

ADDENDUM TO FINAL

**SEAWEST/KENETECH WINDFARM
DEVELOPMENT COMPARISON,
CARBON COUNTY, WYOMING**

Presented to

Bureau of Land Management
Rawlins, Wyoming

Presented by

TRC Mariah Associates Inc.
Laramie, Wyoming

November 1997

FINAL

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MAI Project 21541**

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1.0 INTRODUCTION

This is an addendum to the SeaWest/KENETECH Windfarm Development Comparison, Carbon County, Wyoming (BLM 1997). The purpose of this addendum is to provide proposed Phase I as-built data based on the final selection of the Mitsubishi Heavy Industry (MHI) MWT-450 600-kW wind turbine for Phase I development. Whereas the Development Comparison used a range of values for Phase I impact comparisons, including turbine sizes ranging from 500 to 750 kW, this addendum presents Phase I data based solely on the MHI MWT-450 600-kW wind turbine.

There are no changes to the data for the overall 500-MW project analyzed in the KENETECH/PacifiCorp Windpower Project Environmental Impact Statement (EIS). All changes noted in this addendum relate only to Phase I; Phase I as-built characteristics are within the scope of the characteristics analyzed in the EIS and the Development Comparison.

This addendum discusses only those aspects of Phase I that have become more specific or have changed as a result of selecting the MHI MWT-450 600-kW wind turbine. For this reason, most of the discussion focuses on Chapter 2.0 (Proposed Action and Alternatives) of the Development Comparison to refine the details of the Proposed Action based on selection of the MHI MWT-450 600-kW wind turbine.

In nearly all aspects, data for the MHI MWT-450 600-kW wind turbine fall within the range of values for 500 to 750 kW wind turbines analyzed in the Development Comparison. As a result, very few changes arise as a consequence of selecting the MHI MWT-450 600-kW wind turbine. However, having a single set of values, as opposed to a range of values, will simplify future assessment of cumulative impacts as the windfarm is developed.

For ease of use, this addendum lists only the changes in text and figures. To facilitate review, it uses the same section numbering format as the Development Comparison. There are no changes in the content of any section in the Development Comparison except as set forth in this addendum, below, under the same section number.

The following sections in the Development Comparison had no changes:

Sections 1.1, 1.2, 2.1.2, 2.1.3.3, 2.1.3.4, 2.1.4, 2.1.4.1, 2.1.4.2, 2.1.4.4, 2.1.4.5, 2.1.4.6, 2.1.4.7, 2.1.5, 2.1.6, 2.1.7, 2.1.8, 2.1.9, 2.1.10, 2.3, 2.4, 3.0, 3.1, 3.1.2, 3.1.3, 3.2, 3.2.3, 3.2.3.1, 3.2.3.2, 3.2.3.4, 3.2.3.5, 3.4, 3.6, 4.0, 4.1, 4.2, and Appendix A.

2.0 PROPOSED ACTION AND ALTERNATIVES

Paragraph 2, Sentence 3: Phase I of development under the SeaWest proposal would include 133 WTGs (compared with KENETECH's 201 WTGs).

Paragraph 3, Sentence 1: The total acreage of new disturbances expected under Phase I of the Proposed Action for the SeaWest proposal would be 79 acres for the life-of-project (LOP) (Tables 2.1a and 2.1b).

2.1 PROPOSED ACTION

Entire text: SeaWest will purchase MHI MWT-450 600-kW wind turbines for Phase I from MHI. Turbine specifications are presented in Table 2.3. The final site plan is governed, in part, by the maximum output of the MHI MWT-450 600-kW wind turbine and by the build-out of Phase I to 133 wind turbines. Map 2.1 has been amended to show the site plan using the MHI MWT-450 600-kW wind turbine. Map 2.2 (750-kW wind turbine siting) has been deleted. Map 2.3 shows the site plan for KENETECH's proposed Phase I development using the KVS-33 400-kW turbine.

Table 2.1a Types and Acreages of Proposed Disturbance, Phase I, As-Built.

Disturbance Type	KENETECH Proposal (acres)		SeaWest Proposal (acres)		SeaWest As-Built	
	Initial	LOP	Initial	LOP	Initial	LOP
Windfarm						
Turbine strings (pads, trenches, staging areas, communication structures, meteorological towers, and roads)	136	64	102-119	56-63	112	74
O&M facility	< 1	< 1	Same	Same	1	1
Subtotal	137	65	103-120	57-64	113	75
Substations						
Windfarm substations	3	3	Same	Same	Same	Same
Miner's substation expansion	1	1	Same	Same	Same	Same
Subtotal	4	4	Same	Same	Same	Same
230-kV Transmission Line Route No. 3						
Transmission line ROW	178	0	Same	Same	Same	Same
Staging areas	1	0	Same	Same	Same	Same
Subtotal	179	0	Same	Same	Same	Same
Total disturbance (to nearest acre)	320	69	286-303	61-68	296	79
Disturbance per MW (Phase I) ^{1,2}	5	1	4	1	4	1

¹ Other phases would involve less construction disturbance because transmission line construction would be complete.

