Appendix E
Air Quality Calculations

Table E-1 Calculation Factors and Conversions

				Duration				
PM_{10} fraction	**$PM_{2.5}$ fraction**	**tons/ acre/ month**	**Percent Control**	**Weeks**	**Work Days**	**acres/ day**	**tons/ acre/ day**	**tons/ day**
0.75	0.1	1.2	0.5	26	156	3.2	0.04	0.128

Formula used in PM_x Calculations: PM_x = acres * (tons/ acre/ day) * (percent control) * (days) * (PM_x fraction)

Table E-2 Construction Disturbance of Project Terminals and Associated Facilities

	Construction Disturbance (acres)	**PM10 from Construction Disturbance (tons)**	**PM2.5 from Construction Disturbance (tons)**
Northern Terminal	**503.0**	15.1	1.5
Southern Terminal	**409.0**	12.3	1.2
Ground Electrode	**160.0**	4.8	0.5
Corridor	**90.0**	2.7	0.3

Table E-4 Calculation of Constrution Impacts on Air Quality

Alternatives Summary

Regional Alternative	I-A	I-B	I-C	I-D
600kV T-Line (mi)	155	159	186	171
Access Roads (mi)	227	223	269	242

Regional Alternative	II-A	II-B	II-C	II-D	II-E	II -F
600kV T-Line (mi)	257	345	364	262	266	270
Access Roads (mi)	463	580	556	480	478	515

Regional Alternative	III-A	III-B	III-C	III-D
600kV T-Line (mi)	275	282	308	311
Access Roads (mi)	423	401	433	433

Regional Alternative	IV-A	IV-B	IV-C
600kV T-Line (mi)	37	39	44
Access Roads (mi)	60	71	74

Regional Summary of PM Emissions

	Region I	Region II	Region III	Region IV
Miles	155	257	275	37
Tower Count	545	905	969	130
Tower foundations/wk	10	11	12	11
Tower foundations/mo	41	47	51	47
acres/tower	3	3	3	3
acres/month	112	128	137	127
tons/month	134	153	164	152
tons (total)	1765	2931	3139	422
Tons (annual)	1610	1836	1967	422

Project Duration

	(wks)	Months
Region I	57	13.2
Region II	83	19.2
Region III	83	19.2
Region IV	12	2.8

Assumptions:

1.2	tons per acre per month of disturbed area (EPA Emissions factor)
5%	active construction acres per day of the total disturbance area in a region
50%	controls from watering or other dust abatement procedure
30	days per month
0.75	PM10 fraction of TSP per acre per month of disturbed area
0.1	PM2.5 fraction of PM10 per acre per month of disturbed area
5280	feet per mile
1500	feet between towers (span)

Formula used in PM_x Calculations: PM_x = acres * (tons/ acre/ day) * (percent control) * (days) * (PM_x fraction)

Project Phase	Construction Disturbance (acres)				Construction Disturbance Emissions (tons/mo)				Construction Disturbance Emissions PM10 (tons)				Construction Disturbance Emissions PM2.5 (tons)			
Regional Alternative	I-A	I-B	I-C	I-D	I-A	I-B	I-C	I-D	I-A	I-B	I-C	I-D	I-A	I-B	I-C	I-D
Access Roads	512	481	601	515	1	1	1	1	12	11	14	12	1	1	1	1
Structures & Communication Sites-	718	735	864	794	2	2	2	2	16	17	19	18	2	2	2	2
Stringing & Tensioning Sites	456	487	600	587	1	1	1	1	10	11	14	13	1	1	1	1
ETWA	371	381	447	411	1	1	1	1	8	9	10	9	1	1	1	1
Facilities Total	**2057**	**2084**	**2512**	**2307**	**5**	**5**	**6**	**5**	**46**	**47**	**57**	**52**	**5**	**5**	**6**	**5**
Additional ROW-veg clearing	3241	3303	3847	3499	7	8	9	8	73	74	87	79	7	7	9	8
Emission Total					12	12	15	13	119	121	143	131	12	12	14	13

