

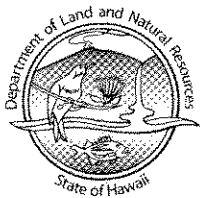
LINDA LINGLE
GOVERNOR OF HAWAII



PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

YVONNE Y. IZU
DEPUTY DIRECTOR - WATER



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

Ref:OCCL:SL

File: CDUA MA-3102/3103

NOV - 8 2004

MEMORANDUM

To: Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control

From: *Samuel J. Lemmo*
Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands

OFFICE OF ENVIRONMENTAL
QUALITY CONTROL
NOV - 8 12:15
RECEIVED

Subject: Final Environmental Assessment (FEA) for the Kaheawa Pastures Wind Energy Generation Facility, Island of Maui (TMKs: 4-8-1:1 and 3-6-1:14)

The Department of Land and Natural Resources has reviewed the FEA for the subject project, and is hereby issuing a Finding of No Significant Impact (FONSI) determination for the proposed project changes. A Final Environmental Impact Statement was approved for this project in 1999. The original project called for 27 wind turbines at the site. The current project proponents have proposed a change to 20 wind turbines that are larger than the original turbines. Upon evaluation of the FEA, it has been determined that the proposed changes should not result in significant impacts over and above those already discussed and mitigated in the original EIS. Please publish notice of this action in the next issue of the Environmental Notice. We have enclosed four hard copies of the FEA document. Enclosed are the applicant's project summary and the OEQC Bulletin Publication Form.

Please contact me at 587-0381 should you have any questions.

Cc: Smith Development

Enclosures

NOV 23 2004

KAHEAWA PASTURES
WIND ENERGY GENERATION FACILITY



FINAL ENVIRONMENTAL ASSESSMENT

TMK Nos. 4-8-001: 001 AND 3-6-001: 014
UKUMEHAME, MAUI, HAWAII

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OFFICE OF ENVIRONMENT/
QUALITY CONTROL

KAHEAWA WIND POWER, LLC
OCTOBER 2004

KAHEAWA PASTURES
WIND ENERGY GENERATION FACILITY



FINAL ENVIRONMENTAL ASSESSMENT

SECTIONS

PRELIMINARY SITE PLANS

*AUGUST 1999
AUGUST 2004*

FINAL ENVIRONMENTAL ASSESSMENT

PHOTOGRAPHS OF ZOND, VESTAS AND GE WIND TURBINES

POWERPOINT PRESENTATION

(USED IN PRE-CONSULTATION)

PRE-CONSULTATION CORRESPONDENCE

*(DEPARTMENT OF LAND AND NATURAL RESOURCES –
OFFICE OF CONSERVATION AND COASTAL LANDS;
DEPARTMENT OF PLANNING;
DEPARTMENT OF PUBLIC WORKS AND ENVIRONMENTAL MANAGEMENT;
MAUI TOMORROW;
MAUI COUNTY COUNCIL'S
ENERGY AND ECONOMIC DEVELOPMENT COMMITTEE)*

DRAFT ENVIRONMENTAL ASSESSMENT CORRESPONDENCE

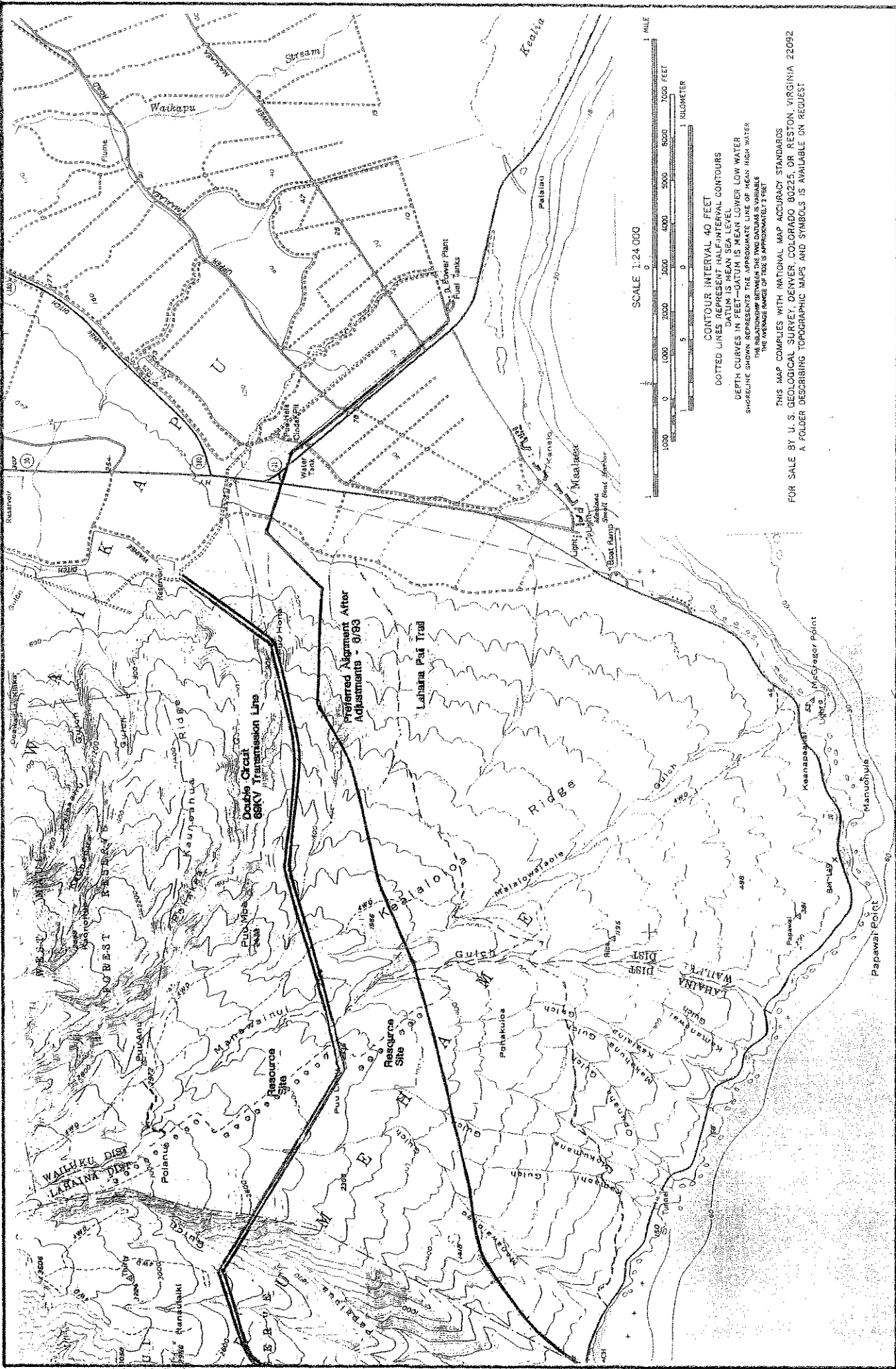
*(OFFICE OF ENVIRONMENTAL QUALITY CONTROL;
DEPARTMENT OF PLANNING;
DEPARTMENT OF PUBLIC WORKS AND ENVIRONMENTAL MANAGEMENT;
UNIVERSITY OF HAWAII ENVIRONMENTAL CENTER)*

CONSERVATION DISTRICT USE PERMIT

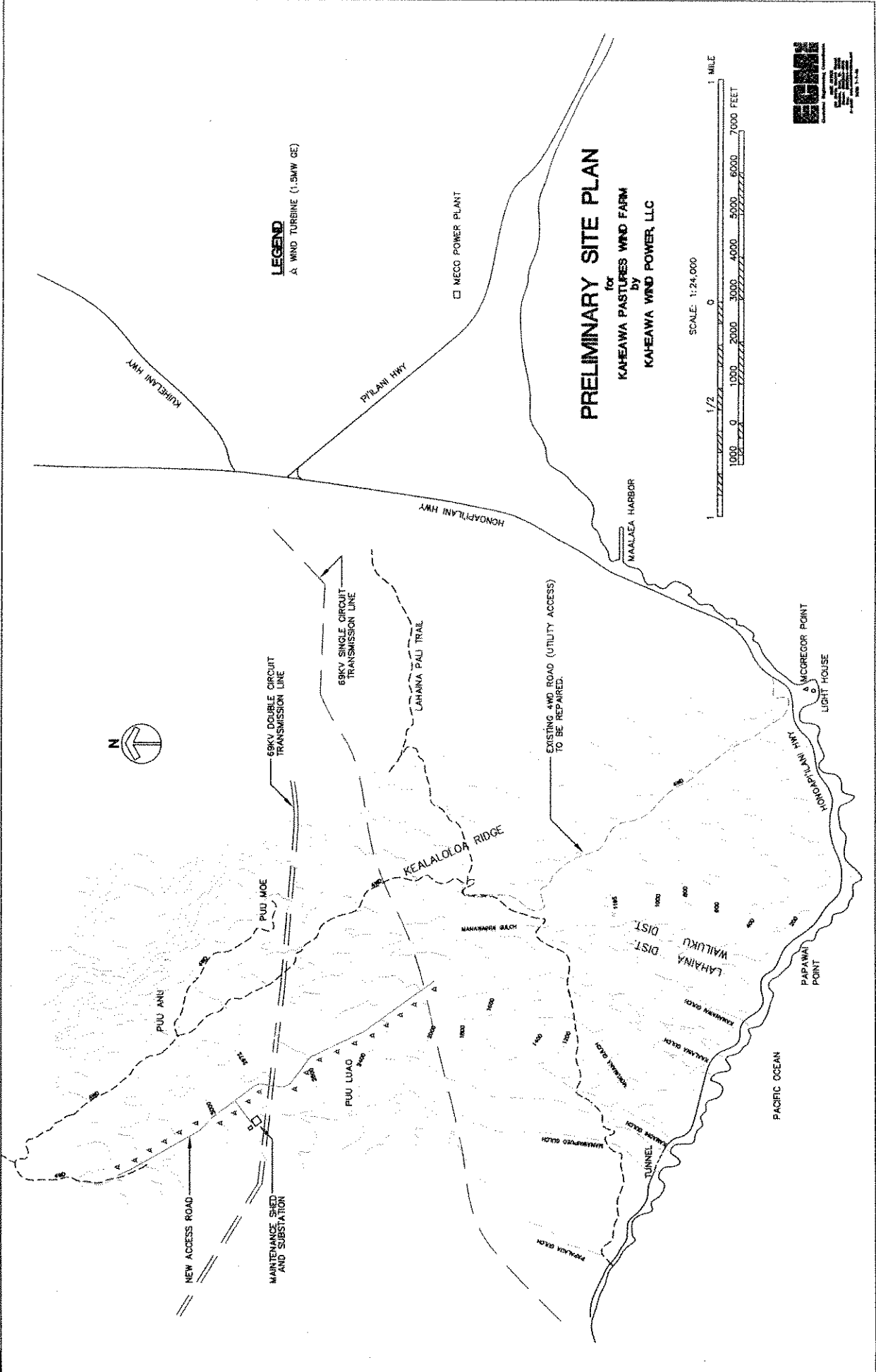
(FILE NO. MA-3103)



PRELIMINARY SITE PLANS



KAHEAWA PASTURES WIND ENERGY GENERATION FACILITY - PRELIMINARY SITE PLAN - AUGUST 1999



KAHEAWA PASTURES WIND ENERGY GENERATION FACILITY - PRELIMINARY SITE PLAN - AUGUST 2004

FINAL ENVIRONMENTAL ASSESSMENT

KAHEAWA PASTURES WIND ENERGY GENERATION FACILITY

FINAL ENVIRONMENTAL ASSESSMENT



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PROJECT OVERVIEW



1. PROJECT SUMMARY

Kaheawa Wind Power, LLC proposes to construct a new 30 megawatt (MW) wind energy generation facility and related improvements at Kaheawa Pastures above Ma'alaea, Maui, Hawai'i. The proposed wind energy generation facility would consist of twenty 1.5MW wind turbines, an operations and maintenance structure, an electrical distribution network and substation, wind monitoring equipment and service roadways. The proposed site is located on Conservation District lands owned by the State of Hawai'i. The subject property is comprised of 1,387.71 total acres and is identified as TMK No. 4-8-001: 001; the project site will occupy approximately 345 acres.

For many years, a wind energy generation facility has been proposed for the Kaheawa Pastures site by several entities and their successors. In August 1999, a final Environmental Impact Statement (EIS) was prepared for then-applicant Zond Pacific and was accepted by the Department of Land and Natural Resources (DLNR). Reference is made to the document entitled "Final Kaheawa Pastures 20MW Windfarm, Maui, Hawaii, Environmental Impact Statement" dated August 16, 1999. The current proposed 30MW facility utilizes a different wind turbine than the model analyzed in the final EIS. Upon consultation with DLNR's Office of Conservation and Coastal Lands, as well as with the Office of Environmental Quality Control, the applicant was directed to prepare an Environmental Assessment to analyze the potential *visual* impacts of the current proposed facility, as all other potential impacts were analyzed in the final EIS and are unaffected by the current proposal.

2. APPLICANT/CONTACT INFORMATION

Applicant: Kaheawa Wind Power, LLC
c/o Makani Nui Associates, LLC
1043 Makawao Avenue
Suite 208
Makawao, Hawai'i 96768

Phone: 808/572-3011

Facsimile: 808/572-8378

Contact: Michele McLean, Land Use Planner
KRS Development, Inc.
For Makani Nui, LLC, a Partner of Kaheawa Wind Power

3. APPROVING AGENCY INFORMATION

Agency: Department of Land and Natural Resources
Office of Conservation and Coastal Lands
P.O. Box 621
Honolulu, Hawai'i 96809-0621

Phone: 808/587-0377

Facsimile: 808/587-0455

Contact: Samuel J. Lemmo, Administrator

4. OWNER INFORMATION

Owner: Department of Land and Natural Resources
Land Division
P.O. Box 621
Honolulu, Hawai'i 96809-0621

Phone: 808/587-0421

Facsimile: 808/587-0455

Contact: Gary Martin, Land Agent

5. CONSULTED AGENCIES AND COMMUNITY

State of Hawai'i: Department of Land and Natural Resources, Na Ala Hele Program
Department of Land and Natural Resources, Office of Conservation
and Coastal Lands

County of Maui: Department of Planning
Department of Public Works and Environmental Management

Community: Maui County Council, Energy and Environment Committee
(*informational meeting only; not formal pre-consultation*)
Maui Tomorrow

6. LAND USE CLASSIFICATIONS

State: Conservation
Community Plan: n/a (State Conservation)
Zoning: n/a (State Conservation)
Other: None

7. ANTICIPATED DETERMINATION

This document will examine potential visual impacts associated with the proposed new wind turbine. The applicant anticipates that the proposed new wind turbine will not create significant impacts to the environment, visually or otherwise, and that a Finding of No Significant Impact (FONSI) will be issued. Therefore, it is anticipated that an environmental impact statement or supplement will not be required for the proposed action.

8. PROJECT DESCRIPTION

Kaheawa Wind Power, LLC (Kaheawa Wind) proposes to develop a 30MW wind energy generation facility at Kaheawa Pastures. The proposed facility will be situated on Conservation District lands that are owned by the State of Hawai'i. Because the subject property is State land and is situated in the Conservation District, the proposed wind energy generation facility "triggers" the requirement for environmental review pursuant to Chapter 343, Hawai'i Revised Statutes.

As noted above, a final EIS was accepted for a proposed wind energy generation facility in 1999. The current proposed facility is a modification from that which was analyzed in the final EIS. Because the potential impacts of this modification are predominantly visual, this Environmental Assessment has been prepared to analyze the visual impacts alone; all other potential impacts were analyzed in the final EIS.

The proposed project would consist of twenty 1.5MW wind turbines, an operations and maintenance structure, an electrical distribution network and substation to connect the output of the wind turbines to the existing Maui Electric Company distribution system, wind monitoring equipment to assess long-term conditions at the site, and roadways both accessing and serving the site.

The subject property is comprised of 1,387.71 total acres and is identified as TMK No. 4-8-001: 001; the project site will occupy approximately 345 acres (a general boundary that is 1,500 feet wide and 10,000 feet long). Each turbine will require a foundation of up to 1,600 square feet (40 feet square), for a "developed" area of approximately 32,000 square feet (0.74 acres).

The project site is served by an existing four-wheel-drive jeep trail that begins at Honoapiilani Highway near McGregor Point, crosses the Lahaina Pali Trail, and continues roughly along the eastern side of Manawainui Gulch. The existing roadway presently serves the site by approaching it from a mauka point, though it was proposed in the final EIS to create a "spur" road at a lower elevation near Pu`u Anu. Most of the existing and proposed roadway alignments are situated on parcel 3-6-001: 014.

Project History.

In August 1999, then-applicant Zond Pacific prepared a final EIS that was subsequently accepted by DLNR. The final EIS evaluated the potential environmental impacts of the then-proposed 20MW facility consisting of 27 Zond Z-48 wind turbines, each generating an electrical output of 750 kilowatts (kW).

The assets of Zond Pacific, a subsidiary of Enron Wind, were subsequently acquired by GE Wind Energy (GE Wind), who then submitted a Conservation District Use Application (CDUA) for the project. GE Wind's CDUA also proposed a 20MW facility, but instead utilized 30 Vestas V-47 wind turbines, each generating an electrical output of 660kW. The CDUA was approved by the Board of Land and Natural Resources on January 24, 2003, subject to 45 conditions.

After the CDUA was approved, Hawi Renewable Development (HRD) assumed the lead project role from GE Wind. Earlier this year, Kaheawa Wind acquired the project from HRD. Kaheawa Wind now proposes to develop a 30MW facility, utilizing 20 GE 1.5MW wind turbines.

Applicant History.

Kaheawa Wind is comprised of two entities: UPC Wind Partners, LLC, a Boston-based wind energy generation firm, and Makani Nui Associates, LLC, a Maui-based partnership providing local resources for the project.

The principals of UPC Wind Partners are among the world's leading wind power developers with extensive experience in financing, constructing, operating and managing large wind energy projects in America and worldwide. In North America, UPC Wind Partners has a portfolio of over 1,500MW in development. Internationally, UPC Wind Partners and its affiliates have over 483MW of generating capacity in operation, 166MW under construction, and over 1,000MW under active development.

The principals of Makani Nui Associates are Hilton Unemori of ECM, Inc., an electrical and civil engineering firm located in Wailuku, and Kent Smith of KRS Development, Inc. (Smith Development), a real estate development company located in Makawao.

ECM is one of Maui's largest and best known electrical engineering firms, with 28 years of experience in Hawai'i and extensive interface with Maui Electric Company, Ltd. and its parent company. Smith Development also has ongoing professional relationships with the

utilities, as well as 18 years of experience in real estate development, due diligence, entitlements, permitting, financing, and construction management.

With UPC Wind Partners' extensive experience in wind energy, and with ECM's and Smith Development's local contacts and combined abilities, the applicant is confident that the Kaheawa Pastures wind energy generation facility can finally become a reality.

Project Comparison.

The current proposed 30MW facility utilizes a different wind turbine than the model analyzed in the final EIS and the model permitted by the approved CDUA. As previously noted, upon consultation with DLNR's Office of Conservation and Coastal Lands, as well as with the Office of Environmental Quality Control, the applicant was directed to prepare this Environmental Assessment to analyze the potential *visual* impacts of the current proposed facility, as all other potential impacts were analyzed in the final EIS, reviewed during the CDUA process, and are unaffected by the current proposal.

It should be noted that all three proposals (final EIS version, CDUA version, and current proposed version) fall within the same project area and "footprint" – no version has deviated from the original project site. All three proposals also contemplate using comparable colors for the towers, i.e., off-white.

In analyzing these three versions, there are four areas where there are visual differences: the number of turbines, the height of the turbines (tower plus rotor), the type of tower utilized, and the rotor speed.

The final EIS analyzed a project design utilizing 27 Zond Z-48 turbines, each producing 750kW, for a total output of approximately 20MW. The Z-48 consists of a 50-meter lattice tower and a 48-meter diameter rotor. This would create a total individual turbine height of approximately 74 meters (243 feet). The combined height of all of the turbines would total 1998 meters. The rotor speed is 34 revolutions per minute (rpm).

The CDUA approved a project design utilizing 30 Vestas V-47 turbines, each producing 660kW, for a total output of approximately 20MW. The V-47 consists of a 40-meter tubular tower and a 47-meter diameter rotor. This would create a total individual turbine height of approximately 64 meters (208 feet). The combined height of all of the turbines would total 1920 meters. The rotor speed is 28.5rpm.

The applicant proposes a project design utilizing 20 GE 1.5MW turbines, each producing 1.5MW, for a total output of approximately 30MW. The GE 1.5 consists of a 55-meter tubular tower and a 70-meter diameter rotor. This would create a total individual turbine height of approximately 90 meters (296 feet). The combined height of all of the turbines would total 1800 meters. The rotor speed is variable at 11-20rpm.

The visual features are summarized in the following comparison chart.

	EIS Analysis	CDUA Permit	Proposed
Number of turbines	27	30	20
Type of turbine	Zond Z-48	Vestas V-47	GE 1.5
Power generation	750 kW each 20.25 MW total	660 kW each 19.8 MW total	1.5 MW each 30 MW total
Tower structure and height	lattice 50 meters (164 feet)	tubular 40 meters (131 feet)	tubular 55 meters (180 feet)
Rotor diameter	48 meters (157 feet)	47 meters (154 feet)	70.5 meters (231 feet)
Total height (tower + ½ rotor)	74 meters (243 feet)	64 meters (208 feet)	90 meters (296 feet)
Total visual impact (number of turbines times total height)	1998 meters (6553 feet)	1920 meters (6298 feet)	1800 meters (5920 feet)
Rotor speed	34 rpm	28.5 rpm	11-20 rpm (variable)

Visual Analysis.

The applicant believes that the proposed design has a comparable, and slightly improved, visual impact than the two previously approved designs. While the differences among the tower heights are negligible, the differences among the rotor diameters are off-set by the notable decrease in the number of turbines and in the slower rotor speeds. These factors combined will have a less visually intense and intrusive impact.

The change from lattice towers to tubular towers has repercussions relating not only to visual impacts but also to wildlife. While lattice towers arguably have a lighter, more open appearance, they do not appear as sleek or clean as the tubular (or “monopole”) towers, which are more befitting the technology. In regards to wildlife, it is generally acknowledged that birds nest in the lattice work, thus increasing the potential for collisions with the operating turbines. (Wildlife issues will be discussed in detail through the Habitat Conservation Plan process described in the next section.)