² Disturbance per MW, KENETECH, equals total disturbance divided by 70.5. For the SeaWest proposal, disturbance area was divided by 68.25. For SeaWest as-built project, disturbance area was divided by 80.

Table 2.1b Assumptions Used to Compute Acreages in Table 2.1a, Phase I.

Disturbance Type	Initial Disturbance	LOP Disturbance
KENETECH		
Turbine corridor [length, mi (km)]	6.3 (10.1)	6.3 (10.1)
Average turbine corridor [width, ft (m)]	120.0 (36.6)	50.0 (15.2)
New road outside corridor [length, mi (km)]	5.5 (8.9)	5.5 (8.9)
New road outside corridor [width, ft (m)]	48.0 (14.6)	24.0 (7.3)
Overhead collection line [length, mi (km)]	5.0 (8.0)	5.0 (8.0)
Overhead collection line [width, ft (m)]	20.0 (6.1)	0
Construction corridor [width, ft (m)]	120.0 (36.6), reduced to 100.0 (30.5) in vicinity of cultural resources	0
Met towers [sq ft (sq m)]	3,000.0 (278.7)	70.0 (6.5)
O&M facility dimensions [ft (m)]	150.0 x 200.0 (45.7 x 61.0)	150.0 x 200.0 (45.7 x 61.0)
SeaWest Proposed		
Turbine pad dimensions [ft (m)] ¹	100.0 x 100.0 (30.5 x 30.5)	43.0 x 68.0 (13.1 x 20.7)
New roads outside turbine strings [length, mi (km)]	5.5 (8.9)	5.5 (8.9)
New roads outside turbine strings [width, ft (m)]	48.0 (14.6)	24.0 (7.3)
New roads alongside turbine strings [length, mi (km)] ²	6.9 (11.1)	6.9 (11.1)
New roads alongside turbine strings [width, ft (m)]	48.0 (14.6)	24.0 (7.3)
Turbine pad staging areas [sq ft (sq m)]	1,900.0 (176.5)	0
Construction staging areas [ft (m)]	150.0 x 300.0 (45.7 x 91.4)	0
Meteorological towers [sq ft (sq m)]	6,000.0 (557.4)	140.0 (13.0)
O&M facility dimensions [ft (m)]	175.0 x 222.0 (53.3 x 67.7)	175.0 x 222.0 (53.3 x 67.7)

Table 2.1b (Continued)

Disturbance Type	Initial Disturbance	LOP Disturbance
SeaWest As-Built		
Turbine pad dimensions [ft (m)] ¹	100.0 x 100.0 (30.5 x 30.5)	43.0 x 68.0 (13.1 x 20.7)
New roads outside turbine strings [length, mi (km)]	5.5 (8.9)	5.5 (8.9)
New roads outside turbine strings [width, ft (m)]	48.0 (14.6)	24.0 (7.3)
New roads alongside turbine strings [length, mi (km)] ²	7.9 (12.7)	7.9 (12.7)
New roads alongside turbine strings [width, ft (m)]	48.0 (14.6)	24 (7.3)
Turbine pad staging areas [sq ft (sq m)]	1,900.0 (176.5)	0
Construction staging areas [ft (m)]	150.0 x 300.0 (45.7 x 91.4)	0
Meteorological towers [sq ft (sq m)]	6,000.0 (557.4)	140.0 (13.0)
O&M facility dimensions [ft (m)]	200.0 x 220.0 (61.0 x 67.1)	200.0 x 220.0 (61.0 x 67.1)

¹ The term "corridor" does not apply to the SeaWest proposal--turbines are constructed in staging areas and within the turbine pad area. Pads are connected by roads (Figure 2.1).

² Road ROWs include trenches for electrical and communication lines.

Table 2.3 Comparison of Windfarm Characteristics (Including Turbine Specifications), Electrical Systems, Communication Systems, and Access for Phase I.

