Scottish & Southern Electricity Networks
TRANSMISSION

Dunoon to Loch Long 132 kV OHL Rebuild

Environmental Impact Assessment

Volume 4 | Technical Appendix

Appendix 3.4 – Helicopter Flight Schedule

Scottish & Southern Electricity Networks
TRANSMISSION

Construction Helicopter Requirements, Flights and Noise Levels

Overhead Line Works						Minutes			Noise		
Item No.	Materials / Equipement	AS350 Squirrel (1t max)	Comments	Flying time per lift	Total Flying time (Minutes)	Take Off	Travelling Overhead (150m)	Pick Up/Drop	Take Off (dB)	Travelling Overhead (@150m) (dB)	Erecting (dB)
1	Tower Steelwork		See table below for details								
2	Pilot Bonds	76	1 flight Per tower	6	456	1	5	0	89.8	87.6	91.4
3	Erecting Equipment - Timber Blocks & Jacks	38	50% of Towers	12	456	1	5	6	89.8	87.6	91.4
4	Welfare Unit	19	25% of towers (1 flight)	12	228	1	5	6	89.8	87.6	91.4
5	Running Out Wheels	152	2 flights per tower	12	1824	1	5	6	89.8	87.6	91.4
6	Other Equipment - Ropes, Slings, Shackle etc	76	1 flight per tower	12	912	1	5	6	89.8	87.6	91.4
7	Harnesses, Hand Tools & Survival Equipment	19	25% of towers (1 flight)	12	228	1	5	6	89.8	87.6	91.4
8	Steel Erecting Staying - Tirfors, Sling, Shackles etc	19	25% of towers (1 flight)	12	228	1	5	6	89.8	87.6	91.4
9	Steel Erecting Staying - Sledges	19	25% of towers (1 flight)	12	228	1	5	6	89.8	87.6	91.4
10	Steel Erecting Staying - Concrete Blocks	76	25% of Towers (4 flights)	12	912	1	5	6	89.8	87.6	91.4
		494			5472						

Civils Works						Minutes			Noise		
Item No.	Materials / Equipement	AS350 Squirrel (1t max)	Comments	Flying time per lift	Total Flying time (Minutes)	Take Off	Travelling Overhead (150m)	Pick Up/Drop	Take Off (dB)	Travelling Overhead (@150m) (dB)	Erecting (dB)
11	Stone for piling pad	114	10% of line (15 flights)	12	1368	1	5	6	89.8	87.6	91.4
12	Concrete	1260	45 Towers (7 flights per leg)	18	22680	1	5	10	89.8	87.6	91.4
13	Shoring	76	25% of towers (4 flights)	12	912	1	5	6	89.8	87.6	91.4
14	Reinforcement Bar	360	45 Towers (2 flights per leg)	12	4320	1	5	6	89.8	87.6	91.4
		1810			29280						

Tower Steelwork Detail

					Number of Trips For Steel					Minutes			Noise (dB)		
		Tower No.	Tower Type	Approx. Tower Weight (t)	Bell 212 1.7t Loads	**Kaman K-Max 2.7t loads**	AS332 Super Puma 4t Loads	Time Per Journey (Assumed 20 minutes)	Total Flying time (Minutes)	Take Off	Travelling Overhead (150m)	Erecting	Take Off (dB)	Overhead (@150m) (dB)	Erecting (dB)
Lift Zone 1	1	1	DT E6	16.959	Not Suitable	7	5	20	140	1	5	14	89.8	87.6	91.4
	2	2	D E3	5.467	Not Suitable	3	2	20	60	1	5	14	89.8	87.6	91.4
	3	3	D E3	5.467	Not Suitable	3	2	20	60	1	5	14	89.8	87.6	91.4
	4	4	D60 E6	11.23	Not Suitable	5	3	20	100	1	5	14	89.8	87.6	91.4
	5	5	D30 E6	11.23	Not Suitable	5	3	20	100	1	5	14	89.8	87.6	91.4
	6	6	D E6	6.028	Not Suitable	3	2	20	60	1	5	14	89.8	87.6	91.4
	7	7	D E9	6.677	Not Suitable	3	2	20	60	1	5	14	89.8	87.6	91.4
	8	8	D30 E6	11.23	Not Suitable	5	3	20	100	1	5	14	89.8	87.6	91.4
	9	9	D30 M3	8.704	Not Suitable	4	3	20	80	1	5	14	89.8	87.6	91.4
	10	10	D30 STD	8.704	Not Suitable	4	3	20	80	1	5	14	89.8	87.6	91.4
	11	11	D E6	6.028	Not Suitable	3	2	20	60	1	5	14	89.8	87.6	91.4
	12	12	D E6	6.028	Not Suitable	3	2	20	60	1	5	14	89.8	87.6	91.4
	13	13	D E3	5.467	Not Suitable	3	2	20	60	1	5	14	89.8	87.6	91.4
	14	14	D60 E6	11.23	Not Suitable	5	3	20	100	1	5	14	89.8	87.6	91.4
	15	15	D60 E6	11.23	Not Suitable	5	3	20	100	1	5	14	89.8	87.6	91.4
	16	16	D E6	6.028	Not Suitable	3	2	20	60	1	5	14	89.8	87.6	91.4
	17	17	D E9	6.677	Not Suitable	3	2	20	60	1	5	14	89.8	87.6	91.4
	18	18	D60 E6	11.23	Not Suitable	5	3	20	100	1	5	14	89.8	87.6	91.4
	19	19	D E9	6.677	Not Suitable	3	2	20	60	1	5	14	89.8	87.6	91.4
	20	20	D30 E3	9.681	Not Suitable	4	3	20	80	1	5	14	89.8	87.6	91.4
	21	25	D30 E12	14.563	Not Suitable	6	4	20	120	1	5	14	89.8	87.6	91.4
	22	26	D30 E12	14.563	Not Suitable	6	4	20	120	1	5	14	89.8	87.6	91.4
	23	27	D30 E9	12.41	Not Suitable	5	4	20	100	1	5	14	89.8	87.6	91.4
	24	28	D30 E9	12.41	Not Suitable	5	4	20	100	1	5	14	89.8	87.6	91.4
	25	29	D30 E3	9.681	Not Suitable	4	3	20	80	1	5	14	89.8	87.6	91.4
	26	30	D30 E6	11.23	Not Suitable	5	3	20	100	1	5	14	89.8	87.6	91.4
	27	31	D E9	6.677	Not Suitable	3	2	20	60	1	5	14	89.8	87.6	91.4
					Total No of Flights	113			2260						