Another component of the project’s potential visual impact relates to color. As previously noted, all three proposed designs utilize a similar off-white color. However, two conditions of the CDUA permit relate to the color of the turbines:

The applicant shall work with the County of Maui Planning Department to ensure that the appropriate colors tones are used on the towers and blades (condition no. 40) and

The applicant shall submit a pre-final construction plan for the wind turbines as well as hire a color consultant to develop the most appropriate color scheme for the project to blend in with the surroundings. The color

scheme shall be reviewed by the County of Maui for consistency with its programs and policies (condition no. 43).

In compliance with these conditions, the applicant will work with the County of Maui and its Department of Planning on the final color scheme. To date, the applicant's research has determined that wind turbines, worldwide, typically utilize neutral off-white colors. Wind turbines, due to their very nature, cannot be hidden. Attempts to camouflage them have generally been unsuccessful; in fact, painting wind turbines a non-neutral color, for example, can serve to call attention to them.

The proposed off-white color, on the other hand, tends not to clash with other surrounding colors, in any weather condition or nature of the surrounding landscape. Studies have shown that gray or metallic colored wind turbines may appear to be visually linked with industrial elements, rather than being perceived as a distinct clean sculptural element.

The color of the turbines also has a potential impact on wildlife. While humans may desire not to see the turbines, we want birds to be able to see them in order to avoid collisions.

The project site is situated at an elevation of approximately 1,800 to 3,000 feet. Humans will typically see the wind turbines from sea level, though portions will be visible from the Lahaina Pali Trail. Therefore, the backdrop will typically be the sky, which can range in color from blue to gray to white. Birds will typically see the wind turbines from above, with the ground as the backdrop, which can range in color from green to tan to brown. Therefore, it is highly unlikely that one color could successfully camouflage the wind turbines for humans while allowing them to remain visible for birds.

Project Permitting and Timing.

The CDUA permit that was approved on January 24, 2003 is administered by DLNR as a land use entitlement that "runs with the land." In other words, while the applicant at the time was GE Wind Energy, the CDUA permit does not need to be transferred to Kaheawa Wind.

However, Kaheawa Wind will need to request the Board of Land and Natural Resources to approve the issuance of a lease. The Board approved the issuance of a lease to GE Wind and HRD on February 23, 2003, but this is not an action that is transferable. Kaheawa Wind anticipates making its request to the Board upon the conclusion of the processing of this Environmental Assessment.

Kaheawa Wind is also in the process of obtaining an Interconnect Requirement Study as part of its Power Purchase Agreement (PPA) discussions with Maui Electric Company, Ltd. to purchase the electricity that the wind energy facility generates. The PPA is ultimately approved by the Public Utilities Commission. Kaheawa Wind anticipates that this process could be completed by early 2005.

Several conditions of the CDUA permit relate to the facility's potential impacts on wildlife, specifically listed avian and bat species. These conditions will be fulfilled through the preparation, approval and implementation of a Habitat Conservation Plan (HCP), which is processed with DLNR's Division of Forestry and Wildlife and the United States Fish and Wildlife Service. The HCP approval process is anticipated to be concluded in early to mid-2005, with implementation to be ongoing through the first several years of operation at least.

The CDUA permit also includes a condition that "any work to be done on the land shall be initiated within two (2) years of the approval of the use by the Board..." (condition no. 15), which would mean by January 24, 2005. With all appropriate permits, leases, insurance and other requirements being met, Kaheawa Wind anticipates beginning preliminary site work on the access roadway by this date. However, if this does not seem feasible as the date approaches, Kaheawa Wind will request a time extension.

Construction-related permits include a National Pollutant Discharge Elimination System (NPDES) permit, which is administered by the State Department of Health. The NPDES process ensures that cut or graded areas are properly designed and engineered to prevent erosion and runoff and to prevent any disruption of natural drainage functions. A permit from the State Department of Transportation will also be required for needed improvements to the access roadway's entrance at Honoapiilani Highway. This entrance most likely falls within the Special Management Area (SMA), in which case a minor SMA permit would be required.

Pre-Consultation.

The applicant consulted with two State agencies, two County agencies, and one community group in the preparation of the draft Environmental Assessment. Additionally, the applicant gave an informational presentation to the Maui County Council's Energy and Environmental Committee on the background and status of the project in general.

The State Department of Land and Natural Resources, Office of Conservation and Coastal Lands, which is also the accepting agency, had no comments to add to the document at this time.

The State Department of Land and Natural Resources, Na Ala Hele Program, offered verbal comments and questions relating to potential impacts to users of the Lahaina Pali Trail. These comments related predominantly to visual and noise impacts.

The County Department of Planning had no comments to add to the document at this time.

The County Department of Public Works and Environmental Management offered comments about a recently adopted ordinance (Ordinance No. 3166) relating to the County's general plan and community plans, and how the County's environmental policies would apply to the project.

Maui Tomorrow, a well-known community group, expressed support of the proposed new turbines and offered several comments about the construction and maintenance of the project and its roadways. These additional comments relate to potential impacts on coastal waters, due to runoff and erosion of cut and graded areas, as well as to protecting and preserving flora and fauna along the roadways.

These agencies and individuals were given a PowerPoint presentation depicting photographic representations of the three wind turbine designs. A copy of the presentation is included herein.

The Maui County Council's Energy and Economic Development Committee was given a general presentation on the history and status of the project; while visual impacts were discussed, the differences among the three wind turbine designs were not the focus of the meeting. The Committee expressed general support of the project; the only comments relating to visual impacts were an acknowledgement that such impacts would be minimized by the project's remote location and distance from most public vantage points.

Draft Environmental Assessment Comments.

Comments on the draft Environmental Assessment were received from the Office of Environmental Quality Control, the County Department of Planning, the County Department of Public Works and Environmental Management, and the University of Hawai'i Environmental Center.

The Office of Environmental Quality Control requested that industry photos of the proposed new turbine be included. This final Environmental Assessment now contains photos of all three turbines that have been contemplated during the project's history, taken from the final EIS as well as from the manufacturers' brochures.

The Department of Planning asked for justification for the proposed new turbine, suggesting that the Vestas V-47 would have less of a visual impact than the GE 1.5. The applicant responded that the Vestas V-47 is smaller, but the Vestas layout would have used 50 percent more turbines than the GE 1.5 layout (30 Vestas vs. 20 GE). Additionally, the rotor speed of the Vestas is notably higher than that of the GE (28.5 rpm vs. 11-20 rpm), which is an important visual component.

The most important reason to utilize the GE 1.5 is because of its advanced technology, proven quality and reliability. Given the consistent and robust wind regime at the project site, it would only be responsible and practical to utilize a wind turbine with proven performance under comparable conditions. For example, the Zond Z-48, which was analyzed in the project's final EIS, is no longer commercially available. It is vital that the turbine utilized at Kaheawa Pastures is one with a proven track record and worldwide experience, and whose manufacturer and warranty instills trust and confidence.

The Department of Public Works and Environmental Management submitted a letter that they have no additional comments at this time.

Lastly, the University of Hawai'i Environmental Center expressed disagreement that the only difference between the proposed new turbine design and the previously-accepted designs is one of visual impacts. The Environmental Center suggests that other impacts will occur with the use of the GE 1.5 turbine, particularly construction-related impacts due to the turbines' size. Therefore, they believe that a new supplemental EIS is warranted.

The applicant disagrees with the Environmental Center's evaluation that the use of the new turbine will result in other impacts and, therefore, the applicant believes that this EA process is both adequate and appropriate.

The use of the GE 1.5 turbine will not result in, nor require, any substantial change to other elements of the project, including roadway improvements and construction equipment. All of the turbine components (tower sections, nacelles, rotors) will arrive on Maui unassembled, which would have also been the construction protocol for the Zond Z-48 or the Vestas V-47. The components will be transported on trailers to the project site, where they will be assembled and erected. The type of trailer and transporting equipment, therefore, will not be any different than that contemplated in the final EIS, as all would carry unassembled components of comparable size and weight.

Similarly, the type of crane required to erect the proposed new GE 1.5 turbine, like the crane required for the Zond Z-48 or Vestas V-47 turbines, would arrive on Maui only partially assembled. Its components would also be transported to the site, where it would be fully assembled and become operational.

The difference in the amount of concrete needed for any of the proposed turbines' foundations is negligible, as the new layout will utilize only 20 turbines (and, therefore, 20 foundations), as opposed to 27 Zond Z-48 or 30 Vestas V-47 turbines and foundations. It would be highly impractical to truck the concrete to the project site, given the distance and time required. The concrete will be batched on-site.

Therefore, the access road improvements required for all proposed turbine types will be nearly identical. No additional access road improvements beyond those contemplated, discussed and analyzed in the final EIS will be required.

The Environmental Center also stated that the footprint of the proposed new turbines does not fall within the same project area as the other two proposed layouts, as the new layout shows one turbine situated below the existing 69KV transmission line. However, the map utilized in the 1999 final EIS incorrectly depicted the location of the transmission line, placing it at a slightly higher elevation than where it is actually located. Had this transmission line been correctly depicted on the 1999 final EIS map, the two previously proposed turbine layouts would have extended below it.

Finally, they raised questions relating to botanical and biological surveys and potential impacts. Such impacts are clearly and specifically addressed by the CDUA permit conditions relating to additional surveys, monitoring, and the HCP process.

AFFECTED ENVIRONMENT, IMPACTS AND MITIGATION



1. PHYSICAL ENVIRONMENT

Surrounding Uses, Elevation, Soil and Drainage.

The subject properties (the parcel containing the facility site and the parcel containing the access roadway) are situated in the Conservation District. In addition to the access roadway, which is a four-wheel-drive jeep trail, the parcels also contain the Lahaina Pali Trail and two Maui Electric Company transmission lines.

The proposed facility will be situated at an elevation ranging from approximately 1,800 to 3,000 feet, on the Lahaina-side of Manawainui Gulch. The site work, as well as needed improvements to the access roadway, will be strictly governed by conditions contained in the CDUA, which generally mandate adherence to Best Management Practices (BMPs). Such requirements are also imposed through the NPDES permit process. In addition, other CDUA conditions require consultation with a native plant expert to offer guidance in re-vegetating cleared areas and in re-introducing native plants to the site.

Probable impacts: The probable impacts of the proposed new wind turbine design will be no different than those of the previously proposed designs. These impacts were assessed in the final EIS (reference is made to sections 3.3, 3.4 and 3.5). Maui Tomorrow and the Environmental Center expressed concern over the needed improvements to the access roadway and the potential for runoff and erosion should these improvements be poorly engineering and constructed.

Mitigation: Because the proposed new wind turbine design will not create additional impacts to surrounding uses, elevation, soil or drainage, no further mitigation is proposed beyond that contained in the above-referenced sections of the final EIS and required by the CDUA. The applicant is committed to strict compliance with the letter and spirit of the CDUA permit conditions and NPDES and SMA permit requirements.

Air Quality.

The Kaheawa Pastures region, along with most areas on the island of Maui, enjoys good air quality conditions. Airborne emissions and pollutants are generated by vehicle exhaust, intermittent fugitive dust and "Maui snow" from agricultural cultivation and construction activities, as well as emissions from Maui Electric Company's power plants. Particulates generated from such activities must meet Federal and State air quality standards.

Probable impacts: The electricity generated by the proposed facility will offset some of the fossil fuels needed to generate electricity at Maui Electric Company's Ma'alaea Power Plant. Because of this reduction in oil use, air emissions from the power plant will be reduced, such as carbon monoxide, carbon dioxide, sulfur dioxide, nitrogen dioxide, total suspended particulates and volatile organic compounds. It is estimated that the proposed facility will eliminate the use of approximately 155,600 barrels of oil annually that would otherwise be used to produce conventional power.

Mitigation: Because only positive impacts on air quality are anticipated, no mitigation is proposed.

Flora and Fauna.

As part of the final EIS, botanical and wildlife studies were performed. Further impacts on flora and fauna will be analyzed through the HCP process, which will require an additional botanical survey along the access roadway (particularly where improvements are needed) as well as additional surveys of listed avian and bat species. The botanical survey will also assist in the design of the needed roadway improvements.

Probable impacts: The probable impacts of the proposed new wind turbine design will be appropriately analyzed through the HCP process. Maui Tomorrow and the Environmental Center expressed concern over the possible removal or destruction of flora and fauna along the access roadway. Reference is also made to sections 3.7 and 3.8 of the final EIS.

Mitigation: Appropriate mitigation will be implemented pursuant to the final EIS, CDUA permit and approved HCP.

Archaeological and Cultural Resources.

An archaeological survey was performed as part of the final EIS. The CDUA permit requires preservation of Heiau 5232, which is located in the general vicinity of the facility site but a notable distance from any development, and includes a standard condition that requires the cessation of work should potential archaeological features be discovered during construction. The CDUA permit also includes a condition that future archaeological survey work be prepared should the course of the roadway be altered.

The access roadway crosses the historic Lahaina Pali Trail; in fact, the roadway and trail share an alignment for approximately 500 feet. The CDUA permit includes a condition that the trail be protected by orange construction fencing.

At its closest point, the Lahaina Pali Trail is situated approximately 3,000 feet (more than one-half mile) from the closest wind turbine. The CDUA permit includes a condition that visual impacts along the trail be mitigated in cooperation with the Na Ala Hele Program.

Probable impacts: The probable impacts of the proposed new wind turbine design on archaeological features should be no different than those analyzed in the final EIS (reference is made to section 3.9).

The proposed new design will, however, have different impacts to users of the Lahaina Pali Trail. Users of the trail will see the wind turbines; while they are taller than the previously proposed designs, there will be fewer (due to elevations and topography, there is no vantage point along the trail where more than a few wind turbines would be visible).

Presently, Maui Electric Company's transmission lines are visible from the trail. The closest line is situated approximately 1,500 feet from its closest point to the trail; these lines and poles are approximately 50 to 75 feet high. The closest wind turbine will be more than twice this distance from the trail.

Mitigation: As part of the final EIS, the facility site was shifted mauka, near the lowest Maui Electric Company line, to mitigate visual impacts to the Lahaina Pali Trail. The proposed new design and layout will not deviate noticeably from this approved footprint. As proposed in the final EIS and required by the CDUA, the applicant will continue to work with Na Ala Hele on other mitigation measures.

Such measures could include installing landscaping along portions of the trail to provide a visual buffer, helping to improve public access points at either end of the trail, providing information about the wind energy generation facility to be included in the Lahaina Pali Trail brochure, or assisting in printing and distributing information about the Lahaina Pali Trail and other Na Ala Hele resources.

2. SOCIO-ECONOMIC ENVIRONMENT

Population and Community.

In recent years, the resident population of the County of Maui has increased annually by approximately 1.3 percent. The population of the County was 100,374 in 1990 and grew to 128,095 in 2000. Residential growth is expected to continue, with forecasts projecting a population of 145,872 in 2010.

The community reaction to the proposed facility has been overwhelmingly supportive, as documented in the final EIS. While Maui Tomorrow expressed concerns over the physical impacts of the project's construction, the organization is nonetheless supportive of the project in general and the effort to bring alternative energy projects to completion.

Probable impacts: The probable impacts of the proposed new wind turbine design on the population and community should be no different than those analyzed in the final EIS (reference is made to sections 3.10 and 3.17).

Mitigation: Appropriate mitigation will be implemented pursuant to the final EIS and the conditions of the CDUA permit. Additionally, the applicant will continue its dialogue with Maui Tomorrow, a well-recognized community group, on the issues of concern noted herein.

Visual.

Because the focus of this Environmental Assessment is on the potential visual impacts of the proposed new wind turbine design, a detailed description, comparison and analysis were provided on pages 5 through 7 above. Reference is also made to section 3.16 of the final EIS. Lastly, in accordance with the request made by the Office of Environmental Quality Control, industry photographs of all three turbines are included herein.

Probable impacts: While the proposed new wind turbine design utilizes slightly taller towers and taller rotors, it contains far fewer towers and much slower rotors. The applicant believes that these benefits off-set any visual impacts associated with the increased height.

Like the two other proposed designs, the current proposed design will be visible from certain areas; however, it is proposed that the turbines will be off-white in color and not be attempted to be camouflaged.

Mitigation: Beyond complying with the CDUA conditions relating to working with the County of Maui and the Na Ala Hele program on the color and visual impacts of the proposed turbines, no further mitigation is proposed.

Noise.

The final EIS provided discussion of potential noise impacts of the wind turbines' operation (reference is made to section 3.14). The Na Ala Hele program also asked about such impacts for the proposed new wind turbine design.

The Zond Z-48 turbine has a sound power level of 102 decibels (dB) at its base. The proposed GE 1.5 turbine has a level of 104dB at its base. For comparison purposes, light auto traffic is 50dB, a vacuum cleaner is 70dB, a helicopter at 100 feet is 98dB, and a jet takeoff at 200 feet is 120dB.

Noise diminishes at a distance. In the final EIS, it was determined that the noise from the Zond Z-48 turbine would decay to 45dB within approximately 560 feet. The same would be true for the proposed GE 1.5MW turbine.

Probable impacts: Given that the Lahaina Pali Trail is approximately 3,000 feet from the closest turbine, due to the mauka relocation, any noise impacts would be masked by ambient noise levels.

Mitigation: Beyond having relocated the wind turbines mauka, in the vicinity of the existing Maui Electric Company lines, no further mitigation is proposed.

3. INFRASTRUCTURE AND PUBLIC SERVICES

Water, Roadways and Emergency Services.

The final EIS provided discussion of existing conditions, impacts and mitigation on water resources, infrastructure and public services (reference is made to sections 3.6, 3.11 and 3.12). In addition, the CDUA permit includes a condition requiring a Fire Contingency Plan.

Probable impacts: The probable impacts of the proposed new wind turbine design on infrastructure and public services should be no different than those analyzed in the final EIS.

Mitigation: Appropriate mitigation will be implemented pursuant to the final EIS and the conditions of the CDUA permit.

Utilities.

Maui Electric Company provides electric utility services to the island of Maui. The proposed 30MW wind energy generation facility will generate enough electricity to power the equivalent of approximately 10,400 average Maui homes.

Probable impacts: The electricity generated by the proposed facility will eliminate the use of approximately 155,600 barrels of oil annually that would otherwise be used to produce conventional power. This equates to approximately \$6.5 million per year in oil.

Mitigation: Because only positive impacts on utility services are anticipated, no mitigation is proposed.

LAND USE ANALYSIS



1. STATE CONSERVATION DISTRICT

The subject properties are situated in the Conservation District, as established and regulated by Chapter 205, Hawai'i Revised Statutes (HRS). Lands within the Conservation District are typically utilized for protecting watershed areas, preserving scenic and historic resources, and providing forest, park and beach reserves [subsection 205-2(e) HRS].

Because the proposed wind energy generation facility is not a permitted use in the Conservation District, the CDUA permit was obtained to allow its construction and operation.

2. COUNTY OF MAUI GENERAL PLAN

The General Plan of the County of Maui (1990) was adopted by Ordinance No. 2039, which became effective on September 27, 1991. The General Plan was also amended by Ordinance No. 2234, which became effective on April 23, 1993. The General Plan has several categories of objectives and policies, two of which are relevant to the proposed wind energy generation facility.

Under the "Population, Land Use, the Environment and Cultural Resources" heading is the "Environment" section. As noted by the Department of Public Works and Environmental Management in its pre-consultation comment letter, one of the listed policies is "preserve scenic vistas and natural features" (policy C.1.b, page 3). The Kaheawa Pastures site is not one that is identified in county or state plans or studies as a scenic vista or viewplane. Additionally, by reducing the number of turbines from 30 and 27 down to 20, and by the applicant's working with the Na Ala Hele program, the revised wind turbine design has taken strides toward fulfilling this policy. Lastly, the approval of the CDUA indicates that the proposed facility is considered an acceptable use on Conservation District lands that typically endeavor to preserve scenic and natural resources.

Under the "Transportation" heading is the "Energy" section whose sole objective is "to make Maui County more self-sufficient in its need for non-renewable energy and more efficient in its use of energy" (objective D.1, page 13). This section also contains seven policies relating to renewable and alternative energy, as well as energy conservation. The proposed wind energy generation facility clearly advances this objective and these policies, either directly or indirectly.

ALTERNATIVES



The alternatives to the proposed facility in general and to the proposed new wind turbine design include: not constructing any facility at all; construction at a different location; and construction of a larger or smaller facility (greater or fewer turbines).

The no-build alternative and site location were analyzed in the final EIS, as was a smaller facility (reference is made to section 1.1.3). In general, the no-build alternative would leave Maui without any commercially viable alternative energy generation facility. It is evident that the community and government officials are supportive of commercial alternative energy production, which makes the no-build alternative less desirable.

As depicted in the PowerPoint presentation, the wind regime at Kaheawa Pastures is extremely favorable and unique in its consistency and strength. Other possible sites present comparable challenges as Kaheawa Pastures (topography, visibility, natural resources, flora and fauna) without having comparable benefits. Therefore, alternative sites have been determined to be unsuitable.

Similarly, a smaller facility would not produce as much power as any of the three proposed designs, thus affecting the project's financial viability. The development of a wind energy generation facility at Kaheawa Pastures is a daunting task: moving heavy equipment along a steep and winding roadway to a high and windy elevation, and constructing a series of vertical towers in steady high winds. The cost of such an undertaking must be offset by the financial benefit of the project's operation; therefore, a smaller facility is not a viable alternative.

The current design using GE 1.5 wind turbines is being proposed over the previous Zond Z-48 and Vestas V-47 turbines because of advances in technology, product availability and product reliability. The Zond Z-48 turbines are no longer manufactured, while the Vestas V-47 turbines have presented technical challenges during the Interconnect Requirement Study and are no longer a feasible option. The GE 1.5 turbines have proven to be reliable and are utilized worldwide, are readily available with the assistance and oversight of a construction team, and can meet the requirements of the Interconnect Requirement Study.

ENVIRONMENTAL ASSESSMENT CRITERIA



Pursuant to Chapter 343, Hawai'i Revised Statutes, and Title 11, Chapter 200, Hawai'i Administrative Rules, State Department of Health, a proposed wind energy generation facility is evaluated pursuant to thirteen specific significance criteria. As analyzed pursuant to these criteria, Kaheawa Wind believes that the proposed action will not have a significant impact on the environment.

These significance criteria were fully evaluated in the final EIS and remain substantially unchanged with the proposed new turbine design (reference is made to section 4.2.8).

1. The proposed action will not involve an irrevocable commitment to loss or destruction of any natural or cultural resource.