Attribute	KENETECH Proposal	SeaWest Proposal	SeaWest As-Built
Windfarm Characteristics			
Number of turbines	201	91-136	133
Location	See Map 2.3 in this addendum	See Maps 2.1 and 2.2 in Development Comparison	See Map 2.1 in this addendum
Phase I capacity	70.5 MW	68-68.25 MW	≈ 80 MW
Tower height (hub height)	80, 100, or 120 ft (24, 30, or 37 m)	131-151 ft (40-46 m)	131 ft (40 m)
Tower type	Tubular steel	Same	Same
Distance between towers	162-216 ft (49-66 m)	260-290 ft (79-88 m)	276 ft (84 m)
Distance between strings	1,080-1,620 ft (329-494 m)	1,150-1,350 ft (351-411 m)	1,150-1,350 ft (351-411 m)
Turbine maximum output	400 kW	500-750 kW	600 kW
Rotor diameter	108 ft (33 m)	130-144 ft (40-44 m)	138 ft (42 m)
Rotor-swept area	9,161 sq ft (851 sq m)	13,273-16,286 sq ft (1,233-1,513 sq m)	14,957 sq ft (1,390 sq m)
Total swept area	1,841,361 sq ft (171,072 sq m)	1,482,026-1,805,128 sq ft (137,688-167,705 sq m)	1,989,281 sq ft (184,815 sq m)
Tip speed	154 mph (69 m/s)	125-139 mph (56-62 m/s)	118 mph (53 m/s)
Blade material	Reinforced fiberglass	Same	Same
Number of blades	3	Same	Same
Yaw system	Electrically controlled drive system	Same	Same
Turbine drive train	Mainshaft, gearbox, brake system	Same	Same
Hub	Cast iron	Same	Same
Number of turbine strings	12	6-8	8
Number of end row turbines	24	12-16	16
String length	1,584-10,560 ft (483-3,219 m)	2,030-8,320 ft (619-2,536 m)	2,030-7,800 ft (619-2,379 m)
Turbine operating range	10-65 mph (4-29 m/s)	Same	Same
Noise level at base of tower	99.3 dBA	99.2-100.0 dBA	99.2-100 dBA

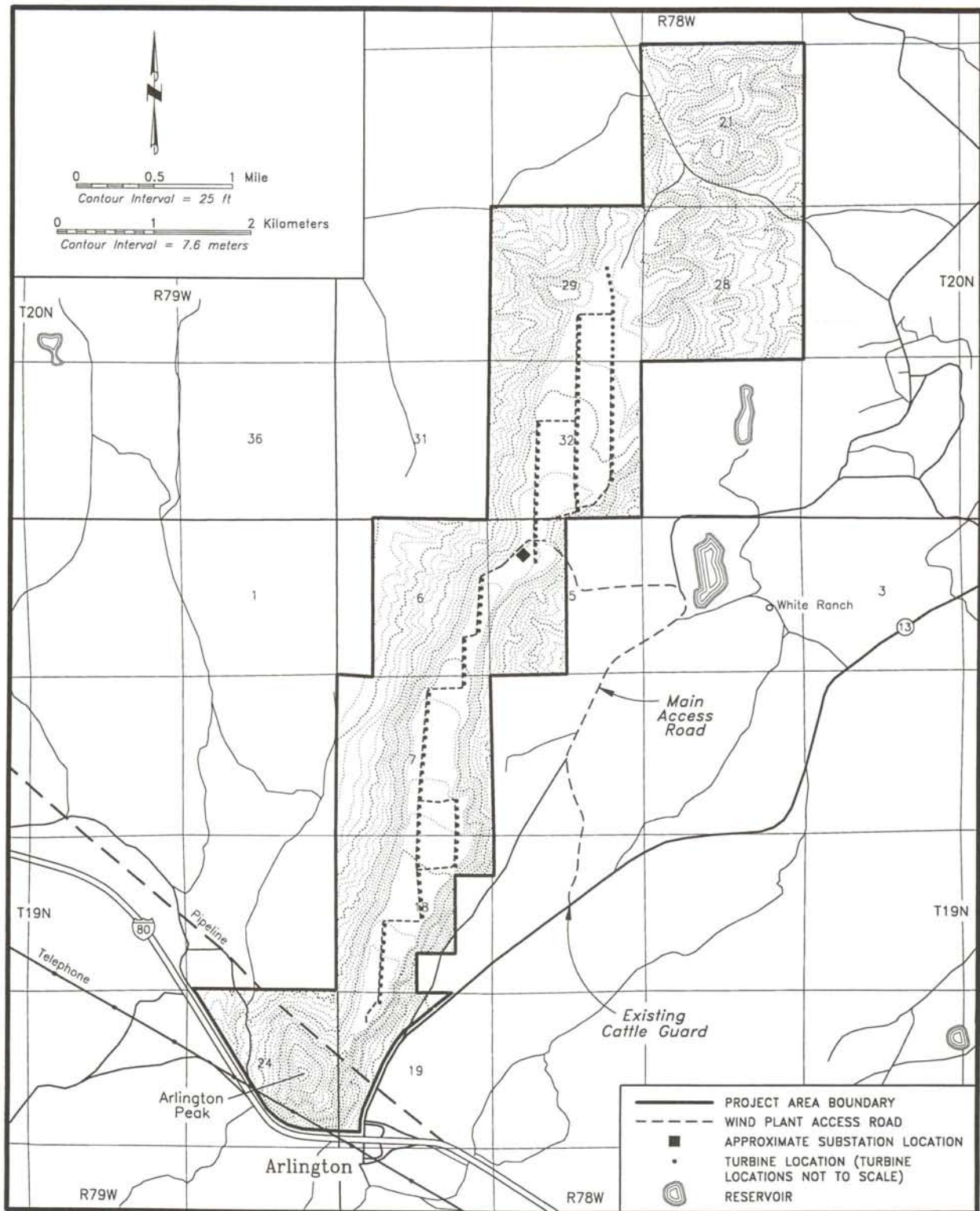
Table 2.3 (Continued)