Project Phase	Construction Disturbance (acres)						Construction Disturbance (tons/mo)						Construction Disturbance Emissions PM10 (tons)						Construction Disturbance Emissions PM2.5 (tons)					
Regional Alternative	II-A	II-B	II-C	II-D	II-E	II-F	II-A	II-B	II-C	II-D	II-E	II-F	II-A	II-B	II-C	II-D	II-E	II-F	II-A	II-B	II-C	II-D	II-E	II-F
Access Roads	1154	1404	1274	1218	1196	1213	3	3	3	3	3	3	26	32	29	27	27	27	3	3	3	3	3	3
Structures & Communication Sites- Construction	1190	1597	1688	1209	1232	1249	3	4	4	3	3	3	27	36	38	27	28	28	3	4	4	3	3	3
Stringing & Tensioning Sites	783	1174	1230	1022	894	906	2	3	3	2	2	2	18	26	28	23	20	20	2	3	3	2	2	2
ETWA	617	828	874	628	639	648	1	2	2	1	1	1	14	19	20	14	14	15	1	2	2	1	1	1
Facilities Total	**3745**	**5003**	**5066**	**4077**	**3960**	**4016**	**9**	**11**	**12**	**9**	**9**	**9**	**84**	**113**	**114**	**92**	**89**	**90**	**8**	**11**	**11**	**9**	**9**	**9**
Additional ROW-veg clearing	5391	7101	7485	5267	5502	5579	12	16	17	12	13	13	121	160	168	119	124	126	12	16	17	12	12	13
Emission Total							21	28	29	21	22	22	206	272	282	210	213	216	21	27	28	21	21	22

Project Phase	Construction Disturbance (acres)			Construction Disturbance (ton/mo)			Construction Disturbance Emissions PM10 (tons)			Construction Disturbance Emissions PM2.5 (tons)		
Regional Alternative	III-A	III-B	III-C	III-A	III-B	III-C	III-A	III-B	III-C	III-A	III-B	III-C
Access Roads	971	860	926	2	2	2	32	28	30	3	3	3
Structures & Communication Sites- Construction	1271	1304	1426	3	3	3	42	43	47	4	4	5
Stringing & Tensioning Sites	740	731	836	2	2	2	24	24	27	2	2	3
ETWA	661	677	740	2	2	2	22	22	24	2	2	2
Facilities Total	**3642**	**3572**	**3928**	**8**	**8**	**9**	**119**	**117**	**129**	**12**	**12**	**13**
Additional ROW-veg clearing	5851	6015	6538	0	0	0	0	0	0	0	0	0
Emission Total				8	8	9	119	117	129	12	12	13

Project Phase	Construction Disturbance (acres)			Construction Disturbance (ton/mo)			Construction Disturbance Emissions PM10 (tons)			Construction Disturbance Emissions PM2.5 (tons)		
Regional Alternative	IV-A	IV-B	IV-C	IV-A	IV-B	IV-C	IV-A	IV-B	IV-C	IV-A	IV-B	IV-C
Access Roads	145	176	177	0	0	0	5	6	6	0	1	1
Structures & Communication Sites- Construction	176	184	209	0	0	0	6	6	7	1	1	1
Stringing & Tensioning Sites	156	119	170	0	0	0	5	4	6	1	0	1
ETWA	90	94	107	0	0	0	3	3	4	0	0	0
Facilities Total	**567**	**573**	**663**	**1**	**1**	**2**	**19**	**19**	**22**	**2**	**2**	**2**
Additional ROW-veg clearing	566	573	663	1	1	2	19	19	22	2	2	2
Emission Total				3	3	3	37	38	43	4	4	4

