

## ***Appendix 6.2***

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### ***Detailed Emission Calculation of Proposed Heliport***

Event	Source ID	X	Y	Z	Average Time, s <sup>(1)</sup>	Emission (NO <sub>x</sub> ) <sup>(1)</sup>		Emission (NO <sub>2</sub> ) <sup>(2)</sup>		Sz
						Twin Engine, lb/min	Twin Engine, g	g/s <sup>(2)</sup>	Sy	
Approaching	1001	839950.5	817924.0	80	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1002	839955.1	817929.4	78	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1003	839959.7	817934.8	77	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1004	839964.3	817940.2	76	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1005	839968.9	817945.6	75	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1006	839973.5	817951.0	74	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1007	839978.1	817956.4	73	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1008	839982.7	817961.8	72	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1009	839987.3	817967.2	71	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1010	839991.9	817972.6	70	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1011	839996.5	817978.0	69	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1012	840001.1	817983.4	67	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1013	840005.7	817988.8	66	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1014	840010.3	817994.2	65	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1015	840014.9	817999.6	64	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1016	840019.5	818005.0	63	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1017	840024.1	818010.4	62	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1018	840028.7	818015.8	61	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1019	840033.3	818021.2	60	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1020	840037.9	818026.6	59	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1021	840042.5	818032.0	57	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1022	840047.1	818037.4	56	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1023	840051.7	818042.8	55	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1024	840056.3	818048.2	54	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1025	840060.9	818053.6	53	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1026	840065.5	818059.0	52	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1027	840070.1	818064.4	51	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1028	840074.7	818069.8	50	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1029	840079.3	818075.2	49	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1030	840083.9	818080.6	47	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1031	840088.5	818086.0	46	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1032	840093.1	818091.4	45	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1033	840097.7	818096.8	44	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1034	840102.3	818102.2	43	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1035	840106.9	818107.6	42	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1036	840111.5	818113.0	41	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1037	840116.1	818118.4	40	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1038	840120.7	818123.8	39	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1039	840125.3	818129.2	37	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1040	840129.9	818134.6	36	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1041	840134.5	818140.0	35	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1042	840139.1	818145.4	34	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1043	840143.7	818150.8	33	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1044	840148.3	818156.2	32	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1045	840152.9	818161.6	31	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1046	840157.5	818167.0	30	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1047	840162.1	818172.4	29	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1048	840166.7	818177.8	27	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1049	840171.3	818183.2	26	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1050	840175.9	818188.6	25	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1051	840180.5	818194.0	24	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1052	840185.1	818199.4	23	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1053	840189.7	818204.8	22	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1054	840194.3	818210.2	21	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1055	840198.9	818215.6	20	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1056	840203.5	818221.0	19	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1057	840208.1	818226.4	18	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1058	840212.7	818231.8	16	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1059	840217.3	818237.2	15	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1060	840221.9	818242.6	14	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1061	840226.5	818248.0	13	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1062	840231.1	818253.4	12	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1063	840235.7	818258.8	11	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1064	840240.3	818264.2	10	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1065	840244.9	818269.6	9	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1066	840249.5	818275.0	8	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1067	840254.1	818280.4	6	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1068	840258.7	818285.8	5	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1069	840263.3	818291.2	4	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1070	840267.9	818296.6	3	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Approaching	1071	840272.5	818302.0	2	29.33	0.098	21.73	6.8000E-05	3.26	1.03
Hovering	1072	840275.4	818301.8	0	30	0.098	22.22	0.004938272	3.26	1.03
Idling	1073	840275.4	818301.8	0	673.5	0.006	30.54	0.006787604	3.26	1.03
Hovering	1074	840275.4	818301.8	0	55.83	0.143	60.35	0.013410078	3.26	1.03
Takeoff (1st 30m)	1101	840277.7	818304.5	2	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (1st 30m)	1102	840282.3	818309.9	2	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (1st 30m)	1103	840286.9	818315.3	2	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (1st 30m)	1104	840291.5	818320.7	2	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1105	840272.5	818266.7	2	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1106	840272.5	818266.7	2	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1107	840267.8	818261.5	2	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1108	840263.1	818256.3	2	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1109	840258.4	818251.1	2	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1110	840253.7	818245.9	2	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1111	840249.0	818240.7	2	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1112	840244.3	818235.5	3	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1113	840239.6	818230.3	3	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1114	840234.9	818225.1	3	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1115	840230.2	818219.9	3	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1116	840225.5	818214.7	3	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1117	840220.8	818209.5	3	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1118	840216.1	818204.3	3	12.5	0.143	13.51	4.11293E-05	3.26	1.03