Attribute	KENETECH Proposal	SeaWest Proposal	SeaWest As-Built
Windfarm Characteristics (cont.)			
Turbine color	Standard BLM environmental color	Same	Same
Number of meteorological towers for LOP	7	11-16	11
O&M facility	< 1 acre	Same	1 acre
Turbine servicing	Uptower	Same	Same
Foundation	Buried, steel-reinforced, poured concrete	Same	Same
LOP	30-year renewable ROW grant	Same	Same
Electrical System			
Transformer type	Padmount, 3-phase, oil-cooled (no PCBs) ¹	Same	Same
Number of transformers	67-100	91-136	133
Power control	Solid-state, computer-controlled	Same	Same
Low voltage electrical	Underground	Same	Same
Medium voltage electrical	Pole line	Underground	Underground
Number of power/riser poles within windfarm	150	2	2
Aboveground collection lines within windfarm	5.0 mi (8.0 km)	0	0
Underground collection lines within windfarm	6.3 mi (10.1 km)	6.3-8.2 mi (10.1-13.2 km)	7.3 mi (11.7 km)
Installed height of power poles	45-55 ft (14-17 m)	Same	Same
Voltage from turbines	480 volts	550-690 volts	600 volts
Transformer capacity	750-1,250 kVA	750-1,000 kVA	600 kVA minimum
Medium voltage system	34.5 kV	Same	Same
Transmission line	See Section 2.1.3.2 in DEIS	Same	Same
Substation location	Section 5, T78N, R19W	Same	Same
Number of conductors	4, including 1 ground	Same	Same
Conductor spacing	At least 5 ft (2 m) apart	Same	Same

Table 2.3 (Continued)