Table E-4 Calculation of Constrution Impacts on Air Quality

Project Phase	Construction Disturbance (acres)						Construction Disturbance Emissions (ton/mo)						Construction Disturbance Emissions PM10 (tons)						Construction Disturbance Emissions PM2.5 (tons)					
Alternative Name	**Access Roads**	**Structures & Communication Sites-Construction**	**Stringing & Tensioning Sites**	**ETWA**	**Facilities Total**	**Additional ROW-veg clearing**	**Access Roads**	**Structures & Communication Sites-Construction**	**Stringing & Tensioning Sites**	**ETWA**	**Facilities Total**	**Additional ROW-veg clearing**	**Access Roads**	**Structures & Communication Sites-Construction**	**Stringing & Tensioning Sites**	**ETWA**	**Facilities Total**	**Additional ROW-veg clearing**	**Access Roads**	**Structures & Communication Sites-Construction**	**Stringing & Tensioning Sites**	**ETWA**	**Facilities Total**	**Additional ROW-veg clearing**
Emma Park Alternative Variation	218	163	180	85	**646**	669	0	0	0	0	**1**	2	5	4	4	2	15	15	0	0	0	0	**1**	2
Emma Park Alternative Variation Comparison	*236*	*149*	*203*	*77*	***665***	*577*	*1*	*0*	*0*	*0*	***2***	*1*	5	3	5	2	15	13	*1*	*0*	*0*	*0*	***1***	*1*
Ox Valley East Alternative Variation	99	74	66	38	**276**	315	0	0	0	0	**1**	1	2	2	1	1	6	7	0	0	0	0	**1**	1
Ox Valley East Alternative Variation Comparison	*94*	*67*	*57*	*34*	***252***	*285*	*0*	*0*	*0*	*0*	***1***	*1*	2	1	1	1	6	6	*0*	*0*	*0*	*0*	***1***	*1*
Ox Valley West Alternative Variation	98	76	56	39	**268**	333	0	0	0	0	**1**	1	2	2	1	1	6	7	0	0	0	0	**1**	1
Ox Valley West Alternative Variation Comparison	*94*	*67*	*57*	*34*	***252***	*285*	*0*	*0*	*0*	*0*	***1***	*1*	2	1	1	1	6	6	*0*	*0*	*0*	*0*	***1***	*1*
Pinto Alternative Variation	108	136	134	71	**449**	571	0	0	0	0	**1**	1	2	3	3	2	10	13	0	0	0	0	**1**	1
Pinto Alternative Variation Comparison	*122*	*109*	*93*	*56*	***381***	*469*	*0*	*0*	*0*	*0*	***1***	*1*	3	2	2	1	9	11	*0*	*0*	*0*	*0*	***1***	*1*
Marketplace Alternative Variation	20	37	33	19	**109**	155	0	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	**0**	0
Marketplace Alternative Variation Comparison	*18*	*33*	*14*	*17*	***82***	*154*	*0*	*0*	*0*	*0*	***0***	*0*	0	0	0	0	0	0	*0*	*0*	*0*	*0*	***0***	*0*

Project Phase	Construction Disturbance (acres)						Construction Disturbance Emissions (ton/mo)						Construction Disturbance Emissions PM10 (tons)						Construction Disturbance Emissions PM2.5 (tons)					
Alternative Name	**Access Roads**	**Structures & Communication Sites-Construction**	**Stringing & Tensioning Sites**	**ETWA**	**Facilities Total**	**Additional ROW-veg clearing**	**Access Roads**	**Structures & Communication Sites-Construction**	**Stringing & Tensioning Sites**	**ETWA**	**Facilities Total**	**Additional ROW-veg clearing**	**Access Roads**	**Structures & Communication Sites-Construction**	**Stringing & Tensioning Sites**	**ETWA**	**Facilities Total**	**Additional ROW-veg clearing**	**Access Roads**	**Structures & Communication Sites-Construction**	**Stringing & Tensioning Sites**	**ETWA**	**Facilities Total**	**Additional ROW-veg clearing**
Mexican Flats Alternative Connector	25	48	32	24	**129**	206	0	0	0	0	0	0	1	1	1	1	3	5	0	0	0	0	**0**	0
Baggs Alternative Connector	68	105	68	54	**294**	464	0	0	0	0	1	1	2	2	2	1	7	10	0	0	0	0	**1**	1
Fivemile Point North Alternative Connector	8	15	52	7	**82**	20	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	**0**	0
Fivemile Point South Alternative Connector	6	10	10	5	**31**	42	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	**0**	0
Castle Dale Alternative Connector	48	51	44	25	**168**	209	0	0	0	0	0	0	1	1	1	1	4	5	0	0	0	0	**0**	0
Price Alternative Connector	79	85	72	44	**280**	369	0	0	0	0	1	1	2	2	2	1	6	8	0	0	0	0	**1**	1
Lynndyl Alternative Connector	70	111	66	58	**306**	511	0	0	0	0	1	1	2	3	1	1	7	11	0	0	0	0	**1**	1
IPP East Alternative Connector	7	13	11	6	**36**	50	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	**0**	0
Highway 191 Alternative Connector	37	22	49	11	**119**	61	0	0	0	0	0	0	1	0	1	0	3	1	0	0	0	0	**0**	0
Avon Alternative Connector	20	37	28	19	**104**	164	0	0	0	0	0	0	0	1	1	0	2	4	0	0	0	0	**0**	0
Moapa Alternative Connector	33	60	43	31	**166**	262	0	0	0	0	0	1	1	1	1	1	4	6	0	0	0	0	**0**	1
Sunrise Mountain Alternative Connector	8	13	11	6	**38**	50	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	**0**	0
Lake Las Vegas Alternative Connector	19	18	8	9	**54**	86	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	**0**	0
Three Kids Mine Alternative Connector	33	25	22	13	**93**	106	0	0	0	0	0	0	1	1	1	0	2	2	0	0	0	0	**0**	0
River Mountain Alternative Connector	56	32	37	17	**142**	132	0	0	0	0	0	0	1	1	1	0	3	3	0	0	0	0	**0**	0
Railroad Pass Alternative Connector	14	14	23	7	**58**	48	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	**0**	0

