

# **APPENDIX C**

Source Sound Power Level

DRAFT



Phase	Description	Source ID	Qty	Octave Sound Power Levels [dB]							Overall dBA	Notes	Reference		
				63	125	250	500	1000	2000	4000				8000	
Operation	Back-up Power Generator	BPG	1	107	119	108	111	116	121	120	114	<b>126</b>	3,5	RFP-604-2008-D8 (200-300 kW)300 kW Cummins Data online	
	Fire Pump	FP	2	85	95	102	105	111	116	116	110	<b>121</b>	3,5	RFP-604-2008-C21 (185 kW)/200 kW Cummins Data online	
	Miscellaneous Fans	EF	>2	119	119	120	113	108	102	98	93	<b>115</b>	1	RFP-604-2008-B7/ASHRAE 1991, ch 42, table 4	
	Steam Soot Blower	SSB	2	119	119	120	113	108	102	98	93	<b>115</b>	1	RFP-604-2008-B11/ASHRAE 1991, ch 42, table 4	
	Acid Gas Scrubbing Fan	AGSF	2	116	116	117	110	105	99	95	90	<b>112</b>	1	RFP-604-2008-B13/ASHRAE 1991, ch 42, table 4	
	Turbine/Generator	TG	1	103	104	101	100	100	98	97	93	<b>105</b>	1,3	RFP-604-2008-C14/Bies & Hansen, Page 548, 11.84	
	Air Compressor	ACom	2	87	87	86	89	92	92	90	87	<b>98</b>	1	RFP-604-2008-C22/Bies & Hansen, Page 515, Tables 11.4	
	Truck traffic on-site	TRon	97	93	88	83	90	87	88	82	71	<b>93</b>	4	Lw from previous study, number of vehicles estimated by JWSL	
	Truck traffic off-site	TRoff	7	93	88	83	90	87	88	82	71	<b>93</b>	4	Lw from previous study, number of vehicles estimated by JWSL	
	ID Fan	ID	2	102	102	92	87	85	80	75	70	<b>92</b>	1	RFP-604-2008-B1 (18 m/s, D=1.7, SP=1 inH <sub>2</sub> O)/ASHRAE 1991, ch 42, table 4	
	Transformer	TRAN	1	83	88	87	87	81	76	71	64	<b>87</b>	1,3	RFP-604-2008-D2/Bies & Hansen, Page 554, 11.95	
	Office Comfort Equipment	AC	4	57	71	72	79	82	78	76	63	<b>85</b>	2	Assumed to be 4 units, and date obtained from previous studies/measurements	
	Air Cooled Condenser (4 fans, 2 centrifugal pups)	ACC	1	69	70	72	72	75	72	68	62	<b>78</b>	1	RFP-604-2008-C15/Bies & Hansen, Page 513, 11.2	
	Boiler Feed Pump	BFP	3	66	67	69	69	72	69	65	59	<b>75</b>	1	RFP-604-2008-C17/Bies & Hansen, Page 523/524, Tables 11.10&11.11	
	Condensate Pump	CP	1	66	67	69	69	72	69	65	59	<b>75</b>	1	RFP-604-2008-C18/Bies & Hansen, Page 523/524, Tables 11.10&11.11	
	Circulating Water Pump	CWVP	1	66	67	69	69	72	69	65	59	<b>75</b>	1	RFP-604-2008-C19/Bies & Hansen, Page 523/524, Tables 11.10&11.11	
	Auxiliary Cooling Water Pump	ACWP	2	66	67	69	69	72	69	65	59	<b>75</b>	1	RFP-604-2008-C20/Bies & Hansen, Page 523/524, Tables 11.10&11.11	
	Other Pumps	OP	2	66	67	69	69	72	69	65	59	<b>75</b>	1	RFP-604-2008-C21/Bies & Hansen, Page 523/524, Tables 11.10&11.11	
	Construction - Site Prep	Heavy Truck (i.e. Cat 777)	HT	1	107	108	109	108	107	105	100	96	<b>111</b>	6	U.S. Department of Transportation, Construction Equipment Noise Levels
		Medium Sized Truck	MT	2	97	103	105	104	104	103	96	91	<b>108</b>	6	U.S. Department of Transportation, Construction Equipment Noise Levels
Front End Loader		FEL	2	116	111	107	105	108	106	102	101	<b>112</b>	6	U.S. Department of Transportation, Construction Equipment Noise Levels	
Back Hoe		BH	1	123	115	105	102	98	99	95	90	<b>106</b>	6	U.S. Department of Transportation, Construction Equipment Noise Levels	
Bulldozer (i.e. CAT D7)		BZ	1	102	108	109	108	105	102	96	92	<b>110</b>	6	U.S. Department of Transportation, Construction Equipment Noise Levels	
Excavator		EX	1	107	107	107	107	107	107	107	107	<b>113</b>	6	U.S. Department of Transportation, Construction Equipment Noise Levels	
Land Grader		LG	2	119	114	110	108	111	109	105	104	<b>115</b>	6	U.S. Department of Transportation, Construction Equipment Noise Levels	
Pneumatic Pile Driver	PD	1	127	127	127	127	127	127	127	127	<b>133</b>	6	U.S. Department of Transportation, Construction Equipment Noise Levels		
Construction - Assembly	Concrete Ready Mix Truck, high idling	CRM	1	105	113	113	110	105	102	98	71	<b>111</b>	6	U.S. Department of Transportation, Construction Equipment Noise Levels	
	Concrete Vibrator	CV	1	102	102	102	102	102	102	102	102	<b>108</b>	6	U.S. Department of Transportation, Construction Equipment Noise Levels	
	Heavy Truck (i.e. Cat 777)	HT	1	107	108	109	108	107	105	100	96	<b>111</b>	6	U.S. Department of Transportation, Construction Equipment Noise Levels	
	Front End Loader	FEL	1	121	116	112	110	113	111	107	106	<b>117</b>	6	U.S. Department of Transportation, Construction Equipment Noise Levels	
	Back Hoe	BH	1	123	115	105	102	98	99	95	90	<b>106</b>	6	U.S. Department of Transportation, Construction Equipment Noise Levels	
	Excavator	EX	1	107	107	107	107	107	107	107	107	<b>113</b>	6	U.S. Department of Transportation, Construction Equipment Noise Levels	
	Land Grader	LG	1	119	114	110	108	111	109	105	104	<b>115</b>	6	U.S. Department of Transportation, Construction Equipment Noise Levels	
	Air Compressor	AC	1	100	100	99	102	105	105	103	100	<b>111</b>	6	U.S. Department of Transportation, Construction Equipment Noise Levels	
	Asphalt Paver (Large)	AP	1	103	103	103	103	103	103	103	103	<b>109</b>	6	U.S. Department of Transportation, Construction Equipment Noise Levels	
	Welding Compressor	WC	1	104	104	104	104	104	104	104	104	<b>110</b>	6	U.S. Department of Transportation, Construction Equipment Noise Levels	

- Reference Notes:
- 1 Sound Data predicted from specs data provided in the Detailed Facility and Equipment Data (Base Case),[RFP-604-2008]
  - 2 Sound Data obtained from Jacques Whitford's internal noise source database.
  - 3 Noise Source Identified as Tonal; Tonal Penalty as per MOE's NPC-104 is required.
  - 4 Based on a 1m section (line source) as per MTO data.
  - 5 Manufacturer specs for a unit of similar rating
  - 6 Sound Levels based on actual measurements or empirical prediction

