South Coast
Air Quality Management District
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SUBJECT: Notice of Intent to Revise Health Risk Values for Nickel and Nickel Compounds, PCDDs, PCDFs, and dioxin-like PCBs

Rules 1401 – New Source Review of Toxic Air Contaminants and 1402 – Control of Toxic Air Contaminants from Existing Sources, require that staff notify the Board and affected parties when health risk values for toxic air contaminants are added to or changed in the procedures for health risk assessment. The Office of Environmental Health Hazard Assessment (OEHHA) has approved new health risk values for nickel and nickel compounds; polychlorinated dibenzo-p-dioxins (PCDDs); polychlorinated dibenzofurans (PCDFs); and dioxin-like polychlorinated biphenyls (PCBs). SCAQMD intends to revise the health risk values for the aforementioned compounds in the SCAQMD Risk Assessment Procedures for Rule 1401.

Table 1 - Existing and Revised Health Risk Values and Screening Values for PCDDs, PCDFs, and Dioxin-like PCBs, lists the revised RELs for PCDDs, PCDFs, and dioxin-like PCBs. Table 2 - Existing and Revised Health Risk Values and Screening Values for Nickel and Nickel Compounds, lists the revised RELs for nickel and nickel compounds. The tables also list screening levels which represent a conservative estimate of the amount of the compound which could be emitted in a year for chronic impacts or in one hour for acute impacts below which no adverse impacts would reasonably be expected for a receptor at a distance of 25 meters from the source of the emissions. An analysis will be conducted to determine if any Rule 1401 or Rule 1402 impacts will occur as a result of the revised risk values. Details of this analysis and staff's recommendations will be forwarded to the Governing Board for their consideration at the December 7, 2012 Governing Board Meeting.

Table 1 – Existing and Revised Health Risk Values and Screening Values for PCDDs, PCDFs, and Dioxin-like PCBs

		Chronic REL (ug/m3)		Cancer Potency (mg/kg-dy)-1		Chronic Screening Value at 25m (lbs/yr)		Cancer Screening Values at 25m (lbs/yr)	
CAS #	**Compound**	**Old**	**New**	**Old**	**New**	**Old**	**New**	**Old**	**New**
1336363	PCBs {Polychlorinated biphenyls} (unspeciated mixture)	1.2	No change	2	No change	2.19E+00	No change	3.74E-03	**3.73E-03**
32598133	3,3',4,4'-Tetrachlorobiphenyl {PCB 77}	0.4	No change	13	No change	7.31E-01	**7.28E-01**	5.75E-04	No change
70362504	3,4,4',5-Tetrachlorobiphenyl {PCB 81}	0.4	0.13	13	39	7.31E-01	**2.40E-01**	5.75E-04	**1.92E-04**
32598144	2,3,3',4,4'-Pentachlorobiphenyl {PCB 105}	0.4	1.3	13	3.9	7.31E-01	2.40E+00	5.75E-04	1.92E-03
74472370	2,3,4,4',5-Pentachlorobiphenyl {PCB 114}	0.08	1.3	65	3.9	1.47E-01	2.40E+00	1.15E-04	1.92E-03
31508006	2,3',4,4',5-Pentachlorobiphenyl {PCB 118}	0.4	1.3	13	3.9	7.31E-01	2.40E+00	5.75E-04	1.92E-03
65510443	2,3',4,4',5'-Pentachlorobiphenyl {PCB 123}	0.4	1.3	13	3.9	7.31E-01	2.40E+00	5.75E-04	1.92E-03
57465288	3,3',4,4',5-Pentachlorobiphenyl {PCB 126}	0.0004	No change	13000	No change	7.31E-04	**7.28E-04**	5.75E-07	No change
38380084	2,3,3',4,4',5-Hexachlorobiphenyl {PCB 156}	0.08	1.3	65	3.9	1.47E-01	2.40E+00	1.15E-04	1.92E-03
69782907	2,3,3',4,4',5'-Hexachlorobiphenyl {PCB 157}	0.08	1.3	65	3.9	1.47E-01	2.40E+00	1.15E-04	1.92E-03
52663726	2,3',4,4',5,5'-Hexachlorobiphenyl {PCB 167}	4	1.3	1.3	3.9	7.31E+00	**2.40E+00**	5.75E-03	**1.92E-03**
32774166	3,3',4,4',5,5'-Hexachlorobiphenyl {PCB 169}	0.004	0.0013	1300	3900	7.31E-03	**2.40E-03**	5.75E-06	**1.92E-06**
39635319	2,3,3',4,4',5,5'-Heptachlorobiphenyl {PCB 189}	0.4	1.3	13	3.9	7.31E-01	2.40E+00	5.75E-04	1.92E-03
1086	Dioxins, total, w/o individ. isomers reported {PCDDs} [Treat as 2378TCDD for HRA]	0.00004	No change	130000	No change	1.15E-04	No change	8.98E-08	9.00E-08
1746016	2,3,7,8-Tetrachlorodibenzo-p-dioxin	0.00004	No change	130000	No change	1.15E-04	No change	8.98E-08	9.00E-08
40321764	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	0.00004	No change	130000	No change	1.15E-04	No change	8.98E-08	9.00E-08
39227286	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	0.0004	No change	13000	No change	1.15E-03	No change	8.98E-07	9.00E-07
57653857	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	0.0004	No change	13000	No change	1.15E-03	No change	8.98E-07	9.00E-07
19408743	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	0.0004	No change	13000	No change	1.15E-03	1.15E-03	8.98E-07	9.00E-07
35822469	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	0.004	No change	1300	No change	1.15E-02	1.15E-02	8.98E-06	9.00E-06
3268879	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	0.4	0.13	13	39	1.15E+00	**3.78E-01**	8.98E-04	**3.00E-04**