Event	Source ID	X	Y	Z	Average Time, s <sup>(1)</sup>	Emission (NO <sub>2</sub> ) <sup>(1)</sup>		Emission (NO <sub>2</sub> ) g/s <sup>(2)</sup>	Sy	Sz
						Twin Engine, lb/min	Twin Engine, g			
Takeoff (after 30m)	1119	840211.4	818199.1	3	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1120	840206.7	818193.9	3	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1121	840202.0	818188.7	3	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1122	840197.3	818183.5	3	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1123	840192.6	818178.3	3	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1124	840187.9	818173.1	4	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1125	840183.2	818167.9	4	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1126	840178.5	818162.7	4	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1127	840173.8	818157.5	4	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1128	840169.1	818152.3	4	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1129	840164.4	818147.1	4	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1130	840159.7	818141.9	6	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1131	840155.0	818136.7	7	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1132	840150.3	818131.5	9	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1133	840145.6	818126.3	10	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1134	840140.9	818121.1	12	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1135	840136.2	818115.9	14	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1136	840131.5	818110.7	15	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1137	840126.8	818105.5	17	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1138	840122.1	818100.3	19	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1139	840117.4	818095.1	20	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1140	840112.7	818089.9	22	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1141	840108.0	818084.7	23	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1142	840103.3	818079.5	25	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1143	840098.6	818074.3	27	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1144	840093.9	818069.1	28	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1145	840089.2	818063.9	30	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1146	840084.5	818058.7	31	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1147	840079.8	818053.5	33	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1148	840075.1	818048.3	35	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1149	840070.4	818043.1	36	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1150	840065.7	818037.9	38	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1151	840061.0	818032.7	40	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1152	840056.3	818027.5	41	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1153	840051.6	818022.3	43	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1154	840046.9	818017.1	44	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1155	840042.2	818011.9	46	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1156	840037.5	818006.7	48	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1157	840032.8	818001.5	49	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1158	840028.1	817996.3	51	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1159	840023.4	817991.1	52	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1160	840018.7	817985.9	54	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1161	840014.0	817980.7	56	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1162	840009.3	817975.5	57	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1163	840004.6	817970.3	59	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1164	839999.9	817965.1	61	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1165	839995.2	817959.9	62	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1166	839990.5	817954.7	64	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1167	839985.8	817949.5	65	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1168	839981.1	817944.3	67	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1169	839976.4	817939.1	69	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1170	839971.7	817933.9	70	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1171	839967.0	817928.7	72	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1172	839962.3	817923.5	73	12.5	0.143	13.51	4.11293E-05	3.26	1.03
Takeoff (after 30m)	1173	839957.6	817918.3	75	12.5	0.143	13.51	4.11293E-05	3.26	1.03

Notes:

- 1) Emission rate and average time based on the approved EIA report of Expansion of Heliport Facilities at Macau Ferry Terminal (Register No.: AEIAR-095/2006)
- 2) Assume 4 flight/hr for both daytime and nighttime as a worst case scenario.

