Appendix D – Detailed Site Evaluation Results

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Canal Site Name		East Bench Lateral 27.9	East Bench Lateral 41.2	Helena Valley Drop into Regulating Reservoir	Helena Valley Lateral 11.9	Helena Valley Lateral 14.8	Helena Valley Lateral 20.7
Object ID		**1**	**2**	**3**	**4**	**5**	**6**
Area Office		**MTAO**	**MTAO**	**MTAO**	**MTAO**	**MTAO**	**MTAO**
Project		East Bench Unit	East Bench Unit	Helena Valley Unit	Helena Valley Unit	Helena Valley Unit	Helena Valley Unit
Project Location (State)		Montana	Montana	Montana	Montana	Montana	Montana
Irrigation District		East Bench Unit	East Bench Unit	Helena Valley Unit	Helena Valley Unit	Helena Valley Unit	Helena Valley Unit
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	16.0	61.0	10.0	47.0	25.0	31.0
Min Head	**ft**	16.0	61.0	10.0	47.0	25.0	31.0
Max Flow	**cfs**	20	27	308	17	80	25
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Low Head	Kaplan	Low Head	Low Head	Low Head
Selected Design Head	**ft**	16	61	10	47	25	31
Maximum Turbine Flow	**cfs**	8	25	279	17	60	25
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	20.0	76.3	12.5	58.8	31.3	38.8
Min Head Limit	**ft**	10.4	39.6	6.5	30.5	16.3	20.1
Max Flow Limit	**cfs**	8	25	279	17	60	25
Min Flow Limit	**cfs**	2	5	56	3	12	5
Power Generation Analysis							
Installed Capacity	**kW**	8	93	199	47	91	47
Plant Factor		31%	39%	38%	47%	43%	47%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	0	0	59	18	23	18
May	**MWH**	3	38	106	34	55	34
June	**MWH**	6	67	126	34	66	34
July	**MWH**	6	67	136	34	66	34
August	**MWH**	5	67	140	34	66	34
September	**MWH**	2	64	79	34	66	34
October	**MWH**	0	11	0	1	0	1
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	21	313	645	189	342	189
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	1.15	0.20	0.25	0.00	0.00	0.50
Distance to Nearest Populated Area	**miles**	9.61	10.38	1.12	0.14	0.00	0.00

Canal Site Name		Helena Valley Lateral 32.6	Couts Drop	Rod McCoy Drop	Lower Yellowstone Lateral C4	Lower Yellowstone Lateral D	Lower Yellowstone Lateral D6
Object ID		**7**	**8**	**9**	**10**	**11**	**12**
Area Office		**MTAO**	**MTAO**	**MTAO**	**MTAO**	**MTAO**	**MTAO**
Project		Helena Valley Unit	Huntley Project	Huntley Project	Lower Yellowstone	Lower Yellowstone	Lower Yellowstone
Project Location (State)		Montana	Montana	Montana	Montana	Montana	Montana
Irrigation District		Helena Valley Unit	Huntley	Huntley	Lower Yellowstone	Lower Yellowstone	Lower Yellowstone
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	47.0	38.4	17.0	16.0	15.0	16.0
Min Head	**ft**	47.0	38.4	17.0	16.0	15.0	16.0
Max Flow	**cfs**	16	180	25	15	20	8
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Kaplan	Low Head	Low Head	Low Head	Low Head
Selected Design Head	**ft**	47	38	17	16	15	16
Maximum Turbine Flow	**cfs**	10	150	25	15	20	8
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	58.8	48.0	21.3	20.0	18.8	20.0
Min Head Limit	**ft**	30.5	25.0	11.0	10.4	9.8	10.4
Max Flow Limit	**cfs**	10	150	25	15	20	8
Min Flow Limit	**cfs**	2	30	5	3	4	2
Power Generation Analysis							
Installed Capacity	**kW**	29	412	26	15	18	8
Plant Factor		41%	46%	32%	37%	38%	41%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	11	158	0	0	0	0
May	**MWH**	21	296	11	11	13	5
June	**MWH**	21	296	11	11	13	6
July	**MWH**	20	296	19	11	13	6
August	**MWH**	9	296	19	7	10	6
September	**MWH**	21	296	11	7	10	6
October	**MWH**	0	0	0	0	0	0
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	102	1,640	71	46	59	27
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.00	0.00	0.50	0.00	0.00	0.00
Distance to Nearest Populated Area	**miles**	0.00	3.39	6.59	0.96	0.36	0.12

Canal Site Name		Lower Yellowstone Lateral F	Lower Yellowstone Lateral H	Lower Yellowstone Lateral N	Lower Yellowstone Lateral PP 1st & 2nd Drop	Lower Yellowstone Lateral PPS	Milk River Nelson North
Object ID		**13**	**14**	**15**	**16**	**17**	**18**
Area Office		**MTAO**	**MTAO**	**MTAO**	**MTAO**	**MTAO**	**MTAO**
Project		Lower Yellowstone	Lower Yellowstone	Lower Yellowstone	Lower Yellowstone	Lower Yellowstone	Milk River Project
Project Location (State)		Montana	Montana	Montana	Montana	Montana	Montana
Irrigation District		Lower Yellowstone	Lower Yellowstone	Lower Yellowstone	Lower Yellowstone	Lower Yellowstone	Milk River
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	25.0	25.0	41.0	26.0	13.0	46.0
Min Head	**ft**	25.0	25.0	41.0	26.0	13.0	46.0
Max Flow	**cfs**	45	25	25	35	12	200
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Low Head	Low Head	Low Head	Low Head	Low Head
Selected Design Head	**ft**	25	25	41	26	13	46
Maximum Turbine Flow	**cfs**	45	25	25	35	12	50
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	31.3	31.3	51.3	32.5	16.3	57.4
Min Head Limit	**ft**	16.3	16.3	26.6	16.9	8.4	29.9
Max Flow Limit	**cfs**	45	25	25	35	12	50
Min Flow Limit	**cfs**	9	5	5	7	2	10
Power Generation Analysis							
Installed Capacity	**kW**	69	38	62	55	10	140
Plant Factor		40%	37%	37%	29%	36%	18%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	0	0	0	0	0	0
May	**MWH**	49	27	45	40	5	25
June	**MWH**	49	22	45	40	5	42
July	**MWH**	49	27	36	19	5	63
August	**MWH**	44	22	36	19	7	51
September	**MWH**	44	22	36	19	7	29
October	**MWH**	0	1	0	0	0	13
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	236	121	198	138	29	222
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.75	0.00	0.75	0.00	0.00	0.10
Distance to Nearest Populated Area	**miles**	0.66	6.59	11.46	8.52	4.64	19.78

Canal Site Name		Savage Lateral 1.9	Savage Lateral 5.7 1st	Savage Lateral 5.5 2nd	Sun River Fort Shaw A Drop	Sun River Fort Shaw C Drop	Sun River Sequest Check to A Drop
Object ID		**19**	**20**	**21**	**22**	**23**	**24**
Area Office		**MTAO**	**MTAO**	**MTAO**	**MTAO**	**MTAO**	**MTAO**
Project		Savage Unit	Savage Unit	Savage Unit	Sun River Project - Fort Shaw District	Sun River Project - Fort Shaw District	Sun River Project - Fort Shaw District
Project Location (State)		Montana	Montana	Montana	Montana	Montana	Montana
Irrigation District		Savage	Savage	Savage	Sun River Ft Shaw	Sun River Ft Shaw	Sun River Ft Shaw
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	15.0	13.0	10.0	44.5	59.0	62.0
Min Head	**ft**	15.0	13.0	10.0	44.5	59.0	62.0
Max Flow	**cfs**	8	8	8	90	28	70
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Low Head	Low Head	Kaplan	Low Head	Francis
Selected Design Head	**ft**	15	13	10	45	59	62
Maximum Turbine Flow	**cfs**	8	8	8	90	20	70
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	18.7	16.3	12.5	55.6	73.8	77.5
Min Head Limit	**ft**	9.7	8.4	6.5	28.9	38.3	40.3
Max Flow Limit	**cfs**	8	8	8	90	20	70
Min Flow Limit	**cfs**	2	2	2	18	4	14
Power Generation Analysis							
Installed Capacity	**kW**	7	6	5	286	72	314
Plant Factor		38%	38%	38%	44%	46%	50%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	0	0	0	110	28	120
May	**MWH**	4	4	3	206	52	226
June	**MWH**	4	4	3	198	52	226
July	**MWH**	5	4	3	187	52	226
August	**MWH**	5	5	4	161	52	226
September	**MWH**	5	5	4	155	40	226
October	**MWH**	0	0	0	75	13	109
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	24	21	16	1,092	287	1,359
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.04	0.25	0.25	0.50	0.10	0.25
Distance to Nearest Populated Area	**miles**	0.89	2.61	2.61	0.00	0.00	0.00

Canal Site Name		Spring Valley Canal Drop	Arnold Coulee Drop Pishkun Canal	Pishkun Reservoir Inlet Drop	GM 47 Drop	Lower Ashlot Drop	Middle Ashlot Drop
Object ID		**25**	**26**	**27**	**28**	**29**	**30**
Area Office		**MTAO**	**MTAO**	**MTAO**	**MTAO**	**MTAO**	**MTAO**
Project		Sun River Greenfields	Sun River Greenfields	Sun River Greenfields	Sun River Greenfields	Sun River Greenfields	Sun River Greenfields
Project Location (State)		Montana	Montana	Montana	Montana	Montana	Montana
Irrigation District		Sun River Greenfields	Sun River Greenfields	Sun River Greenfields	Sun River Greenfields	Sun River Greenfields	Sun River Greenfields
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	9.0	36.3	55.2	81.0	22.0	42.0
Min Head	**ft**	9.0	36.3	26.3	81.0	22.0	42.0
Max Flow	**cfs**	900	1,498	1,498	20	150	150
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Kaplan	Kaplan	Kaplan	Low Head	Kaplan	Francis
Selected Design Head	**ft**	9	36	36	81	22	42
Maximum Turbine Flow	**cfs**	650	1,251	1,251	5	70	70
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	11.3	45.4	44.4	101.3	27.5	52.5
Min Head Limit	**ft**	5.8	23.6	23.1	52.6	14.3	27.3
Max Flow Limit	**cfs**	650	1,251	1,251	5	70	70
Min Flow Limit	**cfs**	130	250	250	1	14	14
Power Generation Analysis							
Installed Capacity	**kW**	418	3,246	3,174	25	110	213
Plant Factor		29%	29%	25%	32%	37%	36%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	0	135	52	0	0	0
May	**MWH**	194	1,211	952	0	29	54
June	**MWH**	301	1,845	1,437	15	79	153
July	**MWH**	301	2,337	2,163	18	79	153
August	**MWH**	239	1,514	1,251	18	79	153
September	**MWH**	0	648	607	18	79	153
October	**MWH**	0	129	93	0	0	0
November	**MWH**	0	213	206	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	1,035	8,031	6,760	69	346	666
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.75	3.50	2.00	0.50	0.25	0.25
Distance to Nearest Populated Area	**miles**	N/A	14.65	14.25	11.74	4.15	4.44

Canal Site Name		Old SRS Drop	Upper Ashlot Drop	Ainsworth: 1375+00	Ainsworth: 1437+08	Ainsworth: 1590+50	Ainsworth: 1633+50
Object ID		**31**	**32**	**35**	**36**	**38**	**39**
Area Office		**MTAO**	**MTAO**	**NKAO**	**NKAO**	**NKAO**	**NKAO**
Project		Sun River Greenfields	Sun River Greenfields	Pick Sloan Missouri Basin - Ainsworth Unit	Pick Sloan Missouri Basin - Ainsworth	Pick Sloan Missouri Basin - Ainsworth	Pick Sloan Missouri Basin - Ainsworth
Project Location (State)		Montana	Montana	Nebraska	Nebraska	Nebraska	Nebraska
Irrigation District		Sun River Greenfields	Sun River Greenfields	Ainsworth	Ainsworth	Ainsworth	Ainsworth
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	125.0	115.0	8.1	4.9	5.1	5.1
Min Head	**ft**	125.0	115.0	8.1	4.9	5.1	5.1
Max Flow	**cfs**	20	150	624	624	624	624
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Francis	Low Head	Low Head	Low Head	Low Head
Selected Design Head	**ft**	125	115	8	5	5	5
Maximum Turbine Flow	**cfs**	8	70	241	241	241	241
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	156.3	143.8	10.1	6.2	6.3	6.3
Min Head Limit	**ft**	81.3	74.8	5.3	3.2	3.3	3.3
Max Flow Limit	**cfs**	8	70	241	241	241	241
Min Flow Limit	**cfs**	2	14	48	48	48	48
Power Generation Analysis							
Installed Capacity	**kW**	61	582	119	72	74	75
Plant Factor		38%	36%	23%	23%	23%	23%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	0	0	0	0	0	0
May	**MWH**	24	148	19	11	12	12
June	**MWH**	44	419	22	13	14	14
July	**MWH**	44	419	79	48	50	50
August	**MWH**	44	419	75	46	47	47
September	**MWH**	44	419	44	27	28	28
October	**MWH**	0	0	0	0	0	0
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	199	1,824	239	145	150	150
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.50	0.25	2.00	3.00	6.00	6.50
Distance to Nearest Populated Area	**miles**	8.34	4.72	13.89	14.70	16.02	16.37

Canal Site Name		Ainsworth: 1722+00	Ainsworth: 1846+00	Ainsworth: 1858+57	Ainsworth: 1913+47	Ainsworth: 2023+00	Ainsworth: 2231+00
Object ID		**41**	**42**	**43**	**44**	**45**	**46**
Area Office		**NKAO**	**NKAO**	**NKAO**	**NKAO**	**NKAO**	**NKAO**
Project		Pick Sloan Missouri Basin - Ainsworth	Pick Sloan Missouri Basin - Ainsworth	Pick Sloan Missouri Basin - Ainsworth	Pick Sloan Missouri Basin - Ainsworth	Pick Sloan Missouri Basin - Ainsworth	Pick Sloan Missouri Basin - Ainsworth
Project Location (State)		Nebraska	Nebraska	Nebraska	Nebraska	Nebraska	Nebraska
Irrigation District		Ainsworth	Ainsworth	Ainsworth	Ainsworth	Ainsworth	Ainsworth
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	6.1	9.6	5.6	6.1	9.3	12.1
Min Head	**ft**	6.1	9.6	5.6	6.1	9.3	12.1
Max Flow	**cfs**	624	624	624	624	624	624
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Low Head	Low Head	Low Head	Low Head	Low Head
Selected Design Head	**ft**	6	10	6	6	9	12
Maximum Turbine Flow	**cfs**	241	241	241	241	241	241
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	7.6	12.0	7.0	7.6	11.6	15.2
Min Head Limit	**ft**	4.0	6.2	3.6	3.9	6.1	7.9
Max Flow Limit	**cfs**	241	241	241	241	241	241
Min Flow Limit	**cfs**	48	48	48	48	48	48
Power Generation Analysis							
Installed Capacity	**kW**	89	141	82	89	137	178
Plant Factor		23%	23%	23%	23%	23%	23%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	0	0	0	0	0	0
May	**MWH**	14	22	13	14	21	28
June	**MWH**	16	26	15	16	25	32
July	**MWH**	60	94	55	60	91	119
August	**MWH**	56	89	52	56	86	112
September	**MWH**	33	52	31	33	51	67
October	**MWH**	0	0	0	0	0	0
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	180	283	165	179	275	358
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	4.00	3.50	3.50	3.50	3.00	2.50
Distance to Nearest Populated Area	**miles**	17.65	19.59	19.79	20.58	20.33	16.95

Canal Site Name		Ainsworth: 2358+00	Ainsworth: 2414+00	Ainsworth: 2466+00	Ainsworth: 2540+32	Cambridge: 798+21.7	Cambridge: 897+38
Object ID		**47**	**48**	**49**	**50**	**51**	**52**
Area Office		**NKAO**	**NKAO**	**NKAO**	**NKAO**	**NKAO**	**NKAO**
Project		Pick Sloan Missouri Basin - Ainsworth	Pick Sloan Missouri Basin - Ainsworth	Pick Sloan Missouri Basin - Ainsworth	Pick Sloan Missouri Basin - Ainsworth	Pick Sloan Missouri Basin - Frenchman-Cambridge	Pick Sloan Missouri Basin - Frenchman-Cambridge
Project Location (State)		Nebraska	Nebraska	Nebraska	Nebraska	Nebraska	Nebraska
Irrigation District		Ainsworth	Ainsworth	Ainsworth	Ainsworth	Frenchman Valley	Frenchman Valley
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	10.6	13.1	13.4	6.2	14.9	7.8
Min Head	**ft**	10.6	13.1	13.4	6.2	14.9	7.8
Max Flow	**cfs**	624	624	624	624	211	211
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Low Head	Low Head	Low Head	Low Head	Low Head
Selected Design Head	**ft**	11	13	13	6	15	8
Maximum Turbine Flow	**cfs**	241	241	241	241	93	93
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	13.3	16.4	16.7	7.8	18.6	9.8
Min Head Limit	**ft**	6.9	8.5	8.7	4.0	9.7	5.1
Max Flow Limit	**cfs**	241	241	241	241	93	93
Min Flow Limit	**cfs**	48	48	48	48	19	19
Power Generation Analysis							
Installed Capacity	**kW**	156	192	196	91	84	44
Plant Factor		23%	23%	23%	23%	0.25	0.25
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	0	0	0	0	0	0
May	**MWH**	24	30	31	14	13	7
June	**MWH**	28	35	36	17	42	22
July	**MWH**	104	128	131	61	58	31
August	**MWH**	99	121	124	57	59	31
September	**MWH**	58	72	73	34	9	5
October	**MWH**	0	0	0	0	0	0
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	314	386	394	183	180	95
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	2.50	3.00	2.50	1.50	0.00	1.09
Distance to Nearest Populated Area	**miles**	14.93	14.04	13.18	11.92	15.29	16.33

