157. | Methyl acrylate | 96-33-3 | |
| 158. | Methyl tert-butyl ether | | 1634-04-4 |
| 159. | p,p'-Methylenebis(2-chloroaniline) | | 101-14-4 |
| 160. | 1,1-Methylenebis(4-isocyanatocyclohexane) | | 5124-30-1 |
| 161. | Methylenebis(phenylisocyanate) | | 101-68-8 |
| 162. | p,p'-Methylenedianiline | 101-77-9 | |
| 163. | Methyl ethyl ketone | 78-93-3 | |
| 164. | Methyl iodide | 74-88-4 | |
| 165. | Methyl isobutyl ketone | 108-10-1 | |
| 166. | Methyl methacrylate | 80-62-6 | |
| 167. | N-Methylolacrylamide | | 924-42-5 |
| 168. | 2-Methylpyridine | 109-06-8 | |

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| 169. | N-Methyl-2-pyrrolidone | 872-50-4 | |
| 170. | Michler's ketone ³ | 90-94-8 | |
| 171. | Molybdenum trioxide | 1313-27-5 | |
| 172. | Naphthalene | 91-20-3 | |
| 173. | Nickel ⁷ | * | |
| 174. | Nitrate ion ¹⁴ | * | |
| 175. | Nitric acid | 7697-37-2 | |
| 176. | Nitrilotriacetic acid ³ | 139-13-9 | |
| 177. | p-Nitroaniline | 100-01-6 | |
| 178. | Nitrobenzene | 98-95-3 | |
| 179. | Nitroglycerin | 55-63-0 | |
| 180. | p-Nitrophenol ³ | 100-02-7 | |
| 181. | 2-Nitropropane | 79-46-9 | |
| 182. | N-Nitrosodiphenylamine | 86-30-6 | |
| 183. | Nonylphenol | 104-40-5 | |
| 184. | Nonylphenol hepta(oxyethylene) ethanol | | 27177-05-5 |
| 185. | Nonylphenol, industrial | 84852-15-3 | |
| 186. | Nonylphenol nona(oxyethylene) ethanol | | 27177-08-8 |
| 187. | n-Nonylphenol ⁹ | 25154-52-3 | |
| 188. | Nonylphenol polyethylene glycol ether | | 9016-45-9 |
| 189. | p-Nonylphenol polyethylene glycol ether | | 26027-38-3 |
| 190. | Nonylphenoxy ethanol | 27986-36-3 | |
| 191. | 2-(p-Nonylphenoxy) ethanol | 104-35-8 | |
| 192. | 2-(2-(p-Nonylphenoxy)ethoxy) ethanol | | 20427-84-3 |
| 193. | 2-(2-(2-(2-(p-Nonylphenoxy) ethoxy)ethoxy)ethoxy) ethanol | | 7311-27-5 |
| 194. | 4-tert-Octylphenol ² | 140-66-9 | |
| 195. | Oxirane, methyl-, polymer with oxirane, mono(nonylphenyl)ether ² | | 37251-69-7 |
| 196. | Paraldehyde | 123-63-7 | |
| 197. | Pentachloroethane | 76-01-7 | |
| 198. | Peracetic acid ³ | 79-21-0 | |
| 199. | Phenol ³ | 108-95-2 | |
| 200. | p-Phenylenediamine ³ | 106-50-3 | |
| 201. | o-Phenylphenol ³ | 90-43-7 | |
| 202. | Phosgene | 75-44-5 | |
| 203. | Phosphoric acid | 7664-38-2 | |
| 204. | Phosphorus ¹⁵ | 7723-14-0 | |
| 205. | Phthalic anhydride | 85-44-9 | |
| 206. | Polymeric diphenylmethane diisocyanate ² | | 9016-87-9 |
| 207. | Potassium bromate | 7758-01-2 | |
| 208. | Propargyl alcohol | 107-19-7 | |
| 209. | Propionaldehyde | 123-38-6 | |
| 210. | Propylene | 115-07-1 | |
| 211. | Propylene oxide | 75-56-9 | |
| 212. | Pyridine ³ | 110-86-1 | |
| 213. | Quinoline ³ | 91-22-5 | |
| 214. | p-Quinone | 106-51-4 | |
| 215. | Safrole | 94-59-7 | |
| 216. | Selenium ⁷ | * | |
| 217. | Silver ⁷ | * | |
| 218. | Sodium fluoride | 7681-49-4 | |
| 219. | Sodium nitrite | 7632-00-0 | |
| 220. | Styrene | 100-42-5 | |
| 221. | Styrene oxide | 96-09-3 | |
| 222. | Sulphur hexafluoride | 2551-62-4 | |
| 223. | Sulphuric acid | 7664-93-9 | |