▲ *The impact on natural and cultural resources will be addressed through fulfilling the relevant conditions of the CDUA permit, completing and implementing the HCP process, and continuing coordination with the relevant divisions of DLNR.*

2. The proposed action will not curtail the range of beneficial uses of the environment.

▲ *The beneficial uses of the environment in the project area will not be curtailed by the proposed action because any such uses will be allowed to continue.*

3. The proposed action will not conflict with the State's long-term environmental policies or goals and guidelines as expressed in Chapter 344, Hawai'i Revised Statutes, and any revisions thereof and amendments thereto, court decisions, or executive orders.

▲ *As detailed herein and in the final EIS, the proposed action advances the State's policies relating to conserving natural resources and improving the quality of life.*

4. The proposed action will not substantially affect the economic or social welfare of the community or state.

▲ *The proposed action will have only a positive impact on the economic and social welfare of the community by providing alternative energy generation and decreasing our reliance on fossil fuels.*

5. The proposed action will not substantially affect public health.

- ▲ *The proposed action will only have a positive impact on public health by providing a clean, renewable, sustainable alternative energy source.*
6. The proposed action will not involve substantial secondary impacts, such as population changes or effects on public facilities.
- ▲ *The proposed action will have no secondary impacts on population changes or public facilities.*
7. The proposed action will not involve a substantial degradation of environmental quality.
- ▲ *The proposed action will have a positive impact on environmental quality by providing a clean, renewable, sustainable alternative energy source. The proposed action's impact on other environmental resources will be appropriately addressed and mitigated by fulfillment of the CDDA permit conditions and the HCP process.*
8. The proposed action will not cumulatively have considerable effect upon the environment or involve a commitment for larger actions.
- ▲ *The proposed action will not have any cumulative effects nor will it involve a commitment for larger actions.*
9. The proposed action will not substantially affect a rare, threatened, or endangered species, or its habitat.
- ▲ *Through the HCP process, any impacts on listed species will be appropriately evaluated and mitigated to ensure that the proposed action will not substantially affect any such species or its habitat.*
10. The proposed action will not detrimentally affect air or water quality or ambient noise levels.
- ▲ *The proposed action will have only a positive impact on air quality by reducing consumption of fossil fuels and their resulting emissions. The impacts on water quality or ambient noise levels are negligible.*
11. The proposed action will not affect or will not likely suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water or coastal waters.
- ▲ *The proposed project site is not located in an environmentally sensitive area nor will the proposed action impact any such areas.*

12. The proposed action will not substantially affect scenic vistas and viewplanes identified in County or State plans.

▲ *The Kaheawa Pastures site is not identified as a scenic vista or viewplane in county or state plans or studies. Other visual impacts will be appropriately mitigated, for example, by the reduction in the number of turbines and the relocation of the turbines to a more mauka location than originally proposed.*

13. The proposed action will not require substantial energy consumption.

▲ *While the proposed action will consume energy during construction and operation, this consumption is clearly off-set by the amount of energy that the project will generate.*

FINDINGS AND CONCLUSION



This final environmental assessment has analyzed the potential environmental impacts associated with the proposed new wind turbine design proposed for the Kaheawa Pastures wind energy generation facility. This analysis, along with the August 26, 1999 final Environmental Impact Statement, conforms to the requirements of Chapter 343, Hawai'i Revised Statutes, and the State of Hawai'i Office of Environmental Quality Control.

The proposed project with the new turbine design is anticipated to have no significant long-term environmental impacts to the surrounding area, natural resources, flora and fauna, archaeological and cultural resources, climate and air quality, public infrastructure and facilities, viewplanes or the visual character of the area.

The subject property is situated within the Conservation District. As such, a Conservation District Use permit was approved for the development and operation of a wind energy generation facility at Kaheawa Pastures.

In light of the foregoing, it is anticipated that the proposed action will not result in significant impacts to the environment and that a Finding of No Significant Impact (FONSI) will be issued.

REFERENCES



Community Resources, Inc. Maui County Community Plan Update Program Socio-Economic Forecast Report, Volume I. August 1992.

County of Maui. General Plan (1990). Ordinance No. 2039, effective date September 27, 1991, as amended.

County of Maui, Office of Economic Development. Maui County Data Book 1999. April 1999.

County of Maui, Office of Economic Development. Maui County Data Book 2002. September 2002.

Stanton, Caroline. The Landscape Impact and Visual Design of Windfarms. School of Landscape Architecture, Edinburgh College of Art, Heriot-Watt University. 1996.

WSB-Hawaii. Final Kaheawa Patures 20MW Windfarm, Maui, Hawaii, Environmental Impact Statement. Prepared for Zond Pacific. August 26, 1999.

PHOTOGRAPHS OF ZOND, VESTAS AND GE WIND TURBINES

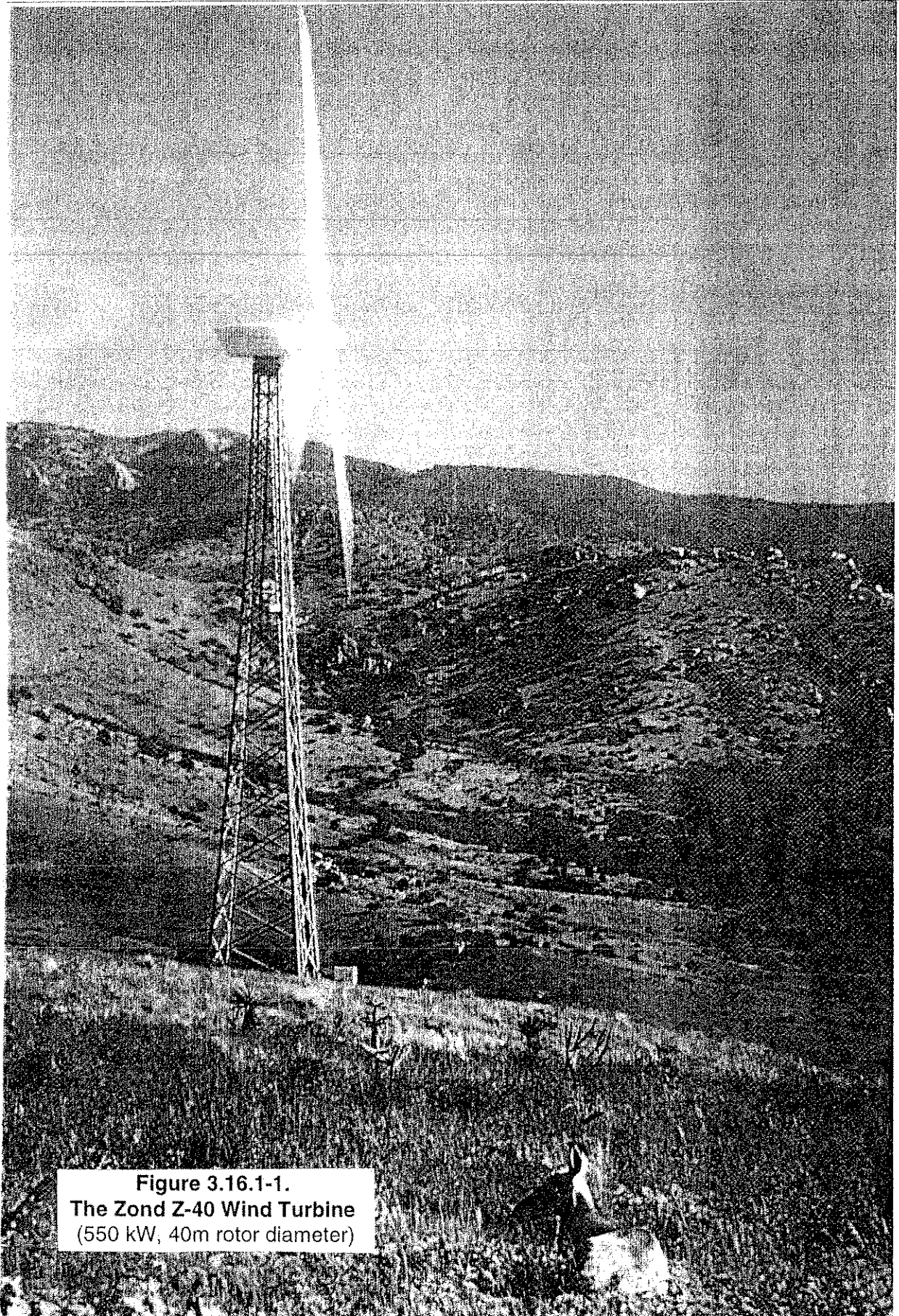


Figure 3.16.1-1.
The Zond Z-40 Wind Turbine
(550 kW, 40m rotor diameter)

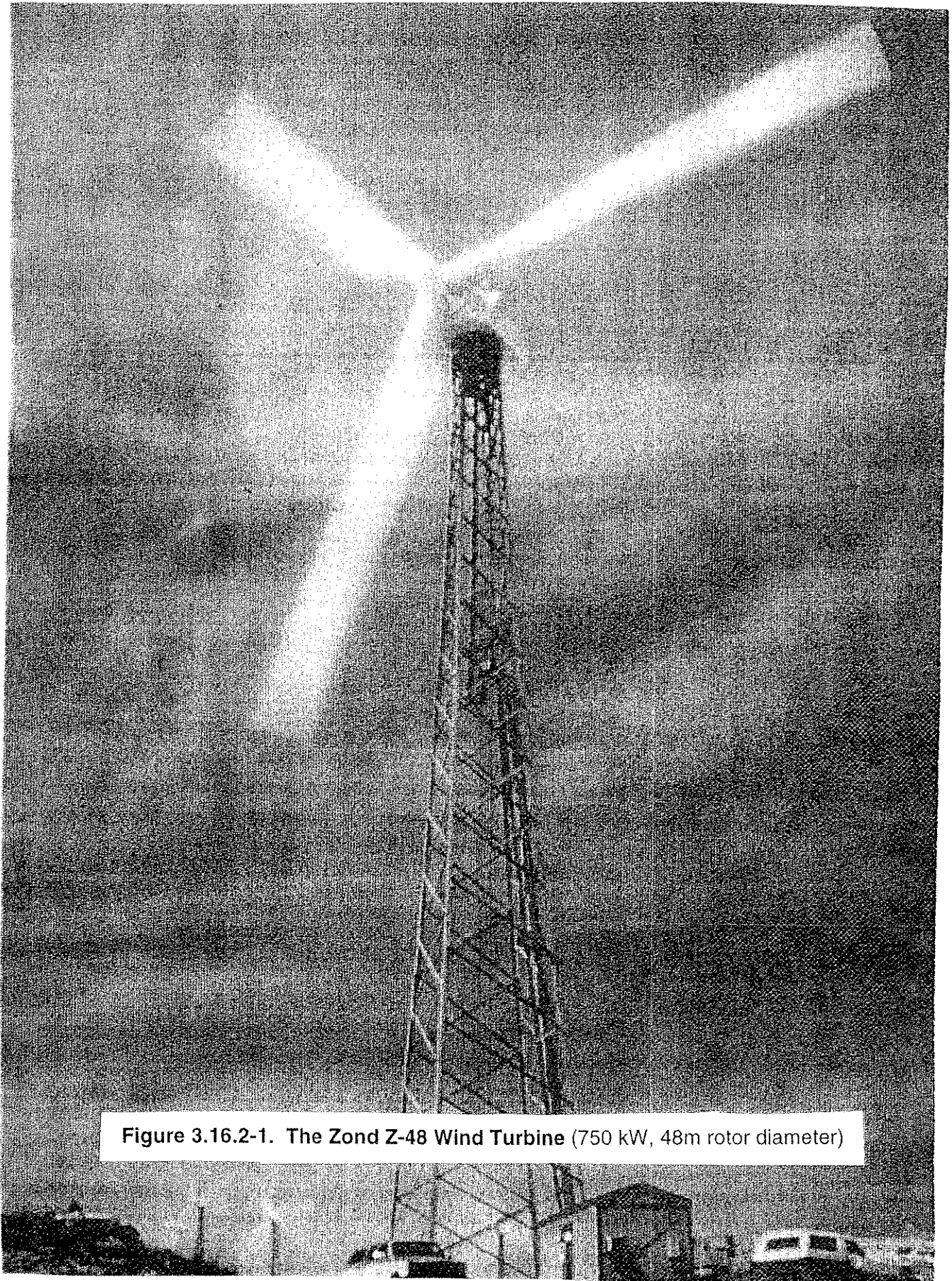


Figure 3.16.2-1. The Zond Z-48 Wind Turbine (750 kW, 48m rotor diameter)

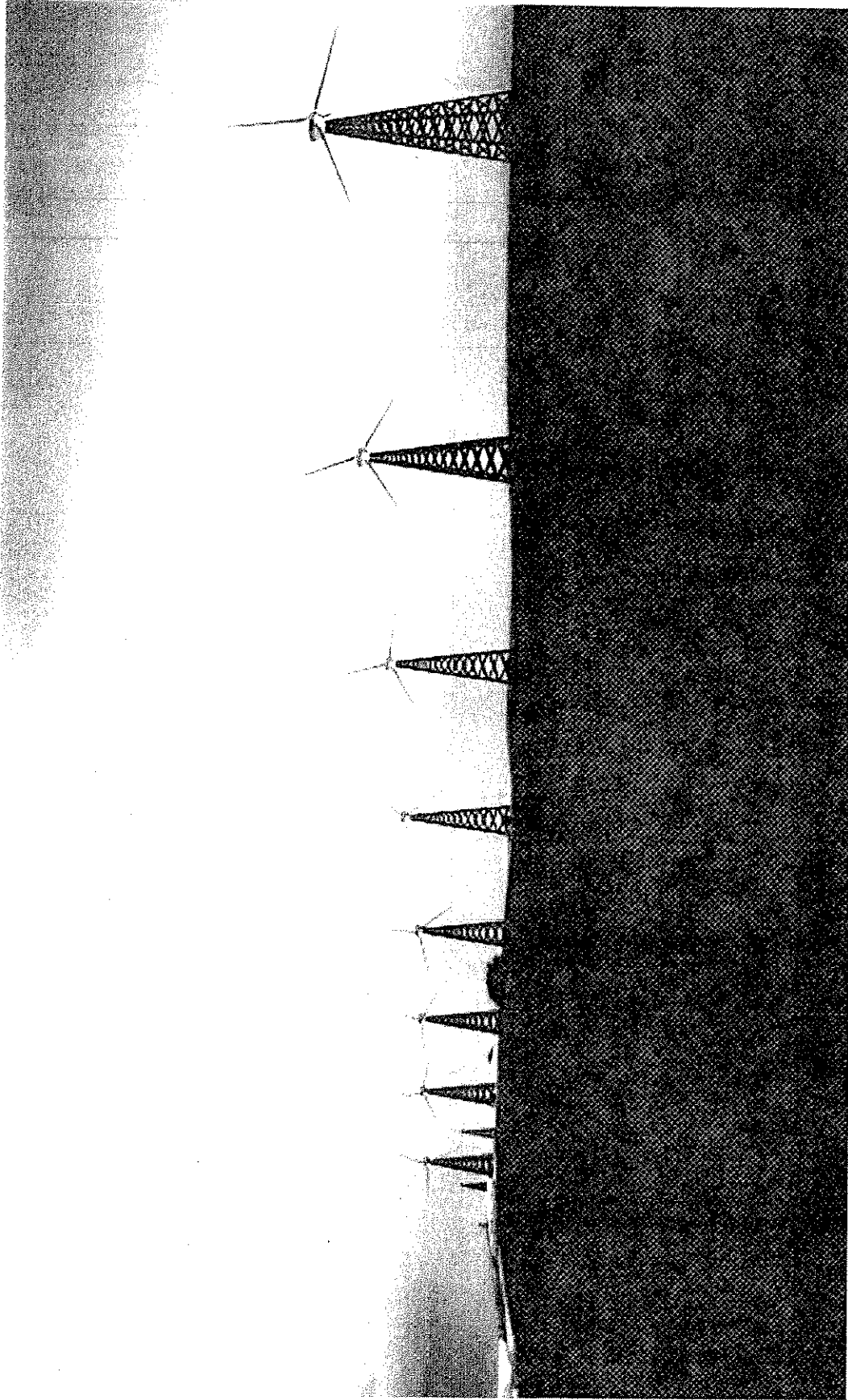
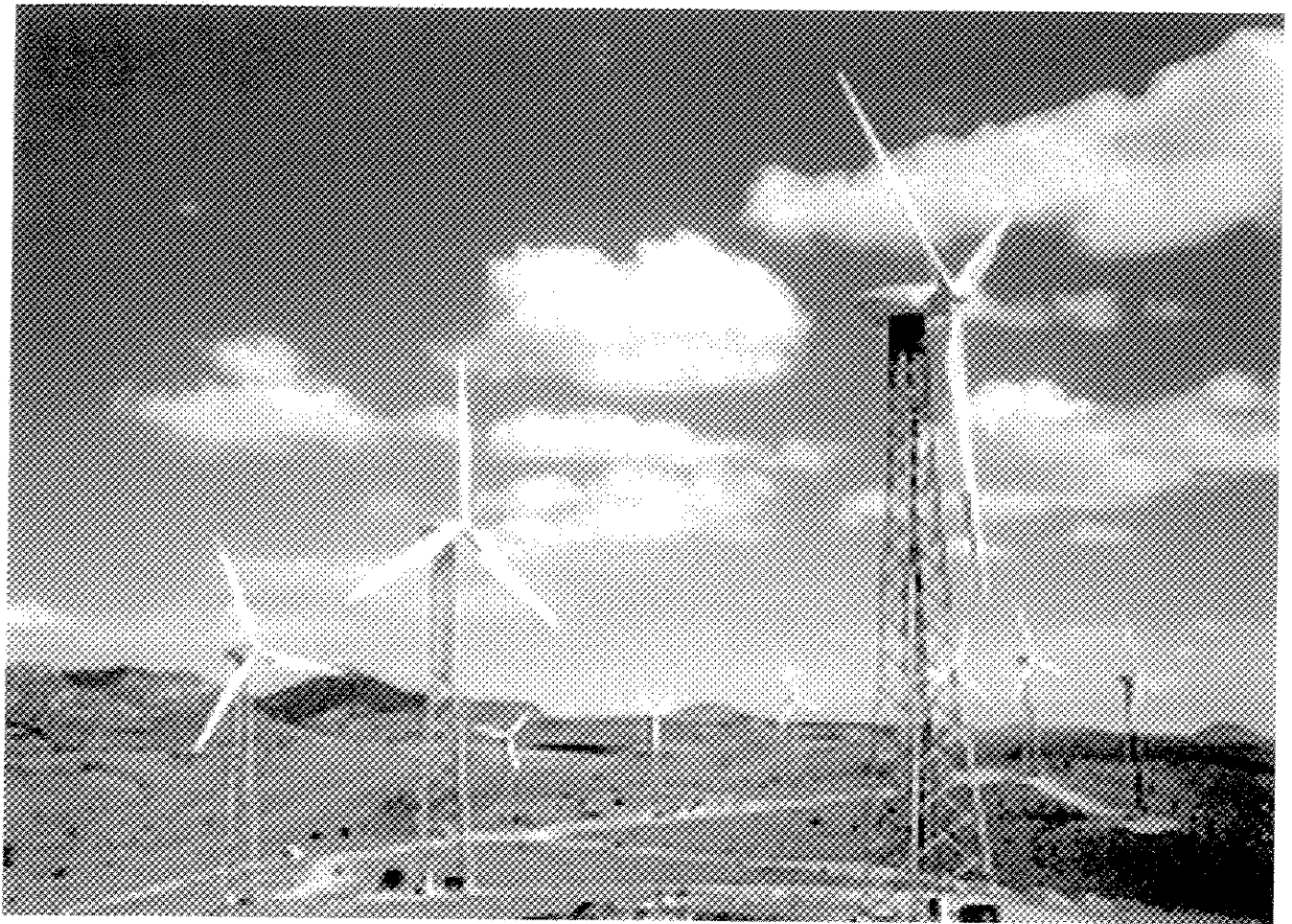
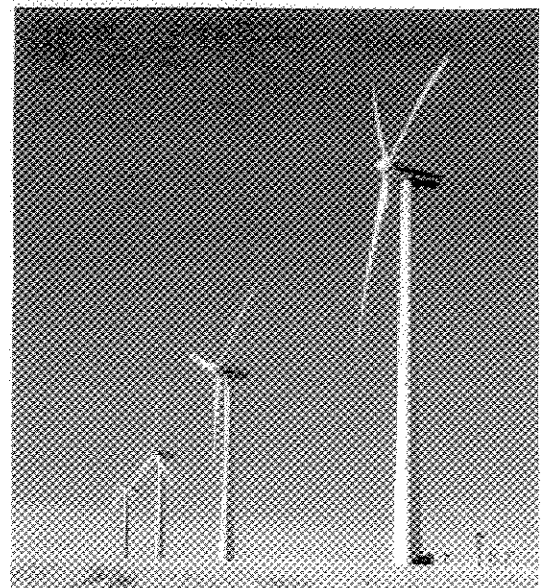


Figure 3.16.3-2. Ground Level View from the Northeast: Proposed 20 MW Windfarm



ZOND Z-48



VESTAS V-47



VESTAS V-47

Shirley, the Netherlands
6 x 1.5s
total capacity: 12 MW



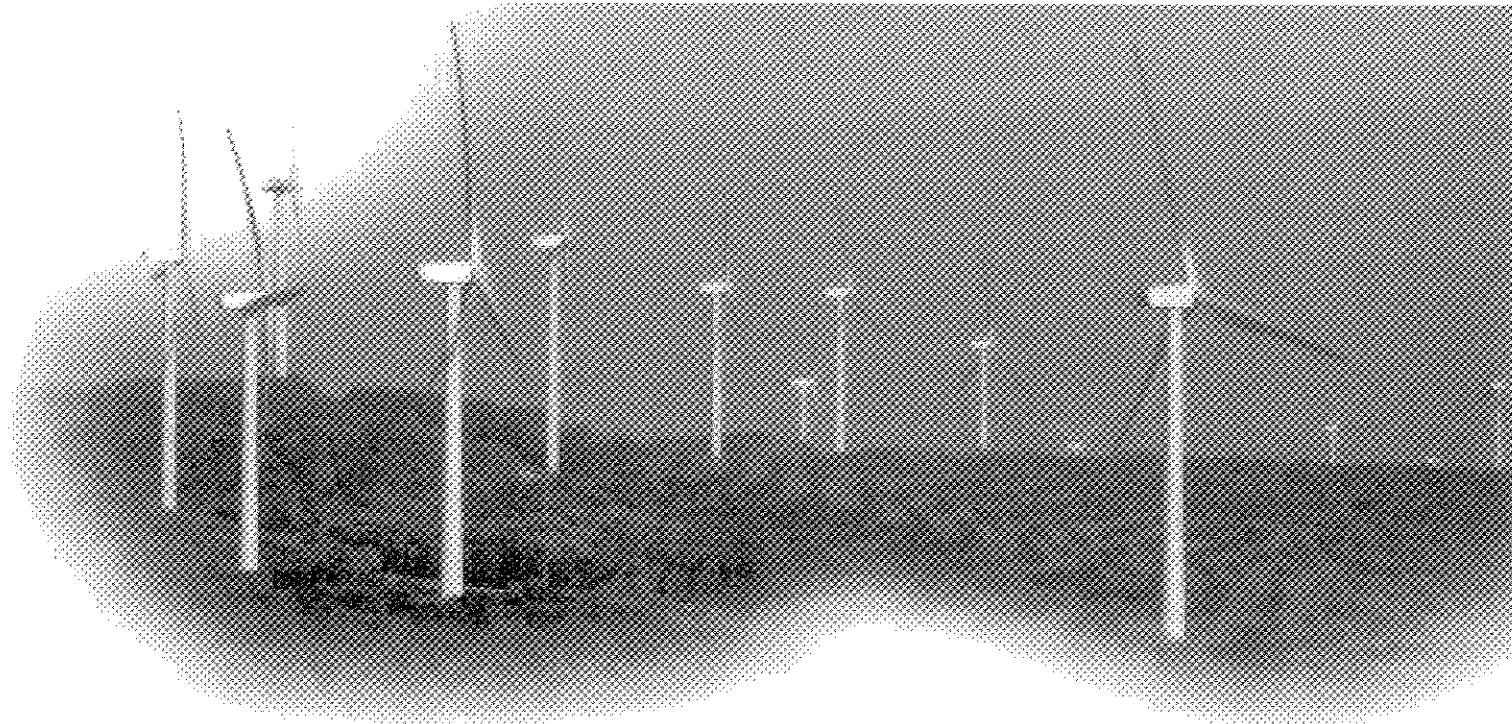
Fabner, USA
20 x 1.5s
total capacity: 30 MW



Escoriallo, Spain
32 x 1.5s
total capacity: 48.6 MW

GE WIND 1.5





Estrella Spain
33 x 1.5M
total capacity: 49.5 MW



Giron Spain
32 x 1.5M
total capacity: 48.0 MW

GE WIND 1.5

POWERPOINT PRESENTATION

Equipment Comparison Visual Analysis

May - July 2004

The following slides were prepared by UPC Wind Partners utilizing photographic representations constructed by EAPC Architects Engineers, of Grand Forks, South Dakota. Every effort was made to ensure that these pictures are a true and accurate representation of the relative differences between the proposed equipment types contemplated for the Kaheawa Pastures site.