Canal Site Name		Cambridge: 954+41.5	Cambridge: 1143.91	Cambridge: 1348+20	Cambridge: 1404+00	Cambridge: 1408+50	Mirdan: 2083+00
Object ID		**53**	**54**	**55**	**56**	**57**	**59**
Area Office		**NKAO**	**NKAO**	**NKAO**	**NKAO**	**NKAO**	**NKAO**
Project		Pick Sloan Missouri Basin - Frenchman-Cambridge	Pick Sloan Missouri Basin - Frenchman-Cambridge	Pick Sloan Missouri Basin - Frenchman-Cambridge	Pick Sloan Missouri Basin - Frenchman-Cambridge	Pick Sloan Missouri Basin - Frenchman-Cambridge	Pick Sloan Missouri Basin - North Loup
Project Location (State)		Nebraska	Nebraska	Nebraska	Nebraska	Nebraska	Nebraska
Irrigation District		Frenchman Valley	Frenchman Valley	Frenchman Valley	Frenchman Valley	Frenchman Valley	Twin Loups
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	7.8	6.2	6.0	6.1	6.1	27.5
Min Head	**ft**	7.8	6.2	6.0	6.1	6.1	27.5
Max Flow	**cfs**	211	211	211	211	211	635
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Low Head	Low Head	Low Head	Low Head	Kaplan
Selected Design Head	**ft**	8	6	6	6	6	27
Maximum Turbine Flow	**cfs**	93	93	93	93	93	333
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	9.8	7.8	7.5	7.6	7.6	34.3
Min Head Limit	**ft**	5.1	4.0	3.9	4.0	4.0	17.9
Max Flow Limit	**cfs**	93	93	93	93	93	333
Min Flow Limit	**cfs**	19	19	19	19	19	67
Power Generation Analysis							
Installed Capacity	**kW**	44	35	34	35	35	654
Plant Factor		0.25	0.25	0.25	0.25	0.25	0.33
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	0	0	0	0	0	61
May	**MWH**	7	5	5	5	5	360
June	**MWH**	22	17	17	17	17	408
July	**MWH**	31	24	23	24	24	454
August	**MWH**	31	24	23	24	24	429
September	**MWH**	5	4	4	4	4	161
October	**MWH**	0	0	0	0	0	0
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	95	75	72	74	74	1,873
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.50	0.50	0.25	1.00	1.00	2.00
Distance to Nearest Populated Area	**miles**	N/A	20.22	18.75	18.54	18.57	9.59

Canal Site Name		Mirdan: 2310+60	Mirdan: 2509+50	Mirdan: 2541+00	Johnson/256 Lateral: 177+00	Johnson/256 Lateral: 218+50	Johnson/256 Lateral: 227+00
Object ID		**60**	**61**	**62**	**63**	**64**	**65**
Area Office		**NKAO**	**NKAO**	**NKAO**	**WYAO**	**WYAO**	**WYAO**
Project		Pick Sloan Missouri Basin - North Loup	Pick Sloan Missouri Basin - North Loup	Pick Sloan Missouri Basin - North Loup	Kendrick Project	Kendrick Project	Kendrick Project
Project Location (State)		Nebraska	Nebraska	Nebraska	Wyoming	Wyoming	Wyoming
Irrigation District		Twin Loups	Twin Loups	Twin Loups	Casper Alcova	Casper Alcova	Casper Alcova
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	4	4	4
Max Head	**ft**	24.8	11.8	61.6	13.0	13.5	13.7
Min Head	**ft**	24.8	11.8	61.6	13.0	13.5	13.7
Max Flow	**cfs**	635	635	635	155	155	155
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Kaplan	Kaplan	Kaplan	Low Head	Low Head	Low Head
Selected Design Head	**ft**	25	12	62	13	14	14
Maximum Turbine Flow	**cfs**	333	333	333	91	91	91
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	31.0	14.8	77.0	16.2	16.9	17.1
Min Head Limit	**ft**	16.1	7.7	40.0	8.4	8.8	8.9
Max Flow Limit	**cfs**	333	333	333	91	91	91
Min Flow Limit	**cfs**	67	67	67	18	18	18
Power Generation Analysis							
Installed Capacity	**kW**	590	282	1,466	72	75	76
Plant Factor		0.33	0.33	0.33	30%	30%	30%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	55	26	137	0	0	0
May	**MWH**	325	155	808	19	20	20
June	**MWH**	368	176	914	39	41	41
July	**MWH**	409	195	1,017	49	51	51
August	**MWH**	387	185	962	46	48	48
September	**MWH**	145	69	361	32	33	34
October	**MWH**	0	0	0	0	0	0
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	1,689	806	4,199	184	192	195
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	2.00	2.50	2.50	0.50	0.02	0.02
Distance to Nearest Populated Area	**miles**	11.00	11.77	12.14	6.18	6.20	6.12

Canal Site Name		Deaver Flume	Deaver Frannie Canal	Lower Deaver Slide	Upper Deaver Slide	Heart Mountain Lateral 79 after 79-5: 203+15.27	Heart Mountain Lateral 79-5: 124+08.08
Object ID		**66**	**67**	**68**	**69**	**70**	**71**
Area Office		**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**
Project		Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project
Project Location (State)		Wyoming	Wyoming	Wyoming	Wyoming	Wyoming	Wyoming
Irrigation District		Deaver	Deaver	Deaver	Deaver	Heart Mountain	Heart Mountain
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	100.0	125.0	90.0	130.0	39.6	18.5
Min Head	**ft**	100.0	125.0	90.0	130.0	39.6	18.5
Max Flow	**cfs**	60	120	100	110	9	3
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Francis	Francis	Francis	Francis	Low Head	Low Head
Selected Design Head	**ft**	100	125	90	130	40	18
Maximum Turbine Flow	**cfs**	60	120	100	110	8	2
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	125.0	156.3	112.5	162.5	49.5	23.1
Min Head Limit	**ft**	65.0	81.3	58.5	84.5	25.7	12.0
Max Flow Limit	**cfs**	60	120	100	110	8	2
Min Flow Limit	**cfs**	12	24	20	22	2	0
Power Generation Analysis							
Installed Capacity	**kW**	434	1,084	651	1,034	19	2
Plant Factor		50%	50%	50%	50%	38%	42%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	167	416	250	397	2	0
May	**MWH**	312	781	468	744	11	1
June	**MWH**	312	781	468	744	11	1
July	**MWH**	312	781	468	744	14	2
August	**MWH**	312	781	468	744	13	2
September	**MWH**	312	781	468	744	9	1
October	**MWH**	141	353	212	336	3	0
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	1,869	4,672	2,803	4,454	63	8
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	N/A	N/A	N/A	N/A	0.00	0.00
Distance to Nearest Populated Area	**miles**	N/A	N/A	N/A	N/A	4.85	3.75

Canal Site Name		Heart Mountain Lateral 79-5: 127.+86.58	Heart Mountain Lateral 79: 19+60	Heart Mountain Lateral 79: 23+33	Heart Mountain Lateral 79: 26+88	Heart Mountain Lateral 79: 30+43	Heart Mountain Lateral 79: 33+48
Object ID		**72**	**73**	**74**	**75**	**76**	**77**
Area Office		**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**
Project		Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project
Project Location (State)		Wyoming	Wyoming	Wyoming	Wyoming	Wyoming	Wyoming
Irrigation District		Heart Mountain	Heart Mountain	Heart Mountain	Heart Mountain	Heart Mountain	Heart Mountain
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	21.3	11.0	11.0	11.0	11.1	11.0
Min Head	**ft**	21.3	11.0	11.0	11.0	11.1	11.0
Max Flow	**cfs**	3	53	53	53	53	53
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Low Head	Low Head	Low Head	Low Head	Low Head
Selected Design Head	**ft**	21	11	11	11	11	11
Maximum Turbine Flow	**cfs**	2	46	46	46	46	46
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	26.6	13.8	13.8	13.8	13.9	13.8
Min Head Limit	**ft**	13.8	7.1	7.1	7.1	7.2	7.1
Max Flow Limit	**cfs**	2	46	46	46	46	46
Min Flow Limit	**cfs**	0	9	9	9	9	9
Power Generation Analysis							
Installed Capacity	**kW**	3	31	31	31	31	31
Plant Factor		42%	39%	39%	39%	39%	39%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	0	4	4	4	4	4
May	**MWH**	2	18	18	18	18	18
June	**MWH**	2	19	19	19	19	19
July	**MWH**	2	22	22	22	22	22
August	**MWH**	2	21	21	21	21	21
September	**MWH**	1	15	15	15	15	15
October	**MWH**	0	4	4	4	4	4
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	9	104	104	104	105	104
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.00	0.00	0.10	0.25	0.20	0.15
Distance to Nearest Populated Area	**miles**	3.71	5.67	5.62	5.58	5.51	5.47

Canal Site Name		Heart Mountain Lateral 79: 36+43	Heart Mountain Lateral 79: 39+93	Heart Mountain Lateral 79: 42+90	Heart Mountain Lateral 79: 45+63	Heart Mountain Lateral 79: 48+31	Heart Mountain Lateral 79: 50+85
Object ID		**78**	**79**	**80**	**81**	**82**	**83**
Area Office		**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**
Project		Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project
Project Location (State)		Wyoming	Wyoming	Wyoming	Wyoming	Wyoming	Wyoming
Irrigation District		Heart Mountain	Heart Mountain	Heart Mountain	Heart Mountain	Heart Mountain	Heart Mountain
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	11.0	11.0	11.0	11.0	10.1	10.1
Min Head	**ft**	11.0	11.0	11.0	11.0	10.1	10.1
Max Flow	**cfs**	53	44	44	44	44	44
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Low Head	Low Head	Low Head	Low Head	Low Head
Selected Design Head	**ft**	11	11	11	11	10	10
Maximum Turbine Flow	**cfs**	46	38	38	38	38	38
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	13.8	13.8	13.8	13.8	12.7	12.6
Min Head Limit	**ft**	7.1	7.1	7.1	7.1	6.6	6.6
Max Flow Limit	**cfs**	46	38	38	38	38	38
Min Flow Limit	**cfs**	9	8	8	8	8	8
Power Generation Analysis							
Installed Capacity	**kW**	31	25	25	25	23	23
Plant Factor		39%	39%	39%	39%	39%	39%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	4	3	3	3	3	3
May	**MWH**	18	15	15	15	14	14
June	**MWH**	19	16	16	16	15	14
July	**MWH**	22	18	18	18	17	17
August	**MWH**	21	17	17	17	16	16
September	**MWH**	15	13	13	13	12	12
October	**MWH**	4	4	4	4	3	3
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	104	86	86	86	79	79
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.10	0.00	0.00	0.00	0.00	0.00
Distance to Nearest Populated Area	**miles**	5.43	5.39	5.34	5.30	5.27	5.23

Canal Site Name		Heart Mountain Lateral 79: 53+37	Heart Mountain Lateral 79: 55+36	Heart Mountain Lateral 89 after 89-10: 141+06.14	Heart Mountain Lateral 89 after 89-10: 154+83.16	Heart Mountain Lateral 89: 17+60	Heart Mountain Lateral 89: 2+77
Object ID		**84**	**85**	**86**	**87**	**90**	**88**
Area Office		**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**
Project		Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project
Project Location (State)		Wyoming	Wyoming	Wyoming	Wyoming	Wyoming	Wyoming
Irrigation District		Heart Mountain	Heart Mountain	Heart Mountain	Heart Mountain	Heart Mountain	Heart Mountain
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	10.1	10.1	24.5	20.7	37.4	15.0
Min Head	**ft**	10.1	10.1	24.5	20.7	37.4	15.0
Max Flow	**cfs**	44	44	18	18	44	44
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Low Head	Low Head	Low Head	Low Head	Low Head
Selected Design Head	**ft**	10	10	25	21	37	15
Maximum Turbine Flow	**cfs**	38	38	15	15	38	38
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	12.6	12.6	30.7	25.9	46.7	18.8
Min Head Limit	**ft**	6.6	6.6	15.9	13.4	24.3	9.8
Max Flow Limit	**cfs**	38	38	15	15	38	38
Min Flow Limit	**cfs**	8	8	3	3	8	8
Power Generation Analysis							
Installed Capacity	**kW**	23	23	22	19	87	35
Plant Factor		39%	39%	40%	40%	39%	39%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	3	3	3	3	12	5
May	**MWH**	14	14	13	11	51	20
June	**MWH**	14	14	14	12	54	21
July	**MWH**	17	17	16	14	62	25
August	**MWH**	16	16	15	13	59	24
September	**MWH**	12	12	11	9	43	17
October	**MWH**	3	3	3	3	12	5
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	79	79	76	64	292	117
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.00	0.00	0.30	0.25	0.80	1.00
Distance to Nearest Populated Area	**miles**	5.20	5.17	3.59	3.51	5.00	5.18

Canal Site Name		Heart Mountain Lateral 89: 21+34.25	Heart Mountain Lateral 89: 33+91	Heart Mountain Lateral 89: 37+36	Heart Mountain Lateral 89: 40+26	Heart Mountain Lateral 89: 43+16	Heart Mountain Lateral 89: 45+20
Object ID		**91**	**92**	**93**	**94**	**95**	**96**
Area Office		**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**
Project		Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project
Project Location (State)		Wyoming	Wyoming	Wyoming	Wyoming	Wyoming	Wyoming
Irrigation District		Heart Mountain	Heart Mountain	Heart Mountain	Heart Mountain	Heart Mountain	Heart Mountain
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	14.8	11.9	12.0	11.9	11.9	11.9
Min Head	**ft**	14.8	11.9	12.0	11.9	11.9	11.9
Max Flow	**cfs**	44	36	36	36	36	36
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Low Head	Low Head	Low Head	Low Head	Low Head
Selected Design Head	**ft**	15	12	12	12	12	12
Maximum Turbine Flow	**cfs**	38	31	31	31	31	31
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	18.5	14.9	15.0	14.9	14.9	14.8
Min Head Limit	**ft**	9.6	7.7	7.8	7.7	7.7	7.7
Max Flow Limit	**cfs**	38	31	31	31	31	31
Min Flow Limit	**cfs**	8	6	6	6	6	6
Power Generation Analysis							
Installed Capacity	**kW**	34	22	23	22	22	22
Plant Factor		39%	39%	39%	39%	39%	39%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	5	3	3	3	3	3
May	**MWH**	20	13	13	13	13	13
June	**MWH**	21	14	14	14	14	14
July	**MWH**	25	16	16	16	16	16
August	**MWH**	23	15	15	15	15	15
September	**MWH**	17	11	11	11	11	11
October	**MWH**	5	3	3	3	3	3
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	116	75	75	75	75	75
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.50	0.30	0.30	0.30	0.30	0.30
Distance to Nearest Populated Area	**miles**	4.95	4.85	4.79	4.75	4.71	4.68

Canal Site Name		Heart Mountain Lateral 89: 47+43.5	Heart Mountain Lateral 89: 50+25.75	Heart Mountain Lateral 89: 54+59.75	Heart Mountain Lateral 89: 9+64.25	Heart Mountain Lateral H-103	Heart Mountain Lateral H57: 65+26.03
Object ID		**97**	**98**	**99**	**89**	**100**	**101**
Area Office		**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**
Project		Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project
Project Location (State)		Wyoming	Wyoming	Wyoming	Wyoming	Wyoming	Wyoming
Irrigation District		Heart Mountain	Heart Mountain	Heart Mountain	Heart Mountain	Heart Mountain	Heart Mountain
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	10.4	11.9	9.9	14.8	145.0	23.5
Min Head	**ft**	10.4	11.9	9.9	14.8	145.0	23.5
Max Flow	**cfs**	36	27	27	44	27	5
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Low Head	Low Head	Low Head	Francis	Low Head
Selected Design Head	**ft**	10	12	10	15	145	24
Maximum Turbine Flow	**cfs**	31	23	23	38	23	5
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	13.1	14.9	12.4	18.5	181.3	29.4
Min Head Limit	**ft**	6.8	7.7	6.4	9.6	94.3	15.3
Max Flow Limit	**cfs**	31	23	23	38	23	5
Min Flow Limit	**cfs**	6	5	5	8	5	1
Power Generation Analysis							
Installed Capacity	**kW**	20	17	14	34	241	7
Plant Factor		39%	39%	39%	39%	39%	37%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	3	2	2	5	30	1
May	**MWH**	11	10	8	20	142	4
June	**MWH**	12	10	9	21	150	4
July	**MWH**	14	12	10	25	173	5
August	**MWH**	13	11	9	23	166	5
September	**MWH**	10	8	7	17	119	3
October	**MWH**	3	2	2	5	34	1
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	66	56	47	116	815	23
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.30	0.30	0.30	0.90	1.00	0.10
Distance to Nearest Populated Area	**miles**	4.64	4.60	4.54	5.08	4.98	2.66

Canal Site Name		Heart Mountain Lateral H57: 71+67.87	Heart Mountain Lateral H57: 87+62.23	Heart Mountain Lateral H57: 95+33.79	Heart Mountain Lateral H57: 103+50.35	Heart Mountain Lateral H57: 139+22.50	Heart Mountain Lateral H65: 4+09
Object ID		**102**	**103**	**104**	**105**	**106**	**107**
Area Office		**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**
Project		Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project
Project Location (State)		Wyoming	Wyoming	Wyoming	Wyoming	Wyoming	Wyoming
Irrigation District		Heart Mountain	Heart Mountain	Heart Mountain	Heart Mountain	Heart Mountain	Heart Mountain
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	22.2	22.1	18.3	24.8	65.4	37.1
Min Head	**ft**	22.2	22.1	18.3	24.8	65.4	37.1
Max Flow	**cfs**	5	5	5	5	5	44
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Low Head	Low Head	Low Head	Low Head	Low Head
Selected Design Head	**ft**	22	22	18	25	65	37
Maximum Turbine Flow	**cfs**	5	5	5	5	5	38
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	27.8	27.6	22.9	31.0	81.7	46.4
Min Head Limit	**ft**	14.5	14.4	11.9	16.1	42.5	24.1
Max Flow Limit	**cfs**	5	5	5	5	5	38
Min Flow Limit	**cfs**	1	1	1	1	1	8
Power Generation Analysis							
Installed Capacity	**kW**	7	7	6	8	20	86
Plant Factor		37%	37%	37%	37%	37%	39%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	1	1	1	1	2	12
May	**MWH**	4	4	3	4	11	50
June	**MWH**	4	4	3	4	11	53
July	**MWH**	5	5	4	5	14	62
August	**MWH**	4	4	4	5	13	59
September	**MWH**	3	3	3	3	9	42
October	**MWH**	1	1	1	1	3	12
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	21	21	18	24	63	290
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.05	0.00	0.05	0.10	0.10	0.20
Distance to Nearest Populated Area	**miles**	2.57	2.36	2.27	2.13	2.48	4.23