Event	Source ID	X	Y	Z	Average Time, s <sup>(1)</sup>	Emission (RSP) <sup>(1)</sup>		Emission (RSP)		Sz
						Twin Engine, lb/min	Twin Engine, g	g/s <sup>(2)</sup>	Sy	
Approaching	1001	839950.5	817924.0	80	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1002	839955.1	817929.4	78	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1003	839959.7	817934.8	77	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1004	839964.3	817940.2	76	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1005	839968.9	817945.6	75	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1006	839973.5	817951.0	74	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1007	839978.1	817956.4	73	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1008	839982.7	817961.8	72	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1009	839987.3	817967.2	71	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1010	839991.9	817972.6	70	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1011	839996.5	817978.0	69	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1012	840001.1	817983.4	67	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1013	840005.7	817988.8	66	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1014	840010.3	817994.2	65	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1015	840014.9	817999.6	64	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1016	840019.5	818005.0	63	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1017	840024.1	818010.4	62	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1018	840028.7	818015.8	61	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1019	840033.3	818021.2	60	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1020	840037.9	818026.6	59	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1021	840042.5	818032.0	57	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1022	840047.1	818037.4	56	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1023	840051.7	818042.8	55	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1024	840056.3	818048.2	54	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1025	840060.9	818053.6	53	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1026	840065.5	818059.0	52	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1027	840070.1	818064.4	51	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1028	840074.7	818069.8	50	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1029	840079.3	818075.2	49	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1030	840083.9	818080.6	47	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1031	840088.5	818086.0	46	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1032	840093.1	818091.4	45	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1033	840097.7	818096.8	44	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1034	840102.3	818102.2	43	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1035	840106.9	818107.6	42	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1036	840111.5	818113.0	41	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1037	840116.1	818118.4	40	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1038	840120.7	818123.8	39	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1039	840125.3	818129.2	37	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1040	840129.9	818134.6	36	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1041	840134.5	818140.0	35	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1042	840139.1	818145.4	34	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1043	840143.7	818150.8	33	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1044	840148.3	818156.2	32	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1045	840152.9	818161.6	31	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1046	840157.5	818167.0	30	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1047	840162.1	818172.4	29	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1048	840166.7	818177.8	27	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1049	840171.3	818183.2	26	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1050	840175.9	818188.6	25	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1051	840180.5	818194.0	24	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1052	840185.1	818199.4	23	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1053	840189.7	818204.8	22	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1054	840194.3	818210.2	21	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1055	840198.9	818215.6	20	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1056	840203.5	818221.0	19	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1057	840208.1	818226.4	18	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1058	840212.7	818231.8	16	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1059	840217.3	818237.2	15	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1060	840221.9	818242.6	14	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1061	840226.5	818248.0	13	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1062	840231.1	818253.4	12	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1063	840235.7	818258.8	11	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1064	840240.3	818264.2	10	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1065	840244.9	818269.6	9	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1066	840249.5	818275.0	8	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1067	840254.1	818280.4	6	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1068	840258.7	818285.8	5	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1069	840263.3	818291.2	4	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1070	840267.9	818296.6	3	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Approaching	1071	840272.5	818302.0	2	29.33	0.027	5.99	9.3673E-05	3.26	1.03
Hovering	1072	840275.4	818301.8	0	30	0.027	6.12	0.006802721	3.26	1.03
Idling	1073	840275.4	818301.8	0	673.5	0.003	15.27	0.01696901	3.26	1.03
Hovering	1074	840275.4	818301.8	0	55.83	0.027	11.39	0.012659864	3.26	1.03
Takeoff (1st 30m)	1101	840277.7	818304.5	2	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (1st 30m)	1102	840282.3	818309.9	2	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (1st 30m)	1103	840286.9	818315.3	2	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (1st 30m)	1104	840291.5	818320.7	2	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1105	840272.5	818266.7	2	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1106	840272.5	818266.7	2	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1107	840267.8	818261.5	2	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1108	840263.1	818256.3	2	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1109	840258.4	818251.1	2	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1110	840253.7	818245.9	2	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1111	840249.0	818240.7	2	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1112	840244.3	818235.5	3	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1113	840239.6	818230.3	3	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1114	840234.9	818225.1	3	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1115	840230.2	818219.9	3	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1116	840225.5	818214.7	3	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1117	840220.8	818209.5	3	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1118	840216.1	818204.3	3	12.5	0.027	2.55	3.88283E-05	3.26	1.03

Event	Source ID	X	Y	Z	Average Time, s <sup>(1)</sup>	Emission (RSP) <sup>(1)</sup>		Emission (RSP) g/s <sup>(2)</sup>	Sy	Sz
						Twin Engine, lb/min	Twin Engine, g			
Takeoff (after 30m)	1119	840211.4	818199.1	3	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1120	840206.7	818193.9	3	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1121	840202.0	818188.7	3	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1122	840197.3	818183.5	3	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1123	840192.6	818178.3	3	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1124	840187.9	818173.1	4	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1125	840183.2	818167.9	4	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1126	840178.5	818162.7	4	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1127	840173.8	818157.5	4	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1128	840169.1	818152.3	4	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1129	840164.4	818147.1	4	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1130	840159.7	818141.9	6	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1131	840155.0	818136.7	7	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1132	840150.3	818131.5	9	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1133	840145.6	818126.3	10	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1134	840140.9	818121.1	12	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1135	840136.2	818115.9	14	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1136	840131.5	818110.7	15	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1137	840126.8	818105.5	17	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1138	840122.1	818100.3	19	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1139	840117.4	818095.1	20	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1140	840112.7	818089.9	22	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1141	840108.0	818084.7	23	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1142	840103.3	818079.5	25	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1143	840098.6	818074.3	27	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1144	840093.9	818069.1	28	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1145	840089.2	818063.9	30	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1146	840084.5	818058.7	31	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1147	840079.8	818053.5	33	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1148	840075.1	818048.3	35	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1149	840070.4	818043.1	36	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1150	840065.7	818037.9	38	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1151	840061.0	818032.7	40	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1152	840056.3	818027.5	41	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1153	840051.6	818022.3	43	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1154	840046.9	818017.1	44	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1155	840042.2	818011.9	46	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1156	840037.5	818006.7	48	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1157	840032.8	818001.5	49	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1158	840028.1	817996.3	51	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1159	840023.4	817991.1	52	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1160	840018.7	817985.9	54	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1161	840014.0	817980.7	56	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1162	840009.3	817975.5	57	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1163	840004.6	817970.3	59	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1164	839999.9	817965.1	61	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1165	839995.2	817959.9	62	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1166	839990.5	817954.7	64	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1167	839985.8	817949.5	65	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1168	839981.1	817944.3	67	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1169	839976.4	817939.1	69	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1170	839971.7	817933.9	70	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1171	839967.0	817928.7	72	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1172	839962.3	817923.5	73	12.5	0.027	2.55	3.88283E-05	3.26	1.03
Takeoff (after 30m)	1173	839957.6	817918.3	75	12.5	0.027	2.55	3.88283E-05	3.26	1.03