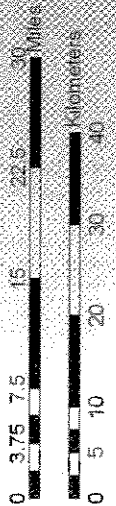
Project Description

- ❖ The “Kaheawa Pastures” project is the development and operation of a wind energy generation facility.
- ❖ The project is proposed to consist of 20 wind turbines arranged in a single row, an operations building, and interconnection to Maui Electric’s transmission system.
- ❖ The proposed project will generate enough electricity to power approximately 10,400 average Maui homes.
- ❖ Most importantly, the project will eliminate the use of 155,600 barrels (approximately \$6.5 million!) of oil annually and thereby help reduce our dependence on imported oil.

Why Kaheawa Pastures?

Wind Speed of Maui County at 50 Meters

Maui Electric Company Ltd



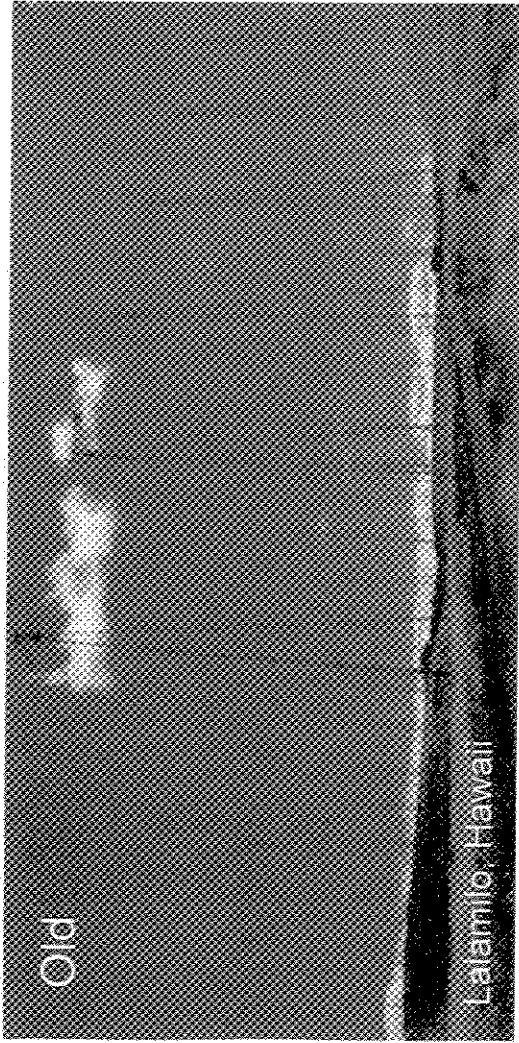
Prepared: RTM-Zone 4, VMS-84
 Spatial Resolution of Wind Resource Data: 200 m

This map was created by TrueWind Solutions using the MosaicPro system and historical weather data. Although it is intended to represent a realistic spatial picture of the wind energy resource, estimates of any location should be confirmed by measurement.

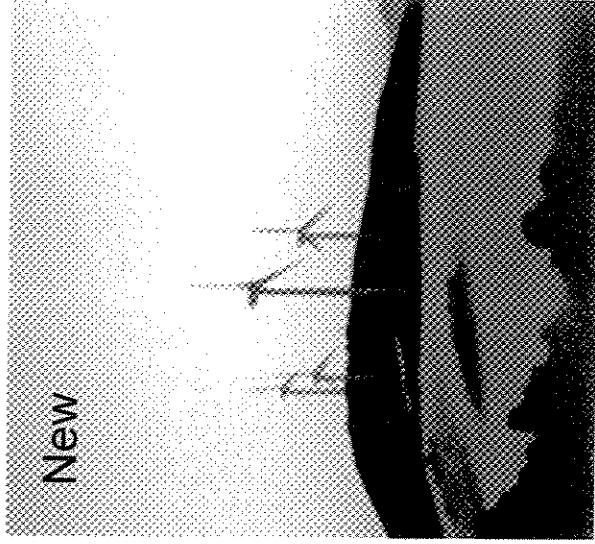


Maui County, 3/05/06, 12AUG05 04x

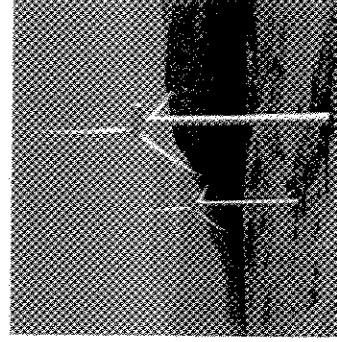
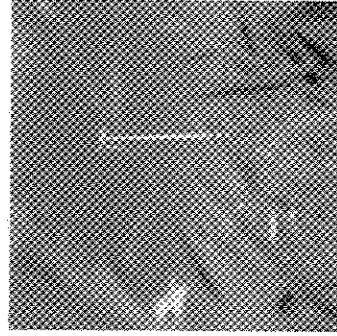
State of the Art



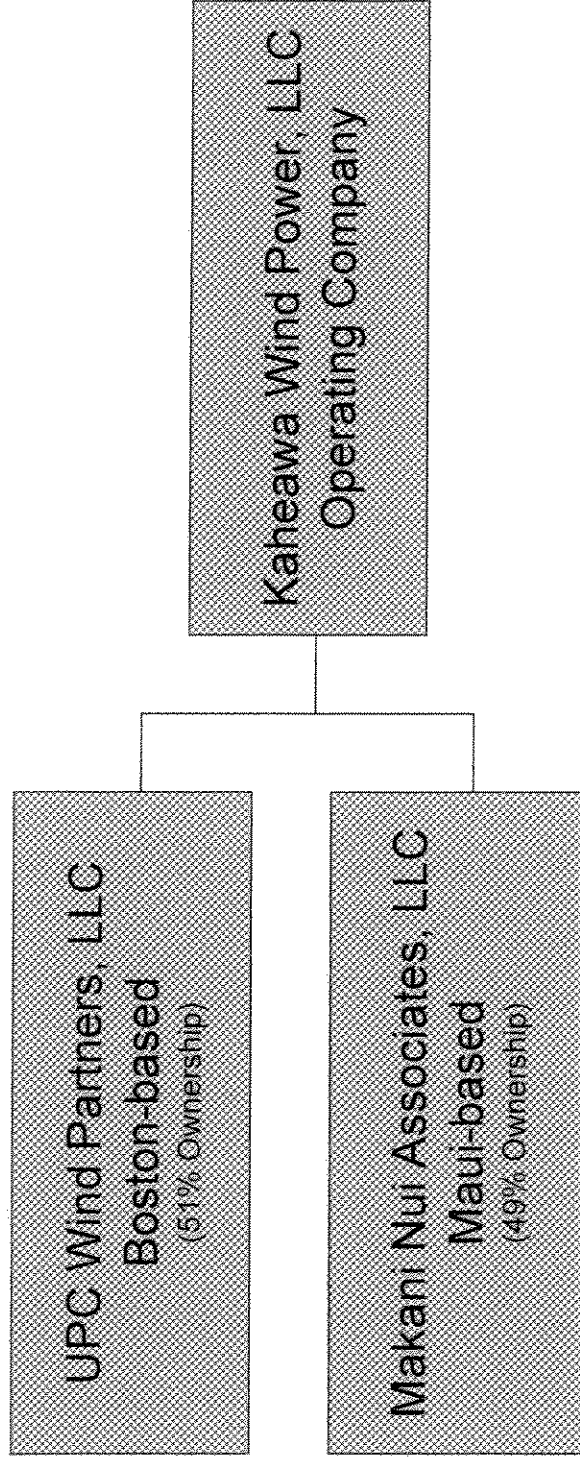
Lanai, Hawaii



Today's monopole tower design, and large visible rotor with relatively slow rotational speeds, make current projects the most environmentally friendly installations yet.



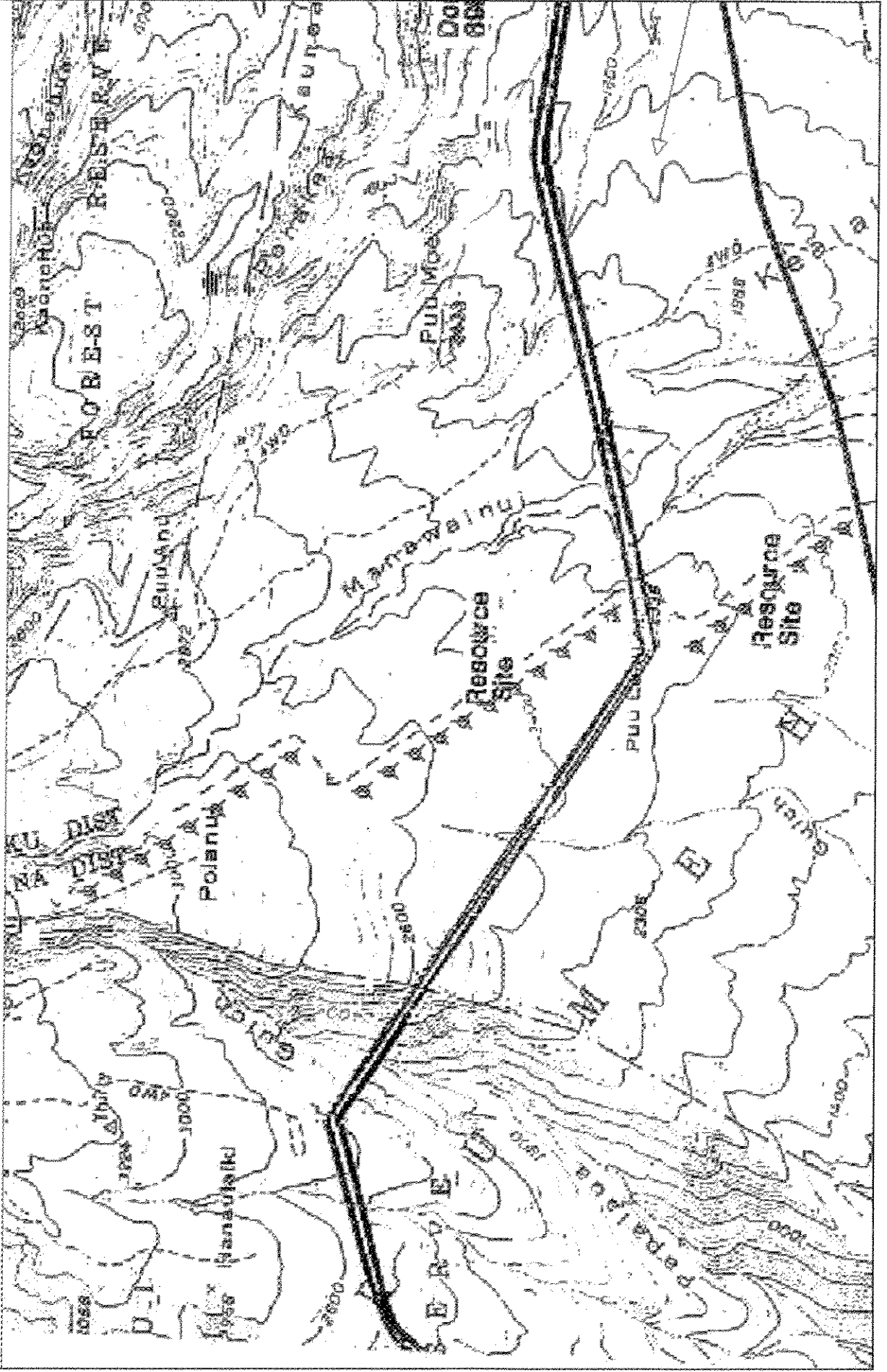
Project Sponsors



Note: UPC Wind Management will develop, construct, and operate the renewable wind energy project for Kaheawa Wind Power

Zond Z-48 Layout

From the Final EIS: 27 Turbines, 50-meter Towers



PRE-CONSULTATION CORRESPONDENCE



1043 Makawao Avenue, Suite 208, Makawao, HI 96768
Phone: (808) 572-3011 Fax: (808) 572-8378
www.SDHawaii.com email: KRS@SDHawaii.com

April 12, 2004

Mr. Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands
Department of Land and Natural Resources
P.O. Box 621
Honolulu, Hawai'i 96809-0621

Dear Mr. Lemmo,

RE: Kaheawa Pastures Wind Farm
Ukumehame, Maui, Hawai'i
TMK No. (2) 4-8-001: portion of 001
File No. MA-3101

Thank you for taking the time to meet with Kent Smith, Mike Gresham, Keith Avery and me, along with Gary Martin, on Wednesday, April 7, 2004 to discuss the above-referenced project. Your time and input are very much appreciated.

More than one year ago, at its meeting of January 24, 2003, the Board of Land and Natural Resources approved a Conservation District Use Application (CDUA) for the construction and operation of the wind farm project. GE Wind Energy was the applicant for the CDUA, though it was noted at the Board meeting that GE Wind would be partnering with another wind energy firm, Hawi Renewable Development (HRD).

Our firm, along with project partners ECM, Inc. and UPC Wind Partners, are in the "due diligence" process of acquiring the wind farm project assets from HRD. Among the objectives of the due diligence process is to understand all applicable terms and conditions of the CDUA approval. Our due diligence period terminates on April 30, 2004, after which we will negotiate an acquisition agreement with HRD to acquire the project assets if we determine that the project is still viable.

Your response to the following two questions would greatly assist us during this due diligence period:

Can the CDUA approval be transferred to Smith Development/ECM/UPC?

The initial feedback that we received indicated that the CDUA approval could be transferred to our group administratively, meaning that such a transfer would not require action by the Board.

Can the project be modified under the existing CDUA approval?

The initial feedback that we received indicated that minor modifications could be made but that major modifications could require action by the Board. Further, major modifications could also require amending or supplementing the Environmental Impact Statement (EIS) that was completed for the project as part of the CDUA process.

It is important to note that modifications were made to the project during the CDUA process, where the number, type and size of the wind turbines covered in the EIS were modified by the time the CDUA approval was granted.

At this time, we believe that our group will propose modifications based on the requirements of Maui Electric Company, Ltd. (MECO) for interconnection, as well as the advancements in the technology that have taken place since the CDUA approval. We anticipate using a wind turbine that is manufactured by GE Wind (rather than Zond, as proposed in the EIS, or Vestas, as proposed in the CDUA). The GE Wind turbine is a more efficient design that allows additional power to be generated from each turbine, which in turn allows our group reduce the quantity of turbines from 27 (as proposed in the EIS) or 30 (as proposed in the CDUA) to just 20. The GE Wind turbine utilizes a monopole, tubular tower and will fit in the same footprint (articulated row configuration) as described in both the EIS and CDUA.

The improved capability of this product and manufacturer also allows our group to better meet MECO's requirements for firm power delivery and integrity of the grid. The overall height of the tower and rotors, and the swept area of the blades, increases by only 16 meters (approximately) over that which was analyzed in the EIS. We are sensitive to the visual aspects of this project and will provide a visual comparison of the three turbine models for side-by-side review. The chart below should assist you in understanding the differences among the proposed turbines and whether such modifications would require Board approval and revisiting the EIS document.

	EIS Analysis	CDUA Approval	Proposed
Number of turbines	27	30	20
Type of turbine	Zond Z-48	Vestas V-47	GE 1.5
Power generation	750 kW each 20.25 MW total	660 kW each 19.8 MW total	1.5 MW each 30 MW total
Tower structure and height	lattice 50 meters 164 feet	tubular 40 meters 131 feet	tubular 55 meters 180 feet
Rotor diameter	48 meters 157 feet	47 meters 154 feet	70.5 meters 231 feet
Total height (tower + ½ rotor)	74 meters 243 feet	64 meters 208 feet	90 meters 296 feet
Total visual impact (number of turbines times total height)	1998 meters 6553 feet	1920 meters 6298 feet	1800 meters 5920 feet
Rotor speed	34 rpm	28.5 rpm	11-20 rpm (variable)

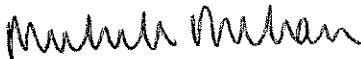
Mr. Samuel J. Lemmo, Administrator
April 12, 2004
Page 3 of 3

For your information, as part of our due diligence efforts, we also met with representatives of the Division of Forestry and Wildlife (DOFAW) to discuss several CDUA permit conditions and to explain the proposed modifications described above. We believe these modifications could moderately reduce the project's impact on wildlife in the area, particularly birds, because the number of towers is reduced and the rotational speed of the rotors is also reduced. The modified plan would be utilized in the preparation and processing of the Habitat Conservation Plan, mitigation plans, monitoring protocols, and other DOFAW-related requirements and procedures.

Because our due diligence period expires on April 30, 2004, we would greatly appreciate your prompt review and response to these two questions. If you have any questions or require further information, please do not hesitate to contact me.

We are very enthusiastic over the prospect of finally making the Kaheawa Pastures project a reality and bringing the first wind farm to the island of Maui. We look forward to working with you and other divisions within your Department in this exciting effort.

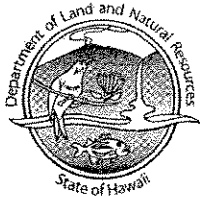
Sincerely,



Michele McLean
Land Use Planner

c: Dierdre S. Mamiya, Administrator, Land Division
Gary Martin, Land Agent, Land Division
Keith Avery, UPC Wind Partners
Hilton Unemori, P.E., ECM, Inc.

LINDA LINGLE
GOVERNOR OF HAWAII



ORIGINAL

APR 20 2004

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

ERNEST Y.W. LAU
DEPUTY DIRECTOR - WATER

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
OFFICE OF CONSERVATION AND COASTAL LANDS

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

APR 22 2004

Ref. File No. CDUPs MA-3102/3103

Ms. Michele McLean
Land Use Planner
Smith Development
1043 Makawao Avenue, Suite 208
Makawao, Maui, Hawaii 96768

Dear Ms. McLean:

Subject: Request for Information Regarding the Kaheawa Pastures Wind Farm Project (CDUPs MA-3102/3103).

Thank you for your April 12, 2004 letter regarding the Conservation District Use Permit for the Kaheawa Pastures wind farm project. We have reviewed these matters and offer the following comments.

Can the CDUA approval be transferred to Smith Development/ECM/UPC?

As a general rule, and unless stated to the contrary, Conservation District Use Permits (CDUP) run with the land. The Department recognizes the fact that land title and/or rights often transfer between parties. A CDUP is not rendered void or revoked by such transfers. However, we note that it has been a long-standing practice of the Department and Board of Land and Natural Resources (BLNR) to discourage speculation over Conservation lands. There have been cases in which applicants have obtained CDUPs for speculative purposes (i.e., to increase the land values), with no intent of building anything. This would be an improper use of Conservation lands. The OCCL does not have any reason to believe that individuals connected with this action are using public conservation lands for such purposes. However, we thought you should be aware of our past practices and/or concerns.

In addition, OCCL has noticed a problem with such land transfers, whereby BLNR imposed conditions are often forgotten or overlooked. Please be aware that failure to heed to these conditions can result in revocation of the CDUP entitlement.

The permit remains valid, provided that you and your partners comply with all permit conditions imposed by the BLNR under CDUPs 3102/3103.

Can the project be modified under the existing CDUA approval?

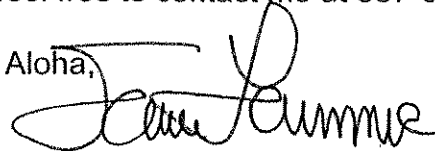
According to your information, project modifications may be necessary due to Maui Electric Company requirements and advances in new wind technology. You propose using a wind turbine that is manufactured by GE Wind (rather than Zond, as proposed in the Final EIS or Mitsubishi or Vestas, as proposed in CDUPs MA-3102/3103). The GE turbine is rated at 1.5 megawatts (MW). The turbine proposed in the Final EIS was rated at 750 kilowatts (kW). The Vestas is rated at 660 kilowatts (kW). The project would build out twenty (20) turbines compared to twenty-seven (27) in the Final EIS. Total output would increase from 20 MW to 30 MW.

The overall height of the turbines including towers and rotors would increase from 243 feet proposed in the Final EIS, to 296 feet proposed by you and your partners. That represents a total increase of 53 feet.