Site Alternatives	Length (miles)		Construction Disturbance (acres)				Construction Disturbance Emissions (ton/mo)				Construction Disturbance Emissions PM10 (tons)				Construction Disturbance Emissions PM2.5 (tons)			
	34.5 kV AC Overhead Line	**Access Road**	**Ground Electrode Sites**	**Overhead Lines**	**Access Roads**	**Total**	**Ground Electrode Sites**	**Overhead Lines**	**Access Roads**	**Total**	**Ground Electrode Sites**	**Overhead Lines**	**Access Roads**	**Total**	**Ground Electrode Sites**	**Overhead Lines**	**Access Roads**	**Total**
Northern System Alternatives																		
Separation Flat (All Alts)	13	17	65	30	34	128	0	0	0	0	1	4	1	1	1	3	11	41
Shell Creek (Alts I-A & I-D)	33	43	65	75	83	223	0	0	0	1	3	7	1	2	2	5	27	72
Little Snake East (Alts I-A, I-B, & I-D)	9	12	65	20	24	108	0	0	0	0	1	4	1	0	1	2	8	35
Little Snake West (Alt I-A)	10	14	65	25	31	121	0	0	0	0	1	4	1	1	1	3	10	39
Shell Creek (Alt I-B)	26	37	130	79	72	281	0	0	0	1	2	9	3	2	2	6	23	91
Little Snake West (Alts I-B & I-D)	12	15	65	26	29	121	0	0	0	0	1	4	1	1	1	3	9	39
Cottonwood Creek (Alt I-C)	5	6	65	10	14	89	0	0	0	0	0	3	1	0	0	2	4	29
Pio Springs 1 (Western Wyoming Alt Variation)	6	7	65	12	14	92	0	0	0	0	0	3	1	0	0	2	5	30
Southern System Alternatives																		
Mormon Mesa-Carp Elgin Rd (Alt. A)	6	7	65	12	14	91	0	0	0	0	0	3	1	0	0	2	4	30
Halfway Wash - Virgin River (Alt. A)	4	5	65	9	10	84	0	0	0	0	0	3	1	0	0	2	3	27
Halfway Wash East (Alt. A)	8	10	65	18	20	104	0	0	0	0	1	3	1	0	0	2	7	33
Mormon Mesa-Carp Elgin Rd (Alt. B)	8	10	65	18	20	103	0	0	0	0	1	3	1	0	0	2	7	33
Halfway Wash - Virgin River (Alt. B)	6	7	65	13	14	93	0	0	0	0	0	3	1	0	0	2	5	30
Halfway Wash East (Alt. B)	8	10	65	18	19	102	0	0	0	0	1	3	1	0	0	2	6	33
Meadow Valley 2 (Alt. C)	22	29	65	49	60	174	0	0	0	0	2	6	1	1	1	4	19	56