Notes:

- 1) Helicopter Safety Advisory Conference (HSAC) 2001. Helicopter safety advisory conference (HSAC) Gulf of Mexico offshore helicopter operations and safety review.
- 2) Assume 4 flight/hr for both daytime and nighttime as a worst case scenario.

Event	Source ID	X	Y	Z	Average Time, s <sup>(1)</sup>	Emission (SO <sub>2</sub> ) <sup>(1)</sup>		Emission (SO <sub>2</sub> ) <sup>(2)</sup>	Sy	Sz
						Twin Engine, lb/min	Twin Engine, g			
Approaching	1001	839950.5	817924.0	80	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1002	839955.1	817929.4	78	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1003	839959.7	817934.8	77	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1004	839964.3	817940.2	76	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1005	839968.9	817945.6	75	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1006	839973.5	817951.0	74	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1007	839978.1	817956.4	73	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1008	839982.7	817961.8	72	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1009	839987.3	817967.2	71	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1010	839991.9	817972.6	70	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1011	839996.5	817978.0	69	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1012	840001.1	817983.4	67	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1013	840005.7	817988.8	66	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1014	840010.3	817994.2	65	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1015	840014.9	817999.6	64	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1016	840019.5	818005.0	63	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1017	840024.1	818010.4	62	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1018	840028.7	818015.8	61	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1019	840033.3	818021.2	60	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1020	840037.9	818026.6	59	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1021	840042.5	818032.0	57	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1022	840047.1	818037.4	56	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1023	840051.7	818042.8	55	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1024	840056.3	818048.2	54	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1025	840060.9	818053.6	53	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1026	840065.5	818059.0	52	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1027	840070.1	818064.4	51	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1028	840074.7	818069.8	50	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1029	840079.3	818075.2	49	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1030	840083.9	818080.6	47	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1031	840088.5	818086.0	46	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1032	840093.1	818091.4	45	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1033	840097.7	818096.8	44	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1034	840102.3	818102.2	43	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1035	840106.9	818107.6	42	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1036	840111.5	818113.0	41	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1037	840116.1	818118.4	40	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1038	840120.7	818123.8	39	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1039	840125.3	818129.2	37	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1040	840129.9	818134.6	36	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1041	840134.5	818140.0	35	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1042	840139.1	818145.4	34	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1043	840143.7	818150.8	33	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1044	840148.3	818156.2	32	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1045	840152.9	818161.6	31	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1046	840157.5	818167.0	30	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1047	840162.1	818172.4	29	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1048	840166.7	818177.8	27	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1049	840171.3	818183.2	26	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1050	840175.9	818188.6	25	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1051	840180.5	818194.0	24	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1052	840185.1	818199.4	23	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1053	840189.7	818204.8	22	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1054	840194.3	818210.2	21	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1055	840198.9	818215.6	20	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1056	840203.5	818221.0	19	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1057	840208.1	818226.4	18	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1058	840212.7	818231.8	16	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1059	840217.3	818237.2	15	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1060	840221.9	818242.6	14	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1061	840226.5	818248.0	13	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1062	840231.1	818253.4	12	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1063	840235.7	818258.8	11	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1064	840240.3	818264.2	10	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1065	840244.9	818269.6	9	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1066	840249.5	818275.0	8	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1067	840254.1	818280.4	6	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1068	840258.7	818285.8	5	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1069	840263.3	818291.2	4	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1070	840267.9	818296.6	3	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Approaching	1071	840272.5	818302.0	2	29.33	0.011	2.44	3.8163E-05	3.26	1.03
Hovering	1072	840275.4	818301.8	0	30	0.011	2.49	3.8163E-05	3.26	1.03
Idling	1073	840275.4	818301.8	0	673.5	0.002	10.18	0.011312673	3.26	1.03
Hovering	1074	840275.4	818301.8	0	55.83	0.014	5.91	0.006564374	3.26	1.03
Takeoff (1st 30m)	1101	840277.7	818304.5	2	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (1st 30m)	1102	840282.3	818309.9	2	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (1st 30m)	1103	840286.9	818315.3	2	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (1st 30m)	1104	840291.5	818320.7	2	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1105	840272.5	818266.7	2	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1106	840272.5	818266.7	2	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1107	840267.8	818261.5	2	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1108	840263.1	818256.3	2	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1109	840258.4	818251.1	2	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1110	840253.7	818245.9	2	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1111	840249.0	818240.7	2	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1112	840244.3	818235.5	3	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1113	840239.6	818230.3	3	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1114	840234.9	818225.1	3	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1115	840230.2	818219.9	3	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1116	840225.5	818214.7	3	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1117	840220.8	818209.5	3	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1118	840216.1	818204.3	3	12.5	0.014	1.32	2.01332E-05	3.26	1.03