Canal Site Name		Heart Mountain Lateral H65: 10+50.92	Heart Mountain Lateral H65: 22+75.25	Heart Mountain Lateral H65: 28+28	Heart Mountain Lateral H65: 37+58.13	Heart Mountain Lateral H65: 48+29.09	Heart Mountain Lateral H65: 59+92
Object ID		**108**	**109**	**110**	**111**	**112**	**113**
Area Office		**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**
Project		Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project
Project Location (State)		Wyoming	Wyoming	Wyoming	Wyoming	Wyoming	Wyoming
Irrigation District		Heart Mountain	Heart Mountain	Heart Mountain	Heart Mountain	Heart Mountain	Heart Mountain
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	40.8	14.8	15.2	36.3	23.0	25.7
Min Head	**ft**	40.8	14.8	15.2	36.3	23.0	25.7
Max Flow	**cfs**	44	44	44	44	44	36
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Low Head	Low Head	Low Head	Low Head	Low Head
Selected Design Head	**ft**	41	15	15	36	23	26
Maximum Turbine Flow	**cfs**	38	38	38	38	38	31
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	50.9	18.5	19.0	45.4	28.8	32.1
Min Head Limit	**ft**	26.5	9.6	9.9	23.6	15.0	16.7
Max Flow Limit	**cfs**	38	38	38	38	38	31
Min Flow Limit	**cfs**	8	8	8	8	8	6
Power Generation Analysis							
Installed Capacity	**kW**	94	34	35	84	53	49
Plant Factor		39%	39%	39%	39%	39%	39%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	13	5	5	11	7	6
May	**MWH**	55	20	21	49	31	28
June	**MWH**	58	21	22	52	33	30
July	**MWH**	68	25	25	61	38	35
August	**MWH**	64	23	24	57	36	33
September	**MWH**	46	17	17	41	26	23
October	**MWH**	14	5	5	12	8	7
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	319	116	119	284	180	162
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.10	0.10	0.20	0.40	0.60	0.90
Distance to Nearest Populated Area	**miles**	4.25	4.17	4.10	4.05	4.07	3.87

Canal Site Name		Heart Mountain Lateral H65: 69+53.42	Heart Mountain Lateral H65: 79+22.42	Heart Mountain Lateral H65: 111+19.36	Heart Mountain Lateral H71: 6+45.64	Heart Mountain Lateral R45 Site 1	Heart Mountain Lateral R45 Site 2
Object ID		**114**	**115**	**116**	**117**	**118**	**119**
Area Office		**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**
Project		Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project
Project Location (State)		Wyoming	Wyoming	Wyoming	Wyoming	Wyoming	Wyoming
Irrigation District		Heart Mountain	Heart Mountain	Heart Mountain	Heart Mountain	Heart Mountain	Heart Mountain
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	29.5	28.7	57.8	37.1	12.0	60.0
Min Head	**ft**	29.5	28.7	57.8	37.1	12.0	60.0
Max Flow	**cfs**	36	36	36	9	71	62
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Low Head	Low Head	Low Head	Low Head	Francis
Selected Design Head	**ft**	29	29	58	37	12	60
Maximum Turbine Flow	**cfs**	31	31	31	8	61	53
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	36.8	35.9	72.2	46.4	15.0	75.0
Min Head Limit	**ft**	19.2	18.7	37.6	24.1	7.8	39.0
Max Flow Limit	**cfs**	31	31	31	8	61	53
Min Flow Limit	**cfs**	6	6	6	2	12	11
Power Generation Analysis							
Installed Capacity	**kW**	56	54	109	18	45	230
Plant Factor		39%	39%	39%	38%	39%	40%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	7	7	15	2	6	30
May	**MWH**	32	31	63	10	26	137
June	**MWH**	34	33	67	11	28	144
July	**MWH**	40	39	78	13	32	165
August	**MWH**	38	37	74	12	30	159
September	**MWH**	27	26	53	8	22	115
October	**MWH**	8	8	15	2	6	33
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	186	181	364	59	150	783
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.90	0.70	0.25	0.50	0.12	0.25
Distance to Nearest Populated Area	**miles**	3.72	3.61	3.41	5.16	3.81	3.39

Canal Site Name		Heart Mountain Lateral R45 Site 3	Heart Mountain Ralston Chute lower: 146+98	Heart Mountain Ralston Chute upper: 0+00	Pilot: 5.2	Pilot: 25.7	Pavillion Main
Object ID		**120**	**121**	**122**	**123**	**124**	**125**
Area Office		**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**
Project		Shoshone Project	Shoshone Project	Shoshone Project	Pick Sloan Missouri Basin - Riverton	Pick Sloan Missouri Basin - Riverton	Pick Sloan Missouri Basin - Riverton
Project Location (State)		Wyoming	Wyoming	Wyoming	Wyoming	Wyoming	Wyoming
Irrigation District		Heart Mountain	Heart Mountain	Heart Mountain	Midvale	Midvale	Midvale
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	110.0	130.0	110.0	30.0	150.0	100.0
Min Head	**ft**	110.0	130.0	110.0	30.0	150.0	100.0
Max Flow	**cfs**	27	213	355	822	411	140
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Francis	Francis	Francis	Kaplan	Francis	Francis
Selected Design Head	**ft**	110	130	110	30	150	100
Maximum Turbine Flow	**cfs**	23	183	305	542	271	140
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	137.5	162.5	137.5	37.5	187.5	125.0
Min Head Limit	**ft**	71.5	84.5	71.5	19.5	97.5	65.0
Max Flow Limit	**cfs**	23	183	305	542	271	140
Min Flow Limit	**cfs**	5	37	61	108	54	28
Power Generation Analysis							
Installed Capacity	**kW**	183	1,720	2,425	1,162	2,938	1,012
Plant Factor		39%	39%	39%	37%	36%	32%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	23	216	304	75	164	45
May	**MWH**	108	1,020	1,439	471	1,125	195
June	**MWH**	114	1,073	1,513	724	1,817	729
July	**MWH**	132	1,238	1,745	826	2,088	729
August	**MWH**	126	1,184	1,670	813	2,056	532
September	**MWH**	91	856	1,208	733	1,855	532
October	**MWH**	26	242	341	39	95	0
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	618	5,830	8,221	3,680	9,200	2,762
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.50	0.25	0.00	0.04	0.00	0.00
Distance to Nearest Populated Area	**miles**	2.38	2.81	5.19	0.68	6.49	5.91

Canal Site Name		Wyoming: 37.2	Wyoming: 41.9	Wyoming: 42	Wyoming: 42.6	Wyoming: 43.1	Wyoming: 44.5
Object ID		**126**	**127**	**128**	**129**	**130**	**131**
Area Office		**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**
Project		Pick Sloan Missouri Basin - Riverton	Pick Sloan Missouri Basin - Riverton	Pick Sloan Missouri Basin - Riverton	Pick Sloan Missouri Basin - Riverton	Pick Sloan Missouri Basin - Riverton	Pick Sloan Missouri Basin - Riverton
Project Location (State)		Wyoming	Wyoming	Wyoming	Wyoming	Wyoming	Wyoming
Irrigation District		Midvale	Midvale	Midvale	Midvale	Midvale	Midvale
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	12.0	14.0	11.0	11.0	10.0	8.0
Min Head	**ft**	12.0	14.0	11.0	11.0	10.0	8.0
Max Flow	**cfs**	165	155	155	155	155	140
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Low Head	Low Head	Low Head	Low Head	Low Head
Selected Design Head	**ft**	12	14	11	11	10	8
Maximum Turbine Flow	**cfs**	155	145	145	145	145	130
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	15.0	17.5	13.8	13.8	12.5	10.0
Min Head Limit	**ft**	7.8	9.1	7.1	7.1	6.5	5.2
Max Flow Limit	**cfs**	155	145	145	145	145	130
Min Flow Limit	**cfs**	31	29	29	29	29	26
Power Generation Analysis							
Installed Capacity	**kW**	113	124	97	97	88	63
Plant Factor		40%	40%	40%	40%	40%	40%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	11	12	10	10	9	6
May	**MWH**	82	89	70	70	64	46
June	**MWH**	76	83	65	65	59	44
July	**MWH**	82	89	70	70	64	46
August	**MWH**	71	80	63	63	57	40
September	**MWH**	66	74	58	58	53	37
October	**MWH**	0	0	0	0	0	0
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	387	427	335	335	305	218
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	1.00	0.06	0.06	0.09	0.17	0.23
Distance to Nearest Populated Area	**miles**	14.00	14.92	15.00	15.11	15.07	15.27

Canal Site Name		Wyoming: 44.8	Wyoming: 45.5	Wyoming: 45.6	Wyoming: 45.9	Wyoming: 46.2	Wyoming: 46.6
Object ID		**132**	**133**	**134**	**135**	**136**	**137**
Area Office		**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**
Project		Pick Sloan Missouri Basin - Riverton	Pick Sloan Missouri Basin - Riverton	Pick Sloan Missouri Basin - Riverton	Pick Sloan Missouri Basin - Riverton	Pick Sloan Missouri Basin - Riverton	Pick Sloan Missouri Basin - Riverton
Project Location (State)		Wyoming	Wyoming	Wyoming	Wyoming	Wyoming	Wyoming
Irrigation District		Midvale	Midvale	Midvale	Midvale	Midvale	Midvale
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	10.0	8.0	10.0	7.0	11.0	10.0
Min Head	**ft**	10.0	8.0	10.0	7.0	11.0	10.0
Max Flow	**cfs**	130	125	125	115	105	105
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Low Head	Low Head	Low Head	Low Head	Low Head
Selected Design Head	**ft**	10	8	10	7	11	10
Maximum Turbine Flow	**cfs**	120	115	115	105	100	100
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	12.5	10.0	12.5	8.8	13.8	12.5
Min Head Limit	**ft**	6.5	5.2	6.5	4.5	7.1	6.5
Max Flow Limit	**cfs**	120	115	115	105	100	100
Min Flow Limit	**cfs**	24	23	23	21	20	20
Power Generation Analysis							
Installed Capacity	**kW**	73	56	70	45	67	61
Plant Factor		41%	41%	41%	40%	40%	40%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	7	6	7	5	7	6
May	**MWH**	53	40	50	32	48	44
June	**MWH**	50	39	48	31	46	42
July	**MWH**	53	40	50	32	48	44
August	**MWH**	48	37	46	29	43	39
September	**MWH**	44	33	42	26	39	35
October	**MWH**	0	0	0	0	0	0
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	255	195	244	155	231	210
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.09	0.20	0.28	0.26	0.26	0.11
Distance to Nearest Populated Area	**miles**	15.37	15.50	15.48	15.43	15.29	15.13

Canal Site Name		Wyoming: 46.8	Wyoming: 47.1	Wyoming: 47.4	Northport: 19.75	Northport: 19.79	#1 Lateral M.P. 1.6
Object ID		**138**	**139**	**140**	**141**	**142**	**143**
Area Office		**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**
Project		Pick Sloan Missouri Basin - Riverton	Pick Sloan Missouri Basin - Riverton	Pick Sloan Missouri Basin - Riverton	North Platte Project	North Platte Project	North Platte Project
Project Location (State)		Wyoming	Wyoming	Wyoming	Nebraska	Nebraska	Wyoming
Irrigation District		Midvale	Midvale	Midvale	Northport	Northport	Pathfinder
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	10.0	10.0	8.0	10.0	10.0	14.0
Min Head	**ft**	10.0	10.0	8.0	10.0	10.0	14.0
Max Flow	**cfs**	100	100	100	88	88	70
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Low Head	Low Head	Low Head	Low Head	Low Head
Selected Design Head	**ft**	10	10	8	10	10	14
Maximum Turbine Flow	**cfs**	90	90	90	76	76	70
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	12.5	12.5	10.0	12.5	12.5	17.5
Min Head Limit	**ft**	6.5	6.5	5.2	6.5	6.5	9.1
Max Flow Limit	**cfs**	90	90	90	76	76	70
Min Flow Limit	**cfs**	18	18	18	15	15	14
Power Generation Analysis							
Installed Capacity	**kW**	55	55	44	46	46	60
Plant Factor		40%	40%	40%	29%	29%	25%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	6	6	5	0	0	0
May	**MWH**	39	39	32	9	9	0
June	**MWH**	37	37	30	17	17	23
July	**MWH**	39	39	32	32	32	43
August	**MWH**	35	35	28	33	33	43
September	**MWH**	33	33	26	23	23	21
October	**MWH**	0	0	0	3	3	0
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	190	190	152	117	117	130
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.14	0.17	2.00	0.70	0.70	1.00
Distance to Nearest Populated Area	**miles**	15.18	15.26	15.32	2.83	2.83	1.73

Canal Site Name		#18 Lateral M.P. 1.8	#21 Lateral M.P. 4.8	Lake Alice Inlet Check: M.C. 94.6	Garland Canal: 679+00	Garland Canal: 693+00	Garland Canal: 711+00
Object ID		**144**	**145**	**146**	**147**	**148**	**149**
Area Office		**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**
Project		North Platte Project	North Platte Project	North Platte Project	Shoshone Project	Shoshone Project	Shoshone Project
Project Location (State)		Nebraska	Nebraska	Nebraska	Wyoming	Wyoming	Wyoming
Irrigation District		Pathfinder	Pathfinder	Pathfinder	Shoshone	Shoshone	Shoshone
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	21.0	7.0	17.0	6.2	7.0	6.0
Min Head	**ft**	21.0	7.0	17.0	6.2	7.0	6.0
Max Flow	**cfs**	19	108	726	869	869	869
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Low Head	Kaplan	Kaplan	Kaplan	Kaplan
Selected Design Head	**ft**	21	7	17	6	7	6
Maximum Turbine Flow	**cfs**	19	108	283	796	796	796
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	26.3	8.8	21.3	7.8	8.8	7.5
Min Head Limit	**ft**	13.6	4.5	11.0	4.0	4.5	3.9
Max Flow Limit	**cfs**	19	108	283	796	796	796
Min Flow Limit	**cfs**	4	22	57	159	159	159
Power Generation Analysis							
Installed Capacity	**kW**	24	46	344	353	398	341
Plant Factor		25%	25%	26%	44%	44%	44%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	0	0	69	67	37	32
May	**MWH**	0	0	230	240	256	219
June	**MWH**	9	18	66	239	266	228
July	**MWH**	17	33	182	251	285	244
August	**MWH**	17	33	109	249	281	241
September	**MWH**	9	17	120	216	257	220
October	**MWH**	0	0	0	78	130	111
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	53	101	775	1,340	1,512	1,296
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.35	0.02	0.40	0.05	0.05	0.25
Distance to Nearest Populated Area	**miles**	6.48	4.24	8.09	0.36	0.61	0.93

Canal Site Name		Garland Canal: 722+00	Garland Canal: 733+00	Garland Canal: 754+33	Garland Canal: 758+00	Garland Canal: 772+00	Garland Canal: 783+00
Object ID		**150**	**151**	**152**	**153**	**154**	**155**
Area Office		**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**
Project		Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project
Project Location (State)		Wyoming	Wyoming	Wyoming	Wyoming	Wyoming	Wyoming
Irrigation District		Shoshone	Shoshone	Shoshone	Shoshone	Shoshone	Shoshone
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	5.9	5.8	9.4	8.0	8.0	10.0
Min Head	**ft**	5.9	5.8	9.4	8.0	8.0	10.0
Max Flow	**cfs**	869	869	430	430	430	430
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Kaplan	Kaplan	Kaplan	Kaplan	Kaplan	Kaplan
Selected Design Head	**ft**	6	6	9	8	8	10
Maximum Turbine Flow	**cfs**	796	796	394	394	394	394
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	7.3	7.3	11.8	10.0	10.0	12.5
Min Head Limit	**ft**	3.8	3.8	6.1	5.2	5.2	6.5
Max Flow Limit	**cfs**	796	796	394	394	394	394
Min Flow Limit	**cfs**	159	159	79	79	79	79
Power Generation Analysis							
Installed Capacity	**kW**	333	332	265	225	225	282
Plant Factor		44%	44%	44%	44%	44%	44%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	31	31	25	21	21	26
May	**MWH**	214	214	170	145	145	181
June	**MWH**	223	222	177	150	150	188
July	**MWH**	238	237	189	161	161	201
August	**MWH**	235	235	187	159	159	199
September	**MWH**	215	214	171	145	145	181
October	**MWH**	109	108	86	73	73	92
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	1,266	1,261	1,004	855	855	1,068
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.45	0.65	0.30	0.01	0.20	0.40
Distance to Nearest Populated Area	**miles**	1.13	1.32	1.53	1.72	1.94	1.88

Canal Site Name		Garland Canal: 799+00	Garland Canal: 818+00	Garland Canal: 831+00	Garland Canal: 843+00	Garland Canal: 864+63	Garland Canal: 875+00
Object ID		**156**	**157**	**158**	**159**	**160**	**161**
Area Office		**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**
Project		Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project
Project Location (State)		Wyoming	Wyoming	Wyoming	Wyoming	Wyoming	Wyoming
Irrigation District		Shoshone	Shoshone	Shoshone	Shoshone	Shoshone	Shoshone
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	10.0	8.0	8.0	10.0	8.3	8.0
Min Head	**ft**	10.0	8.0	8.0	10.0	8.3	8.0
Max Flow	**cfs**	430	382	382	382	325	325
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Kaplan	Kaplan	Kaplan	Kaplan	Kaplan	Kaplan
Selected Design Head	**ft**	10	8	8	10	8	8
Maximum Turbine Flow	**cfs**	394	350	350	350	298	298
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	12.5	10.0	10.0	12.5	10.4	10.0
Min Head Limit	**ft**	6.5	5.2	5.2	6.5	5.4	5.2
Max Flow Limit	**cfs**	394	350	350	350	298	298
Min Flow Limit	**cfs**	79	70	70	70	60	60
Power Generation Analysis							
Installed Capacity	**kW**	282	200	200	250	177	170
Plant Factor		44%	44%	44%	44%	44%	44%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	26	19	19	23	16	35
May	**MWH**	181	129	129	161	114	116
June	**MWH**	188	134	134	167	118	116
July	**MWH**	201	143	143	179	126	121
August	**MWH**	199	141	141	177	125	120
September	**MWH**	181	129	129	161	114	103
October	**MWH**	92	65	65	82	58	35
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	1,068	760	760	950	670	647
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.30	0.01	0.02	0.01	0.08	0.01
Distance to Nearest Populated Area	**miles**	1.59	1.27	1.04	0.80	0.40	0.21

