

Appendix H
Hazardous Air Pollutant Potential to Emit

5.9.2.2 Construction Phase Effects

The construction phase of the MREC is expected to take approximately 23 months (followed by several months of startup and commissioning). No significant public health effects are expected during the construction phase. Strict construction practices that incorporate safety and compliance with applicable LORS will be followed (see Section 5.9.5). In addition, mitigation measures to reduce air emissions from construction effects will be implemented as described in Section 5.1, Air Quality, and Appendix 5.1E.

Temporary emissions from construction-related activities are discussed in Section 5.1, Air Quality and Appendix 5.1E. Construction-related emissions are temporary and localized, resulting in no long-term effects to the public.

Small quantities of hazardous waste may be generated during the construction phase of the MREC. Hazardous waste management plans will be in place so the potential for public exposure is minimal. Refer to the Waste Management, for more information. No acutely hazardous materials will be used or stored on-site during construction (see the Hazardous Materials Handling section). To ensure worker safety during construction, safe work practices will be followed (see the Worker Safety section).

5.9.2.3 Operational Phase Effects

Environmental consequences potentially associated with the operation of the MREC are potential human exposure to chemical substances emitted to the air. The human health risks potentially associated with these chemical substances were evaluated in a HRA. The chemical substances potentially emitted to the air from the MREC turbines, and IC engine are listed in Table 5.9-3.

Table 5.9-3 Chemical Substances Potentially Emitted to the Air from the MREC

Criteria Pollutants
PM
CO
SO _x
NO _x
VOC
Lead
Noncriteria Pollutants (Toxic Pollutants)
Ammonia, Arsenic, Acetaldehyde, Acrolein
Benzene, Beryllium
Cadmium, Chromium, Copper
1-3 Butadiene
Ethylbenzene
Formaldehyde
Hexane (n-Hexane)
Lead
Nickel, Naphthalene
Manganese, Mercury
PAHs, Propylene, Propylene Oxide
Selenium, Silica
Toluene
Vanadium
Xylene

Table 5.9-3 Chemical Substances Potentially Emitted to the Air from the MREC

Criteria Pollutants
Diesel Particulate Matter

PAH = polynuclear (or polycyclic) aromatic hydrocarbon

Tables 5.9-4 and 5.9-5 present the estimated toxic pollutant emissions from the facility processes.

Table 5.9-4 Toxic Pollutant Emissions Estimates (lbs/hr)

Pollutant/Device	Each Turbine	5 Turbines	Fire Pump
Ammonia	3.77	18.9	-
Total PAHs (BaP)	0.0000267	0.000134	-
Acetaldehyde	0.00452	0.0226	-
Acrolein	0.000721	0.0036	-
Benzene	0.00136	0.00679	-
1-3 Butadiene	0.0000487	0.000243	-
Ethylbenzene	0.00363	0.0181	-
Formaldehyde	0.201	1.0	-
Hexane	0.0287	0.144	-
Naphthalene	0.000147	0.00074	-
Propylene	0.0855	0.428	-
Propylene Oxide	0.00328	0.0164	-
Toluene	0.0147	0.0736	-
Xylene	0.00725	0.0362	-
Diesel PM	-	-	0.07

Table 5.9-5 Toxic Pollutant Emissions Estimates (lbs/year)

Pollutant/Device	Each Turbine	5 Turbines	Fire Pump
Ammonia	9430	47150	-
Total PAHs (BaP)	0.0662	0.331	-
Acetaldehyde	11.2	56	-
Acrolein	1.79	8.93	-
Benzene	3.37	16.8	-
1-3 Butadiene	0.121	0.603	-
Ethylbenzene	8.98	44.9	-
Formaldehyde	498	2490	-
Hexane	71.2	356	-

Naphthalene	0.365	1.83	-
Propylene	212	1060	-
Propylene Oxide	8.13	40.7	-
Toluene	36.5	183	-
Xylene	18	90	-
Diesel PM	-	-	3.78

Table 5.9-5 (continued) Wet SAC Toxic Pollutant Emissions Estimates

Substance	Lbs/Hr/Cell	Lbs/Yr/Cell
Arsenic	3.47E-8	8.68E-5
Beryllium	3.43E-9	8.57E-6
Cadmium	4.90E-9	1.22E-5
Total Chromium	5.34E-9	1.34E-5
Copper	1.25E-7	3.12E-4
Lead	1.56E-8	3.89E-5
Manganese	1.16E-3	2.89E+0
Mercury	1.47E-10	3.67E-7
Nickel	4.01E-8	1.00E-4
Selenium	4.72E-7	1.18E-3
Silica	3.20E-4	8.01E-1
Vanadium	2.67E-8	6.68E-5

Emissions of criteria pollutants will adhere to NAAQS and CAAQS as discussed in Section 5.1, Air Quality. The MREC also will include emission control technologies necessary to meet the required emission standards specified for criteria pollutants under VCAPCD rules. Offsets will be required because the MREC will be a major source under the Districts NSR rule. Finally, air dispersion modeling results (presented in Section 5.1, Air Quality) show that emissions will not result in concentrations of criteria pollutants in air that exceed ambient air quality standards (either NAAQS or CAAQS). These standards are intended to protect the general public with a wide margin of safety. Therefore, the MREC is not anticipated to have a significant effect on public health from emissions of criteria pollutants.

Potential effects associated with emissions of toxic pollutants to the air from the MREC are summarized in Appendix 5.1D. The HRA was prepared using guidelines developed by OEHHA and CARB, as implemented in the latest version of the Hotspots Analysis and Reporting Program (HARP) model (Version 2.0.3, ADMRT #16217).

5.9.2.4 Public Health Effect Study Methods

Emissions of toxic pollutants potentially associated with the MREC were estimated using emission factors approved by CARB and EPA. Concentrations of these pollutants in air potentially associated with MREC emissions were estimated using the HARP dispersion modeling module. Modeling allows the estimation of both short-term and long-term average concentrations in air for use in an HRA, accounting for site-specific terrain and meteorological conditions. Health risks potentially associated with the