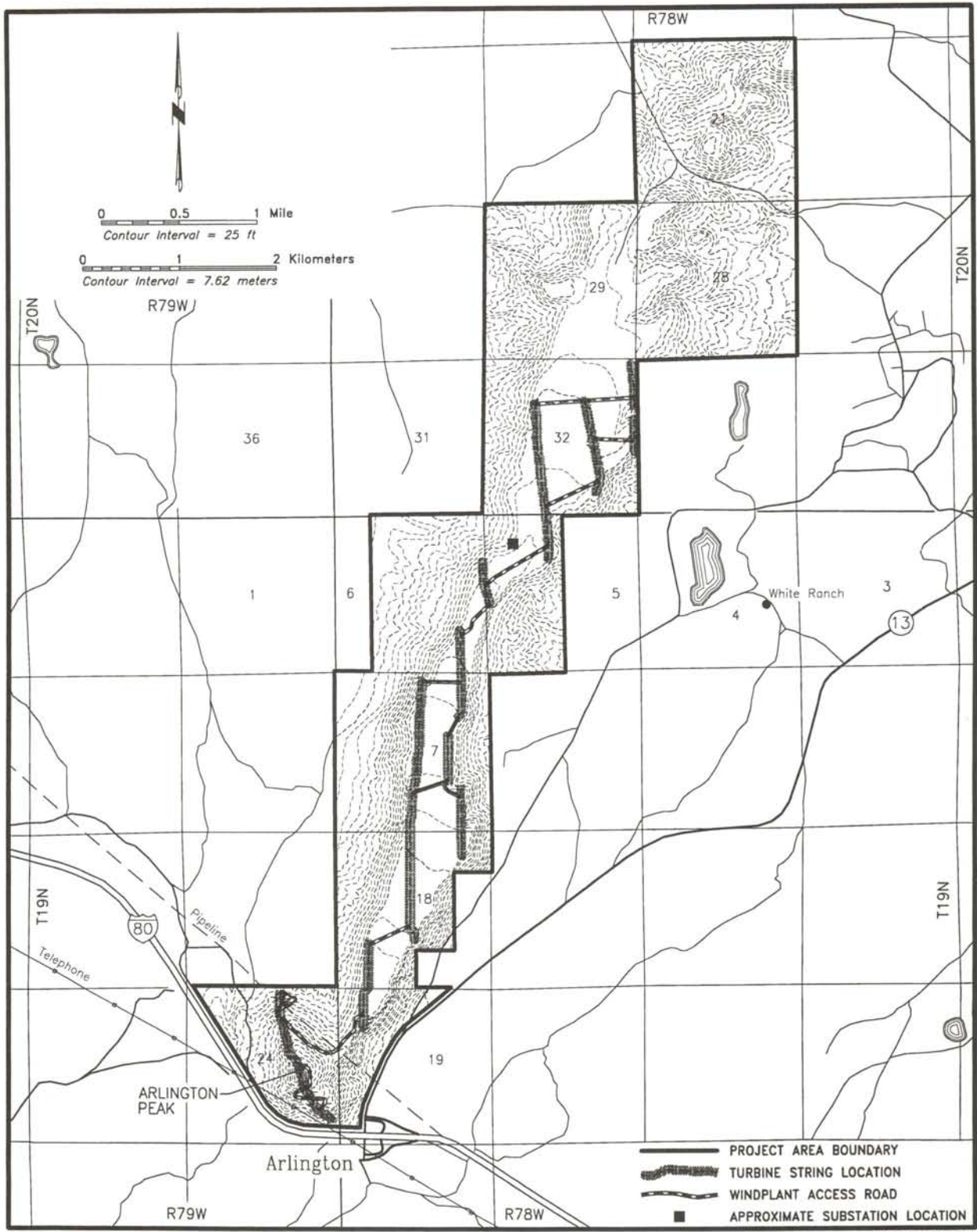
Attribute	KENETECH Proposal	SeaWest Proposal	SeaWest As-Built
Communication System			
Turbine control	Computer-controlled, proprietary software	Same	Same
Communications network	Buried cables centrally connected to O&M building	Same	Same
Disturbance due to communication system	Trench from rimtop to O&M building near Arlington; <1.0 acre	0	0
Trenching	Common trench with power collection lines	Same	Same
Number of communications buildings	3	1	1
Communication building dimensions	8 x 8 ft (2 x 2 m)	10 x 14 ft (3 x 4 m)	10 x 14 ft (3 x 4 m)
Access			
Access	Via Interstate 80 and Wyoming Highways 30/287 and 13	Same	Same
Main access road length	3.4 mi (5.5 km)	Same	Same
Windfarm access road length	10.8 mi (17.4 km)	8.4 mi (13.5 km)	9.5 mi (15.3 km)
ROW for main access road	55 ft (17 m)	Same	Same
ROW for windfarm access roads	50 ft (15 m)	Same	Same

¹ PCB = polychlorinated biphenyl.



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Map 2.1 Site Plan, MHI MWT-450 600-kW Turbine.



Map 2.3 Site Plan, KENETECH, Phase I, KVS-33 400-kW Turbine.

2.1.1 Overview

Paragraph 4, Sentence 1: The project would be constructed in phases of varying size, beginning with the Phase I erection of 133 turbines with an expected generating capacity of approximately 80 MW on Foote Creek Rim.

2.1.3 The Windfarm

Paragraph 2: At Foote Creek Rim, Phase I wind turbines would be placed along the rim in eight turbine strings (Map 2.1), whereas KENETECH had proposed 12 Phase I strings (BLM 1995c). String length would vary from 2,030 to 7,800 ft (619 to 2,379 m) as compared with string lengths of 1,584 to 10,560 ft (483 to 3,219 m) under the KENETECH proposal.

2.1.3.1 Wind Turbine Generators

Paragraph 1, Sentences 4 and 5: The operating range of windspeeds would be 10.7-60.4 miles per hour (mph) [4.8-27.0 meters per second (mps)]. At speeds greater than 60.4 mph (27.0 mps), the blades or blade tips would feather into the wind (they would turn parallel with the wind) and the rotor would stop spinning.

2.1.3.2 Electrical System

Windfarm Electrical System

Paragraph 1, Bullets 1 and 2:

- power from turbines would be 600 volts (compared with 480 volts for KENETECH's KVS-33);
- transformer capacity would be a minimum of 600 thousand volt amperes (kVA) (compared with 750-1,250 kVA for KENETECH);

2.1.4.3 Trenching and Placement of Underground Electrical and Communication Cables

Sentence 2: For Phase I, an estimated 133 transformers would be used to step up low voltage power to 34.5 kV and approximately 7.3 miles (mi) [11.7 kilometers (km)] of underground power cable would be installed.