Canal Site Name		Garland Canal: 892+00	Garland Canal: 905+00	Garland Canal: 926+00	Garland Canal: 945+00	Garland Canal: 960+00	Garland Canal: 977+80
Object ID		**162**	**163**	**164**	**165**	**166**	**167**
Area Office		**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**
Project		Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project
Project Location (State)		Wyoming	Wyoming	Wyoming	Wyoming	Wyoming	Wyoming
Irrigation District		Shoshone	Shoshone	Shoshone	Shoshone	Shoshone	Shoshone
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	6.0	10.0	10.0	8.0	8.0	9.5
Min Head	**ft**	6.0	10.0	10.0	8.0	8.0	9.5
Max Flow	**cfs**	325	267	267	267	267	162
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Kaplan	Kaplan	Kaplan	Kaplan	Kaplan	Low Head
Selected Design Head	**ft**	6	10	10	8	8	10
Maximum Turbine Flow	**cfs**	298	245	245	245	245	149
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	7.5	12.5	12.5	10.0	10.0	11.9
Min Head Limit	**ft**	3.9	6.5	6.5	5.2	5.2	6.2
Max Flow Limit	**cfs**	298	245	245	245	245	149
Min Flow Limit	**cfs**	60	49	49	49	49	30
Power Generation Analysis							
Installed Capacity	**kW**	128	175	175	140	140	86
Plant Factor		44%	44%	44%	44%	44%	44%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	24	33	33	26	26	16
May	**MWH**	87	119	119	95	95	58
June	**MWH**	87	119	119	95	95	58
July	**MWH**	91	125	125	100	100	61
August	**MWH**	90	123	123	99	99	60
September	**MWH**	78	107	107	86	86	51
October	**MWH**	28	39	39	31	31	18
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	485	665	665	532	532	323
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.10	0.08	0.01	0.01	0.10	0.10
Distance to Nearest Populated Area	**miles**	0.00	0.00	0.00	0.00	0.00	0.01

Canal Site Name		Garland Canal: 990+00	Garland Canal: 1006+00	Garland Canal: 1021+00	Garland Canal: 1044+00	Garland Canal: 1061+00	Garland Canal: 1074+00
Object ID		**168**	**169**	**170**	**171**	**172**	**173**
Area Office		**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**
Project		Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project
Project Location (State)		Wyoming	Wyoming	Wyoming	Wyoming	Wyoming	Wyoming
Irrigation District		Shoshone	Shoshone	Shoshone	Shoshone	Shoshone	Shoshone
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	8.0	6.0	6.0	8.0	8.0	8.0
Min Head	**ft**	8.0	6.0	6.0	8.0	8.0	8.0
Max Flow	**cfs**	162	162	162	162	162	96
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Low Head	Low Head	Low Head	Low Head	Low Head
Selected Design Head	**ft**	8	6	6	8	8	8
Maximum Turbine Flow	**cfs**	149	149	149	149	149	88
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	10.0	7.5	7.5	10.0	10.0	10.0
Min Head Limit	**ft**	5.2	3.9	3.9	5.2	5.2	5.2
Max Flow Limit	**cfs**	149	149	149	149	149	88
Min Flow Limit	**cfs**	30	30	30	30	30	18
Power Generation Analysis							
Installed Capacity	**kW**	73	54	54	73	73	43
Plant Factor		44%	44%	44%	44%	44%	44%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	13	10	10	13	13	8
May	**MWH**	49	37	37	49	49	29
June	**MWH**	49	36	36	49	49	29
July	**MWH**	52	39	39	52	52	30
August	**MWH**	51	38	38	51	51	30
September	**MWH**	43	32	32	43	43	25
October	**MWH**	15	12	12	15	15	9
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	272	204	204	272	272	160
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.10	0.25	0.40	0.00	0.30	0.50
Distance to Nearest Populated Area	**miles**	0.05	0.19	0.29	0.66	0.95	1.18

Canal Site Name		Garland Canal: 1090+00	Garland Canal: 1111+00	Garland Canal: 1122+00	Willwood Canal: Deer Creek	Willwood Canal: Willwood Draw	Willwood Canal: Peerless Coulee
Object ID		**174**	**175**	**176**	**177**	**178**	**179**
Area Office		**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**	**WYAO**
Project		Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project	Shoshone Project
Project Location (State)		Wyoming	Wyoming	Wyoming	Wyoming	Wyoming	Wyoming
Irrigation District		Shoshone	Shoshone	Shoshone	Willwood	Willwood	Willwood
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	8.0	6.0	6.0	45.0	35.0	40.0
Min Head	**ft**	8.0	6.0	6.0	45.0	35.0	40.0
Max Flow	**cfs**	96	96	96	292	251	138
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Low Head	Low Head	Kaplan	Kaplan	Kaplan
Selected Design Head	**ft**	8	6	6	45	35	40
Maximum Turbine Flow	**cfs**	88	88	88	239	205	113
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	10.0	7.5	7.5	56.3	43.8	50.0
Min Head Limit	**ft**	5.2	3.9	3.9	29.2	22.8	26.0
Max Flow Limit	**cfs**	88	88	88	239	205	113
Min Flow Limit	**cfs**	18	18	18	48	41	23
Power Generation Analysis							
Installed Capacity	**kW**	43	32	32	769	513	323
Plant Factor		44%	44%	44%	42%	42%	42%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	8	6	6	207	138	87
May	**MWH**	29	22	22	475	317	199
June	**MWH**	29	22	22	431	287	181
July	**MWH**	30	23	23	552	368	232
August	**MWH**	30	22	22	542	361	227
September	**MWH**	25	19	19	416	277	174
October	**MWH**	9	7	7	159	106	66
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	160	120	120	2,781	1,854	1,167
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.40	0.20	0.20	0.40	0.60	0.70
Distance to Nearest Populated Area	**miles**	1.12	0.77	0.60	1.61	3.73	4.91

Canal Site Name		**DK-10.1**
Object ID		**300**
Area Office		**DKAO**
Project		Belle Fourche Unit
Project Location (State)		South Dakota
Irrigation District		Belle Fourche

Results

Input Data Analysis

Data Set	**years**	3
Max Head	**ft**	6.5
Min Head	**ft**	6.5
Max Flow	**cfs**	2,306
Min Flow	**cfs**	0

Turbine Selection Analysis

Selected Turbine Type		Kaplan
Selected Design Head	**ft**	7
Maximum Turbine Flow	**cfs**	283
Generator Speed	**rpm**	600
Max Head Limit	**ft**	8.1
Min Head Limit	**ft**	4.2
Max Flow Limit	**cfs**	283
Min Flow Limit	**cfs**	57

Power Generation Analysis

Installed Capacity	**kW**	131
Plant Factor		0.51
Projected Monthly Production:		
January	**MWH**	42
February*	**MWH**	43
March	**MWH**	59
April	**MWH**	53
May	**MWH**	57
June	**MWH**	56
July	**MWH**	43
August	**MWH**	36
September	**MWH**	21
October	**MWH**	42
November	**MWH**	70
December	**MWH**	48
Annual production*	**MWH**	572

*** For non-leap year**

Distance to Nearest Transmission/Distribution	**miles**	0.25
Distance to Nearest Populated Area	**miles**	4.82

Canal Site Name		Chute 1 Loutz	Chute 2 Loutz	Chute 3 Loutz	Double E Chute	Fire Mountain "The Drop"	S.F. Drop To Reservoir
Object ID		**236**	**237**	**238**	**239**	**241**	**246**
Area Office		**WCAO**	**WCAO**	**WCAO**	**WCAO**	**WCAO**	**WCAO**
Project		Uncompahgre	Uncompahgre	Uncompahgre	Uncompahgre	Paonia	Smith Fork
Project Location (State)		Colorado	Colorado	Colorado	Colorado	Colorado	Colorado
Irrigation District		Uncompahgre Valley Water Users Association	Uncompahgre Valley Water Users Association	Uncompahgre Valley Water Users Association	Uncompahgre Valley Water Users Association	North Fork Water Conservancy District	Crawford Water Conservancy District
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	30.0	57.0	28.0	42.0	11.5	58.0
Min Head	**ft**	30.0	57.0	28.0	42.0	11.5	58.0
Max Flow	**cfs**	168	168	168	240	115	91
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Kaplan	Francis	Kaplan	Kaplan	Low Head	Low Head
Selected Design Head	**ft**	30	57	28	42	12	58
Maximum Turbine Flow	**cfs**	101	101	101	229	115	9
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	37.5	71.3	35.0	52.5	14.4	72.5
Min Head Limit	**ft**	19.5	37.0	18.2	27.3	7.5	37.7
Max Flow Limit	**cfs**	101	101	101	229	115	9
Min Flow Limit	**cfs**	20	20	20	46	23	2
Power Generation Analysis							
Installed Capacity	**kW**	217	416	202	687	81	32
Plant Factor		50%	49%	50%	48%	50%	37%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	6
February*	**MWH**	0	0	0	0	0	6
March	**MWH**	0	0	0	0	0	8
April	**MWH**	78	136	73	208	0	22
May	**MWH**	145	280	136	473	58	9
June	**MWH**	147	282	137	485	58	8
July	**MWH**	149	287	139	495	58	8
August	**MWH**	155	298	145	485	58	8
September	**MWH**	145	279	136	411	58	8
October	**MWH**	108	202	100	282	58	9
November	**MWH**	0	0	0	0	0	6
December	**MWH**	0	0	0	0	0	6
Annual production*	**MWH**	927	1,763	865	2,840	348	102
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.1	0.32	0.84	0.39	0.27	0.03
Distance to Nearest Populated Area	**miles**	0.26	0.32	0.4	0.42	0	0.18

Canal Site Name		Eden Canal (1) 726+00	Eden Canal (2) 804+00	Eden Canal (3) 871+50	West Side Lateral (1) 232+30	West Side Lateral (2) 366+50	West Side Lateral (3) 499+68.5
Object ID		**260**	**261**	**262**	**263**	**264**	**265**
Area Office		**PAO**	**PAO**	**PAO**	**PAO**	**PAO**	**PAO**
Project		Eden	Eden	Eden	Eden	Eden	Eden
Project Location (State)		Wyoming	Wyoming	Wyoming	Wyoming	Wyoming	Wyoming
Irrigation District		Eden Valley Irrigation and Drainage	Eden Valley Irrigation and Drainage	Eden Valley Irrigation and Drainage	Eden Valley Irrigation and Drainage	Eden Valley Irrigation and Drainage	Eden Valley Irrigation and Drainage
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	8.5	7.5	7.5	8.2	10.3	15.2
Min Head	**ft**	8.5	7.5	7.5	8.2	10.3	15.2
Max Flow	**cfs**	194	194	194	79	79	79
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Low Head	Low Head	Low Head	Low Head	Low Head
Selected Design Head	**ft**	9	8	8	8	10	15
Maximum Turbine Flow	**cfs**	127	127	127	57	57	57
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	10.6	9.4	9.4	10.3	12.9	19.0
Min Head Limit	**ft**	5.5	4.9	4.9	5.3	6.7	9.9
Max Flow Limit	**cfs**	127	127	127	57	57	57
Min Flow Limit	**cfs**	25	25	25	11	11	11
Power Generation Analysis							
Installed Capacity	**kW**	66	58	58	28	36	53
Plant Factor		27%	27%	27%	26%	26%	26%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	0	0	0	0	0	0
May	**MWH**	10	9	9	3	4	6
June	**MWH**	43	38	38	16	20	30
July	**MWH**	45	40	40	20	25	37
August	**MWH**	43	38	38	18	23	34
September	**MWH**	13	11	11	5	7	10
October	**MWH**	0	0	0	0	0	0
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	154	136	136	63	79	116
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	12.57	12.71	12.94	19.19	18.26	17.82
Distance to Nearest Populated Area	**miles**	0.6	0.63	0	3.83	1.88	4.38

Canal Site Name		Farson Lateral (1)	Farson Lateral (2)	CC&H(1)	Ogden- Brigham Canal (1) 466+43	Ogden- Brigham Canal (2) 522+84	Weber - Provo Diversion (1)
Object ID		**266**	**267**	**268**	**269**	**270**	**271**
Area Office		**PAO**	**PAO**	**PAO**	**PAO**	**PAO**	**PAO**
Project		Eden	Eden	Emery County	Ogden River	Ogden River	Provo River
Project Location (State)		Wyoming	Wyoming	Utah	Utah	Utah	Utah
Irrigation District		Eden Valley Irrigation and Drainage	Eden Valley Irrigation and Drainage	Emery Water Conservancy	The Metropolitan Water District of Salt Lake City	The Metropolitan Water District of Salt Lake City	The Metropolitan Water District of Salt Lake City
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	15.2	15.2	24.6	24.9	22.7	11.0
Min Head	**ft**	15.2	15.2	24.6	24.9	22.7	11.0
Max Flow	**cfs**	90	90	75	35	35	873
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Low Head	Low Head	Low Head	Low Head	Low Head
Selected Design Head	**ft**	15	15	25	25	23	11
Maximum Turbine Flow	**cfs**	47	47	51	35	35	174
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	19.0	19.0	30.8	31.1	28.4	13.8
Min Head Limit	**ft**	9.9	9.9	16.0	16.2	14.8	7.1
Max Flow Limit	**cfs**	47	47	51	35	35	174
Min Flow Limit	**cfs**	9	9	10	7	7	35
Power Generation Analysis							
Installed Capacity	**kW**	44	44	76	53	48	117
Plant Factor		25%	25%	26%	31%	31%	21%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	3
April	**MWH**	0	0	0	6	5	37
May	**MWH**	5	5	6	11	10	80
June	**MWH**	24	24	25	22	20	75
July	**MWH**	30	30	47	38	35	12
August	**MWH**	28	28	49	38	35	0
September	**MWH**	10	10	47	22	20	0
October	**MWH**	0	0	0	6	5	0
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	95	95	174	142	130	207
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	16.32	16.06	1.69	0.31	0.52	1.03
Distance to Nearest Populated Area	**miles**	0	0	0.23	0.06	1.88	1.7

Canal Site Name		Weber - Provo Diversion (2)	Strawberry Highline Canal 1: 1040+11	Strawberry Highline Canal 2: 1062+00	Ogden Valley Canal (1)	Ogden Valley Canal (2)	Willard Canal (1) 49+42.5
Object ID		**272**	**273**	**274**	**275**	**276**	**277**
Area Office		**PAO**	**PAO**	**PAO**	**PAO**	**PAO**	**PAO**
Project		Provo River	Strawberry Valley	Strawberry Valley	Weber Basin	Weber Basin	Weber Basin
Project Location (State)		Utah	Utah	Utah	Utah	Utah	Utah
Irrigation District		The Metropolitan Water District of Salt Lake City	The Metropolitan Water District of Salt Lake City	The Metropolitan Water District of Salt Lake City	Weber Basin Water	Weber Basin Water	Weber Basin Water
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	127.4	60.0	20.0	26.2	11.0	9.8
Min Head	**ft**	127.4	60.0	20.0	26.2	11.0	9.8
Max Flow	**cfs**	873	53	53	35	35	1,357
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Francis	Low Head	Low Head	Low Head	Low Head	Low Head
Selected Design Head	**ft**	127	60	20	26	11	10
Maximum Turbine Flow	**cfs**	174	27	27	35	35	254
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	159.3	75.0	25.0	32.8	13.8	12.3
Min Head Limit	**ft**	82.8	39.0	13.0	17.0	7.1	6.4
Max Flow Limit	**cfs**	174	27	27	35	35	254
Min Flow Limit	**cfs**	35	5	5	7	7	51
Power Generation Analysis							
Installed Capacity	**kW**	1,602	99	33	56	23	152
Plant Factor		20%	26%	26%	31%	31%	27%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	44
February*	**MWH**	0	0	0	0	0	51
March	**MWH**	35	0	0	0	0	56
April	**MWH**	492	1	0	6	2	74
May	**MWH**	1,099	27	9	11	5	64
June	**MWH**	1,027	28	9	23	10	14
July	**MWH**	163	59	20	40	17	5
August	**MWH**	0	59	20	40	17	5
September	**MWH**	0	40	13	23	10	1
October	**MWH**	0	8	3	6	3	14
November	**MWH**	0	0	0	0	0	9
December	**MWH**	0	0	0	0	0	16
Annual production*	**MWH**	2,816	221	74	150	63	352
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	1.74	0.07	0.1	0.55	0.61	0.13
Distance to Nearest Populated Area	**miles**	4.24	1.41	1.09	0.67	0.8	4.13