In order for the Department to complete its review of this matter, we recommend that you submit industry photographs of the proposed GE turbine, as well as prepare a visual simulation of the Zond and GE turbines side by side for comparative purposes. In addition, please provide this office with a visual simulation of your proposed wind farm, as it might appear at the Kaheawa Pastures site so we may compare this with visual simulations provided in the Final EIS. We require this information in order to make a determination whether or not a Supplemental Environmental Impact Statement or CDUA, is required. You may want to review Section 11-200-26, Hawaii Administrative Rules (Department of Health) for guidance on when supplemental statements are required.

Should you have any questions, please feel free to contact me at 587-0381.

Aloha,



SAMUEL J. LEMMO, Administrator
Office of Conservation and Coastal Lands

Cc: Chairperson
Land Division
Maui County Planning Department

Michele Chouteau McLean

From: <Sam.J.Lemmo@hawaii.gov>
To: "Michele Chouteau McLean" <michele@sdhawaii.com>
Cc: "Mike Gresham" <mgresham@hawaii.rr.com>
Sent: Monday, July 19, 2004 3:23 PM
Subject: Re: windfarm EA pre-consultation

Thank you for your pre-consultation on the proposed draft EA. We have previously met on this matter and our primary concern is the visual impact of the project on scenic conservation resources. It is our understanding that you will be conducting a visual impact analysis for the proposed turbines. We look forward to reviewing the draft EA when it is completed.

Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands
Department of Land and Natural Resources
Phn (808) 587-0381
Fax (808) 587-0322
www.hawaii.gov/dlnr/occl

"Michele Chouteau McLean" <michele@sdhawaii.com>

07/19/2004 12:58 PM

To <Sam.J.Lemmo@hawaii.gov>

cc "Mike Gresham" <mgresham@hawaii.rr.com>

Subject windfarm EA pre-consultation

Aloha Sam,

And Happy Monday to you!

I've started pre-consultation for the "visual impact" EA for the windfarm, and need to get some comments from you. (The OEQC handbook says that pre-consultation with DLNR is needed for projects on Conservation Land...)

Would you be able to provide comments as a follow-up to your April 22, 2004 letter to us (regarding the change in turbines), or should I send you a new request letter instead?

We will also be meeting with the County Planning Dept., County Public Works Dept., Na Ala Hele and Maui Tomorrow. Are there any other agencies or groups that you think should be included or do these suffice?

Mahalo!

- Michele.

Michele McLean, Land Use Planner
Smith Development
1043 Makawao Avenue, Suite 208
Makawao, Hawai'i 96768
phone: 572-3011; fax: 572-8378; cell: 385-3480

8/25/2004



Real Estate Development & Consulting

1043 Makawao Avenue, Suite 208, Makawao, HI 96768
Phone: (808) 572-3011 Fax: (808) 572-8378
www.SDHawaii.com email: KRS@SDHawaii.com

August 3, 2004

Mr. Michael W. Foley
Planning Director
County of Maui
250 South High Street
Wailuku, Hawai'i 96793

Dear Mr. Foley,

RE: Pre-consultation for Environmental Assessment of Visual Impacts
Kaheawa Pastures Wind Energy Facility
Ukumehame, Maui, Hawai'i

Thank you for taking the time to meet with me last Wednesday and for your initial comments on the potential visual impacts of the proposed Kaheawa Pastures Wind Energy Facility situated above Ma`alaea.

As we discussed, the State Department of Land and Natural Resources (DLNR) has accepted the project's Environmental Impact Statement (EIS) and approved a Conservation District Use Application (CDUA) for a wind generation facility at Kaheawa Pastures. Because a different type of wind turbine is now being proposed, DLNR has requested that a narrow scope Environmental Assessment be prepared to evaluate its potential visual impacts, since all other potential impacts were evaluated in the EIS and remain unaffected by the proposed new turbine.

Enclosed please find a hard copy of the PowerPoint presentation that we viewed at our meeting. As these slides indicate, the project has undergone modifications throughout its extensive review and approval processes to date. During the EIS process, the project consisted of 27 Zond Z-48 wind turbines situated on 50-meter towers; during the CDUA process, the project had been modified to consist of 30 Vestas V-47 wind turbines situated on 40-meter towers; now, Kaheawa Wind Power, LLC, the current applicant, proposes a project consisting of 20 GE-1.5 turbines situated on 55 meter towers.

While the tower heights have varied little, there is a more distinguishable difference with the diameters of the rotors. While a larger diameter adds to the overall height of the turbine, it also moves much more slowly, which is visually less intrusive and therefore more appealing. The Zond Z-48 uses a rotor with a 48-meter diameter and rotor speed of 34 rpm; the Vestas V-47 uses a rotor with a 47-meter diameter and rotor speed of 28.5 rpm; the GE-1.5 uses a rotor with a 70-meter diameter and a rotor speed of 11-20 rpm.

Mr. Michael W. Foley
July 30, 2004
Page Two

In addition to your Department being pre-consulted on the draft Environmental Assessment, two of the CDUA permit conditions require that we work together on the color of the towers and rotors. Worldwide, wind turbines are typically off-white, either in a gray or tan color tone. This is the color palette that we wish to use. It is difficult to camouflage wind turbines with color because the backdrop against which they are set can vary depending on weather conditions, as well as on the perspective from where they are viewed (i.e., from sea level, the sky is the backdrop, and the sky can vary from blue to white to gray; from the air, the ground is the backdrop, and the ground can vary from green to tan to brown; and from the project site, the ground and the sky are both backdrops).

We would greatly appreciate receiving your comments on the potential visual impacts of the proposed new wind turbines by August 11, 2004.. As a pre-consulted agency, your Department's comments will be included in the draft Environmental Assessment, which we hope to complete in mid-August; you will also be provided with a copy of the draft Environmental Assessment should you wish to provide additional comments to be addressed in the final document.

Should you have any questions or require additional information, please do not hesitate to contact me. We look forward to hearing from you soon.

Sincerely,



Michele McLean
Land Use Planner
for Kaheawa Wind Power, LLC

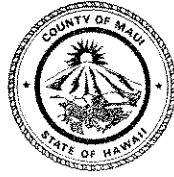
Enclosure

c: Colleen Suyama, Staff Planner
Keith Avery, UPC Wind Partners
Mike Gresham, Makani Nui Associates
Hilton Unemori, ECM

ALAN M. ARAKAWA
Mayor

MICHAEL W. FOLEY
Director

WAYNE A. BOTEILHO
Deputy Director



COUNTY OF MAUI
DEPARTMENT OF PLANNING

August 18, 2004

Mrs. Michele McLean
Smith Development
1043 Makawao Avenue, Suite 208
Makawao, HI 96768

Dear Mrs. McLean:

RE: Pre-consultation Comments for the Draft Environmental Assessment prepared in support of the Kaheawa Pastures Wind Energy Facility Located at Ukumehame, Island of Maui, Hawaii (LTR 2004/2879)

The Maui Planning Department (Department) is in receipt of your letter dated August 3, 2004, requesting pre-consultation comments in preparation of a Draft Environmental Assessment (EA).

As you have indicated, an Environmental Impact Statement (EIS) was prepared for the proposed facility and accepted by the Department of Land and Natural Resources (DLNR). Since that time, the current applicant proposes the use of a different type of wind turbine, and as such, is preparing a limited scope EA to address any potential visual impacts.

At this time, the Department has no comments and further reserves the opportunity to provide additional comments pending review of the Draft EA.

Thank you for the opportunity to comment. Should you require additional clarification, please contact Ms. Kivette A. Caigoy, Environmental Planner, at 270-7735.

Sincerely,

A handwritten signature in black ink, appearing to read "M. Foley", with a stylized flourish at the end.

MICHAEL W. FOLEY
Planning Director

Mr. Michele McLean
August 18, 2004
Page 2

MWF:KAC:do

c: Wayne Boteilho, Deputy Planning Director
Clayton I. Yoshida, AICP, Planning Program Administrator
Kivette A. Caigoy, Environmental Planner
Colleen Suyama, Staff Planner
Project File
General File
K:\WP_DOCS\PLANNING\EA\PreConComments\2004\2879_KaheawaPasturesWindFacility.wpd



1043 Makawao Avenue, Suite 208, Makawao, HI 96768
Phone: (808) 572-3011 Fax: (808) 572-8378
www.SDHawaii.com email: KRS@SDHawaii.com

August 25, 2004

Mr. Michael W. Foley
Planning Director
County of Maui
250 South High Street
Wailuku, Hawai'i 96793

Dear Mr. Foley,

RE: Pre-consultation for Environmental Assessment of Visual Impacts
Kaheawa Pastures Wind Energy Facility
Ukumehame, Maui, Hawai'i

Thank you for your letter dated August 18, 2004 relating to the visual impacts of the proposed new wind turbine design.

As you know, you will be provided with a copy of the draft Environmental Assessment for review and comment. We welcome any input you may wish to offer.

Again, thank you for your August 18, 2004 letter and for your review of the proposed project. If you have any questions, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Michele McLean", with a wavy, cursive style.

Michele McLean
Land Use Planner
for Kaheawa Wind Power, LLC

c: Kivette Caigoy, Environmental Planner
Keith Avery, UPC Wind Partners
Mike Gresham, Makani Nui Associates



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Phone: (808) 572-3011 Fax: (808) 572-8378
www.SDHawaii.com email: KRS@SDHawaii.com

July 30, 2004

Mr. Milton Arawaka, Deputy Director
Department of Public Works and Environmental Management
County of Maui
200 South High Street
Wailuku, Hawai'i 96793

Dear Mr. Arakawa,

RE: Pre-consultation for Draft Environmental Assessment of Visual Impacts
Kaheawa Pastures Wind Energy Facility
Ukumehame, Maui, Hawai'i

Thank you for taking the time to meet with me last Thursday and for your initial comments on the potential visual impacts of the proposed Kaheawa Pastures Wind Energy Facility situated above Ma'alaea.

As we discussed, the State Department of Land and Natural Resources (DLNR) has accepted the project's Environmental Impact Statement (EIS) and approved a Conservation District Use Application (CDUA) for a wind generation facility at Kaheawa Pastures. Because a different type of wind turbine is now being proposed, DLNR has requested that a narrow scope Environmental Assessment be prepared to evaluate the potential visual impacts, since all other potential impacts were evaluated in the EIS and remain unaffected by the proposed new turbine.

Enclosed please find a hard copy of the PowerPoint presentation that we viewed at our meeting. As these slides indicate, the project has undergone modifications throughout its extensive review and approval processes to date. During the EIS process, the project consisted of 27 Zond Z-48 wind turbines situated on 50-meter towers; during the CDUA process, the project had been modified to consist of 30 Vestas V-47 wind turbines situated on 40-meter towers; now, Kaheawa Wind Power, LLC, the current applicant, proposes a project consisting of 20 GE-1.5 turbines situated on 55 meter towers.

While the tower heights have varied little, there is a more distinguishable difference with the diameters of the rotors. While a larger diameter adds to the overall height of the turbine, it also moves much more slowly, which is visually less intrusive and therefore more appealing. The Zond Z-48 uses a rotor with a 48-meter diameter and rotor speed of 34 rpm; the Vestas V-47 uses a rotor with a 47-meter diameter and rotor speed of 28.5 rpm; the GE-1.5 uses a rotor with a 70-meter diameter and a rotor speed of 11-20 rpm.

Mr. Milton Arakawa
July 30, 2004
Page Two

In addition to your Department being pre-consulted on the draft Environmental Assessment, two of the CDUA permit conditions require that we work with the County on the color of the towers and rotors. Worldwide, wind turbines are typically off-white, either in a gray or tan color tone. This is the color palette that we wish to use. It is difficult to camouflage wind turbines with color because the backdrop against which they are set can vary depending on weather conditions, as well as on the perspective from where they are viewed (i.e., from sea level, the sky is the backdrop, and the sky can vary from blue to white to gray; from the air, the ground is the backdrop, and the ground can vary from green to tan to brown; and from the project site, the ground and the sky are both backdrops).

We would greatly appreciate receiving your comments on the potential visual impacts of the proposed new wind turbines by August 11, 2004.. As a pre-consulted agency, your Department's comments will be included in the draft Environmental Assessment, which we hope to complete in mid-August; you will also be provided with a copy of the draft Environmental Assessment should you wish to provide additional comments to be addressed in the final document.

Should you have any questions or require additional information, please do not hesitate to contact me. We look forward to hearing from you soon.

Sincerely,



Michele McLean
Land Use Planner
for Kaheawa Wind Power, LLC

Enclosure

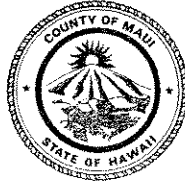
c: Keith Avery, UPC Wind Partners
Mike Gresham, Makani Nui Associates
Hilton Unemori, ECM

ORIGINAL

ALAN M. ARAKAWA
Mayor

GILBERT S. COLOMA-AGARAN
Director

MILTON M. ARAKAWA, A.I.C.P.
Deputy Director



RALPH M. NAGAMINE, L.S., P.E.
Development Services Administration

TRACY TAKAMINE, P.E.
Wastewater Reclamation Division

LLOYD P.C.W. LEE, P.E.
Engineering Division

BRIAN HASHIRO, P.E.
Highways Division

JOHN D. HARDER
Solid Waste Division

COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
AND ENVIRONMENTAL MANAGEMENT
DEVELOPMENT SERVICES ADMINISTRATION
250 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793

August 10, 2004

Ms. Michele McLean
Kaheawa Wind Power, LLC
c/o Smith Development
1043 Makawao Avenue, Suite 208
Makawao, Hawaii 96768

Subject: Pre-consultation for Draft Environmental Assessment of
Visual Impacts Kaheawa Pastures Wind Energy Facility at
Ukumehame, Maui, Hawaii
TMK (2) 4-8-001: 001


Dear Ms. McLean:

This is in response to your July 30, 2004, letter requesting our comments on the visual impacts of the taller new wind turbines. For your information, our previous review comments, dated January 7, 2003, remain applicable.

Relative to the project's potential visual impacts, we are concerned about the application of Ordinance 3166, Bill No 84 (2202), Draft 2 which became effective on March 4, 2004. This Bill requires the County's land use actions to be consistent with the General Plan and its subsidiary Community Plans and we further noted that one of the Environment Policies in the Plan is to "Preserve scenic vistas and natural features." This environmental policy may be problematic depending upon how this policy statement is interpreted and how it is reconciled with other policy statements that may be supportive of the project's merits. We strongly urge you to contact the Planning Department as to whether Bill No. 84 will adversely affect the project's approval process.

Please call me at 270-7845 if you have any questions regarding this letter.

Very truly yours,


For Gilbert S. Coloma-Agaran
Director of Public Works
and Environmental Management



Real Estate Development & Consulting

1043 Makawao Avenue, Suite 208, Makawao, HI 96768
Phone: (808) 572-3011 Fax: (808) 572-8378
www.SDHawaii.com email: KRS@SDHawaii.com

August 25, 2004

Mr. Mr. Gilbert S. Coloma-Agaran, Director
Department of Public Works and Environmental Management
County of Maui
200 South High Street
Wailuku, Hawai'i 96793

Dear Mr. Coloma-Agaran,

RE: Pre-consultation for Draft Environmental Assessment of Visual Impacts
Kaheawa Pastures Wind Energy Facility
Ukumehame, Maui, Hawai'i

Thank you for your letter dated August 10, 2004 providing comments on the visual impacts of the proposed new wind turbine design.

We appreciate your referencing the County of Maui General Plan and its environmental policies. This will be discussed in the draft Environmental Assessment in the section that provides land use analysis.

As you know, you will be provided with a copy of the draft Environmental Assessment for further review and comment. We welcome any further input you may wish to offer.

Again, thank you for your August 10, 2004 letter and for your thoughtful review of the proposed project. If you have any questions, please do not hesitate to contact me.

Sincerely,

Michele McLean
Land Use Planner
for Kaheawa Wind Power, LLC

c: Milton Arakawa, Deputy Director
Keith Avery, UPC Wind Partners
Mike Gresham, Makani Nui Associates



Real Estate Development & Consulting

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Phone: (808) 572-3011 Fax: (808) 572-8378
www.SDHawaii.com email: KRS@SDHawaii.com

August 5, 2004

Board of Directors
Maui Tomorrow
P.O. Box 429
Makawao, Hawai'i 96768
(via e-mail to seanlester@ieee.org)

Dear Maui Tomorrow Board of Directors,

RE: Pre-consultation for Environmental Assessment of Visual Impacts
Kaheawa Pastures Wind Energy Facility
Ukumehame, Maui, Hawai'i

Thank you for taking the time to meet with Mike Gresham and me yesterday and for your initial comments on the potential visual impacts of the proposed Kaheawa Pastures Wind Energy Facility situated above Ma'alaea.

As you know, the State Department of Land and Natural Resources (DLNR) has accepted the project's Environmental Impact Statement (EIS) and approved a Conservation District Use Application (CDUA) for a wind generation facility at Kaheawa Pastures. Because a different type of wind turbine is now being proposed, DLNR has requested that a narrow scope Environmental Assessment be prepared to evaluate its potential visual impacts, since all other potential impacts were evaluated in the EIS and remain unaffected by the proposed new turbine.

As you also know, the project has undergone modifications throughout its extensive review and approval processes to date. During the EIS process, the project consisted of 27 Zond Z-48 wind turbines situated on 50-meter towers; during the CDUA process, the project had been modified to consist of 30 Vestas V-47 wind turbines situated on 40-meter towers; now, Kaheawa Wind Power, LLC, the current applicant, proposes a project consisting of 20 GE-1.5 turbines situated on 55 meter towers.

While the tower heights have varied little, there is a more distinguishable difference with the diameters of the rotors. While a larger diameter adds to the overall height of the turbine, it also moves much more slowly, which is visually less intrusive and therefore more appealing. The Zond Z-48 uses a rotor with a 48-meter diameter and rotor speed of 34 rpm; the Vestas V-47 uses a rotor with a 47-meter diameter and rotor speed of 28.5 rpm; the GE-1.5 uses a rotor with a 70-meter diameter and a variable rotor speed of 11-20 rpm.

Board of Directors
Maui Tomorrow
August 5, 2004
Page Two

In addition to your comments on the height differences described above, we would also appreciate learning your thoughts on the color of the towers and rotors. Worldwide, wind turbines are typically off-white, either in a gray or tan color tone. This is the color palette that we wish to use. It is difficult to camouflage wind turbines with color because the backdrop against which they are set can vary depending on weather conditions, as well as on the perspective from where they are viewed (i.e., from sea level, the sky is the backdrop, and the sky can vary from blue to white to gray; from the air, the ground is the backdrop, and the ground can vary from green to tan to brown; and from the project site, the ground and the sky are both backdrops).

We would greatly appreciate receiving your comments on the potential visual impacts of the proposed new wind turbines by August 11, 2004.. As a pre-consulted community group, your comments will be included in the draft Environmental Assessment, which we hope to submit in mid-August; you will also be provided with several copies of the draft Environmental Assessment should you wish to provide additional comments to be addressed in the final document.

We acknowledge and respect your group's dedication and interest in seeing this project completed as we all envision, as the project meets with Maui Tomorrow's goal of increasing the use of renewable energy on Maui. While the subject Environmental Assessment process is narrow and anticipated to be relatively brief, please know that your continued participation, from the PPA processing through the project's completion, is both expected and welcome, and would surely be helpful. We are committed to continuing the cooperative relationship that has been established with Maui Tomorrow, and to finally making the Kaheawa Pastures project not only a reality, but a model of wind energy in Hawai'i.

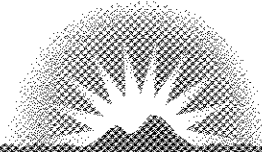
Should you have any questions or require additional information, please do not hesitate to contact me. We look forward to hearing from you soon.

Sincerely,

Michele McLean

Michele McLean
Land Use Planner
for Kaheawa Wind Power, LLC

c: Keith Avery, UPC Wind Partners (via e-mail)
Mike Gresham, Makani Nui Associates (via e-mail)
Hilton Unemori, ECM (via e-mail)



MAUI TOMORROW

August 24, 2004

Michele McClean
UPC Wind Partners
1043 Makawao, Ste 208
Makawao, HI 96768

RE: Kaheawa Pastures Wind Farm

Aloha, Michele,

Thank you for providing Maui Tomorrow with opportunity for ongoing input into the Kaheawa Pastures Wind Farm proposal of UPC Wind Partners.

Maui Tomorrow supports the increase in blade and equipment size for the proposed project and does not see this as a significant change. We strongly support this project and wish it a speedy approval process, successful installation and the ability to generate clean wind power as soon as possible.

Concurrent with our desire to encourage swift administrative review, we wish to note some cautionary comments that we discussed at your most recent presentation to us. We do not feel that these comments reflect a need to slow the project's approval. Rather, they are geared toward insuring a problem-free construction and maintenance period for the roadway and the flora and fauna that is impacted in the area.

As you are aware, there have been previous steep cuts in the area of the road leading to the wind site. We have expressed concern about the runoff into coastal waters if the proposed roadwork is not appropriately engineered and constructed. We have suggested review by trusted third parties of proposed and finished plans as well as actual site visits before, during and after of the road construction. These oversight parties should have the ability to have a direct say in the quality of the roadwork with respect to its potential for runoff. You have advised that you are amenable to this oversight request.

The second concern that we expressed relates to the flora and fauna along the path of this road cut. We are requesting the developers provide a map, and ample time, for the Hawaiian and ecological community to search and remove and replant any plants or animal life that would be displaced by the road. Again, the intent is not to significantly slow down the project but to save worthwhile flora and fauna.

With respect to the color scheme for the turbine blades, we understand that the developer is trying to determine an optimal color and shading that both minimizes visual impact to distant viewers, and is sufficient to provide adequate warning to endemic avian species. We would appreciate your further input, and an opportunity to provide our further input, once this analysis process has moved further along.

We trust that these comments are constructive for your needs and thank you for this opportunity to provide this written input.

Very truly yours,

A handwritten signature in black ink, appearing to read "Ron Sturtz". The signature is stylized and written in a cursive-like font.

Ron Sturtz, President
Maui Tomorrow Foundation, Inc.