Event	Source ID	X	Y	Z	Average Time, s <sup>(1)</sup>	Emission (SO <sub>2</sub> ) <sup>(1)</sup>		Emission (SO <sub>2</sub> ) g/s <sup>(2)</sup>	Sy	Sz
						Twin Engine, lb/min	Twin Engine, g			
Takeoff (after 30m)	1119	840211.4	818199.1	3	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1120	840206.7	818193.9	3	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1121	840202.0	818188.7	3	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1122	840197.3	818183.5	3	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1123	840192.6	818178.3	3	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1124	840187.9	818173.1	4	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1125	840183.2	818167.9	4	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1126	840178.5	818162.7	4	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1127	840173.8	818157.5	4	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1128	840169.1	818152.3	4	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1129	840164.4	818147.1	4	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1130	840159.7	818141.9	6	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1131	840155.0	818136.7	7	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1132	840150.3	818131.5	9	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1133	840145.6	818126.3	10	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1134	840140.9	818121.1	12	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1135	840136.2	818115.9	14	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1136	840131.5	818110.7	15	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1137	840126.8	818105.5	17	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1138	840122.1	818100.3	19	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1139	840117.4	818095.1	20	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1140	840112.7	818089.9	22	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1141	840108.0	818084.7	23	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1142	840103.3	818079.5	25	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1143	840098.6	818074.3	27	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1144	840093.9	818069.1	28	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1145	840089.2	818063.9	30	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1146	840084.5	818058.7	31	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1147	840079.8	818053.5	33	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1148	840075.1	818048.3	35	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1149	840070.4	818043.1	36	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1150	840065.7	818037.9	38	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1151	840061.0	818032.7	40	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1152	840056.3	818027.5	41	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1153	840051.6	818022.3	43	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1154	840046.9	818017.1	44	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1155	840042.2	818011.9	46	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1156	840037.5	818006.7	48	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1157	840032.8	818001.5	49	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1158	840028.1	817996.3	51	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1159	840023.4	817991.1	52	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1160	840018.7	817985.9	54	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1161	840014.0	817980.7	56	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1162	840009.3	817975.5	57	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1163	840004.6	817970.3	59	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1164	839999.9	817965.1	61	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1165	839995.2	817959.9	62	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1166	839990.5	817954.7	64	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1167	839985.8	817949.5	65	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1168	839981.1	817944.3	67	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1169	839976.4	817939.1	69	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1170	839971.7	817933.9	70	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1171	839967.0	817928.7	72	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1172	839962.3	817923.5	73	12.5	0.014	1.32	2.01332E-05	3.26	1.03
Takeoff (after 30m)	1173	839957.6	817918.3	75	12.5	0.014	1.32	2.01332E-05	3.26	1.03

Notes:

- 1) Helicopter Safety Advisory Conference (HSAC) 2001. Helicopter safety advisory conference (HSAC) Gulf of Mexico offshore helicopter operations and safety review.
- 2) Assume 4 flight/hr for both daytime and nighttime as a worst case scenario.