2.1.11 Project-wide Mitigation Measures

Paragraph 4:

- 3) Because SeaWest would use a larger turbine than the KVS-33 proposed by KENETECH, fewer turbine strings and, consequently, fewer end row turbines would be erected. The SeaWest layout would include 16 end row turbines, whereas the KENETECH proposal included 24.

Paragraph 5:

- 4) For Phase I development, SeaWest is proposing to use 68 fewer turbines than the number proposed by KENETECH.

2.2 ALTERNATIVE A

Paragraph 3, Sentence 1: Under Alternative A, the project also would be developed in phases, beginning with the approximately 80-MW (133 turbines) Phase I on Foote Creek Rim, as described for the Proposed Action.

3.1.1 Snow Deposition

Paragraph 4, Sentence 2: The SeaWest proposal includes up to 66 more pad-mounted transformers than the KENETECH proposal, but does not include any downtower boxes (201 for the KENETECH proposal) and would have only one communication building; therefore, there would be 135 fewer structures to accumulate snow (Table 3.1).

3.1.4 Soils

Paragraph 1, Sentence 2: For Phase I, the SeaWest proposal would disturb approximately 24 fewer acres during construction and up to 10 acres more for the LOP, although disturbance per MW would be essentially the same as the KENETECH proposal (Tables 2.1a and 2.2a).

3.1.5 Noise

Paragraph 3, Sentence 1: SeaWest's Phase I proposal includes a 34% reduction in the number of turbines on Foote Creek Rim which would result in a 1.0 dBA reduction in noise levels across all noise contours shown on Map 4.2 in the DEIS (Table 3.2).

3.2.1 Vegetation

Paragraph 1, Sentence 2: For Phase I, the SeaWest proposal would disturb approximately 24 fewer acres of vegetation during construction and up to 10 acres more for the LOP, although disturbance per MW would be essentially the same as for the KENETECH proposal (Tables 2.1a and 2.2a).

Table 3.1 Comparison of Project Components that Would Influence Snow Distribution.

Snow Accumulation Factor	KENETECH ¹ Proposal	SeaWest ² Proposal	SeaWest As-Built	Snow Accumulation under SeaWest Proposal as Compared with KENETECH Proposal
Individual turbine rotor-swept area	9,161 sq ft (851 sq m)	13,273-16,286 sq ft (1,233-1,513 sq m)	14,957 sq ft (1,390 sq m)	Increased accumulation
Distance between turbines	162-216 ft (49-66 m)	260-290 ft (79-88 m)	276 ft (84 m)	Decreased accumulation
Ratio of disturbed: undisturbed air	0.42	0.21 to 0.25	0.25	Decreased accumulation
Estimated drag coefficient	0.5	Same	Same	No difference
Tower height	80, 100, 120 ft (24, 30, or 37 m)	131-151 ft (40-46 m)	131 ft (40 m)	Increased accumulation further downwind
Overall effect of WTG array on snow accumulation	The affected area would be located 3.7 rotor diameters downwind of WTG string; drifts from individual turbines would coalesce 4.0 rotor diameters downwind	The affect area would be located approximately 6 rotor diameters downwind of WTG strings; drift from individual turbines would coalesce 6 to 8 rotor diameters downwind	Same as SeaWest Proposal	Overall reduction in drift formation on Foote Creek Rim, since affected area would not reach the ground for approximately 50% of the turbines
Number of pad-mounted transformers	67-100	91-136	133	Increased development of up to 69 isolated drifts
Number of downtower facilities	201	0	Same as SeaWest Proposal	Decreased development of 201 isolated drifts
Road design	Crowned-and-ditched on rim top	Crowned without ditches on rim top	Same as SeaWest Proposal	Decreased accumulation downwind on roads
Road placement	Downwind of turbines	Upwind of turbines	Same as SeaWest Proposal	Decreased need for snow-plowing and less accumulation due to plowing-related drifts
Snow-plowing methods	High speed, wing-type plow	Same	Same	No difference, but decreased snow-plowing required

¹ Tabler and Associates (1994).² SeaWest (1997).

Table 3.2 Predicted Noise Levels at Existing Noise-Sensitive Areas, Phase I.