RS:cl



DEVELOPMENT



Real Estate Development & Consulting

1043 Makawao Avenue, Suite 208, Makawao, HI 96768

Phone: (808) 572-3011 Fax: (808) 572-8378

www.SDHawaii.com email: KRS@SDHawaii.com

August 26, 2004

Mr. Ron Sturtz, President
Maui Tomorrow
P.O. Box 429
Makawao, Hawai'i 96768

Dear Mr. Sturtz,

RE: Pre-consultation for Environmental Assessment of Visual Impacts
Kaheawa Pastures Wind Energy Facility
Ukumehame, Maui, Hawai'i

Thank you for your letter dated August 24, 2004 expressing your continued support of the Kaheawa Pastures Wind Energy Facility. We appreciate your comment that your organization does not see the proposed new turbine design as a significant change.

We also acknowledge your concerns as discussed at our meeting earlier this month. First, the cuts and grading that are anticipated for the needed roadway improvements must be properly and carefully engineered and constructed to minimize the potential for runoff into coastal waters. Second, the roadway improvements may result in the displacement of flora and fauna, and efforts shall be made to remove and/or relocate worthwhile species and take other mitigative actions as required by the project's permits.

These issues will also be discussed in the draft Environmental Assessment, copies of which will be provided to your organization for further review and comment. We welcome your continued input.

Again, thank you for your August 24, 2004 letter and for your thoughtful review of the proposed project. If you have any questions, please do not hesitate to contact me.

Sincerely,

Michele McLean
Land Use Planner
for Kaheawa Wind Power, LLC

c: Keith Avery, UPC Wind Partners
Mike Gresham, Makani Nui Associates

ENERGY AND ECONOMIC DEVELOPMENT COMMITTEE

RECEIVED

Council of the County of Maui

2004 AUG 24 AM 9:56

OFFICE OF
COUNTY CLERK

Meeting Agenda

August 30, 2004

9:00 a.m.

Council Chamber, 8th Floor
200 South High Street, Wailuku, Hawaii

website: <http://www.co.maui.hi.us/committees/EED/>

e-mail: eed.committee@co.maui.hi.us

COMMITTEE MEMBERS

Charmaine Tavares, Chair

Danny A. Mateo, Vice-Chair

Robert Carroll

G. Riki Hokama

Dain P. Kane

AGENDA ITEMS ARE SUBJECT TO CANCELLATION. For a confirmation of the meeting date and time, and for tentative scheduling of agenda items, please contact the Committee Staff (Lance Taguchi or Tammy Frias) at: Office of Council Services, 200 South High Street, Wailuku, HI 96793, 808-270-7838, 1-800-272-0026 (toll-free from Molokai), 1-800-272-0098 (toll-free from Lanai), 808-270-7686 (fax).

ORAL OR WRITTEN TESTIMONY on any agenda item will be accepted. If written testimony is submitted at the meeting, 15 copies are requested. If written testimony is e-mailed or faxed, please submit by 12 noon on the business day preceding the meeting so that copies can be provided to Council members in a timely manner.

INDIVIDUALS WHO INTEND TO ATTEND THE MEETING AND WHO HAVE DISABILITIES REQUIRING SPECIAL ASSISTANCE should call the Office of Council Services at least three days in advance.

DOCUMENTS ON FILE WITH THE COMMITTEE, which may include correspondence relating to the agenda items below, may be inspected prior to the meeting date. Photocopies may be ordered, subject to charges imposed by law (Maui County Code, Sec. 2.64.010). Please contact the Office of Council Services to make arrangements for inspection or photocopying of documents.

TO LEARN MORE ABOUT COUNCIL-RELATED ISSUES, tune in to Akaku: Maui Community Television.

EED-3

WIND ENERGY

DESCRIPTION:

The Committee is in receipt of County Communication No. 03-51, from Councilmember Charmaine Tavares, relating to the matter of wind energy.

STATUS:

The Committee may receive presentations from the following:

1. Mike Gresham, Project Manager for Kaheawa Wind Partners, LLC, regarding a wind farm at Ukumehame, Maui.
2. Don Ainsworth, Program Coordinator for the Sustainable Technologies Program at Maui Community College, regarding wind projects.

The Committee may consider the possible filing of County Communication No. 03-51 and other related action.

KAHEAWA PASTURES

Wind Energy Generation Facility
Project Update

Energy and Economic Development Committee

EED-3

August 30, 2004

Renewable Energy

What is it?

- ❖ Energy derived from resources that are regenerative or for all practical purposes cannot be depleted.
- ❖ Types of renewable energy resources include moving water (hydro, tidal, and wave power), thermal gradients in ocean water, biomass, geothermal energy, solar energy, and wind energy.

Renewable Energy.

- ❖ Why do we need it?
 - Traditional sources of energy generation are finite. We will run out of crude oil, coal, shale and even wood – its just a matter of time.
 - In addition, the extraction and consumption of these finite resources is not clean. We generate by-products that affect our environment in a negative way.
 - To provide for future generations both economically and environmentally, we must develop renewable, clean sources of energy.

Why Wind?

- ❖ Wind is infinitely renewable
- ❖ Wind itself is infinitely clean
- ❖ Wind is abundant (especially in Hawaii)
- ❖ Wind energy is increasingly accessible
 - Meaning that the state of the technology has advanced such that wind turbines are now efficient and reliable; thus providing low and stable cost structures.
 - Meaning that the environmental impact is minimal or nil.

The Wind Industry

- ❖ Worldwide, Europe and the U.S. account for 90% of cumulative capacity. India added an impressive 408MW in 2003.
- ❖ The U.S. added 1,687MW in 2003, with utility scale turbines operating in 30 states.
- ❖ More than half of the new capacity installed consisted of GE Wind Turbines.
- ❖ The short term outlook (2004) is uncertain due to the federal governments failure to extend the provisions for the production tax credit.
- ❖ In the U.S. less than 1% of electricity is generated from wind.

Source: American Wind Energy Association

Environmental Impacts

- ❖ Air emissions from burning fossil fuels
 - Carbon Dioxide is the leading greenhouse gas associated with global warming.
 - Sulfur Dioxide is the leading precursor of acid rain.
 - Nitrogen Oxides are another acid rain precursor and leading component of smog.

Carbon Dioxide	Sulfur Dioxide	Nitrogen Oxides
177,645,442	1,242,581	321,226

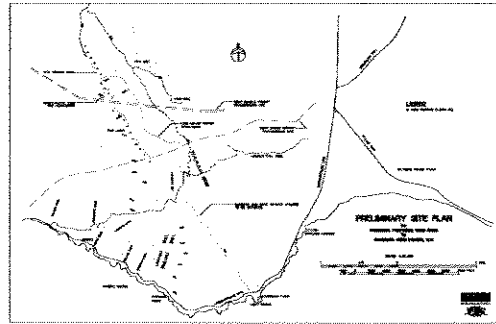
Source: American Wind Energy Association

Project Description

- ❖ The "Kaheawa Pastures" project is the development and operation of a wind energy generation facility.
- ❖ The project will consist of 20 wind turbines arranged in a single "articulated" row, an operations & maintenance building and a substation that connects to Maui Electric's transmission system.
- ❖ The project will generate enough electricity to power approximately 11,000 average Maui homes.
- ❖ Importantly, the project will eliminate the use of 155,600 barrels of oil annually (approximately \$6.7 million @ \$43 per barrel!) and thereby help reduce our dependence on imported oil.

Source: Hawaii Electric; web site, 7/04

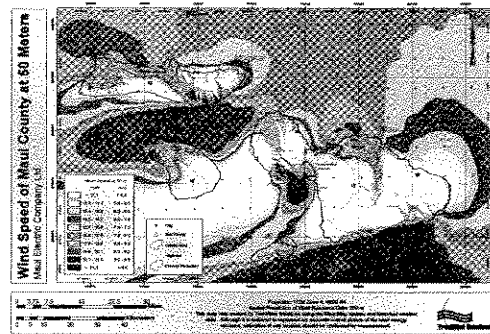
Project Location and Site Plan



Project History

- ❖ The development of a wind energy generation facility at Kaheawa Pastures was proposed several years ago:
 - Zond Pacific and Enron Wind
 - GE Wind Energy
 - Hawi Renewable Development
- ❖ A Conservation District Use Application was approved by the Board of Land and Natural Resources in January 2003.
- ❖ The site location, turbine layout and associated improvements have remained largely unchanged.
- ❖ The project will use the GE 1.5MW wind turbine, a technologically advanced design.

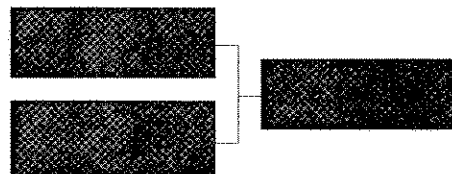
Why Kaheawa Pastures?



Permitting and Timing

- ❖ The CDUA permit "runs with the land" with 45 strict conditions required of the project developer.
- ❖ Conditions require all mitigative measures as proposed in the EIS including:
 - A Habitat Conservation Plan for endangered species,
 - Follow up archaeological surveys and a preservation plan,
 - Strict design requirements for control of erosion and siltation,
 - Additional botanical surveys, revegetation & management,
 - SMA review, NPDES permit, EA & Wild Land Fire contingency plan,
 - Ongoing monitoring and management plans
- ❖ Interconnect Requirement Study is being prepared as part of the Power Purchase Agreement with Maui Electric - the PPA is ultimately approved by the Public Utilities Commission.
- ❖ The project is planned to be operational by late 2005.

Who Are We?



Note: UPC Wind Management will develop, construct, and operate the renewable wind energy project for Kaheawa Wind Power, LLC

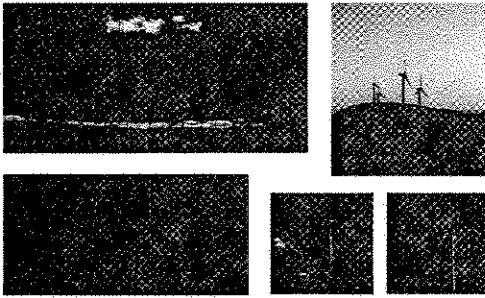
UPC Wind Partners

- ❖ UPC Wind's principals are among the world's leading wind power developers with extensive experience in financing, constructing, operating and managing large wind energy projects.
- ❖ In North America, UPC Wind has a portfolio of over 1,500 MW in development.
- ❖ Internationally, UPC Wind Management and its affiliates have:
 - Over 483 MW in operation,
 - Over 100 employees in operations and Maintenance,
 - Another 166 MW under construction, and
 - Over 1,000 MW under active development.

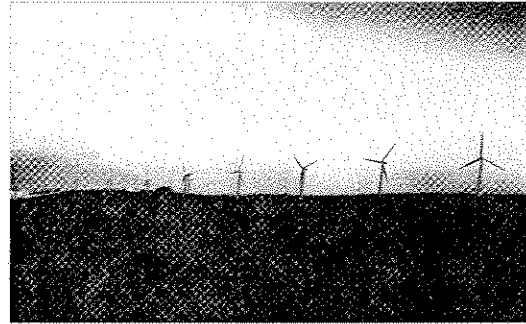
Makani Nui Associates

- ❖ Makani Nui's principals include Hilton Unemori of ECM, Inc., one of Maui's largest and best known electrical engineering firms with 28 years of experience in Hawaii.
- ❖ Makani Nui's other principal is Kent Smith of Smith Development, with 18 years of experience in real estate development and consulting, and a reputation for getting the job done.
- ❖ Together, UPC Wind and Makani Nui have the knowledge, experience and resources to finally make the Kaheawa Pastures wind energy generation facility a reality.

State of the Art Design



Kaheawa Pastures Simulation



Mahalo!

*Kaheawa Wind Power, LLC
August 30, 2004*

DRAFT ENVIRONMENTAL ASSESSMENT CORRESPONDENCE

LINDA LINGLE
GOVERNOR OF HAWAII



GENEVIEVE SALMONSON
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

235 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185
FACSIMILE (808) 586-4186
E-mail: oeqo@health.state.hi.us

October 22, 2004

Ms. Michele McLean
Kaheawa Wind Power, LLC
1043 Makawao Avenue, Suite 208
Makawao, Hawai'i 96768

Mr. Samuel J. Lemmo, Administrator
Office of Coastal Lands and Conservation
Department of Land and Natural Resources, State of Hawai'i
P. O. Box 621
Honolulu, Hawai'i 96809-0621

Dear Ms. McLean and Mr. Lemmo:

The Office of Environmental Quality Control has reviewed your draft environmental assessment for the Kaheawa Pastures Wind Energy Facility at 'Ukumehame, TMK (2nd) 4-8-1:1 and 3-6-1:14, in the judicial district of Lahaina, and offers the following comments for your consideration and response.

1. **Photographs of the proposed GE turbines:** Please include an industry photograph of the proposed GE turbine so that we may compare the proposed turbine with those found in the 1999 final EIS.

Thank you for the opportunity to comment. If there are any questions, please call Mr. Leslie Segundo, Environmental Health Specialist, at (808) 586-4185.

Sincerely,


GENEVIEVE SALMONSON
Director



Real Estate Development & Consulting

1043 Makawao Avenue, Suite 208, Makawao, HI 96768
Phone: (808) 572-3011 Fax: (808) 572-8378
www.SDHawaii.com email: KRS@SDHawaii.com

October 25, 2004

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
235 South Beretania Street
Honolulu, Hawai'i 96813

Dear Ms. Salmonson,

RE: Draft Environmental Assessment
Kaheawa Pastures Wind Energy Generation Facility
Ukumehame, Maui, Hawai'i

On behalf of Kaheawa Wind Power, LLC, the applicant for the above-referenced project, we are in receipt of your October 22, 2004 letter offering comments on the project's draft Environmental Assessment (EA). We appreciate the opportunity to respond.

In the final EA, we have included photographs of the three different wind turbines that have been contemplated for this project throughout its extended review and approval processes: the Zond Z-48, the Vestas V-47 and the GE 1.5.

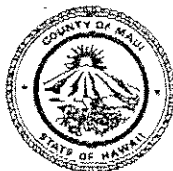
Thank you for this opportunity to respond to your October 22, 2004 letter and for your review of the draft EA.

Sincerely,

Michele McLean
Land Use Planner
for Kaheawa Wind Power, LLC

c: Keith Avery, UPC Wind Partners
Mike Gresham, Makani Nui Associates
Hilton Unemori, ECM

Mayor

MICHAEL W. FOLEY
DirectorWAYNE A. BOTEILHO
Deputy DirectorCOUNTY OF MAUI
DEPARTMENT OF PLANNING

October 22, 2004

Ms. Michele McLean
Smith Development
1043 Makawao Avenue, Suite 208
Makawao, Hawaii 96768

Dear Ms. McLean:

RE: Draft Environmental Assessment of Visual Impacts at Kaheawa Pastures Wind Energy Facility, TMK: 4-8-001; 001 and 3-6-001: 014, Ukumehame, Island of Maui, Hawaii (LTR 2004/3554)

The Maui Planning Department (Department) is in receipt of the above referenced document and provides the following comments:

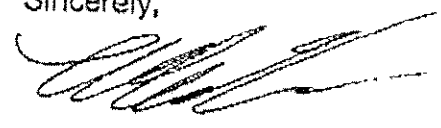
1. The Vestas V-47 (approved in the CDUA Permit) appear to have less visual impact than the proposed GE 1.5 towers. Further discuss the purpose and need for changing the type of towers to justify the proposed change.
2. Compare the differences in total linear feet for the three (3) scenarios.
3. As noted by Condition No. 40 of the CDUA Permit, the applicant shall consult the Department to ensure appropriate color tones are used on the towers and blades. Upon such time, the Department requests samples of the proposed neutral color scheme and may recommend consultation with the Maui County Urban Design Review Board (UDRB).
4. Although the scope of the DEA focuses on visual impacts, please provide a summary discussing how equipment and materials will be transported to the project site. Will it be necessary to air lift materials

Ms. Michele McLean
October 22, 2004
Page 2

and/or equipment onto the project site?

Thank you for the opportunity to comment. Should you require additional clarification, please contact Ms. Kivette A. Caigoy, Environmental Planner, at 270-7735.

Sincerely,



for

MICHAEL W. FOLEY
Planning Director

MWF:KAC:lar

- c: Wayne Boteilho, Deputy Planning Director
- Kivette A. Caigoy, Environmental Planner
- DLNR
- OEQC
- TMK File
- General File
- K:\WP_DOCS\PLANNING\EA\DEAComments\2004\3554_KaheawaPasturesWindFarm.wpd



Real Estate Development & Consulting

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www.SDHawaii.com email: KRS@SDHawaii.com

October 25, 2004

Mr. Michael W. Foley
Planning Director
County of Maui
250 South High Street
Wailuku, Hawai'i 96793

Dear Mr. Foley,

RE: Draft Environmental Assessment
Kaheawa Pastures Wind Energy Generation Facility
Ukumehame, Maui, Hawai'i

On behalf of Kaheawa Wind Power, LLC, the applicant for the above-referenced project, we are in receipt of your October 22, 2004 letter offering comments on the project's draft Environmental Assessment (EA). We appreciate the opportunity to respond as follows:

1. While the Vestas V-47 turbine is smaller than the proposed GE 1.5 turbine, the Vestas proposal would have included 50 percent more turbines than our GE proposal (30 Vestas vs. 20 GE). Additionally, the rotor speed of the Vestas is notably higher than that of the GE (28.5 rpm vs. 11-20 rpm), which is an important visual component.

The most important reason to utilize the GE 1.5 is because of its advanced technology, proven quality and reliability. Given the consistent and robust wind regime at the project site, it would only be responsible and practical to utilize a wind turbine with proven performance under comparable conditions. For example, the Zond Z-48, which was analyzed in the project's final Environmental Impact Statement, is no longer commercially available. It is vital that the turbine utilized at Kaheawa Pastures is one with a proven track record and worldwide experience, and in whose manufacturer and warranty we can all have trust and confidence.

2. You asked for a comparison of "total linear feet for the three (3) scenarios." As we understand this request, it was contained on page 6 of the draft EA. The total height, at the highest reach of the rotor, for an individual Zond Z-48 turbine is 243 feet. For an individual Vestas V-47, it is 208 feet; and for an individual GE 1.5, it is 296 feet. The total height of the Zond layout (27 turbines) is 6553 feet, of the Vestas (30 turbines) is 6298 feet, and of the GE 1.5 (20 turbines) is 5920 feet.

Mr. Michael W. Foley
October 25, 2004
Page Two

3. We thank you for acknowledging the existing condition of the approved Conservation District Use Application relating to color tones for the towers and rotors, and we look forward to working with your Department on all relevant permit conditions.
4. In brief, some of the construction equipment and all of the turbine components will arrive unassembled in containers at Kahului Harbor. They will be transported on trailers to the project site, where they will be assembled and, in the case of the towers, erected. It is not anticipated that materials or equipment will be flown to site, at least not on any sort of regular basis, due to the size and weight of the equipment and the consistent high winds at the site.

Thank you for this opportunity to respond to your October 22, 2004 letter and for your review of the draft EA. If you have further questions about the project, please do not hesitate to contact me.

Sincerely,



Michele McLean
Land Use Planner
for Kaheawa Wind Power, LLC

c: Keith Avery, UPC Wind Partners
Mike Gresham, Makani Nui Associates
Hilton Unemori, ECM

ALAN M. ARAKAWA
Mayor

GILBERT S. COLOMA-AGARAN
Director

MILTON M. ARAKAWA, A.I.C.P.
Deputy Director

Telephone: (808) 270-7845
Fax: (808) 270-7955



COUNTY OF MAUI
**DEPARTMENT OF PUBLIC WORKS
AND ENVIRONMENTAL MANAGEMENT**
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793

RALPH NAGAMINE, L.S., P.E.
Development Services Administration

TRACY TAKAMINE, P.E.
Wastewater Reclamation Division

CARY YAMASHITA, P.E.
Engineering Division

BRIAN HASHIRO, P.E.
Highways Division

Solid Waste Division

October 21, 2004

Ms. Michele McLean
Land Use Planner
for Kaheawa Wind Power, LLC
c/o Smith Development
1043 Makawao Avenue, Suite 208
Makawao, Maui, Hawaii 96768

Dear Ms. McLean:

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT OF VISUAL IMPACTS
KAHEAWA PASTURES WIND ENERGY FACILITY
UKUMEHAME, MAUI, HAWAII

Thank you for the opportunity to review the Draft Environmental Assessment relating to the visual impacts of the proposed wind energy generation facility at Kaheawa Pastures.

Please be apprised that we have no further comments at this time.

If you have any questions, please call Milton Arakawa at 270-7845.

Sincerely,


GILBERT S. COLOMA-AGARAN
Director

GSCA:MA:jso

xc: Development Services Administration

s:\milton\mmclean_kaheawa pastures wind energy facility



Real Estate Development & Consulting

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www.SDHawaii.com email: KRS@SDHawaii.com

October 25, 2004

Mr. Gilbert S. Coloma-Agaran, Director
Department of Public Works and Environmental Management
County of Maui
200 South High Street
Wailuku, Hawai'i 96793

Dear Mr. Coloma-Agaran,

RE: Draft Environmental Assessment
Kaheawa Pastures Wind Energy Generation Facility
Ukumehame, Maui, Hawai'i

On behalf of Kaheawa Wind Power, LLC, the applicant for the above-referenced project, we are in receipt of your October 21, 2004 letter on the project's draft Environmental Assessment (EA).

While you have no further comments on the project at this time, we appreciate your review of the draft EA.

Should you have any questions about the project, please do not hesitate to contact me.

Sincerely,

Michele McLean
Land Use Planner
for Kaheawa Wind Power, LLC

c: Keith Avery, UPC Wind Partners
Mike Gresham, Makani Nui Associates
Hilton Unemori, ECM

UNIVERSITY OF HAWAII

Environmental Center

October 14, 2004

Ms. Genevieve Salmonson
Office of Environmental Quality Control
235 S. Beretania Street, Suite 702
Honolulu, HI 96813

Dear Ms. Salmonson:

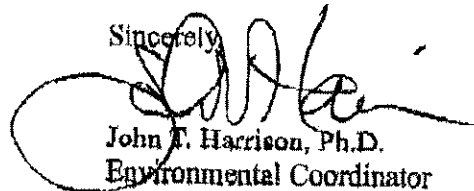
Kaheawa Pastures Wind Energy Generation Facility
Draft Environmental Assessment
Ukumehame, Maui

In the course of reviewing the referenced draft Environmental Assessment (DEA), we were surprised to find that it only addresses visual impacts. The DEA cites the current applicant's pre-consultation with both OEQC and DLNR, noting that they were advised by both agencies that they need only submit an EA to address the change in visual impacts, as the project was essentially identical to that already approved in the Statement accepted in 1999.