		Chronic REL (ug/m3)		Cancer Potency (mg/kg-dy)-1		Chronic Screening Value at 25m (lbs/yr)		Cancer Screening Values at 25m (lbs/yr)	
CAS #	**Compound**	**Old**	**New**	**Old**	**New**	**Old**	**New**	**Old**	**New**
1080	Dibenzofurans (chlorinated) {PCDFs} [Treated as 2378TCDD for HRA]	0.00004	No change	130000	No change	1.15E-04	No change	8.98E-08	9.00E-08
51207319	2,3,7,8-Tetrachlorodibenzofuran	0.0004	No change	13000	No change	1.15E-03	No change	8.98E-07	9.00E-07
57117416	1,2,3,7,8-Pentachlorodibenzofuran	0.0008	0.0013	6500	3900	2.30E-03	3.78E-03	1.80E-06	3.00E-06
57117314	2,3,4,7,8-Pentachlorodibenzofuran	0.00008	0.00013	65000	39000	2.30E-04	3.78E-04	1.80E-07	3.00E-07
70648269	1,2,3,4,7,8-Hexachlorodibenzofuran	0.0004	No change	13000	No change	1.15E-03	No change	8.98E-07	9.00E-07
57117449	1,2,3,6,7,8-Hexachlorodibenzofuran	0.0004	No change	13000	No change	1.15E-03	No change	8.98E-07	9.00E-07
72918219	1,2,3,7,8,9-Hexachlorodibenzofuran	0.0004	No change	13000	No change	1.15E-03	No change	8.98E-07	9.00E-07
60851345	2,3,4,6,7,8-Hexachlorodibenzofuran	0.0004	No change	13000	No change	1.15E-03	No change	8.98E-07	9.00E-07
67562394	1,2,3,4,6,7,8-Heptachlorodibenzofuran	0.004	No change	1300	No change	1.15E-02	No change	8.98E-06	9.00E-06
55673897	1,2,3,4,7,8,9-Heptachlorodibenzofuran	0.004	No change	1300	No change	1.15E-02	No change	8.98E-06	9.00E-06
39001020	1,2,3,4,6,7,8,9-Octachlorodibenzofuran	0.4	0.13	13	39	1.15E+00	**3.78E-01**	8.98E-04	**3.00E-04**

Table 2 – Existing and Revised Health Risk Values and Screening Values for Nickel and Nickel Compounds

		Chronic REL (ug/m3)		Acute REL (ug/m3)		Chronic Screening Value at 25m (lbs/yr)		Acute Screening Value at 25m (lbs/hr)	
CAS#	**Compound**	**Old**	**New**	**Old**	**New**	**Old**	**New**	**Old**	**New**
7440020	Nickel and nickel compounds (except Nickel Oxide)	0.05	0.014	6	0.2	1.65E+00	**4.63E-01**	3.00E-03	**1.00E-04**
373024	*Nickel acetate*	0.05	0.014	6	0.2	1.65E+00	**4.63E-01**	3.00E-03	**1.00E-04**
3333673	*Nickel carbonate*	0.05	0.014	6	0.2	1.65E+00	**4.63E-01**	3.00E-03	**1.00E-04**
13463393	*Nickel carbonyl*	0.05	0.014	6	0.2	1.65E+00	**4.63E-01**	3.00E-03	**1.00E-04**
12054487	*Nickel hydroxide*	0.05	0.014	6	0.2	1.65E+00	**4.63E-01**	3.00E-03	**1.00E-04**
1271289	*Nickelocene*	0.05	0.014	6	0.2	1.65E+00	**4.63E-01**	3.00E-03	**1.00E-04**
1146	*Nickel refinery dust from the pyrometallurgical process*	0.05	0.014	6	0.2	1.65E+00	**4.63E-01**	3.00E-03	**1.00E-04**
12035722	*Nickel subsulfide*	0.05	0.014	6	0.2	1.65E+00	**4.63E-01**	3.00E-03	**1.00E-04**
1313991	Nickel oxide	0.1	0.02	6	0.2	3.31E+00	**6.61E-01**	3.00E-03	**1.00E-04**

Note: Values in **bold** text indicate a more stringent (i.e., health protective) revised screening value.