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| 224. | 1,1,1,2-Tetrachloroethane | 630-20-6 | |
| 225. | 1,1,2,2-Tetrachloroethane | 79-34-5 | |
| 226. | Tetrachloroethylene | 127-18-4 | |
| 227. | Tetracycline hydrochloride | 64-75-5 | |
| 228. | Tetraethyl lead | 78-00-2 | |
| 229. | Thiourea | 62-56-6 | |
| 230. | Thorium dioxide | 1314-20-1 | |
| 231. | Titanium tetrachloride | 7550-45-0 | |
| 232. | Toluene | 108-88-3 | |
| 233. | Toluene-2,4-diisocyanate | 584-84-9 | |
| 234. | Toluene-2,6-diisocyanate | 91-08-7 | |
| 235. | Toluenediisocyanate ⁹ | 26471-62-5 | |
| 236. | 1,2,4-Trichlorobenzene | 120-82-1 | |
| 237. | 1,1,2-Trichloroethane | 79-00-5 | |
| 238. | Trichloroethylene | 79-01-6 | |
| 239. | Triethylamine | 121-44-8 | |
| 240. | 1,2,4-Trimethylbenzene | 95-63-6 | |
| 241. | 2,2,4-Trimethylhexamethylene diisocyanate | | 16938-22-0 |
| 242. | 2,4,4-Trimethylhexamethylene diisocyanate | | 15646-96-5 |
| 243. | Vanadium ⁴ | 7440-62-2 | |
| 244. | Vinyl acetate | 108-05-4 | |
| 245. | Vinyl chloride | 75-01-4 | |
| 246. | Vinylidene chloride | 75-35-4 | |
| 247. | Xylene ⁹ | 1330-20-7 | |
| 248. | Zinc ^{7, 16} | * | |

PART 2

249. Mercury^{7, 17} *

PART 3

| | | | |
|------|---------------------------------------|----------|--|
| 250. | Benzo(a)anthracene ² | 56-55-3 | |
| 251. | Benzo(a)phenanthrene ² | 218-01-9 | |
| 252. | Benzo(a)pyrene ² | 50-32-8 | |
| 253. | Benzo(b)fluoranthene ² | 205-99-2 | |
| 254. | Benzo(e)pyrene ² | 192-97-2 | |
| 255. | Benzo(g,h,i)perylene ² | 191-24-2 | |
| 256. | Benzo(j)fluoranthene ² | 205-82-3 | |
| 257. | Benzo(k)fluoranthene ² | 207-08-9 | |
| 258. | Dibenz(a,j)acridine ² | 224-42-0 | |
| 259. | Dibenzo(a,h)anthracene ² | 53-70-3 | |
| 260. | Dibenzo(a,i)pyrene ² | 189-55-9 | |
| 261. | 7H-Dibenzo(c,g)carbazole ² | 194-59-2 | |
| 262. | Fluoranthene ² | 206-44-0 | |
| 263. | Indeno(1,2,3-c,d)pyrene ² | 193-39-5 | |
| 264. | Perylene ² | 198-55-0 | |
| 265. | Phenanthrene ² | 85-01-8 | |
| 266. | Pyrene ² | 129-00-0 | |

PART 4

267. Hexachlorobenzene² 118-74-1
 268. Polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans^{2,18} *

English

1 CAS Registry Number denotes the Chemical Abstracts Service Registry Number, as appropriate.

2 new substance for 2000 reporting year

- 3 "and its salts" - The CAS number corresponds to the weak acid or base. However, the NPRI listing includes the salts of these weak acids and bases. When calculating the weight of these substances and their salts, use the molecular weight of the acid or base, not the total weight of the salt.
- 4 "fume or dust"
- 5 "fibrous forms"
- 6 "Ammonia (total)" means the total of both of ammonia (NH₃ - CAS No. 7664-41-7) and the ammonium ion (NH₄⁺) in solution.
- 7 "and its compounds"
- 8 "friable form"
- 9 "mixed isomers"
- 10 "ionic"
- 11 The isomers include, but are not necessarily limited to, HCFC-122 (CAS No. 354-21-2).
- 12 The isomers include, but are not necessarily limited to, HCFC-123 (CAS No. 306-83-2) and HCFC 123a (CAS No. 90454-18-5).
- 13 The isomers include, but are not necessarily limited to, HCFC-124 (CAS No. 2837-89-0) and HCFC 124a (CAS No. 354-25-6).
- 14 "in solution at a pH of 6.0 or greater"
- 15 "yellow or white"
- 16 "This listing includes the pure isomers of xylene: m-xylene, CAS No. 108-38-3, o-xylene, CAS No. 95-47-6 and p-xylene, CAS No. 106-42-3"
- 17 The reporting requirements for mercury have changed for the 2000 reporting year.
- 18 This class of substances is restricted to the following congeners:
- 2,3,7,8-Tetrachlorodibenzo-p-dioxin (1746-01-6);
 - 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (40321-76-4);
 - 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (39227-28-6); 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (19408-74-3);
 - 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (57653-85-7); 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (35822-46-9);
 - Octachlorodibenzo-p-dioxin (3268-87-9); 2,3,7,8-Tetrachlorodibenzofuran (51207-31-9);
 - 2,3,4,7,8-Pentachlorodibenzofuran (57117-31-4); 1,2,3,7,8-Pentachlorodibenzofuran (57117-41-6);
 - 1,2,3,4,7,8-Hexachlorodibenzofuran (70648-26-9); 1,2,3,7,8,9-Hexachlorodibenzofuran (72918-21-9);
 - 1,2,3,6,7,8-Hexachlorodibenzofuran (57117-44-9); 2,3,4,6,7,8-Hexachlorodibenzofuran (60851-34-5);
 - 1,2,3,4,6,7,8-Heptachlorodibenzofuran (67562-39-4); 1,2,3,4,7,8,9-Heptachlorodibenzofuran (55673-89-7); and
 - Octachlorodibenzofuran (39001-02-0).

* No single CAS number applies to their NPRI listing.