Canal Site Name		Willard Canal (2)	1st Bridge	1st Drop Structure sta. 1565	2nd Drop Structure sta. 1702	3rd Drop Structure sta. 1831	Azotea Drop
Object ID		**278**	**279**	**280**	**281**	**282**	**283**
Area Office		**PAO**	**AAO**	**AAO**	**AAO**	**AAO**	**AAO**
Project		Weber Basin	San Juan Chama	San Juan Chama	San Juan Chama	San Juan Chama	San Juan Chama
Project Location (State)		Utah	New Mexico	New Mexico	New Mexico	New Mexico	New Mexico
Irrigation District		Weber Basin Water	Pojoaque Valley	Pojoaque Valley	Pojoaque Valley	Pojoaque Valley	Pojoaque Valley
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	13.2	12.0	18.0	12.0	18.0	13.0
Min Head	**ft**	13.2	12.0	18.0	12.0	18.0	13.0
Max Flow	**cfs**	1,357	300	300	300	300	300
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Low Head	Low Head	Low Head	Low Head	Low Head
Selected Design Head	**ft**	13	12	18	12	18	13
Maximum Turbine Flow	**cfs**	254	300	300	300	300	300
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	16.5	15.0	22.5	15.0	22.5	16.3
Min Head Limit	**ft**	8.6	7.8	11.7	7.8	11.7	8.4
Max Flow Limit	**cfs**	254	300	300	300	300	300
Min Flow Limit	**cfs**	51	60	60	60	60	60
Power Generation Analysis							
Installed Capacity	**kW**	204	219	329	219	329	238
Plant Factor		27%	27%	27%	27%	27%	27%
Projected Monthly Production:							
January	**MWH**	59	0	0	0	0	0
February*	**MWH**	68	0	0	0	0	0
March	**MWH**	76	0	0	0	0	0
April	**MWH**	100	121	182	121	182	131
May	**MWH**	86	158	237	158	237	171
June	**MWH**	18	158	237	158	237	171
July	**MWH**	7	76	115	76	115	83
August	**MWH**	6	0	0	0	0	0
September	**MWH**	1	0	0	0	0	0
October	**MWH**	19	0	0	0	0	0
November	**MWH**	12	0	0	0	0	0
December	**MWH**	22	0	0	0	0	0
Annual production*	**MWH**	474	513	770	513	770	556
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.09	4.4	4.35	4.01	3.69	4.01
Distance to Nearest Populated Area	**miles**	0.66	0.34	1.77	2.44	2.22	12.2

Canal Site Name		Eden Canal (4)	Angostura Diversion Dam	Sile Canal Drop E	Bull Basin Drop	Groove Creek Drop 1	Groove Creek Drop 2
Object ID		**358**	**359**	**371**	**374**	**375**	**376**
Area Office		**PAO**	**AAO**	**AAO**	**WCAO**	**WCAO**	**WCAO**
Project		Eden	Middle Rio Grande	Middle Rio Grande	Colbran	Colbran	Colbran
Project Location (State)		Wyoming	New Mexico	New Mexico	Colorado	Colorado	Colorado
Irrigation District		Eden Valley Irrigation and Drainage	Pojoaque Valley	Pojoaque Valley	Collbran Conservancy District	Collbran Conservancy District	Collbran Conservancy District
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	8.5	5.0	13.0	51.0	134.0	165.0
Min Head	**ft**	8.5	5.0	13.0	51.0	134.0	165.0
Max Flow	**cfs**	194	184	23	205	205	205
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Low Head	Low Head	Kaplan	Francis	Francis
Selected Design Head	**ft**	9	5	13	51	134	165
Maximum Turbine Flow	**cfs**	127	184	19	126	126	126
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	10.6	6.3	16.3	63.8	167.5	206.3
Min Head Limit	**ft**	5.5	3.3	8.4	33.1	87.1	107.2
Max Flow Limit	**cfs**	127	184	19	126	126	126
Min Flow Limit	**cfs**	25	37	4	25	25	25
Power Generation Analysis							
Installed Capacity	**kW**	66	56	15	459	1,220	1,503
Plant Factor		27%	59%	53%	34%	34%	34%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	0	40	9	0	0	0
May	**MWH**	10	40	11	185	483	595
June	**MWH**	43	40	10	282	743	915
July	**MWH**	45	40	9	323	857	1,055
August	**MWH**	43	40	9	320	849	1,045
September	**MWH**	13	40	10	234	611	753
October	**MWH**	0	40	7	0	0	0
November	**MWH**	0	0	2	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	154	282	68	1,343	3,544	4,364
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	13.12	0.6	2.57	0.37	0.75	0.45
Distance to Nearest Populated Area	**miles**	0	7.44	6.68	11.33	0	0

Canal Site Name		Parker Basin Drop	Salt Creek Drop 1	Salt Creek Drop 2	CP Check	Holly Rd Check	Loutzenhizer Drop
Object ID		**377**	**378**	**379**	**380**	**381**	**382**
Area Office		**WCAO**	**WCAO**	**WCAO**	**WCAO**	**WCAO**	**WCAO**
Project		Colbran	Colbran	Colbran	Uncompahgre	Uncompahgre	Uncompahgre
Project Location (State)		Colorado	Colorado	Colorado	Colorado	Colorado	Colorado
Irrigation District		Collbran Conservancy District	Collbran Conservancy District	Collbran Conservancy District	Uncompahgre Valley Water Users Association	Uncompahgre Valley Water Users Association	Uncompahgre Valley Water Users Association
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	67.0	269.0	400.0	8.0	6.0	6.0
Min Head	**ft**	67.0	269.0	400.0	8.0	6.0	6.0
Max Flow	**cfs**	205	205	205	586	240	240
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Francis	Francis	Francis	Kaplan	Kaplan	Kaplan
Selected Design Head	**ft**	67	269	400	8	6	6
Maximum Turbine Flow	**cfs**	126	124	126	572	229	229
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	83.8	336.3	500.0	10.0	7.5	7.5
Min Head Limit	**ft**	43.5	174.8	260.0	5.2	3.9	3.9
Max Flow Limit	**cfs**	126	124	126	572	229	229
Min Flow Limit	**cfs**	25	25	25	114	46	46
Power Generation Analysis							
Installed Capacity	**kW**	610	2,411	3,643	327	98	98
Plant Factor		34%	34%	34%	49%	46%	46%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	0	0	0	104	16	16
May	**MWH**	242	962	1,443	228	68	68
June	**MWH**	372	1,481	2,218	232	69	69
July	**MWH**	429	1,701	2,558	235	71	71
August	**MWH**	425	1,688	2,534	233	69	69
September	**MWH**	306	1,224	1,825	196	59	59
October	**MWH**	0	0	0	136	40	40
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	1,772	7,056	10,579	1,363	392	392
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.99	0.62	0.2	1.54	0.58	0.18
Distance to Nearest Populated Area	**miles**	7.57	4.55	4.98	0.41	0.55	0

Canal Site Name		East Canal Pipeline	GH Lateral	Junction Ironstone & M&D	Shavano Falls	South Canal Drop 4	South Canal Drop 5
Object ID		**383**	**384**	**385**	**386**	**387**	**388**
Area Office		**WCAO**	**WCAO**	**WCAO**	**WCAO**	**WCAO**	**WCAO**
Project		Uncompahgre	Uncompahgre	Uncompahgre	Uncompahgre	Uncompahgre	Uncompahgre
Project Location (State)		Colorado	Colorado	Colorado	Colorado	Colorado	Colorado
Irrigation District		Uncompahgre Valley Water Users Association	Uncompahgre Valley Water Users Association	Uncompahgre Valley Water Users Association	Uncompahgre Valley Water Users Association	Uncompahgre Valley Water Users Association	Uncompahgre Valley Water Users Association
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	6.0	34.0	18.0	125.0	73.0	5.0
Min Head	**ft**	6.0	34.0	18.0	125.0	73.0	5.0
Max Flow	**cfs**	195	25	20	586	892	892
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Kaplan	Low Head	Low Head	Francis	Kaplan	Kaplan
Selected Design Head	**ft**	6	34	18	125	73	5
Maximum Turbine Flow	**cfs**	172	25	20	572	813	813
Generator Speed	**rpm**	600	600	600	300	300	600
Max Head Limit	**ft**	7.5	42.5	22.5	156.3	91.3	6.3
Min Head Limit	**ft**	3.9	22.1	11.7	81.3	47.4	3.3
Max Flow Limit	**cfs**	172	25	20	572	813	813
Min Flow Limit	**cfs**	34	5	4	114	163	163
Power Generation Analysis							
Installed Capacity	**kW**	74	52	22	5,168	4,242	291
Plant Factor		44%	55%	54%	46%	51%	51%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	183	13
April	**MWH**	10	20	8	784	1,758	120
May	**MWH**	47	37	16	3,603	2,785	191
June	**MWH**	51	37	16	3,660	2,572	176
July	**MWH**	53	37	16	3,721	2,909	199
August	**MWH**	52	37	16	3,674	3,015	207
September	**MWH**	45	37	16	3,114	2,987	205
October	**MWH**	18	37	16	1,994	2,446	168
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	276	244	103	20,550	18,654	1,278
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.04	0.17	0.32	0.1	1.17	0.5
Distance to Nearest Populated Area	**miles**	0.55	0	0	4.79	0	0

Canal Site Name		South Canal Drop 6	South Terminus	Pipe Chute at 1058+00	Drop at 725+45	Drop at 1041+50	Drop at 1058+00
Object ID		**389**	**390**	**391**	**392**	**393**	**394**
Area Office		**WCAO**	**WCAO**	**WCAO**	**WCAO**	**WCAO**	**WCAO**
Project		Uncompahgre	Uncompahgre	Dolores	Dolores	Dolores	Dolores
Project Location (State)		Colorado	Colorado	Colorado	Colorado	Colorado	Colorado
Irrigation District		Uncompahgre Valley Water Users Association	Uncompahgre Valley Water Users Association	Dolores Water Conservancy District	Dolores Water Conservancy District	Dolores Water Conservancy District	Dolores Water Conservancy District
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	29.0	16.0	326.4	44.2	44.2	37.5
Min Head	**ft**	29.0	16.0	326.4	44.2	44.2	37.5
Max Flow	**cfs**	892	892	115	115	115	115
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Kaplan	Kaplan	Francis	Francis	Francis	Francis
Selected Design Head	**ft**	29	16	326	44	44	38
Maximum Turbine Flow	**cfs**	813	813	86	86	86	86
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	36.3	20.0	408.0	55.3	55.3	46.9
Min Head Limit	**ft**	18.8	10.4	212.2	28.7	28.7	24.4
Max Flow Limit	**cfs**	813	813	86	86	86	86
Min Flow Limit	**cfs**	163	163	17	17	17	17
Power Generation Analysis							
Installed Capacity	**kW**	1,685	930	2,029	275	275	233
Plant Factor		51%	51%	41%	41%	41%	41%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	73	40	5	1	1	1
April	**MWH**	698	385	875	118	118	100
May	**MWH**	1,106	610	1,195	162	162	137
June	**MWH**	1,022	564	1,316	178	178	151
July	**MWH**	1,156	638	1,352	183	183	155
August	**MWH**	1,198	661	1,251	169	169	144
September	**MWH**	1,186	655	799	108	108	92
October	**MWH**	972	536	394	53	53	45
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	7,410	4,089	7,187	973	973	826
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.33	0.09	0.47	0.51	0.54	0.33
Distance to Nearest Populated Area	**miles**	0.82	15.48	5.61	0.51	0.44	0.47

Canal Site Name		**Sile Canal Drop F**	**Steinaker Feeder Canal Drop 1-13**
Object ID		**474**	**545**
Area Office		**AAO**	**PAO**
Project		Middle Rio Grande	Central Utah - Vernal Unit
Project Location (State)		New Mexico	Utah
Irrigation District		Pojoaque Valley	Uintah Water Conservancy District

Results

Input Data Analysis			
Data Set	**years**	3	6
Max Head	**ft**	19.0	72.0
Min Head	**ft**	19.0	72.0
Max Flow	**cfs**	23	472
Min Flow	**cfs**	0	0

Turbine Selection Analysis			
Selected Turbine Type		Low Head	Francis
Selected Design Head	**ft**	19	72
Maximum Turbine Flow	**cfs**	19	209
Generator Speed	**rpm**	600	600
Max Head Limit	**ft**	23.8	90.0
Min Head Limit	**ft**	12.3	46.8
Max Flow Limit	**cfs**	19	209
Min Flow Limit	**cfs**	4	42

Power Generation Analysis			
Installed Capacity	**kW**	22	1,088
Plant Factor		53%	13%
Projected Monthly Production:			
January	**MWH**	0	26
February*	**MWH**	0	15
March	**MWH**	1	19
April	**MWH**	14	106
May	**MWH**	16	537
June	**MWH**	15	267
July	**MWH**	13	49
August	**MWH**	14	4
September	**MWH**	15	10
October	**MWH**	10	64
November	**MWH**	4	59
December	**MWH**	0	5
Annual production*	**MWH**	100	1,162

*** For non-leap year**

Distance to Nearest Transmission/Distribution	**miles**	3.1	0.3
Distance to Nearest Populated Area	**miles**	3.92	1.5

Canal Site Name		Coachella (North End): 6429+24	Yuma Mesa Conduit: 0436+25	Yuma Mesa Conduit: 0433+39	Yuma Mesa Conduit: 0433+21	Palo Verde: 242 Lateral	North Gila Turnout 1
Object ID		**199**	**215**	**216**	**217**	**303**	**304**
Area Office		**YAO**	**YAO**	**YAO**	**YAO**	**YAO**	**YAO**
Project		Colorado River Basin Salinity Control Project	Gila Valley Project	Gila Valley Project	Gila Valley Project	Colorado River Basin Salinity Control Project	Gila Valley Project
Project Location (State)		Arizona	Arizona	Arizona	Arizona	Arizona	Arizona
Irrigation District		Coachella Valley	Yuma Mesa	Yuma Mesa	Yuma Mesa	Palo Verde	North Gila Valley
Results							
Input Data Analysis							
Data Set	**years**	3	1	1	1	3	4
Max Head	**ft**	16.8	49.7	8.8	9.1	50.3	19.8
Min Head	**ft**	16.8	49.7	8.8	9.1	50.3	19.8
Max Flow	**cfs**	577	72	72	72	104,112	128
Min Flow	**cfs**	223	47	47	47	0	1
Turbine Selection Analysis							
Selected Turbine Type		Kaplan	Francis	Low Head	Low Head	Kaplan	Low Head
Selected Design Head	**ft**	17	50	9	9	50	20
Maximum Turbine Flow	**cfs**	558	68	68	68	96	76
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	21.0	62.1	11.0	11.4	62.8	24.7
Min Head Limit	**ft**	10.9	32.3	5.7	5.9	32.7	12.9
Max Flow Limit	**cfs**	558	68	68	68	96	76
Min Flow Limit	**cfs**	112	14	14	14	19	15
Power Generation Analysis							
Installed Capacity	**kW**	670	244	36	38	345	92
Plant Factor		78%	88%	87%	87%	61%	64%
Projected Monthly Production:							
January	**MWH**	198	150	22	22	100	25
February*	**MWH**	216	150	22	23	186	28
March	**MWH**	328	153	22	23	177	46
April	**MWH**	427	173	26	27	114	53
May	**MWH**	469	176	26	27	191	53
June	**MWH**	483	176	26	27	237	48
July	**MWH**	483	173	26	27	227	50
August	**MWH**	479	156	23	23	207	32
September	**MWH**	434	142	20	21	138	43
October	**MWH**	368	142	20	21	79	54
November	**MWH**	367	124	18	19	77	44
December	**MWH**	223	132	19	20	79	24
Annual production*	**MWH**	4,476	1,849	271	280	1,814	500
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	N/A	N/A	N/A	N/A	0.20	2.78
Distance to Nearest Populated Area	**miles**	N/A	N/A	N/A	N/A	N/A	8.42

Canal Site Name		Reservation Main Canal Turnout	South Gila Terminus	South Gila Turnout	Yaqui Turnout	Santa Rosa Canal A-10	Santa Rosa Canal B-1
Object ID		**305**	**306**	**307**	**308**	**478**	**479**
Area Office		**YAO**	**YAO**	**YAO**	**YAO**	**PXAO**	**PXAO**
Project		Boulder Canyon Project	Gila Project	Gila Project	Boulder Canyon Project	Central Arizona Project	Central Arizona Project
Project Location (State)		California	Arizona	Arizona	California	Arizona	Arizona
Irrigation District		Imperial	North Gila Valley	North Gila Valley	Imperial	Maricopa Stanfield	Maricopa Stanfield
Results							
Input Data Analysis							
Data Set	**years**	4	3	4	24	3	3
Max Head	**ft**	18.7	19.6	7.9	20.4	14.0	16.0
Min Head	**ft**	18.7	19.6	7.9	20.4	14.0	16.0
Max Flow	**cfs**	184	14	147	58	600	600
Min Flow	**cfs**	0	0	0	0	150	150
Turbine Selection Analysis							
Selected Turbine Type		Kaplan	Low Head	Low Head	Low Head	Kaplan	Kaplan
Selected Design Head	**ft**	19	20	8	20	14	16
Maximum Turbine Flow	**cfs**	111	7	96	24	600	600
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	23.4	24.5	9.8	25.5	17.5	20.0
Min Head Limit	**ft**	12.1	12.7	5.1	13.3	9.1	10.4
Max Flow Limit	**cfs**	111	7	96	24	600	600
Min Flow Limit	**cfs**	22	1	19	5	120	120
Power Generation Analysis							
Installed Capacity	**kW**	148	8	46	30	600	686
Plant Factor		56%	54%	61%	44%	61%	61%
Projected Monthly Production:							
January	**MWH**	35	2	11	5	95	108
February*	**MWH**	34	2	15	6	88	101
March	**MWH**	80	4	24	10	95	108
April	**MWH**	94	3	28	14	432	494
May	**MWH**	84	3	26	13	432	494
June	**MWH**	47	3	19	12	432	494
July	**MWH**	56	3	20	11	432	494
August	**MWH**	60	4	22	9	432	494
September	**MWH**	56	4	23	9	432	494
October	**MWH**	80	4	23	12	95	108
November	**MWH**	53	4	18	8	95	108
December	**MWH**	25	2	8	5	95	108
Annual production*	**MWH**	705	38	237	114	3,155	3,605
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.10	0.01	0.01	0.08	0.03	N/A
Distance to Nearest Populated Area	**miles**	8.38	0.04	0.19	5.54	N/A	N/A