Location	Estimated Existing Ambient Noise Level	KENETECH Predicted Noise Level	SeaWest 600-kW Turbine	
			Predicted WTG Noise Level	Existing Plus WTG Noise Level
Wyoming Highway Department residences	59 dBA	50-55 dBA	50 dBA	59 dBA
KOA campground	55-60 dBA	52 dBA	48 dBA	55-60 dBA
Sage grouse leks	50-55 dBA	27 dBA	25.5 dBA	50-55 dBA

3.2.2 Big Game

Paragraph 1, Sentences 2 and 3: Phase I disturbance in pronghorn, mule deer, white-tailed deer, and elk winter/yearlong range would be reduced by 24 acres during construction and increased approximately 10 acres for the LOP, although Phase I disturbance per MW would be essentially the same as the KENETECH proposal (Tables 2.1a and 2.1b). Furthermore, whereas KENETECH proposed to construct during winter months, SeaWest's Phase I development would be constructed in the fall of 1997 and spring/summer/fall of 1998, and thus no additional mitigation for wintering wildlife would be necessary.

3.2.3.3 Comparison of Project Design Features Related to Mitigation of Impacts to Avifauna

1) *The size and physical configuration of the windfarm...*

Paragraph 1, Sentence 1: Sea West proposes to use 68 fewer turbines than was proposed by KENETECH.

Paragraph 3, Sentences 2 and 3: Under SeaWest's proposal, 12 of 133 turbines would be located within 164 ft (50 m) of the rim's edge, compared with 69 of 174 turbines--the

number proposed for the actual rim by KENETECH, but excluding the 27 turbines proposed by KENETECH for Arlington Peak. Under the SeaWest proposal and as-built, no turbines would be located on Arlington Peak (also an apparent high-use area) during Phase I.

Paragraph 6, Sentence 2: Risk to all birds would be reduced because SeaWest proposes to use 68 fewer turbines.

Paragraph 7, Sentence 1: SeaWest's site locations for the remaining 112 turbines proposed for future phases on Foote Creek Rim (see Section 2.1.1 in the Development Comparison) are unknown at this time and thus levels of risk associated with future project designs cannot yet be evaluated.

Table 3.6: Amended to show SeaWest as-built data.

2) *Larger swept areas contribute...*

Paragraph 1, Sentences 3 and 4: Total rotor-swept area for Phase I (number of turbines multiplied by rotor-swept area of each turbine) would be 147,920 sq ft (13,743 sq m) higher than for the KENETECH proposal, which could result in slightly increased risk to all birds flying at rotor height because the total airspace occupied by rotors would be slightly greater. However, because the larger wind turbines produce greater power for a given swept area, the swept area per MW would be approximately 5% lower than for the proposed KENETECH windfarm (Table 3.7). *[the following is added text]* Since the SeaWest as-built project falls within the range of turbine numbers and rotor diameters analyzed in the Development Comparison, the equipment dimension changes are documented for future reference, but have not been used to refine the analysis, in the interests of minimizing confusion in the analysis. The conclusions of the analysis continue to be valid. Future analyses will use the as-built dimensions.

Table 3.6 Comparison of Number and Size of Safe Corridors Between Turbines.

Proposed Development	No. of Corridors ¹	Individual Corridor Length [ft (m)] (distance from blade tip to tip)	Total Corridor Length [ft (m)]
KENETECH proposal	173 ²	54 (16)	9,342 (2,847)
SeaWest proposal	90-135	130-144 (39.5-44)	12,960-17,440 (3,950-5,316)
SeaWest As-Built	132	138 (42)	18,216 (5,552)

¹ Number of turbines proposed for the rim top minus one equals number of corridors.

² Assumes a 108-ft (33-m) rotor diameter with 162 ft (49 m) between towers. Includes only those turbines located on the rim top; does not include the 27 turbines proposed for Arlington Peak by KENETECH.

Table 3.7 Rotor-Swept Area.

Attribute	KENETECH Proposal	SeaWest Proposal		SeaWest As-Built
	108-ft (33-m) Rotor [sq ft (sq m)]	130-ft (40-m) Rotor [sq ft (sq m)]	144-ft (44-m) Rotor [sq ft (sq m)]	138-ft (42-m) Rotor [sq ft (sq m)]
Rotor-swept area/turbine	9,161 (851)	13,273 (1,233)	16,286 (1,513)	14,957 (1,390)
Total rotor-swept area, Phase I ^{1,2}	1,841,361 (170,462)	1,805,128 (167,706)	1,482,026 (137,688)	1,989,281 (184,815)
Rotor-swept area/MW generated ²	26,119 (2,427)	26,449-26,546 (2,437-2,466)	21,714-21,795 (2,017-2,025)	24,866 (2,310)

¹ Based on 201 turbines for the KENETECH proposal, 136 turbines for the 130-ft (40-m) SeaWest turbine, 91 turbines for the 144-ft (44-m) SeaWest turbine, and 133 turbines for SeaWest as-built.