Table E-4 Calculation of Operation Impacts on Air Quality

Alternatives Summary

Regional Alternative	I-A	I-B	I-C	I-D
600kV T-Line (mi)	155	159	186	171
Access Roads (mi)	227	223	269	242

Regional Alternative	II-A	II-B	II-C	II-D	II-E	II -F
600kV T-Line (mi)	257	345	364	262	266	270
Access Roads (mi)	463	580	556	480	478	515

Regional Alternative	III-A	III-B	III-C	III-D
600kV T-Line (mi)	275	282	308	311
Access Roads (mi)	423	401	433	433

Regional Alternative	IV-A	IV-B	IV-C
600kV T-Line (mi)	37	39	44
Access Roads (mi)	60	71	74

Project Duration

	(wks)	Months
Region I	57	13.2
Region II	83	19.2
Region III	83	19.2
Region IV	12	2.8

Assumptions:

1.2	tons per acre per month of disturbed area Emissions factor
5%	active construction acres per day of the total disturbance area in a region
50%	controls from watering or other dust abatement procedure
30	days per month
0.75	PM10 fraction of TSP per acre per month of disturbed area
0.1	PM2.5 fraction of PM10 per acre per month of disturbed area
5280	feet per mile
1500	feet between towers (span)

Formula used in PM_x Calculations: PM_x = acres * (tons/ acre/ day) * (percent control) * (days) * (PM_x fraction)

Project Phase	Operation Disturbance (acres)				Operation Disturbance Emissions (tons/mo)				Operation Disturbance Emissions PM10 (tons)				Operation Disturbance Emissions PM2.5 (tons)			
Regional Alternative	I-A	I-B	I-C	I-D	I-A	I-B	I-C	I-D	I-A	I-B	I-C	I-D	I-A	I-B	I-C	I-D
Access Roads	512	481	601	515	1	1	1	1	12	11	14	12	1	1	1	1
Structures & Communication Sites-	14	15	17	16	0	0	0	0	0	0	0	0	0	0	0	0
Stringing & Tensioning Sites	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ETWA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Facilities Total	**526**	**495**	**618**	**531**	**1**	**1**	**1**	**1**	**12**	**11**	**14**	**12**	**1**	**1**	**1**	**1**
Additional ROW-veg clearing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Emission Total					1	1	1	1	12	11	14	12	1	1	1	1

Project Phase	Operation Disturbance (acres)						Operation Disturbance (tons/mo)						Operation Disturbance Emissions PM10 (tons)						Operation Disturbance Emissions PM2.5 (tons)					
Regional Alternative	II-A	II-B	II-C	II-D	II-E	II-F	II-A	II-B	II-C	II-D	II-E	II-F	II-A	II-B	II-C	II-D	II-E	II-F	II-A	II-B	II-C	II-D	II-E	II-F
Access Roads	1154	1404	1274	1218	1196	1213	3	3	3	3	3	3	26	32	29	27	27	27	3	3	3	3	3	3
Structures & Communication Sites-	24	32	34	25	25	25	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0
Stringing & Tensioning Sites	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ETWA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Facilities Total	**1178**	**1436**	**1308**	**1243**	**1221**	**1238**	**3**	**3**	**3**	**3**	**3**	**3**	**27**	**32**	**29**	**28**	**27**	**28**	**3**	**3**	**3**	**3**	**3**	**3**
Additional ROW-veg clearing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Emission Total							3	3	3	3	3	3	27	32	29	28	27	28	3	3	3	3	3	3

Project Phase	Operation Disturbance (acres)			Operation Disturbance (ton/mo)			Operation Disturbance Emissions PM10 (tons)			Operation Disturbance PM2.5 (tons)		
Regional Alternative	III-A	III-B	III-C	III-A	III-B	III-C	III-A	III-B	III-C	III-A	III-B	III-C
Access Roads	971	860	926	2	2	2	32	28	30	3	3	3
Structures & Communication Sites-	25	25	28	0	0	0	1	1	1	0	0	0
Stringing & Tensioning Sites	0	0	0	0	0	0	0	0	0	0	0	0
ETWA	0	0	0	0	0	0	0	0	0	0	0	0
Facilities Total	**996**	**885**	**953**	**2**	**2**	**2**	**33**	**29**	**31**	**3**	**3**	**3**
Additional ROW-veg clearing	0	0	0	0	0	0	0	0	0	0	0	0
Emission Total				2	2	2	33	29	31	3	3	3