Our official review, currently in preparation, takes issue with the presumption of an essentially identical project. In our view, a new Environmental Impact Statement (EIS) is warranted, given the substantial changes in the project (larger turbines, blades, and tubular towers and foundations) being used in the project. In particular, we note that substantial increases in the size and mass of the components of the new systems will require much larger construction equipment (cranes, etc.) Improvements to the access road necessary to accommodate the mobile crane of a size commensurate with the construction requirements of the new towers will be substantial. Ongoing requirements to preserve access to the site for turbine replacement and major overhaul will entail continued access road restoration.

For these reasons, it is apparent that in addition to visual impacts there may be additional impacts from the new project's construction that would warrant preparation of a supplemental EIS.

Sincerely,



John F. Harrison, Ph.D.
Environmental Coordinator

Cc: DLNR
James Moncur, WRRRC
Linda Johnson, Env. Center

UNIVERSITY OF HAWAII

Environmental Center

October 22, 2004

EA: 0304

Ms. Michele McLean
Kaheawa Wind Power, LLC
c/o Makani Nui Associates, LLC
1043 Makawao Avenue Suite 208
Makawao, HI 96768

Dear Ms. McLean:

Draft Environmental Assessment
Kaheawa Pastures Wind Energy Generation Facility
Ukumehame, Maui

Kaheawa Wind Power, LLC proposes to construct a new 30 megawatt (MW) wind energy generation facility and related improvements at Kaheawa Pastures above Ma'alaea, Maui, Hawai'i. The proposed wind energy generation facility would consist of twenty 1.5MW wind turbines, an operation and maintenance structure, an electrical distribution network and substation, wind monitoring equipment and service roadways. The proposed site is located on Conservation District lands owned by the State of Hawaii. The subject property is comprised of 1,387.71 total acres and is identified as TMK No. 4-8-001: 001; the project site will occupy approximately 345 acres. For many years, a wind energy generation facility has been proposed for the Kaheawa Pastures site by several entities and their successors. In August 1999, a final Environmental Impact Statement (EIS) was prepared for then-applicant Zond Pacific and was accepted by the Department of Land and Natural Resources (DLNR). Reference is made to the document entitled "Final Kaheawa Pastures 20MW Windfarm, Maui, Hawaii, Environmental Impact Statement" dated August 16, 1999. The current proposed 30MW facility utilizes a different wind turbine than the model analyzed in the final EIS. Upon consultation with DLNR's Office of Conservation and Coastal Lands, as well as with the Office of Environmental Quality Control, the applicant was directed to prepare this draft Environmental Assessment to analyze the potential visual impacts of the current proposed facility, as all other potential impacts were analyzed in the final EIS and are unaffected by the current proposal. (Draft Environmental Assessment Project Summary.)

This review was conducted with the assistance of William Steiner, Botany; and Landin Johnson of the Environmental Center.

General Comments**State Environmental Impact Statement (EIS) Procedure**

In the course of reviewing the referenced draft Environmental Assessment (EA), we were surprised to find that it only addresses visual impacts. The draft EA cites the

Ms. Michele McLean

October 22, 2004

Page 2 of 3

current applicant's pre-consultation with both OEQC and DLNR, noting that they were advised by both agencies that they need only submit an EA to address the change in visual impacts, as the project was essentially identical to that already approved in the Statement accepted in 1999. However, this assertion is inherently illogical, in that an essentially identical project would, *a priori*, incur no visual impacts significantly different from those already assessed. In particular, we note the provisions of §11-200-26 HAR regarding supplemental statements:

A statement that is accepted with respect to a particular action shall satisfy the requirements of this chapter and no other statement for that proposed action shall be required, to the extent that the action has not changed substantively in size, scope, intensity, use, location or timing, among other things. If there is any change in any of these characteristics which may have a significant effect, the original statement that was changed shall no longer be valid because an essentially different action would be under consideration and a supplemental statement shall be prepared and reviewed as provided by this chapter.

Our reviewers disagree with the presumption of an essentially identical project and the need for addressing only visual impacts. In our view, pursuant to Hawai'i Administrative Rules (HAR) subchapter 7 and subchapter 10, a new, supplemental EIS is warranted, given the substantial changes in the project (larger turbines, blades, tubular towers, foundations, among other factors) being used in the project. In particular, we refer to the substantial increases in the size and mass of the components of the new systems, including the rotors, turbine assemblies, towers, and foundations. Because of the significantly larger dimensions of each of these components, the project will require much larger construction equipment (e.g. cranes, etc.), as well as significantly greater quantities of concrete for foundation work. Improvements to the access road necessary to accommodate the larger turbine and components, concrete trucks, and mobile cranes of a size commensurate with the construction requirements of the new towers will be substantial. Ongoing requirements to preserve access to the site for turbine replacement and major overhaul will entail continued access road restoration. Furthermore, what is the road improvement "fill material", and from where will it be procured? What exactly is the plan for the proposed access road? Has adequate and specific access road engineering been completed to ensure the road is not going to erode during heavy rains? In the instance of heavy rains and erosion, are there any endangered plants that might be affected by downhill runoff? What specific construction methods are envisioned for assembling these structures? Will there be a need for additional access road improvements than were described in the 1999 FEIS? Our reviewers have significant reservations regarding the feasibility of access to the site by extremely heavy equipment without significant changes to the existing "Jeep trail."

Ms. Michele McLean
October 22, 2004
Page 3 of 3

Our reviewers have noted that the footprint for the current proposed project is not identical to that of the footprint in the 1999 FEIS, noting that one turbine is now proposed below the southernmost 69KV Single Circuit Transmission Line, an area not previously included. The draft EA states: *It should be noted that all three proposals (final EIS version, CDUA version, and current proposed version) fall within the same project area and "footprint" - no version has deviated from the original project site (p. 5).* Although there are now only 20 turbine sites proposed compared with the original 1999 EIS proposal of 27, inclusion of a tower site below the existing transmission lines is, in fact, a deviation from the 1999 FEIS, and any potential impacts should have been addressed in a supplemental EIS.

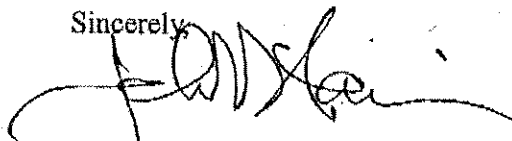
There is also concern that the 1999 FEIS did not contained a geotechnical survey (core drilling samples) of the site, and given the substantial increase in mass of the newly proposed foundations, it's appropriate to question whether the land can support the proposed foundations and turbines. Our reviewers note that given the volcanic origin of the area, lava tubes and cave structures may occur underneath proposed foundation sites.

Another concern cited by our reviewers is that floral and faunal surveys of areas not previously designated as tower sites should have been undertaken. In addition to endangered and native flora, of particular concern are the native bat species, Nene and other avifaunal species that were mentioned in the FEIS.

For these reasons, it is apparent that in addition to visual impacts, there may be additional impacts from the new project's construction that would warrant preparation of a supplemental EIS.

Thank you for the opportunity to review this draft EA.

Sincerely,



John T. Harrison, Ph.D.
Environmental Coordinator

cc: OEQC
DLNR
James Moncur, WRRC
William Steiner
Landin Johnson



Real Estate Development & Consulting

1043 Makawao Avenue, Suite 208, Makawao, HI 96768
Phone: (808) 572-3011 Fax: (808) 572-8378
www.SDHawaii.com email: KRS@SDHawaii.com

October 25, 2004

John T. Harrison, Ph.D., Environmental Coordinator
University of Hawai'i
Environmental Center
2500 Dole Street, Krauss Annex 19
Honolulu, Hawai'i 96822

Dear Dr. Harrison,

RE: Draft Environmental Assessment
Kaheawa Pastures Wind Energy Generation Facility
Ukumehame, Maui, Hawai'i

On behalf of Kaheawa Wind Power, LLC, the applicant for the above-referenced project, we are in receipt of your October 14, 2004 letter to Ms. Genevieve Salmonson, as well as your October 22, 2004 letter to the applicant, in reference to the project's draft Environmental Assessment (EA). We appreciate the opportunity to respond.

You are correct in your understanding that the draft EA was prepared upon consultation between and with the accepting agency (the Department of Land and Natural Resources' Office of Conservation and Coastal Lands) and the Office of Environmental Quality Control. Both of these agencies noted that the only discernible difference between the potential impacts of the proposed new wind turbine and the potential impacts of the wind turbines that were analyzed in the project's final Environmental Impact Statement (EIS) could be visual. Therefore, both agencies agreed that a narrow scope EA would be the most proportional and appropriate course for this single specific change to undergo environmental review.

We agree with both of these agencies that the only discernible difference between the potential environmental impacts of the different wind turbine designs could be visual, and that a narrow scope EA assessing the visual impacts would be appropriate.

The project is quite an engineering and construction undertaking, whether it utilizes 40-meter or 55-meter towers, a lattice or monopole design, 20 or 30 turbines, 47-meter or 70-meter rotors, or rotors with rotational speeds of 11 or 30 rpm. However, it is incorrect to state that the new turbines will result in, or require, any substantial change to other elements of the project, including roadway improvements and construction equipment. The following explanations should assist you in becoming somewhat informed about the project's construction details.

All of the turbine components (tower sections, nacelles, rotors) will arrive on Maui unassembled. This would have also been the construction protocol for the Zond Z-48 or the Vestas V-47. They will be transported on trailers to the project site, where they will be assembled and erected. The type of trailer and transporting equipment, therefore, will not be any different than that contemplated in the final EIS, as all would carry unassembled components of comparable size and weight.

Similarly, the type of crane required to erect the proposed new GE 1.5 turbine, like the crane required for the Zond Z-48 or Vestas V-47 turbines, would arrive on Maui only partially assembled. Its components would also be transported to the site, where it would be fully assembled and become operational.

Lastly, the difference in the amount of concrete needed for any of the proposed turbines' foundations is negligible, as we are proposing only 20 turbines (and, therefore, 20 foundations), as opposed to 27 Zond Z-48 or 30 Vestas V-47 turbines and foundations. It would be highly impractical to truck the concrete to the project site, given the distance and time required. The concrete will be batched on-site.

Therefore, the access road improvements required for all proposed turbine types will be nearly identical. No additional access road improvements beyond those contemplated, discussed and analyzed in the final EIS will be required.

The footprint of the proposed new turbines falls within the same project area as the other two proposed layouts; the map utilized in the 1999 final EIS incorrectly depicted the location of the 69KV transmission line. Had this line been correctly depicted on the 1999 final EIS map, the turbine layout would have extended below it.

We appreciate your concern that the final EIS did not include a geotechnical survey, though this concern would have been more appropriately submitted as a comment on the draft EIS. Regardless, our contractors, engineers and consultants are confident in their assessment of the project site.

In regard to your comments about fill material for the access roadway, erosion, and impacts on flora and fauna, we would direct you to the conditions imposed by the approved Conservation District Use Application, which was included in the draft EA. These conditions specifically address these areas, including the requirement to prepare additional botanical surveys and a Habitat Conservation Plan that will include the hoary bat and native avifauna. Again, these potential impacts are no different with the proposed GE turbine as with the Zond or Vestas turbines.

It is disheartening that the "Environmental Center" offered no positive or supporting comments about the proposed Kaheawa Pastures project. Eliminating the need to burn approximately 150,000 to 200,000 barrels of oil each year, thereby eliminating the

John T. Harrison, Ph.D.
October 25, 2004
Page Three

release of more than 177 million pounds of carbon dioxide and more than one million pounds of sulfur dioxide annually, and developing Maui's first commercially viable wind energy generation facility are accomplishments that we would expect you would endorse.

Thank you for this opportunity to respond to your October 14, 2004 and October 22, 2004 letters and for your review of the draft EA.

Sincerely,



Michele McLean
Land Use Planner
for Kaheawa Wind Power, LLC

c: Keith Avery, UPC Wind Partners
Mike Gresham, Makani Nui Associates
Hilton Unemori, ECM

CONSERVATION DISTRICT USE PERMIT



FEB 10 2004

PETER T. YOUNG
CHAIRPERSON

ERNEST LAU
DEPUTY DIRECTOR

DEAN A. NAKANO
ACTING DEPUTY DIRECTOR FOR
THE COMMISSION ON WATER
RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P.O. Box 621
HONOLULU, HAWAII 96809

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
COMMISSION ON WATER RESOURCE
MANAGEMENT
CONSERVATION AND RESOURCES
ENFORCEMENT
CONVEYANCES
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND
STATE PARKS

Date: 2/7/03

Ref.:PB:SL

File No.:MA-3103

Mr. David Kirkpatrick
Director of Northwest Commercial Origination
GE Wind Energy
13000 Jameson Rd.
Tehachapi, CA 93561

Dear Mr. Kirkpatrick:

Our January 31, 2003 letter informing you of the Board's action on your Conservation District Use Application for a windfarm at Ukumehame, Maui contained another error. Condition 10 identified Hawaii Wind Energy, LLC as the party responsible for compliance with the provisions of a Fire Contingency Plan. The condition has been corrected to identify GE Wind Energy as the responsible party. We are herein providing you with an amended letter with the corrected condition.

This is to inform you that on January 24 2003, the Board of Land and Natural Resources approved your application to construct and operate a 20 megawatt wind farm and associated improvements at Kaheawa Pastures in Ukumehame, Maui, (TMK: 4-8-01: 01), subject to the following conditions:

1. The applicant shall comply with all applicable statutes, ordinances, rules and regulations of the Federal, State, and County governments, and applicable parts of Section 13-5-42, Hawaii Administrative Rules;
2. The applicant shall comply with applicable Department of Health administrative rules;
3. All mitigative measures proposed in the final Environmental Impact Statement for the project shall be implemented;

4. The applicant shall install the wind turbines to minimize visual impacts to the view planes along the Old Lahaina Pali Trail. The applicant shall work with the Na Ala Hele program to implement the mitigation measures they suggest on page 10 of the staff report;
5. The applicant shall conduct a follow-up archaeological survey if the course of the upper spur road is altered;
6. Heiau 5232 at Ukumehame will need to be preserved. A preservation plan (scope of work) will need to be submitted to the State Historic Preservation Division for review and acceptance. This plan will need to identify buffers around the site, interim protection measures, and long-term preservation measures. The Division will also need to verify that the plan has been successfully carried out, prior to land alteration, or alternatively construction activities may commence following written verification from our Division that the interim preservation measures are in place. Also, as a protective measure, orange construction fencing shall be placed along both sides of the existing access road where it intersects with the Lahaina Pali Trail (State Site 50-50-09-2946 and 50-50-09-2950). The State Historic Preservation Division (Dr. Melissa Kirkendall, 243-5169) will need to verify that the protective construction fencing is in place, prior to any land alterations;
7. If evidence of historic sites or subsurface features, including burials, are discovered during construction, all activity in the vicinity of the find shall cease and the applicant shall contact the State Historic Preservation Division at 692-8015;
8. All activities connected with the project shall be contained within the project area as identified in the application for a CDUP and the final EIS;
9. The applicant shall take appropriate measures to mitigate the impacts of erosion and siltation, and prevent oil, fuel, or cement products from falling, blowing, or flowing on Conservation lands and ocean waters. All work will be scheduled during periods of low rainfall;
10. Prior to construction, the Applicant shall submit a Wild land Fire Contingency Plan approved by the Division of Forestry and Wildlife for all phases of the project. The plan shall be completed in accordance with the suggestions on page 9 of this staff report. All personnel of GE Wind Energy and the contractor involved with this project shall comply with the provisions of the Fire Contingency Plan. A copy of the plan shall be filed with the Land Division. The applicant will be liable for all fires determined by DLNR to have been caused or started from management activities related to the project. Also, DOFAW may inspect the site at any time upon request;

11. All construction materials shall be removed from the project site and disposed of at a landfill site approved by the County of Maui. Additionally, the applicant shall remove any trash or debris from the site upon completion of the project;
12. The applicant shall obtain the appropriate authorization through the Maui District Land Office, Department of Land and Natural Resources, for the use of State lands;
13. The final construction plans, including improvements to the access road network and locations of the site operations and maintenance building and site substation shall be coordinated with the Maui District Land Agent, the Historic Preservation Division, and the Division of Forestry and Wildlife;
14. The applicant shall provide four (4) sets of the final construction plans and specifications to the Chairperson or his authorized agent for approval with the permit declarations set forth in the permit application and the final EIS. Three (3) sets of plans will be returned to the applicant. Plan approval by the Chairperson does not infer approval required by other agencies;
15. Any work to be done on the land shall be initiated within two (2) years of the approval of the use by the Board, and all work and construction must be completed within four (4) years of the approval by the Board;
16. The applicant shall notify the Department in writing when construction is initiated and when construction is completed;
17. If any information or data provided by the Applicant prove to be false, incomplete or inaccurate, this permit may be modified, suspended, or revoked. The Department may, in addition, institute appropriate legal proceedings;
18. Where any polluted run-off, interference, nuisance, or harm may be caused, or hazard established by the use, the applicant shall be required to take measures to minimize or eliminate the polluted run-off, interference, nuisance, harm, or hazard;
19. The applicant, its successors and assigns, shall indemnify and hold the State of Hawaii harmless from and against any loss, liability, claim, or demand for property damage, personal injury, and death arising out of any act or omission of the applicant, its successors, assigns, officers, employees, contractors, and agents under this permit or relating to or connected with the granting of this permit;
20. All cleared areas shall be revegetated within thirty days, using native species found in the area;

21. During construction and the initial operational period of the windfarm, the applicant, in consultation with DLNR, Division of Forestry and Wildlife staff, shall monitor wildlife to ensure that the wind turbines and their towers are not sources of mortality to endangered birds, such as the Nene, the Dark-rumped Petrels, or to the endangered Hawaiian hoary bat. The type and frequency of monitoring periods shall be coordinated with the Division of Forestry and Wildlife, Department of Land and Natural Resources. The applicant shall make arrangements with the DLNR, Division of Forestry and Wildlife to pay for the cost incurred by all monitoring;
22. The applicant shall implement their Downed Bird Protocol and shall be required to immediately notify the USFWS and DOFAW if any injured or dead birds or bats are found, and the location of possible strikes. The applicant shall pay for the cost incurred by this effort;
23. The applicant shall continue opportunistic surveys of bird. Specific sightings shall be documented via a standard bird observation form;
24. The applicant shall inspect, in coordination with the DLNR, Division of Forestry and Wildlife, turbine sites to insure that no bird nests are present in the immediate area of the proposed tower foundation and access road;
25. The applicant shall work closely with DLNR, Division of Forestry and Wildlife staff to manage the wildlife habitat. This will include periodic removal of rubbish. If necessary, this will include trapping to control the number of unwanted mammals, e.g., rats, mongoose, feral cats and dogs. The applicant shall implement additional mitigation measures to protect native habitat as suggested on page 11 of this staff report;
26. The applicant shall contribute \$3,500 annually to DLNR's Nene Propagation and Recovery Program;
27. The applicant shall develop an education and observation program, including a bird identification primer and format for documenting specific observation;
28. If for any reason, the project is terminated or GE Wind Energy enters bankruptcy proceedings, the responsibility for the removal of all facilities and equipment associated with the project shall remain with GE Wind Energy, and the area is to be restored to the satisfaction of the Department of Land and Natural Resources;
29. The Applicant shall allow State and/or Federal biologists access to the site to perform periodic checks for bird and mammal mortalities;
30. Prior to construction, all access road and site construction plans shall be reviewed and approved by the County of Maui Department of Public Works and the Department of Transportation, Highways Division;

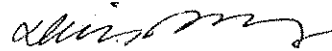
31. The applicant shall minimize ground disturbance to reduce the potential for soil erosion in and around the gulches;
32. The applicant shall add, and replace as necessary culverts to handle anticipated water flows in the gulches;
33. The applicant shall add channels or troughs along sections of the access road network to divert water flows and prevent soil erosion;
34. The applicant shall use gravel or other porous materials to maintain the integrity of the roadbed;
35. The applicant shall do additional botanical surveys as represented in the accepted EIS for the project;
36. The applicant shall hire a plant expert to supervise the actual construction work in areas in or near where there are native plants;
37. The applicant shall establish an inspection station at the staging area near the main highway to reduce the possibility of introducing alien plant species to the site, prior to the initiation of project work. Each vehicle will be inspected prior to traveling the jeep road up to the site;
38. The applicant shall ensure that operations and maintenance staff do not damage native plants. If construction or operation required the removal of native plants, the plants will be removed, relocated and replanted. The applicant shall pay for the cost of this effort;
39. The applicant shall work with plant experts to introduce appropriate native plant species back into the Kaheawa Pastures;
40. The applicant shall work with the County of Maui Planning Department to ensure that the appropriate colors tones are used on the towers and blades;
41. That this approval provides for the subdivision of Conservation District lands, if necessary, to accommodate the windfarm and access road;
42. The applicant shall comply with the Incidental Taking Permit requirements of the U.S. Fish and Wildlife Service, including the preparation of the Habitat Conservation Plan;
43. The applicant shall submit a pre-final construction plan for the wind turbines as well as hire a color consultant to develop the most appropriate color scheme for the project to blend in with the surroundings. The color scheme shall be reviewed by the County of Maui for consistency with its programs and policies;

44. That failure to comply with any of these conditions shall render this Conservation District Use Permit null and void; and
45. All other terms and conditions as prescribed by the Chairperson.

Please acknowledge receipt of this permit, with the above noted conditions, in the space provided below. Please sign two copies, retain one, and return the other within thirty (30) days of the date of this letter.

Should you have any questions on any of these matters, please feel free to contact Sam Lemmo of our Planning Branch staff, at 587-0381.