Canal Site Name		Santa Rosa Canal B-2	East Main Canal TO & Drop	Santa Rosa Canal Gate B-5	Santa Rosa Canal Gate B-7	Santa Rosa Canal Gate B-8	Santa Rosa Canal Gate B-9
Object ID		**480**	**481**	**482**	**483**	**484**	**485**
Area Office		**PXAO**	**PXAO**	**PXAO**	**PXAO**	**PXAO**	**PXAO**
Project		Central Arizona Project	Central Arizona Project	Central Arizona Project	Central Arizona Project	Central Arizona Project	Central Arizona Project
Project Location (State)		Arizona	Arizona	Arizona	Arizona	Arizona	Arizona
Irrigation District		Maricopa Stanfield	Maricopa Stanfield	Maricopa Stanfield	Maricopa Stanfield	Maricopa Stanfield	Maricopa Stanfield
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	20.0	12.0	19.0	19.0	15.0	27.0
Min Head	**ft**	20.0	12.0	19.0	8.0	15.0	27.0
Max Flow	**cfs**	600	180	30	70	30	200
Min Flow	**cfs**	150	40	20	20	20	80
Turbine Selection Analysis							
Selected Turbine Type		Kaplan	Kaplan	Low Head	Kaplan	Low Head	Kaplan
Selected Design Head	**ft**	20	12	19	19	15	27
Maximum Turbine Flow	**cfs**	600	180	30	70	30	200
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	25.0	15.0	23.8	23.8	18.8	33.8
Min Head Limit	**ft**	13.0	7.8	12.3	12.3	9.8	17.5
Max Flow Limit	**cfs**	600	180	30	70	30	200
Min Flow Limit	**cfs**	120	36	6	14	6	40
Power Generation Analysis							
Installed Capacity	**kW**	858	154	35	95	27	386
Plant Factor		61%	60%	83%	64%	83%	71%
Projected Monthly Production:							
January	**MWH**	135	22	17	19	13	114
February*	**MWH**	126	20	16	18	12	107
March	**MWH**	135	22	17	20	13	114
April	**MWH**	618	111	25	68	20	278
May	**MWH**	618	111	25	68	20	278
June	**MWH**	618	111	25	68	20	278
July	**MWH**	618	111	25	68	20	278
August	**MWH**	618	111	25	68	20	278
September	**MWH**	618	111	25	68	20	278
October	**MWH**	135	22	17	20	13	114
November	**MWH**	135	22	17	20	13	114
December	**MWH**	135	22	17	20	13	114
Annual production*	**MWH**	4,507	795	249	526	196	2,346
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	N/A	N/A	N/A	N/A	N/A	N/A
Distance to Nearest Populated Area	**miles**	N/A	N/A	N/A	N/A	N/A	N/A

Canal Site Name		East Main Canal Gate E - 1	East Main Canal Gate E- 2	East Main Canal Gate E- 4	East Main Canal Gate E- 5	East Main Canal Gate E- 6	East Main Canal Gate E- 7
Object ID		**486**	**487**	**488**	**489**	**490**	**491**
Area Office		**PXAO**	**PXAO**	**PXAO**	**PXAO**	**PXAO**	**PXAO**
Project		Central Arizona Project	Central Arizona Project	Central Arizona Project	Central Arizona Project	Central Arizona Project	Central Arizona Project
Project Location (State)		Arizona	Arizona	Arizona	Arizona	Arizona	Arizona
Irrigation District		Maricopa Stanfield	Maricopa Stanfield	Maricopa Stanfield	Maricopa Stanfield	Maricopa Stanfield	Maricopa Stanfield
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	15.0	9.0	12.0	15.0	11.0	8.0
Min Head	**ft**	15.0	9.0	12.0	15.0	11.0	8.0
Max Flow	**cfs**	170	170	70	140	120	80
Min Flow	**cfs**	30	30	40	30	20	20
Turbine Selection Analysis							
Selected Turbine Type		Kaplan	Kaplan	Low Head	Low Head	Low Head	Low Head
Selected Design Head	**ft**	15	9	12	15	11	8
Maximum Turbine Flow	**cfs**	170	170	70	140	120	80
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	18.8	11.3	15.0	18.8	13.8	10.0
Min Head Limit	**ft**	9.8	5.8	7.8	9.8	7.1	5.2
Max Flow Limit	**cfs**	170	170	70	140	120	80
Min Flow Limit	**cfs**	34	34	14	28	24	16
Power Generation Analysis							
Installed Capacity	**kW**	182	109	51	128	80	39
Plant Factor		50%	50%	79%	61%	50%	63%
Projected Monthly Production:							
January	**MWH**	0	0	21	20	0	7
February*	**MWH**	0	0	20	18	0	7
March	**MWH**	0	0	21	20	0	7
April	**MWH**	131	79	37	92	58	28
May	**MWH**	131	79	37	92	58	28
June	**MWH**	131	79	37	92	58	28
July	**MWH**	131	79	37	92	58	28
August	**MWH**	131	79	37	92	58	28
September	**MWH**	131	79	37	92	58	28
October	**MWH**	0	0	21	20	0	7
November	**MWH**	0	0	21	20	0	7
December	**MWH**	0	0	21	20	0	7
Annual production*	**MWH**	787	472	346	670	347	210
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	N/A	N/A	N/A	N/A	N/A	N/A
Distance to Nearest Populated Area	**miles**	N/A	N/A	N/A	N/A	N/A	N/A

Canal Site Name		East Main Canal Gate E-8	East Main Canal Gate E-10	East Main Canal Gate E-11	East Main Canal Gate E-12
Object ID		**492**	**493**	**494**	**495**
Area Office		**PXAO**	**PXAO**	**PXAO**	**PXAO**
Project		Central Arizona Project	Central Arizona Project	Central Arizona Project	Central Arizona Project
Project Location (State)		Arizona	Arizona	Arizona	Arizona
Irrigation District		Maricopa Stanfield	Maricopa Stanfield	Maricopa Stanfield	Maricopa Stanfield
Results					
Input Data Analysis					
Data Set	**years**	3	3	3	3
Max Head	**ft**	8.0	8.0	16.0	14.0
Min Head	**ft**	8.0	8.0	16.0	14.0
Max Flow	**cfs**	70	50	50	50
Min Flow	**cfs**	20	10	10	10
Turbine Selection Analysis					
Selected Turbine Type		Low Head	Low Head	Low Head	Low Head
Selected Design Head	**ft**	8	8	16	14
Maximum Turbine Flow	**cfs**	70	50	50	50
Generator Speed	**rpm**	600	600	600	600
Max Head Limit	**ft**	10.0	10.0	20.0	17.5
Min Head Limit	**ft**	5.2	5.2	10.4	9.1
Max Flow Limit	**cfs**	70	50	50	50
Min Flow Limit	**cfs**	14	10	10	10
Power Generation Analysis					
Installed Capacity	**kW**	34	24	49	43
Plant Factor		64%	60%	60%	60%
Projected Monthly Production:					
January	**MWH**	7	4	7	6
February*	**MWH**	7	3	7	6
March	**MWH**	7	4	7	6
April	**MWH**	25	18	35	31
May	**MWH**	25	18	35	31
June	**MWH**	25	18	35	31
July	**MWH**	25	18	35	31
August	**MWH**	25	18	35	31
September	**MWH**	25	18	35	31
October	**MWH**	7	4	7	6
November	**MWH**	7	4	7	6
December	**MWH**	7	4	7	6
Annual production*	**MWH**	189	126	252	221
*** For non-leap year**					
Distance to Nearest Transmission/Distribution	**miles**	N/A	N/A	N/A	N/A
Distance to Nearest Populated Area	**miles**	N/A	N/A	N/A	N/A

Canal Site Name		Klamath Station 48	Klamath G Canal Drop	Klamath D Canal Drop	Klamath A-canal headworks	Klamath C Canal Spill	Truckee-Carson Station 1631+70
Object ID		**312**	**313**	**314**	**315**	**316**	**320**
Area Office		**KBAO**	**KBAO**	**KBAO**	**KBAO**	**KBAO**	**SCCAO**
Project		Klamath Project	Klamath Project	Klamath Project	Klamath Project	Klamath Project	CVP - Madera Lateral 6.2
Project Location (State)		Oregon	Oregon	Oregon	Oregon	Oregon	California
Irrigation District		Klamath	Klamath	Klamath	Klamath	Klamath	Truckee-Carson
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	18.4	12.0	6.5	12.0	40.0	8.3
Min Head	**ft**	18.4	12.0	6.5	12.0	40.0	8.3
Max Flow	**cfs**	533	889	368	947	34	741
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Kaplan	Kaplan	Kaplan	Kaplan	Low Head	Kaplan
Selected Design Head	**ft**	18	12	7	12	40	8
Maximum Turbine Flow	**cfs**	250	310	255	827	18	610
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	23.0	15.0	8.1	15.0	50.0	10.3
Min Head Limit	**ft**	12.0	7.8	4.2	7.8	26.0	5.4
Max Flow Limit	**cfs**	250	310	255	827	18	610
Min Flow Limit	**cfs**	50	62	51	165	4	122
Power Generation Analysis							
Installed Capacity	**kW**	329	266	118	709	44	361
Plant Factor		30%	40%	39%	42%	41%	30%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	24
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	3	0	0	0	0	0
April	**MWH**	63	56	27	157	17	52
May	**MWH**	193	168	75	464	25	158
June	**MWH**	165	157	70	429	23	226
July	**MWH**	194	186	82	500	26	255
August	**MWH**	164	183	80	498	26	150
September	**MWH**	23	135	58	417	26	26
October	**MWH**	16	28	11	118	10	2
November	**MWH**	24	0	0	0	0	23
December	**MWH**	0	0	0	0	0	8
Annual production*	**MWH**	845	911	402	2,583	153	923
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.5	0.5	0.1	0	0.1	0.11
Distance to Nearest Populated Area	**miles**	1.67	1.56	8.76	0	8.95	5.14

Canal Site Name		Truckee-Carson Lateral 6.2: Sta. 61+26.44	Truckee-Carson Lateral 6.2: Sta. 104+00.00	Truckee-Carson Lateral 6.2: Sta. 162+00	Truckee-Carson Lateral 6.2: 201+00	Truckee-Carson Lateral 6.2: 231+00	Truckee-Carson Lateral 6.2: Sta: 279+00
Object ID		**321**	**322**	**323**	**324**	**325**	**326**
Area Office		**SCCAO**	**SCCAO**	**SCCAO**	**SCCAO**	**SCCAO**	**SCCAO**
Project		CVP - Madera Lateral 6.2	CVP - Madera Lateral 6.2	CVP - Madera Lateral 6.2	CVP - Madera Lateral 6.2	CVP - Madera Lateral 6.2	CVP - Madera Lateral 6.2
Project Location (State)		California	California	California	California	California	California
Irrigation District		Truckee-Carson	Truckee-Carson	Truckee-Carson	Truckee-Carson	Truckee-Carson	Truckee-Carson
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	10.0	10.0	10.0	7.5	15.0	7.5
Min Head	**ft**	10.0	10.0	10.0	7.5	15.0	7.5
Max Flow	**cfs**	184	184	184	184	184	184
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Low Head	Low Head	Low Head	Kaplan	Low Head
Selected Design Head	**ft**	10	10	10	8	15	8
Maximum Turbine Flow	**cfs**	125	125	125	125	125	125
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	12.5	12.5	12.5	9.4	18.8	9.4
Min Head Limit	**ft**	6.5	6.5	6.5	4.9	9.8	4.9
Max Flow Limit	**cfs**	125	125	125	125	125	125
Min Flow Limit	**cfs**	25	25	25	25	25	25
Power Generation Analysis							
Installed Capacity	**kW**	76	76	76	57	134	57
Plant Factor		34%	34%	34%	34%	34%	34%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	26	26	26	19	46	19
May	**MWH**	41	42	42	31	75	31
June	**MWH**	51	51	51	38	90	38
July	**MWH**	55	55	55	41	96	41
August	**MWH**	31	32	32	24	57	24
September	**MWH**	12	12	12	9	22	9
October	**MWH**	5	5	5	4	9	4
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	221	222	222	166	395	166
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.83	0.34	0.11	0.04	0.04	0.02
Distance to Nearest Populated Area	**miles**	3.6	2.86	1.89	1.21	0.7	0

Canal Site Name		Truckee-Carson Lateral 6.2: Sta. 337+00	Truckee-Carson Lateral 6.2: Sta. 372+00	Truckee-Carson Lateral 6.2: Sta. 444+25.0	Truckee-Carson Lateral 6.2: Sta. 485+65.0	Truckee-Carson Lateral 6.2: Sta. 513+50.00	Truckee-Carson Lateral 6.2: Sta. 563+40.0
Object ID		**327**	**328**	**329**	**330**	**331**	**332**
Area Office		**SCCAO**	**SCCAO**	**SCCAO**	**SCCAO**	**SCCAO**	**SCCAO**
Project		CVP - Madera Lateral 6.2	CVP - Madera Lateral 6.2	CVP - Madera Lateral 6.2	CVP - Madera Lateral 6.2	CVP - Madera Lateral 32.2	CVP - Madera Lateral 32.2
Project Location (State)		California	California	California	California	California	California
Irrigation District		Truckee-Carson	Truckee-Carson	Truckee-Carson	Truckee-Carson	Truckee-Carson	Truckee-Carson
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	7.5	10.0	7.7	8.0	5.6	5.6
Min Head	**ft**	7.5	10.0	7.7	8.0	5.6	5.6
Max Flow	**cfs**	184	184	184	184	184	184
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Low Head	Low Head	Low Head	Low Head	Low Head
Selected Design Head	**ft**	8	10	8	8	6	6
Maximum Turbine Flow	**cfs**	125	125	125	125	125	125
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	9.4	12.5	9.6	10.0	7.0	7.0
Min Head Limit	**ft**	4.9	6.5	5.0	5.2	3.6	3.6
Max Flow Limit	**cfs**	125	125	125	125	125	125
Min Flow Limit	**cfs**	25	25	25	25	25	25
Power Generation Analysis							
Installed Capacity	**kW**	57	76	58	61	43	43
Plant Factor		34%	34%	34%	34%	34%	34%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	0
March	**MWH**	0	0	0	0	0	0
April	**MWH**	19	26	20	21	14	14
May	**MWH**	31	42	32	33	23	23
June	**MWH**	38	51	39	41	28	28
July	**MWH**	41	55	42	44	31	31
August	**MWH**	24	32	24	25	18	18
September	**MWH**	9	12	9	10	7	7
October	**MWH**	4	5	4	4	3	3
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	166	222	170	177	124	124
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.04	0.02	0.65	1.01	0.7	0.14
Distance to Nearest Populated Area	**miles**	0	0	0.01	0.8	1.27	1.82

Canal Site Name		Truckee-Carson Lateral 32.2: Sta. 35+20.75	Truckee-Carson Lateral 32.2: Sta. 84+00.00	Truckee-Carson Lateral 32.2: Sta. 132+00.00	Truckee-Carson Lateral 32.2: Sta. 173+00	Truckee-Carson Lateral 32.2: Sta. 402+00.00	Truckee-Carson A-Head
Object ID		**333**	**334**	**335**	**336**	**337**	**338**
Area Office		**SCCAO**	**SCCAO**	**SCCAO**	**SCCAO**	**SCCAO**	**LBAO**
Project		CVP - Madera Lateral 32.2	CVP - Madera Lateral 32.2	CVP - Madera Lateral 32.2	CVP - Madera Lateral 32.2	CVP - Madera Lateral 32.2	Newlands
Project Location (State)		California	California	California	California	California	Nevada
Irrigation District		Truckee-Carson	Truckee-Carson	Truckee-Carson	Truckee-Carson	Truckee-Carson	Truckee-Carson
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	6.0	6.0	5.5	6.0	6.0	5.5
Min Head	**ft**	6.0	6.0	5.5	6.0	6.0	5.5
Max Flow	**cfs**	164	164	164	164	164	175
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Low Head	Low Head	Low Head	Low Head	Kaplan
Selected Design Head	**ft**	6	6	6	6	6	6
Maximum Turbine Flow	**cfs**	119	119	119	119	119	175
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	7.5	7.5	6.9	7.5	7.5	6.9
Min Head Limit	**ft**	3.9	3.9	3.6	3.9	3.9	3.6
Max Flow Limit	**cfs**	119	119	119	119	119	175
Min Flow Limit	**cfs**	24	24	24	24	24	35
Power Generation Analysis							
Installed Capacity	**kW**	44	44	40	44	43	69
Plant Factor		37%	37%	37%	37%	37%	75%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	0	0	0	0	0	46
March	**MWH**	0	0	0	0	0	50
April	**MWH**	15	15	13	15	15	50
May	**MWH**	25	25	23	25	25	50
June	**MWH**	30	30	27	30	30	50
July	**MWH**	31	31	28	31	31	50
August	**MWH**	26	26	23	26	25	50
September	**MWH**	11	11	10	11	11	50
October	**MWH**	2	2	2	2	2	50
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	140	140	127	140	139	443
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.46	0.78	0.52	0.54	0.5	8.62
Distance to Nearest Populated Area	**miles**	3.39	2.85	2.18	1.88	1.01	3.12

Canal Site Name		Truckee-Carson AC1 8.52	Truckee-Carson AC2 9.07	Truckee-Carson AC3 11.33	Truckee-Carson AC6 5.36	Truckee-Carson L-Head 5.11	Truckee-Carson LC1 7.63
Object ID		**339**	**340**	**341**	**342**	**343**	**344**
Area Office		**LBAO**	**LBAO**	**LBAO**	**LBAO**	**LBAO**	**LBAO**
Project		Newlands	Newlands	Newlands	Newlands	Newlands	Newlands
Project Location (State)		Nevada	Nevada	Nevada	Nevada	Nevada	Nevada
Irrigation District		Truckee-Carson	Truckee-Carson	Truckee-Carson	Truckee-Carson	Truckee-Carson	Truckee-Carson
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	8.5	9.1	11.3	5.4	5.1	7.6
Min Head	**ft**	8.5	9.1	11.3	5.4	5.1	7.6
Max Flow	**cfs**	150	125	125	88	163	113
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Low Head	Low Head	Low Head	Kaplan	Low Head
Selected Design Head	**ft**	9	9	11	5	5	8
Maximum Turbine Flow	**cfs**	150	125	125	88	163	113
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	10.7	11.3	14.2	6.7	6.4	9.5
Min Head Limit	**ft**	5.5	5.9	7.4	3.5	3.3	5.0
Max Flow Limit	**cfs**	150	125	125	88	163	113
Min Flow Limit	**cfs**	30	25	25	18	33	23
Power Generation Analysis							
Installed Capacity	**kW**	78	69	86	29	59	52
Plant Factor		75%	75%	75%	75%	75%	75%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	52	46	58	19	40	35
March	**MWH**	56	50	62	21	43	38
April	**MWH**	56	50	62	21	43	38
May	**MWH**	56	50	62	21	43	38
June	**MWH**	56	50	62	21	43	38
July	**MWH**	56	50	62	21	43	38
August	**MWH**	56	50	62	21	43	38
September	**MWH**	56	50	62	21	43	38
October	**MWH**	56	50	62	21	43	38
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	501	444	555	184	382	336
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	8.61	9.66	10.79	11.14	10.41	11.17
Distance to Nearest Populated Area	**miles**	3.27	2.89	3.18	3.24	1.34	0.88