					Number of Trips For Steel					Minutes			Noise		
		Tower No.	Tower Type	Approx. Tower Weight (t)	Bell 212 1.7t Loads	**Kaman K-Max 2.7t loads**	Puma 4t Loads	(Assumed 20 minutes)	Total Minutes (20 mins per lift)	Take Off	Overhead (150m)	Erecting	Take Off	Overhead (150m)	Erecting
Lift Zone 2	1	32	D E9	6.677	Not Suitable	3	2	20	60	1	5	14	89.8	87.6	91.4
	2	33	D E6	6.028	Not Suitable	3	2	20	60	1	5	14	89.8	87.6	91.4
	3	34	D E6	6.028	Not Suitable	3	2	20	60	1	5	14	89.8	87.6	91.4
	4	35	D STD	4.751	Not Suitable	2	2	20	40	1	5	14	89.8	87.6	91.4
	5	36	D30 STD	8.704	Not Suitable	4	3	20	80	1	5	14	89.8	87.6	91.4
	6	37	D30 E6	11.23	Not Suitable	5	3	20	100	1	5	14	89.8	87.6	91.4
	7	38	D30 E3	9.681	Not Suitable	4	3	20	80	1	5	14	89.8	87.6	91.4
	8	39	D E3	5.467	Not Suitable	3	2	20	60	1	5	14	89.8	87.6	91.4
	9	40	D30 E3	9.681	Not Suitable	4	3	20	80	1	5	14	89.8	87.6	91.4
	10	41	D30 E3	9.681	Not Suitable	4	3	20	80	1	5	14	89.8	87.6	91.4
	11	42	D E6	6.028	Not Suitable	3	2	20	60	1	5	14	89.8	87.6	91.4
	12	43	D E9	6.677	Not Suitable	3	2	20	60	1	5	14	89.8	87.6	91.4
	13	44	D30 E12	14.563	Not Suitable	6	4	20	120	1	5	14	89.8	87.6	91.4
	14	45	D E6	6.028	Not Suitable	3	2	20	60	1	5	14	89.8	87.6	91.4
	15	46	D E9	6.677	Not Suitable	3	2	20	60	1	5	14	89.8	87.6	91.4
	16	50	D30 E3	9.681	Not Suitable	4	3	20	80	1	5	14	89.8	87.6	91.4
	17	51	D E9	6.677	Not Suitable	3	2	20	60	1	5	14	89.8	87.6	91.4
	18	52	D30 E9	12.41	Not Suitable	5	4	20	100	1	5	14	89.8	87.6	91.4
					Total No of Flights	54			1300						

					Number of Trips For Steel					Minutes			Noise		
		Tower No.	Tower Type	Approx. Tower Weight (t)	Bell 212 1.7t Loads	**Kaman K-Max 2.7t loads**	Puma 4t Loads	(Assumed 20 minutes)	Total Minutes (20 mins per lift)	Take Off	Overhead (150m)	Erecting	Take Off	Overhead (150m)	Erecting
Lift Zone 3	1	56	D STD	4.751	Not Suitable	2	2	20	40	1	5	14	89.8	87.6	91.4
	2	57	D30 STD	8.704	Not Suitable	4	3	20	80	1	5	14	89.8	87.6	91.4
	3	58	D E3	5.467	Not Suitable	3	2	20	60	1	5	14	89.8	87.6	91.4
	4	59	D30 E6	11.23	Not Suitable	5	3	20	100	1	5	14	89.8	87.6	91.4
					Total No of Flights	14			280						

					Number of Trips For Steel					Minutes			Noise		
		Tower No.	Tower Type	Approx. Tower Weight (t)	Bell 212 1.7t Loads	**Kaman K-Max 2.7t loads**	Puma 4t Loads	(Assumed 20 minutes)	Total Minutes (20 mins per lift)	Take Off	Overhead (150m)	Erecting	Take Off	Overhead (150m)	Erecting
Lift Z	1	75	D STD	4.751	Not Suitable	2	2	20	40	1	5	14	89.8	87.6	91.4
	2	76	D30 E9	12.41	Not Suitable	5	4	20	100	1	5	14	89.8	87.6	91.4
					Total No of Flights	7			140						