² Based on a 70.5-MW Phase I for the KENETECH proposal, a 68- to 68.25-MW Phase I SeaWest proposal, and 80-MW Phase I for SeaWest as-built.

 3) Comparison of risks of turbine location...

Paragraph 1, Sentence 4: Table 3.9 in the Development Comparison presented the results of an analysis to evaluate the apparent trade-off of moving turbines away from the rim's edge and decreasing total rotor-swept area versus increasing rotor height. For the SeaWest as-built project, total rotor-swept area is approximately 8% larger than for the KENETECH project; however, fewer turbines will be located within 164 ft (50 m) of the rim's edge. Table 3.9 presents an analysis of the apparent trade-offs of moving turbines away from the rim's edge versus increasing total rotor-swept area and rotor height.

These calculations show that SeaWest's as-built project would pose about the same or less risk to all raptors and to each raptor group. Risks to eagles would be 10-50% lower. Risk to buteos would be 10% higher to 40% lower. Risk to falcons and all raptors combined would be 10-50% lower. The assumptions and errors concerning this analysis described in the Development Comparison also apply to these computations.

Table 3.9 Comparison of Relative Risk Associated with Turbine Height and Rotor-Swept Area Versus Position on Foote Creek Rim, Phase I, 600-kW Turbine.

Survey Year	Eagles	Buteos	Falcons	All Raptors
1994/95	0.9	1.1	0.9	0.9
1995/96	0.5	0.6	0.5	0.5

6) *End row turbines...*

Paragraph 1, Sentence 2: The SeaWest layout would include 16 end row turbines, whereas the KENETECH proposal included 24.

7) *Fewer large turbines...*

Paragraph 1, Sentence 1: For Phase I development, SeaWest is proposing to use 68 fewer turbines than the number proposed by KENETECH.

9) *Electrical systems...*

Paragraph 1, Sentence 2: Under the SeaWest as-built project, all within-plant collection and communication lines [approximately 7.3 mi (11.7 km) of lines] would be buried, reducing or eliminating the potential for electrocution.

3.2.3.4 Summary

Golden and Bald Eagles. *Delete the following bullet:*

- total rotor-swept area would be lower,

Peregrine falcons. *Delete the following bullet:*

- total rotor-swept area would be lower,

3.3 SOCIOECONOMICS

Paragraph 1, Sentence 5: Phase I of the SeaWest proposal is approximately 9.5 MW larger than the Phase I development proposed by KENETECH.

3.5 VISUAL RESOURCES

Paragraph 2, Sentence 1: SeaWest's towers would be 11 ft (3 m) taller than the largest of those proposed by KENETECH; therefore, they would be visible from greater distances and the overall area of significant impacts in both the Foote Creek Rim and Simpson Ridge areas would increase.

Paragraph 3, Sentence 4: Under the SeaWest proposal, turbine strings would occupy 4.9 mi (7.9 km) along the rim, whereas the KENETECH proposal would have occupied 4.8 mi (7.7 km).

Paragraph 4, Sentence 2: Table 3.13 presents a comparison of the visible cross-section (i.e., the silhouette) of the Phase I SeaWest and KENETECH proposals and shows that the cross-sectional area occupied by SeaWest as-built project would be approximately the same to 20% less than the area occupied by the KENETECH proposal.

4.0 REFERENCES

U.S. Bureau of Land Management. 1997. *SeaWest/KENETECH Windfarm Development Comparison*, Carbon County, Wyoming. Prepared for U.S. Department of Interior, Bureau of Land Management, Rawlins, Wyoming, by TRC Mariah Associates Inc., Laramie, Wyoming. 105 pp. + append.

For other references, see BLM 1997.

Table 3.13 Comparison of Visual Cross Sectional Area, Phase I.

Area	KENETECH Proposal					SeaWest Proposal				SeaWest As-Built			
	WTG Nacelle	Blades (3)	Tower	Downtower Structure	Total	WTG Nacelle	Blades (3)	Tower	Total	WTG Nacelle	Blades (3)	Tower	Total
Height/length (ft)	5.0	52.8	80.0-120.0	7.0	--	10.67	60.39-63.03	131.2-151.8	--	7.2	--	131	--
Width (ft)	7.45	3.55	8.33	10.0	--	7.50-8.09	3.74-4.00	8.58-8.67	--	8.2	--	8.6 ¹	--
Area (sq ft)	37	562	666-1,000	70	1,336-1,670	80-86	678-756	1,126-1,316	1,884-2,158	80.0	807	1,126	2,013
No. of WTGs per Project					201				91-136				133
Total Area (sq ft)					268,536-335,670				179,634-280,976				267,729

¹ Tower diameter ranges from 6.6 ft at the top to 10.5 ft at the base; average diameter is 8.6 ft.