Canal Site Name		Truckee-Carson LC2 8.1	Truckee-Carson VC3 5.19	Truckee-Carson VC6 6.01	Truckee-Carson VC7 6.39	Truckee-Carson VC8 7.34	Truckee-Carson SC2 8.24
Object ID		**345**	**347**	**349**	**350**	**351**	**352**
Area Office		**LBAO**	**LBAO**	**LBAO**	**LBAO**	**LBAO**	**LBAO**
Project		Newlands	Newlands	Newlands	Newlands	Newlands	Newlands
Project Location (State)		Nevada	Nevada	Nevada	Nevada	Nevada	Nevada
Irrigation District		Truckee-Carson	Truckee-Carson	Truckee-Carson	Truckee-Carson	Truckee-Carson	Truckee-Carson
Results							
Input Data Analysis							
Data Set	**years**	3	3	3	3	3	3
Max Head	**ft**	8.1	5.2	6.0	6.4	7.3	8.2
Min Head	**ft**	8.1	5.2	6.0	6.4	7.3	8.2
Max Flow	**cfs**	88	375	350	75	75	175
Min Flow	**cfs**	0	0	0	0	0	0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Kaplan	Kaplan	Low Head	Low Head	Kaplan
Selected Design Head	**ft**	8	5	6	6	7	8
Maximum Turbine Flow	**cfs**	88	375	350	75	75	175
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	10.1	6.5	7.5	8.0	9.2	10.3
Min Head Limit	**ft**	5.3	3.4	3.9	4.2	4.8	5.4
Max Flow Limit	**cfs**	88	375	350	75	75	175
Min Flow Limit	**cfs**	18	75	70	15	15	35
Power Generation Analysis							
Installed Capacity	**kW**	43	139	150	29	34	103
Plant Factor		75%	75%	75%	75%	75%	75%
Projected Monthly Production:							
January	**MWH**	0	0	0	0	0	0
February*	**MWH**	29	93	101	20	23	69
March	**MWH**	31	100	108	21	24	74
April	**MWH**	31	100	108	21	24	74
May	**MWH**	31	100	108	21	24	74
June	**MWH**	31	100	108	21	24	74
July	**MWH**	31	100	108	21	24	74
August	**MWH**	31	100	108	21	24	74
September	**MWH**	31	100	108	21	24	74
October	**MWH**	31	100	108	21	24	74
November	**MWH**	0	0	0	0	0	0
December	**MWH**	0	0	0	0	0	0
Annual production*	**MWH**	278	895	967	188	216	663
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	11.17	8.63	10.41	11.44	12.55	14.93
Distance to Nearest Populated Area	**miles**	0.88	3.11	1.34	0.39	0.16	0.63

Canal Site Name		Truckee-Carson TC2 7.54	Truckee-Carson TC10 9.54	Derby 10.48
Object ID		353	354	356
Area Office		LBAO	LBAO	LBAO
Project		Newlands	Newlands	Newlands
Project Location (State)		Nevada	Nevada	Nevada
Irrigation District		Truckee-Carson	Truckee-Carson	Newlands

Results

Input Data Analysis				
Data Set	years	3	3	4
Max Head	ft	7.5	6.0	10.5
Min Head	ft	7.5	6.0	10.5
Max Flow	cfs	200	164	2,990
Min Flow	cfs	0	0	17

Turbine Selection Analysis				
Selected Turbine Type		Kaplan	Low Head	Kaplan
Selected Design Head	ft	8	6	10
Maximum Turbine Flow	cfs	200	119	589
Generator Speed	rpm	600	600	600
Max Head Limit	ft	9.4	7.5	13.1
Min Head Limit	ft	4.9	3.9	6.8
Max Flow Limit	cfs	200	119	589
Min Flow Limit	cfs	40	24	118

Power Generation Analysis				
Installed Capacity	kW	108	44	441
Plant Factor		75%	37%	48%
Projected Monthly Production:				
January	MWH	0	0	112
February*	MWH	72	0	114
March	MWH	78	0	179
April	MWH	78	15	195
May	MWH	78	25	239
June	MWH	78	30	195
July	MWH	78	31	166
August	MWH	78	26	129
September	MWH	78	11	121
October	MWH	78	2	130
November	MWH	0	0	114
December	MWH	0	0	95
Annual production*	MWH	693	140	1,788

*** For non-leap year**

Distance to Nearest Transmission/Distribution	miles	5.37	10.36	0.49
Distance to Nearest Populated Area	miles	7.19	1.8	7.1

Canal Site Name		MIN Main Canal Drop	Sulphur Drain Fish Barrier	Taneum Chute KRD	Kingman Lateral Station 137+00 Drop	Kingman Lateral Station 392+70	Kingman Sublateral 7.7 7+05
Object ID		**309**	**310**	**311**	**444**	**445**	**446**
Area Office		**USFO**	**CCAO**	**CCAO**	**SRAO**	**SRAO**	**SRAO**
Project		Minidoka	Yakima	Yakima	Owyhee	Owyhee	Owyhee
Project Location (State)		Idaho	Washington	Washington	Oregon	Oregon	Oregon
Irrigation District		Minidoka	Cascade	Cascade	Owyhee	Owyhee	Owyhee
Results							
Input Data Analysis							
Data Set	**years**	31.0	12.0	3.0	4.0	4.0	4.0
Max Head	**ft**	6.6	7.8	204.0	6.8	108.5	121.8
Min Head	**ft**	6.6	7.8	204.0	6.8	108.5	121.8
Max Flow	**cfs**	1698.6	914.8	76.6	114.0	46.0	7.0
Min Flow	**cfs**	0.0	41.0	0.0	0.0	0.0	0.0
Turbine Selection Analysis							
Selected Turbine Type		Kaplan	Kaplan	Pelton	Low Head	Francis	Low Head
Selected Design Head	**ft**	7	8	204	7	109	122
Maximum Turbine Flow	**cfs**	1,094	308	59	114	46	7
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	8.3	9.8	224.4	8.6	135.7	152.2
Min Head Limit	**ft**	4.3	5.1	132.6	4.5	70.5	79.2
Max Flow Limit	**cfs**	1,094	308	59	114	46	7
Min Flow Limit	**cfs**	219	62	12	23	9	1
Power Generation Analysis							
Installed Capacity	**kW**	519	172	875	48	361	52
Plant Factor		39%	47%	29%	50%	50%	50%
Projected Monthly Production:							
January	**MWH**	0.0	9.6	0.0	0.0	0.0	0.0
February*	**MWH**	0.0	8.6	0.0	0.0	0.0	0.0
March	**MWH**	0.1	42.0	0.0	0.3	0.0	0.3
April	**MWH**	135.1	90.2	11.7	34.2	259.8	37.4
May	**MWH**	294.6	94.5	18.0	34.2	259.8	37.4
June	**MWH**	336.0	88.8	59.1	34.2	259.8	37.4
July	**MWH**	360.3	73.9	568.3	34.2	259.8	37.4
August	**MWH**	323.6	89.2	623.0	34.2	259.8	37.4
September	**MWH**	214.3	101.3	601.0	34.0	259.8	37.1
October	**MWH**	61.6	73.2	307.8	0.0	0.0	0.0
November	**MWH**	0.0	17.2	0.0	0.0	0.0	0.0
December	**MWH**	0.0	8.2	0.0	0.0	0.0	0.0
Annual production*	**MWH**	1,726	696	2,189	205	1,559	224
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.00	0.40	0.40	0.08	0.63	0.50
Distance to Nearest Populated Area	**miles**	8.57	10.62	10.06	0.96	2.61	6.95

Canal Site Name		Kingman Sublateral 5.4 0+60	Kingman Sublateral 5.4 29+00	North Canal Station 3454+65 Chute	North Canal lateral 5.3 Station 0+85	North Canal Lateral 12.4 Station 1+00	North Canal Lateral 13.6 Station 7+60
Object ID		**447**	**448**	**449**	**450**	**451**	**452**
Area Office		**SRAO**	**SRAO**	**SRAO**	**SRAO**	**SRAO**	**SRAO**
Project		Owyhee	Owyhee	Owyhee	Owyhee	Owyhee	Owyhee
Project Location (State)		Oregon	Oregon	Oregon	Oregon	Oregon	Oregon
Irrigation District		Owyhee	Owyhee	Owyhee	Owyhee	Owyhee	Owyhee
Results							
Input Data Analysis							
Data Set	**years**	4.0	4.0	4.0	4.0	4.0	4.0
Max Head	**ft**	18.3	153.4	94.8	102.8	150.6	176.4
Min Head	**ft**	18.3	153.4	94.8	102.8	150.6	176.4
Max Flow	**cfs**	64.0	41.0	60.0	16.0	26.0	22.0
Min Flow	**cfs**	0.0	0.0	0.0	0.0	0.0	0.0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Francis	Francis	Francis	Pelton	Pelton
Selected Design Head	**ft**	18	153	95	103	151	176
Maximum Turbine Flow	**cfs**	64	41	60	16	26	22
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	22.9	191.8	118.5	128.5	165.7	194.0
Min Head Limit	**ft**	11.9	99.7	61.6	66.8	97.9	114.6
Max Flow Limit	**cfs**	64	41	60	16	26	22
Min Flow Limit	**cfs**	13	8	12	3	5	4
Power Generation Analysis							
Installed Capacity	**kW**	71	455	411	119	285	282
Plant Factor		50%	50%	50%	50%	50%	50%
Projected Monthly Production:							
January	**MWH**	0.0	0.0	0.0	0.0	0.0	0.0
February*	**MWH**	0.0	0.0	0.0	0.0	0.0	0.0
March	**MWH**	0.4	2.6	2.4	0.7	1.7	1.6
April	**MWH**	51.4	327.3	296.0	85.6	204.9	203.1
May	**MWH**	51.4	327.3	296.0	85.6	204.9	203.1
June	**MWH**	51.4	327.3	296.0	85.6	204.9	203.1
July	**MWH**	51.4	327.3	296.0	85.6	204.9	203.1
August	**MWH**	51.4	327.3	296.0	85.6	204.9	203.1
September	**MWH**	50.9	324.6	293.6	84.9	203.2	201.4
October	**MWH**	0.0	0.0	0.0	0.0	0.0	0.0
November	**MWH**	0.0	0.0	0.0	0.0	0.0	0.0
December	**MWH**	0.0	0.0	0.0	0.0	0.0	0.0
Annual production*	**MWH**	308	1,964	1,776	514	1,230	1,218
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.70	0.30	0.10	0.06	0.40	0.00
Distance to Nearest Populated Area	**miles**	9.75	7.24	4.36	3.14	11.27	9.62

Canal Site Name		North Canal lateral 14.5 Station 153+60	North Canal Lateral 14.5 Station 52+30	North Canal Lateral 25.4 Station 1+30	North Canal Lateral 25.4 Station 31+25	North Canal Lateral 26.4 Station 3+00	North Canal Lateral 28.7 Station 11+75
Object ID		**454**	**453**	**455**	**456**	**457**	**458**
Area Office		**SRAO**	**SRAO**	**SRAO**	**SRAO**	**SRAO**	**SRAO**
Project		Owyhee	Owyhee	Owyhee	Owyhee	Owyhee	Owyhee
Project Location (State)		Oregon	Oregon	Oregon	Oregon	Oregon	Oregon
Irrigation District		Owyhee	Owyhee	Owyhee	Owyhee	Owyhee	Owyhee
Results							
Input Data Analysis							
Data Set	**years**	4.0	4.0	4.0	4.0	4.0	4.0
Max Head	**ft**	33.5	20.1	37.7	19.7	165.0	26.7
Min Head	**ft**	33.5	20.1	37.7	19.7	165.0	26.7
Max Flow	**cfs**	23.0	38.0	71.0	66.0	26.0	48.0
Min Flow	**cfs**	0.0	0.0	0.0	0.0	0.0	0.0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Low Head	Francis	Kaplan	Pelton	Francis
Selected Design Head	**ft**	34	20	38	20	165	27
Maximum Turbine Flow	**cfs**	23	38	71	66	26	48
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	41.9	25.1	47.1	24.6	181.5	33.4
Min Head Limit	**ft**	21.8	13.1	24.5	12.8	107.2	17.4
Max Flow Limit	**cfs**	23	38	71	66	26	48
Min Flow Limit	**cfs**	5	8	14	13	5	10
Power Generation Analysis							
Installed Capacity	**kW**	47	47	193	93	312	93
Plant Factor		50%	50%	50%	50%	50%	50%
Projected Monthly Production:							
January	**MWH**	0.0	0.0	0.0	0.0	0.0	0.0
February*	**MWH**	0.0	0.0	0.0	0.0	0.0	0.0
March	**MWH**	0.3	0.3	1.1	0.5	1.8	0.5
April	**MWH**	33.8	33.5	139.3	66.9	224.5	66.7
May	**MWH**	33.8	33.5	139.3	66.9	224.5	66.7
June	**MWH**	33.8	33.5	139.3	66.9	224.5	66.7
July	**MWH**	33.8	33.5	139.3	66.9	224.5	66.7
August	**MWH**	33.8	33.5	139.3	66.9	224.5	66.7
September	**MWH**	33.5	33.2	138.1	66.4	222.7	66.1
October	**MWH**	0.0	0.0	0.0	0.0	0.0	0.0
November	**MWH**	0.0	0.0	0.0	0.0	0.0	0.0
December	**MWH**	0.0	0.0	0.0	0.0	0.0	0.0
Annual production*	**MWH**	203	201	836	401	1,347	400
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.00	0.10	0.00	0.70	0.30	0.30
Distance to Nearest Populated Area	**miles**	8.73	8.30	7.31	4.81	N/A	4.53

Canal Site Name		North Canal Lateral 28.7 Station 36+20	North Canal Lateral 31.0 Station 18+00	North Canal Lateral 37.6 Station 1+10	North Canal Lateral 38.7 Station 1+00	North Canal Lateral 38.7 Station 42+80	North Canal Lateral 60.0 Station 1+60
Object ID		**459**	**460**	**461**	**462**	**463**	**464**
Area Office		**SRAO**	**SRAO**	**SRAO**	**SRAO**	**SRAO**	**SRAO**
Project		Owyhee	Owyhee	Owyhee	Owyhee	Owyhee	Owyhee
Project Location (State)		Oregon	Oregon	Oregon	Oregon	Oregon	Oregon
Irrigation District		Owyhee	Owyhee	Owyhee	Owyhee	Owyhee	Owyhee
Results							
Input Data Analysis							
Data Set	**years**	4.0	4.0	4.0	4.0	4.0	4.0
Max Head	**ft**	69.7	51.9	147.8	121.9	76.1	66.2
Min Head	**ft**	69.7	51.9	147.8	121.9	76.1	66.2
Max Flow	**cfs**	15.0	20.0	15.0	32.0	18.0	38.0
Min Flow	**cfs**	0.0	0.0	0.0	0.0	0.0	0.0
Turbine Selection Analysis							
Selected Turbine Type		Low Head	Low Head	Low Head	Francis	Francis	Francis
Selected Design Head	**ft**	70	52	148	122	76	66
Maximum Turbine Flow	**cfs**	15	20	15	32	18	38
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	87.1	64.9	184.8	152.4	95.1	82.7
Min Head Limit	**ft**	45.3	33.7	96.1	79.2	49.5	43.0
Max Flow Limit	**cfs**	15	20	15	32	18	38
Min Flow Limit	**cfs**	3	4	3	6	4	8
Power Generation Analysis							
Installed Capacity	**kW**	64	63	135	282	99	182
Plant Factor		50%	50%	50%	50%	50%	50%
Projected Monthly Production:							
January	**MWH**	0.0	0.0	0.0	0.0	0.0	0.0
February*	**MWH**	0.0	0.0	0.0	0.0	0.0	0.0
March	**MWH**	0.4	0.4	0.8	1.6	0.6	1.1
April	**MWH**	45.9	45.5	97.2	203.0	71.3	130.8
May	**MWH**	45.9	45.5	97.2	203.0	71.3	130.8
June	**MWH**	45.9	45.5	97.2	203.0	71.3	130.8
July	**MWH**	45.9	45.5	97.2	203.0	71.3	130.8
August	**MWH**	45.9	45.5	97.2	203.0	71.3	130.8
September	**MWH**	45.5	45.1	96.4	201.3	70.7	129.7
October	**MWH**	0.0	0.0	0.0	0.0	0.0	0.0
November	**MWH**	0.0	0.0	0.0	0.0	0.0	0.0
December	**MWH**	0.0	0.0	0.0	0.0	0.0	0.0
Annual production*	**MWH**	275	273	583	1,218	428	785
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.04	0.00	0.10	0.10	0.00	0.25
Distance to Nearest Populated Area	**miles**	3.67	3.42	3.70	4.64	3.89	3.95