Project Phase	Operation Disturbance (acres)			Operation Disturbance (ton/mo)			Operation Disturbance Emissions PM10 (tons)			Operation Disturbance Emissions PM2.5 (tons)		
Regional Alternative	IV-A	IV-B	IV-C	III-A	III-B	III-C	III-A	III-B	III-C	III-A	III-B	III-C
Access Roads	149	180	174	0	0	0	5	6	6	0	1	1
Structures & Communication Sites- Construction	4	4	4	0	0	0	0	0	0	0	0	0
Stringing & Tensioning Sites	0	0	0	0	0	0	0	0	0	0	0	0
ETWA	0	0	0	0	0	0	0	0	0	0	0	0
Facilities Total	**152**	**184**	**178**	**0**	**0**	**0**	**5**	**6**	**6**	**0**	**1**	**1**
Additional ROW-veg clearing	0	0	0	0	0	0	0	0	0	0	0	0
Emission Total				0	0	0	5	6	6	0	1	1

Table E-4 Calculation of Operation Impacts on Air Quality

Project Phase	Operation Disturbance (acres)			Operation Disturbance (ton/mo)			Operation Disturbance Emissions PM10 (tons)			Operation Disturbance Emissions PM2.5 (tons)		
Alternative Name	**Access Roads**	**Structures & Comm. Sites**	**Facilities Total**	**Access Roads**	**Structures & Comm. Sites**	**Facilities Total**	**Access Roads**	**Structures & Comm. Sites**	**Facilities Total**	**Access Roads**	**Structures & Comm. Sites**	**Facilities Total**
Emma Park Alternative Variation	218	3	**221**	0	0	**1**	5	0	5	0	0	**0**
Emma Park Alternative Variation Comparison	*236*	*3*	***239***	*1*	*0*	***1***	5	0	5	*1*	*0*	***1***
Ox Valley East Alternative Variation	99	2	**100**	0	0	**0**	2	0	2	0	0	**0**
Ox Valley East Alternative Variation Comparison	*94*	*1*	***95***	*0*	*0*	***0***	2	0	2	*0*	*0*	***0***
Ox Valley West Alternative Variation	98	2	**100**	0	0	**0**	2	0	2	0	0	**0**
Ox Valley West Alternative Variation Comparison	*94*	*1*	***95***	*0*	*0*	***0***	2	0	2	*0*	*0*	***0***
Pinto Alternative Variation	108	3	**111**	0	0	**0**	2	0	3	0	0	**0**
Pinto Alternative Variation Comparison	*122*	*2*	***125***	*0*	*0*	***0***	3	0	3	*0*	*0*	***0***
Marketplace Alternative Variation	20	1	**21**	0	0	**0**	0	0	0	0	0	**0**
Marketplace Alternative Variation Comparison	*18*	*1*	***19***	*0*	*0*	***0***	0	0	0	*0*	*0*	***0***