Canal Site Name		South Canal Lateral 5.7 Station 26+50	South Canal Lateral 5.7 Station 291+00	South Canal Lateral 17.1 Station 25+00	South Canal Lateral 17.7 Station 0+00	South Canal Lateral 28.5-1.1 Station 14+20	South Canal Lateral 28.5 Station 0+00
Object ID		**465**	**466**	**467**	**468**	**469**	**470**
Area Office		**SRAO**	**SRAO**	**SRAO**	**SRAO**	**SRAO**	**SRAO**
Project		Owyhee	Owyhee	Owyhee	Owyhee	Owyhee	Owyhee
Project Location (State)		Idaho	Idaho	Idaho	Idaho	Idaho	Idaho
Irrigation District		Owyhee	Owyhee	Owyhee	Owyhee	Owyhee	Owyhee
Results							
Input Data Analysis							
Data Set	**years**	4.0	4.0	4.0	4.0	4.0	4.0
Max Head	**ft**	39.6	54.4	94.0	137.3	55.3	23.1
Min Head	**ft**	39.6	54.4	94.0	137.3	55.3	23.1
Max Flow	**cfs**	126.0	40.0	26.0	66.0	28.0	44.0
Min Flow	**cfs**	0.0	0.0	0.0	0.0	0.0	0.0
Turbine Selection Analysis							
Selected Turbine Type		Kaplan	Francis	Francis	Francis	Francis	Low Head
Selected Design Head	**ft**	40	54	94	137	55	23
Maximum Turbine Flow	**cfs**	126	40	26	66	28	44
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	49.5	68.0	117.5	171.6	69.1	28.9
Min Head Limit	**ft**	25.7	35.4	61.1	89.2	35.9	15.0
Max Flow Limit	**cfs**	126	40	26	66	28	44
Min Flow Limit	**cfs**	25	8	5	13	6	9
Power Generation Analysis							
Installed Capacity	**kW**	356	157	177	655	112	62
Plant Factor		50%	50%	50%	50%	50%	50%
Projected Monthly Production:							
January	**MWH**	0.0	0.0	0.0	0.0	0.0	0.0
February*	**MWH**	0.0	0.0	0.0	0.0	0.0	0.0
March	**MWH**	2.1	0.9	1.0	3.8	0.6	0.4
April	**MWH**	256.6	113.2	127.2	471.4	80.6	44.6
May	**MWH**	256.6	113.2	127.2	471.4	80.6	44.6
June	**MWH**	256.6	113.2	127.2	471.4	80.6	44.6
July	**MWH**	256.6	113.2	127.2	471.4	80.6	44.6
August	**MWH**	256.6	113.2	127.2	471.4	80.6	44.6
September	**MWH**	254.4	112.3	126.1	467.5	79.9	44.2
October	**MWH**	0.0	0.0	0.0	0.0	0.0	0.0
November	**MWH**	0.0	0.0	0.0	0.0	0.0	0.0
December	**MWH**	0.0	0.0	0.0	0.0	0.0	0.0
Annual production*	**MWH**	1,539	679	763	2,829	483	267
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.02	1.00	0.60	0.20	0.11	0.20
Distance to Nearest Populated Area	**miles**	13.36	11.39	4.65	5.46	16.02	6.63

Canal Site Name		Mora Canal 75+50	End of New York Canal 75+50	North Canal Lateral 8.5 Station 6+96	North Canal Lateral 8.5 Station 82+65	North Canal Lateral 10.5 Station 0+85	North Unit Main Canal Mile 1.78
Object ID		**471**	**472**	**475**	**476**	**477**	**496**
Area Office		**SRAO**	**SRAO**	**SRAO**	**SRAO**	**SRAO**	**BFO**
Project		Bosie	Bosie	Owyhee	Owyhee	Owyhee	Deschutes
Project Location (State)		Idaho	Idaho	Oregon	Oregon	Oregon	Oregon
Irrigation District		Black Canyon	Black Canyon	Owyhee	Owyhee	Owyhee	North Unit
Results							
Input Data Analysis							
Data Set	**years**	3.0	3.0	4.0	4.0	4.0	3
Max Head	**ft**	10.0	10.0	53.3	128.7	162.8	20.4
Min Head	**ft**	10.0	10.0	53.3	128.7	162.8	20.4
Max Flow	**cfs**	325.0	700.0	14.0	10.0	19.0	808
Min Flow	**cfs**	0.0	0.0	0.0	0.0	0.0	0
Turbine Selection Analysis							
Selected Turbine Type		Kaplan	Kaplan	Low Head	Low Head	Pelton	Kaplan
Selected Design Head	**ft**	10	10	53	129	163	20
Maximum Turbine Flow	**cfs**	325	700	14	10	19	561
Generator Speed	**rpm**	600	600	600	600	600	600
Max Head Limit	**ft**	12.5	12.5	66.6	160.9	179.1	25.5
Min Head Limit	**ft**	6.5	6.5	34.6	83.7	105.8	13.3
Max Flow Limit	**cfs**	325	700	14	10	19	561
Min Flow Limit	**cfs**	65	140	3	2	4	112
Power Generation Analysis							
Installed Capacity	**kW**	232	500	45	78	225	818
Plant Factor		50%	50%	50%	50%	50%	42%
Projected Monthly Production:							
January	**MWH**	0.0	0.0	0.0	0.0	0.0	0
February*	**MWH**	0.0	0.0	0.0	0.0	0.0	0
March	**MWH**	0.0	0.0	0.3	0.5	1.3	0
April	**MWH**	167.2	360.2	32.7	56.4	161.9	302
May	**MWH**	167.2	360.2	32.7	56.4	161.9	511
June	**MWH**	167.2	360.2	32.7	56.4	161.9	439
July	**MWH**	167.2	360.2	32.7	56.4	161.9	565
August	**MWH**	167.2	360.2	32.7	56.4	161.9	504
September	**MWH**	167.2	360.2	32.5	56.0	160.5	419
October	**MWH**	0.0	0.0	0.0	0.0	0.0	185
November	**MWH**	0.0	0.0	0.0	0.0	0.0	0
December	**MWH**	0.0	0.0	0.0	0.0	0.0	0
Annual production*	**MWH**	1,003	2,161	196	339	971	2,925
*** For non-leap year**							
Distance to Nearest Transmission/Distribution	**miles**	0.00	1.00	0.19	0.00	0.00	N/A
Distance to Nearest Populated Area	**miles**	8.43	8.17	5.36	3.42	4.38	N/A

Canal Site Name		North Unit Main Canal Mile 1.95	North Unit Main Canal Mile 2.11	North Unit Main Canal Mile 2.41	North Unit Main Canal Mile 2.57	North Unit Main Canal Mile 3.52
Object ID		**497**	**498**	**499**	**500**	**503**
Area Office		**BFO**	**BFO**	**BFO**	**BFO**	**BFO**
Project		Deschutes	Deschutes	Deschutes	Deschutes	Deschutes
Project Location (State)		Oregon	Oregon	Oregon	Oregon	Oregon
Irrigation District		North Unit	North Unit	North Unit	North Unit	North Unit
Results						
Input Data Analysis						
Data Set	**years**	3	3	3	3	3
Max Head	**ft**	11.0	11.8	7.3	8.0	6.6
Min Head	**ft**	11.0	11.8	7.3	8.0	6.6
Max Flow	**cfs**	808	808	808	808	808
Min Flow	**cfs**	0	0	0	0	0
Turbine Selection Analysis						
Selected Turbine Type		Kaplan	Kaplan	Kaplan	Kaplan	Kaplan
Selected Design Head	**ft**	11	12	7	8	7
Maximum Turbine Flow	**cfs**	561	561	561	561	561
Generator Speed	**rpm**	600	600	600	600	600
Max Head Limit	**ft**	13.7	14.7	9.1	10.0	8.3
Min Head Limit	**ft**	7.1	7.7	4.7	5.2	4.3
Max Flow Limit	**cfs**	561	561	561	561	561
Min Flow Limit	**cfs**	112	112	112	112	112
Power Generation Analysis						
Installed Capacity	**kW**	439	472	291	322	265
Plant Factor		42%	42%	42%	42%	42%
Projected Monthly Production:						
January	**MWH**	0	0	0	0	0
February*	**MWH**	0	0	0	0	0
March	**MWH**	0	0	0	0	0
April	**MWH**	162	174	107	119	98
May	**MWH**	275	295	182	201	166
June	**MWH**	236	253	156	172	142
July	**MWH**	304	326	201	222	183
August	**MWH**	271	291	179	198	163
September	**MWH**	225	242	149	165	136
October	**MWH**	99	107	66	73	60
November	**MWH**	0	0	0	0	0
December	**MWH**	0	0	0	0	0
Annual production*	**MWH**	1,572	1,688	1,040	1,150	948
*** For non-leap year**						
Distance to Nearest Transmission/Distribution	**miles**	N/A	N/A	N/A	N/A	N/A
Distance to Nearest Populated Area	**miles**	N/A	N/A	N/A	N/A	N/A

Canal Site Name		North Unit Main Canal Mile 3.67	North Unit Main Canal Mile 6.44	North Unit Main Canal Mile 11.13	North Unit Main Canal Mile 11.15	North Unit Main Canal Mile 11.34
Object ID		**505**	**507**	**508**	**509**	**510**
Area Office		**BFO**	**BFO**	**BFO**	**BFO**	**BFO**
Project		Deschutes	Deschutes	Deschutes	Deschutes	Deschutes
Project Location (State)		Oregon	Oregon	Oregon	Oregon	Oregon
Irrigation District		North Unit	North Unit	North Unit	North Unit	North Unit
Results						
Input Data Analysis						
Data Set	**years**	3	3	3	3	3
Max Head	**ft**	11.6	5.3	13.1	5.1	5.5
Min Head	**ft**	11.6	5.3	13.1	5.1	5.5
Max Flow	**cfs**	808	808	808	808	808
Min Flow	**cfs**	0	0	0	0	0
Turbine Selection Analysis						
Selected Turbine Type		Kaplan	Kaplan	Kaplan	Kaplan	Kaplan
Selected Design Head	**ft**	12	5	13	5	6
Maximum Turbine Flow	**cfs**	561	561	561	561	561
Generator Speed	**rpm**	600	600	600	600	600
Max Head Limit	**ft**	14.5	6.6	16.4	6.3	6.9
Min Head Limit	**ft**	7.5	3.4	8.5	3.3	3.6
Max Flow Limit	**cfs**	561	561	561	561	561
Min Flow Limit	**cfs**	112	112	112	112	112
Power Generation Analysis						
Installed Capacity	**kW**	465	212	524	203	222
Plant Factor		42%	42%	42%	42%	42%
Projected Monthly Production:						
January	**MWH**	0	0	0	0	0
February*	**MWH**	0	0	0	0	0
March	**MWH**	0	0	0	0	0
April	**MWH**	171	78	193	75	82
May	**MWH**	291	132	328	127	139
June	**MWH**	249	113	281	109	119
July	**MWH**	321	146	363	140	153
August	**MWH**	287	131	323	125	137
September	**MWH**	238	108	269	104	114
October	**MWH**	105	48	119	46	50
November	**MWH**	0	0	0	0	0
December	**MWH**	0	0	0	0	0
Annual production*	**MWH**	1,662	757	1,876	726	793
*** For non-leap year**						
Distance to Nearest Transmission/Distribution	**miles**	N/A	N/A	N/A	N/A	N/A
Distance to Nearest Populated Area	**miles**	N/A	N/A	N/A	N/A	N/A

Canal Site Name		North Unit Main Canal Mile 13.05	North Unit Main Canal Mile 15.92	North Unit Main Canal Mile 18.34	North Unit Main Canal Mile 19.46	North Unit Main Canal Mile 20.91
Object ID		**511**	**517**	**518**	**519**	**520**
Area Office		**BFO**	**BFO**	**BFO**	**BFO**	**BFO**
Project		Deschutes	Deschutes	Deschutes	Deschutes	Deschutes
Project Location (State)		Oregon	Oregon	Oregon	Oregon	Oregon
Irrigation District		North Unit	North Unit	North Unit	North Unit	North Unit
Results						
Input Data Analysis						
Data Set	**years**	3	3	3	3	3
Max Head	**ft**	8.5	6.3	7.6	23.1	16.9
Min Head	**ft**	8.5	6.3	7.6	23.1	16.9
Max Flow	**cfs**	808	808	808	808	808
Min Flow	**cfs**	0	0	0	0	0
Turbine Selection Analysis						
Selected Turbine Type		Kaplan	Kaplan	Kaplan	Kaplan	Kaplan
Selected Design Head	**ft**	9	6	8	23	17
Maximum Turbine Flow	**cfs**	561	561	561	561	561
Generator Speed	**rpm**	600	600	600	600	600
Max Head Limit	**ft**	10.6	7.9	9.4	28.9	21.2
Min Head Limit	**ft**	5.5	4.1	4.9	15.0	11.0
Max Flow Limit	**cfs**	561	561	561	561	561
Min Flow Limit	**cfs**	112	112	112	112	112
Power Generation Analysis						
Installed Capacity	**kW**	341	252	303	927	679
Plant Factor		42%	42%	42%	42%	42%
Projected Monthly Production:						
January	**MWH**	0	0	0	0	0
February*	**MWH**	0	0	0	0	0
March	**MWH**	0	0	0	0	0
April	**MWH**	126	93	112	342	250
May	**MWH**	213	158	189	579	425
June	**MWH**	183	135	162	497	364
July	**MWH**	236	174	209	641	470
August	**MWH**	210	156	187	571	419
September	**MWH**	175	129	155	474	348
October	**MWH**	77	57	68	210	154
November	**MWH**	0	0	0	0	0
December	**MWH**	0	0	0	0	0
Annual production*	**MWH**	1,220	902	1,083	3,314	2,429
*** For non-leap year**						
Distance to Nearest Transmission/Distribution	**miles**	N/A	N/A	N/A	N/A	N/A
Distance to Nearest Populated Area	**miles**	N/A	N/A	N/A	N/A	N/A

Canal Site Name		North Unit Main Canal Mile 22.62	North Unit Main Canal Mile 26.12	North Unit Main Canal Monroe Drop	North Unit Main Canal Mile 45.02	North Unit Main Canal Mile 47
Object ID		**521**	**522**	**523**	**524**	**525**
Area Office		**BFO**	**BFO**	**BFO**	**BFO**	**BFO**
Project		Deschutes	Deschutes	Deschutes	Deschutes	Deschutes
Project Location (State)		Oregon	Oregon	Oregon	Oregon	Oregon
Irrigation District		North Unit	North Unit	North Unit	North Unit	North Unit
Results						
Input Data Analysis						
Data Set	**years**	3	3	4	3	3
Max Head	**ft**	9.3	13.6	15.0	85.0	69.0
Min Head	**ft**	9.3	13.6	15.0	85.0	69.0
Max Flow	**cfs**	808	808	766	628	628
Min Flow	**cfs**	0	0	0	0	0
Turbine Selection Analysis						
Selected Turbine Type		Kaplan	Kaplan	Kaplan	Francis	Francis
Selected Design Head	**ft**	9	14	15	85	69
Maximum Turbine Flow	**cfs**	561	561	491	279	279
Generator Speed	**rpm**	600	600	600	600	600
Max Head Limit	**ft**	11.6	16.9	18.8	106.3	86.3
Min Head Limit	**ft**	6.1	8.8	9.8	55.2	44.9
Max Flow Limit	**cfs**	561	561	491	279	279
Min Flow Limit	**cfs**	112	112	98	56	56
Power Generation Analysis						
Installed Capacity	**kW**	374	543	526	1,714	1,392
Plant Factor		42%	42%	40%	43%	43%
Projected Monthly Production:						
January	**MWH**	0	0	0	0	0
February*	**MWH**	0	0	0	0	0
March	**MWH**	0	0	0	0	0
April	**MWH**	138	200	172	579	470
May	**MWH**	234	340	284	969	787
June	**MWH**	200	291	261	1,145	930
July	**MWH**	258	376	328	1,126	914
August	**MWH**	230	335	306	1,148	932
September	**MWH**	191	278	265	986	801
October	**MWH**	85	123	116	312	254
November	**MWH**	0	0	0	0	0
December	**MWH**	0	0	0	0	0
Annual production*	**MWH**	1,336	1,943	1,734	6,267	5,089

*** For non-leap year**

Distance to Nearest Transmission/Distribution	**miles**	N/A	N/A	N/A	N/A	N/A
Distance to Nearest Populated Area	**miles**	N/A	N/A	N/A	N/A	N/A

Canal Site Name		North Unit Main Canal Mile 47.47	North Unit Main Canal Mile 47.98	North Unit Main Canal Mile 48.49	North Unit Main Canal 50 Check	Main Canal North Unit Mile 52.58
Object ID		**526**	**527**	**528**	**529**	**530**
Area Office		**BFO**	**BFO**	**BFO**	**BFO**	**BFO**
Project		Deschutes	Deschutes	Deschutes	Deschutes	Deschutes
Project Location (State)		Oregon	Oregon	Oregon	Oregon	Oregon
Irrigation District		North Unit	North Unit	North Unit	North Unit	North Unit
Results						
Input Data Analysis						
Data Set	**years**	3	3	3	3	3
Max Head	**ft**	37.1	10.0	9.0	10.0	68.5
Min Head	**ft**	37.1	10.0	9.0	10.0	68.5
Max Flow	**cfs**	628	628	628	628	448
Min Flow	**cfs**	0	0	0	0	0
Turbine Selection Analysis						
Selected Turbine Type		Kaplan	Kaplan	Kaplan	Kaplan	Francis
Selected Design Head	**ft**	37	10	9	10	68
Maximum Turbine Flow	**cfs**	279	279	279	279	245
Generator Speed	**rpm**	600	600	600	600	600
Max Head Limit	**ft**	46.4	12.5	11.3	12.5	85.6
Min Head Limit	**ft**	24.1	6.5	5.9	6.5	44.5
Max Flow Limit	**cfs**	279	279	279	279	245
Min Flow Limit	**cfs**	56	56	56	56	49
Power Generation Analysis						
Installed Capacity	**kW**	740	200	180	199	1,213
Plant Factor		43%	43%	43%	43%	42%
Projected Monthly Production:						
January	**MWH**	0	0	0	0	0
February*	**MWH**	0	0	0	0	0
March	**MWH**	0	0	0	0	0
April	**MWH**	253	68	62	68	403
May	**MWH**	426	115	104	115	683
June	**MWH**	496	134	121	134	800
July	**MWH**	486	131	118	131	768
August	**MWH**	495	134	121	133	786
September	**MWH**	429	116	105	116	683
October	**MWH**	142	38	35	38	210
November	**MWH**	0	0	0	0	0
December	**MWH**	0	0	0	0	0
Annual production*	**MWH**	2,727	738	665	735	4,333

*** For non-leap year**

Distance to Nearest Transmission/Distribution	**miles**	N/A	N/A	N/A	N/A	N/A
Distance to Nearest Populated Area	**miles**	N/A	N/A	N/A	N/A	N/A