Project Phase	Operation Disturbance (acres)			Operation Disturbance (ton/mo)			Operation Disturbance Emissions PM10 (tons)			Operation Disturbance Emissions PM2.5 (tons)		
Alternative Name	**Access Roads**	**Structures & Comm. Sites**	**Facilities Total**	**Access Roads**	**Structures & Comm. Sites**	**Facilities Total**	**Access Roads**	**Structures & Comm. Sites**	**Facilities Total**	**Access Roads**	**Structures & Comm. Sites**	**Facilities Total**
Mexican Flats Alternative Connector	25	1	**26**	0	0	**0**	1	0	1	0	0	**0**
Baggs Alternative Connector	68	2	**70**	0	0	**0**	2	0	2	0	0	**0**
Fivemile Point North Alternative Connector	8	0	**8**	0	0	**0**	0	0	0	0	0	**0**
Fivemile Point South Alternative Connector	6	0	**6**	0	0	**0**	0	0	0	0	0	**0**
Castle Dale Alternative Connector	48	1	**49**	0	0	**0**	2	0	2	0	0	**0**
Price Alternative Connector	79	2	**81**	0	0	**0**	3	0	3	0	0	**0**
Lynndyl Alternative Connector	70	2	**72**	0	0	**0**	2	0	2	0	0	**0**
IPP East Alternative Connector	7	0	**7**	0	0	**0**	0	0	0	0	0	**0**
Highway 191 Alternative Connector	37	1	**38**	0	0	**0**	1	0	1	0	0	**0**
Avon Alternative Connector	20	1	**21**	0	0	**0**	1	0	1	0	0	**0**
Moapa Alternative Connector	33	1	**34**	0	0	**0**	1	0	1	0	0	**0**
Sunrise Mountain Alternative Connector	8	0	**8**	0	0	**0**	0	0	0	0	0	**0**
Lake Las Vegas Alternative Connector	19	0	**19**	0	0	**0**	1	0	1	0	0	**0**
Three Kids Mine Alternative Connector	33	1	**34**	0	0	**0**	1	0	1	0	0	**0**
River Mountain Alternative Connector	56	1	**57**	0	0	**0**	2	0	2	0	0	**0**
Railroad Pass Alternative Connector	14	0	**14**	0	0	**0**	0	0	0	0	0	**0**

Site Alternatives	Length (miles)		Operation Disturbance (acres)				Operation Disturbance Emissions PM10 (tons)				Operation Disturbance PM10 (tons)				Operation Disturbance Emissions PM2.5 (tons)			
	34.5 kV AC Overhead Line	**Access Road**	**Ground Electrode Sites**	**Overhead Lines**	**Access Roads**	**Total**	**Ground Electrode Sites**	**Overhead Lines**	**Access Roads**	**Total**	**Ground Electrode Sites**	**Overhead Lines**	**Access Roads**	**Total**	**Ground Electrode Sites**	**Overhead Lines**	**Access Roads**	**Total**
Northern System Alternatives																		
Separation Flat (All Alts)	13	17	6	0	34	39	0	0	0	0	0	0	1	1	0	0	0	0
Shell Creek (Alts I-A & I-D)	33	43	6	0	83	89	0	0	0	0	0	0	3	3	0	0	0	0
Little Snake East (Alts I-A, I-B, & I-D)	9	12	6	0	24	29	0	0	0	0	0	0	1	1	0	0	0	0
Little Snake West (Alt I-A)	10	14	6	0	31	37	0	0	0	0	0	0	1	1	0	0	0	0
Shell Creek (Alt I-B)	26	37	11	0	72	83	0	0	0	0	0	0	2	3	0	0	0	0
Little Snake West (Alts I-B & I-D)	12	15	6	0	29	35	0	0	0	0	0	0	1	1	0	0	0	0
Cottonwood Creek (Alt I-C)	5	6	6	0	14	19	0	0	0	0	0	0	0	1	0	0	0	0
Pio Springs 1 (Western Wyoming Alt Variation)	6	7	6	0	14	20	0	0	0	0	0	0	0	1	0	0	0	0
Southern System Alternatives																		
Mormon Mesa-Carp Elgin Rd (Alt. A)	6	7	6	0	14	19	0	0	0	0	0	0	0	1	0	0	0	0
Halfway Wash - Virgin River (Alt. A)	4	5	6	0	10	16	0	0	0	0	0	0	0	1	0	0	0	0
Halfway Wash East (Alt. A)	8	10	6	0	20	26	0	0	0	0	0	0	1	1	0	0	0	0
Mormon Mesa-Carp Elgin Rd (Alt. B)	8	10	6	0	20	26	0	0	0	0	0	0	1	1	0	0	0	0
Halfway Wash - Virgin River (Alt. B)	6	7	6	0	14	20	0	0	0	0	0	0	0	1	0	0	0	0
Halfway Wash East (Alt. B)	8	10	6	0	19	25	0	0	0	0	0	0	1	1	0	0	0	0
Meadow Valley 2 (Alt. C)	22	29	6	0	60	66	0	0	0	0	0	0	2	2	0	0	0	0