Aloha,



Dierdre S. Mamiya, Administrator

Receipt acknowledged

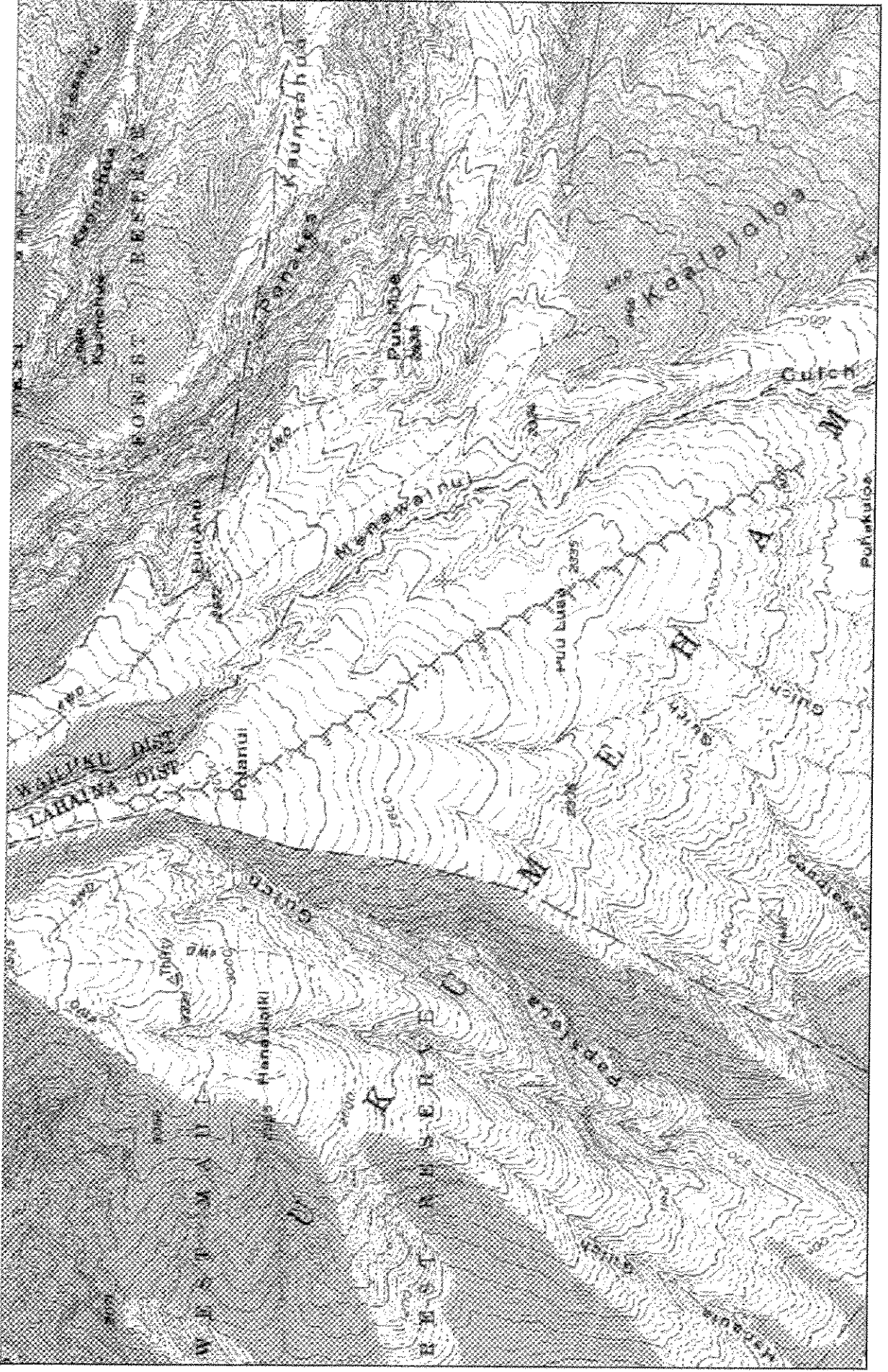
Signature

Date

cc: Chairman's Office
Maui Board Member
Maui Land Agent
County of Maui Planning Department
DOFAW
DOCARE
HPD
Warren Bollmeier
USFWS

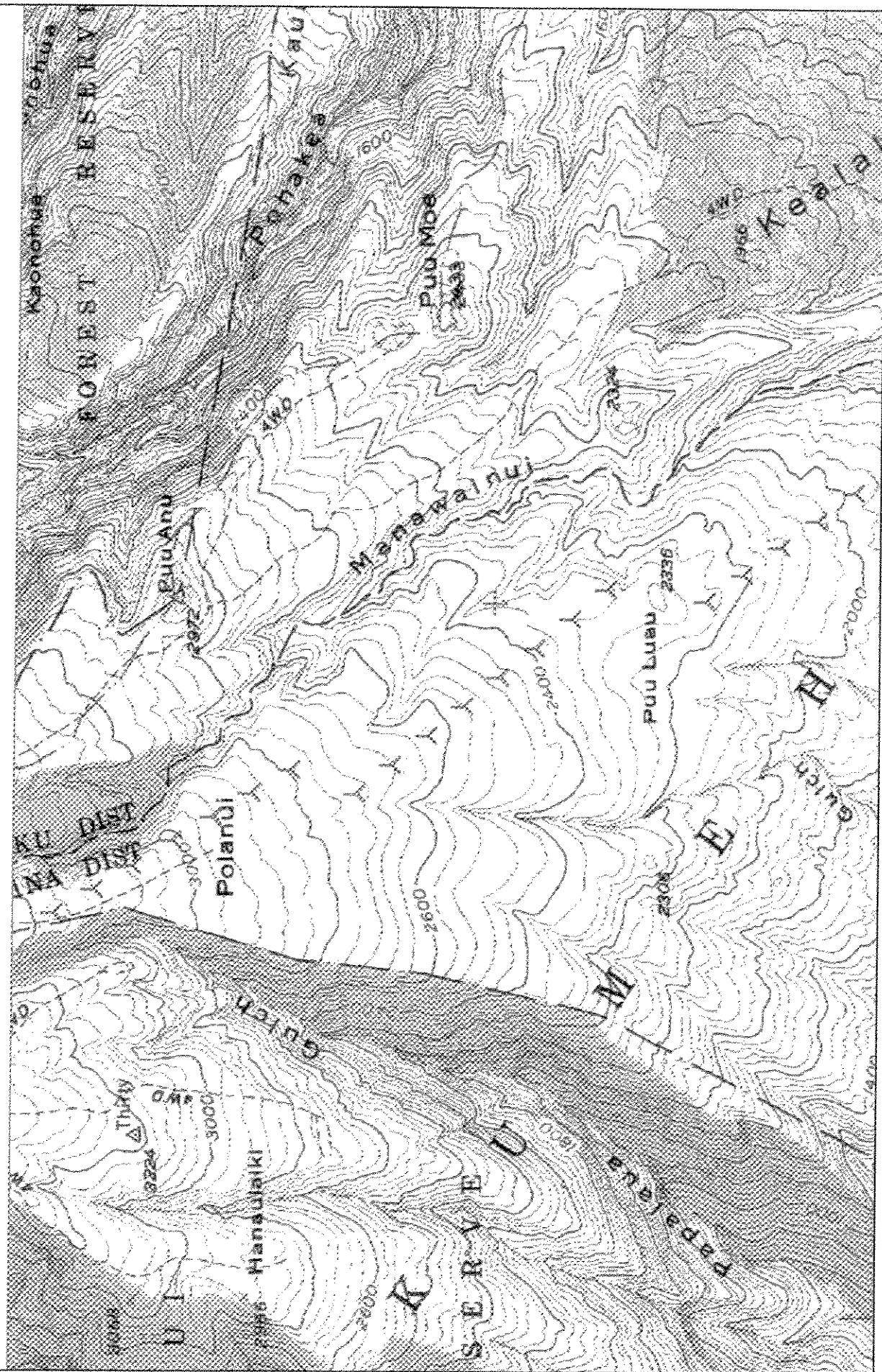
Vestas V-47 Layout

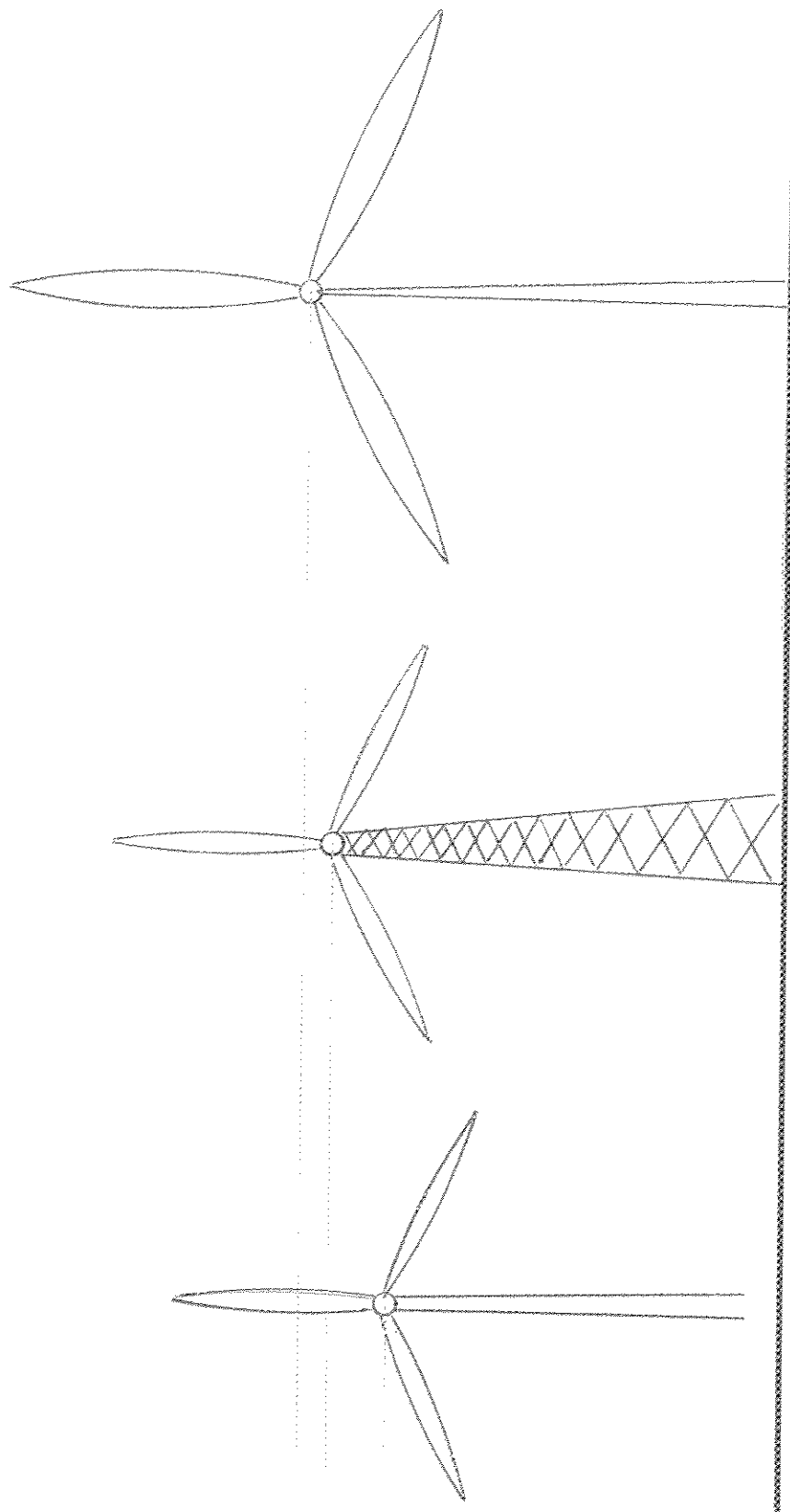
From the Staff Report: 30 Turbines, 40-meter Towers



General Electric 1.5s Layout

Under Consideration: 20 Turbines, 55-meter Towers





55 M
50 M
40 M

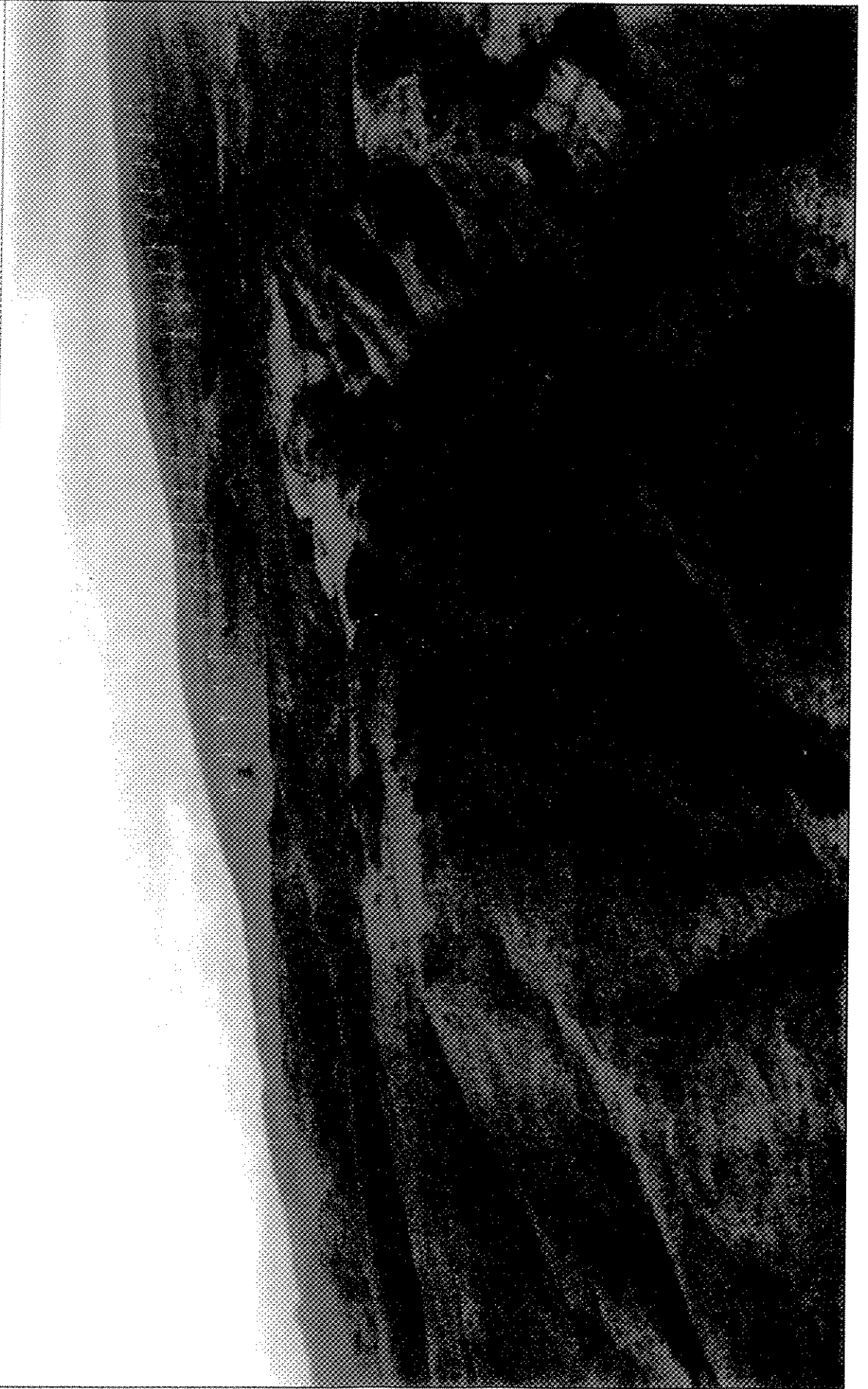
Vestas, 40 Meter Tower,
47 Meter Rotor
Approved

Zond, 50 Meter Tower,
48 Meter Rotor
Approved

GE, 55 Meter Tower,
70 Meter Rotor
Proposed

Zond Z-48 Layout

From the Final EIS: 27 Turbines, 50-meter Towers



Vestas V-47 Layout

From the Staff Report: 30 Turbines, 40-meter Towers



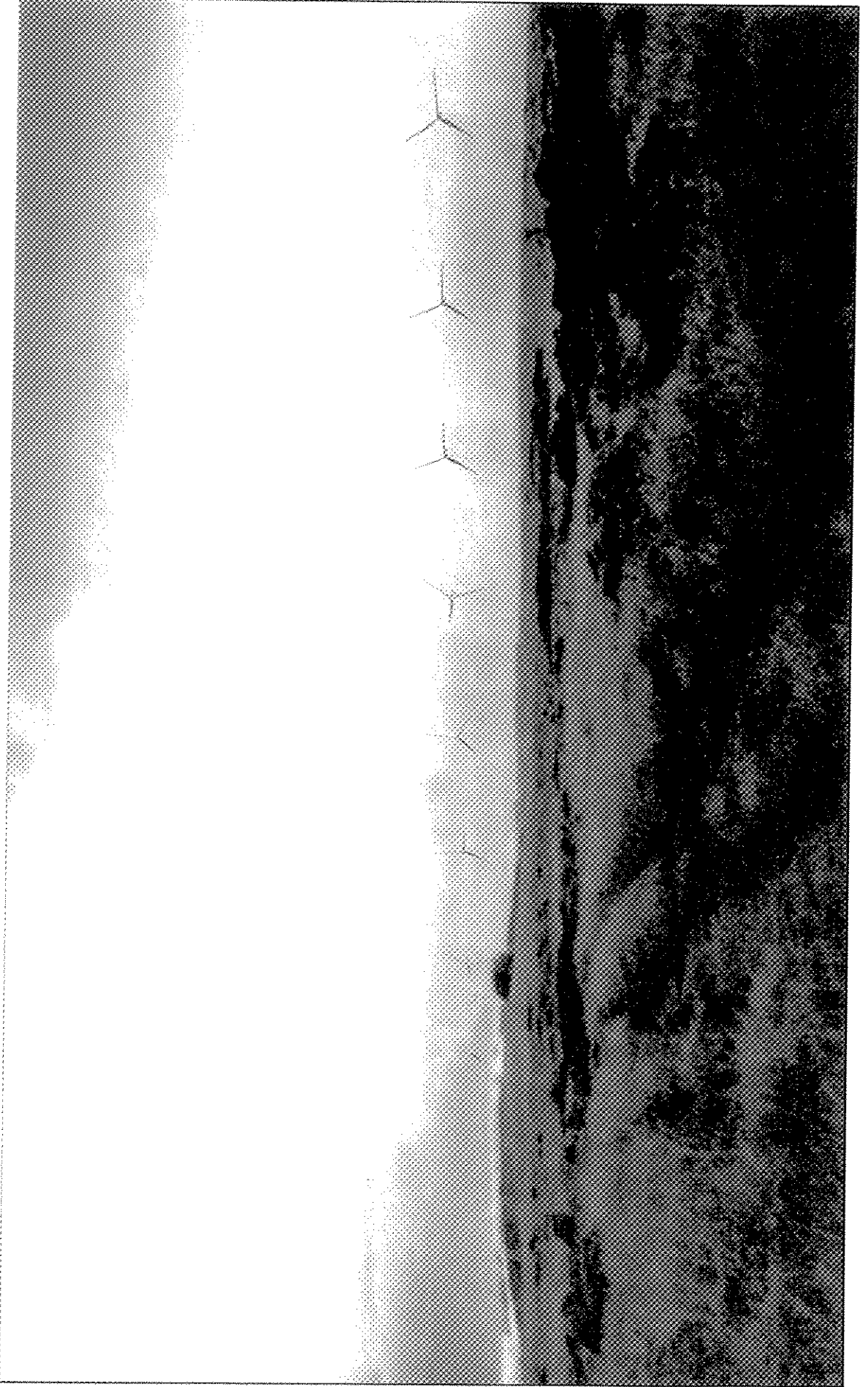
General Electric 1.5s Layout

Under Consideration: 20 Turbines, 55-meter Towers



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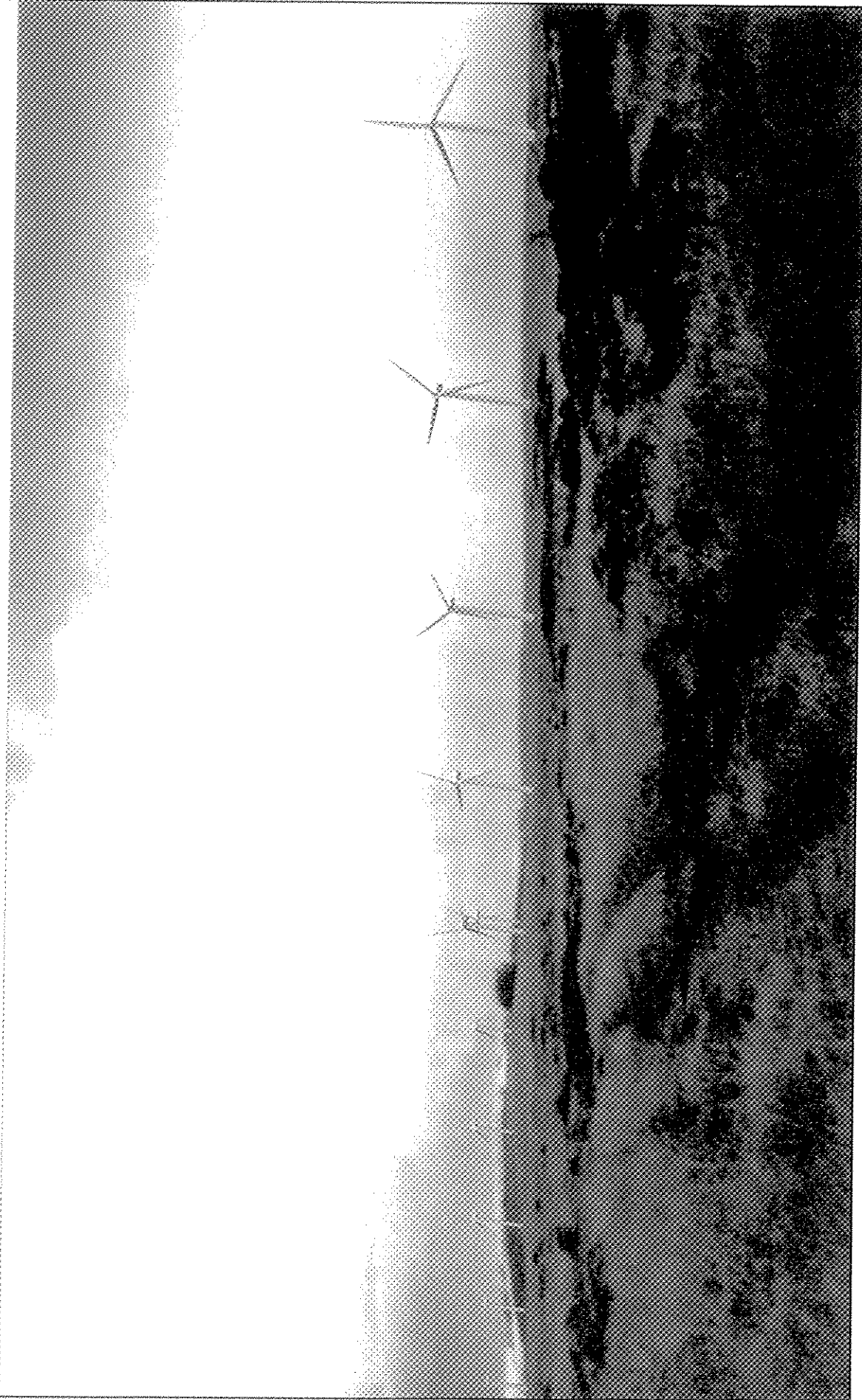
Vestas V-47 Layout

From the Staff Report: 30 Turbines, 40-meter Towers

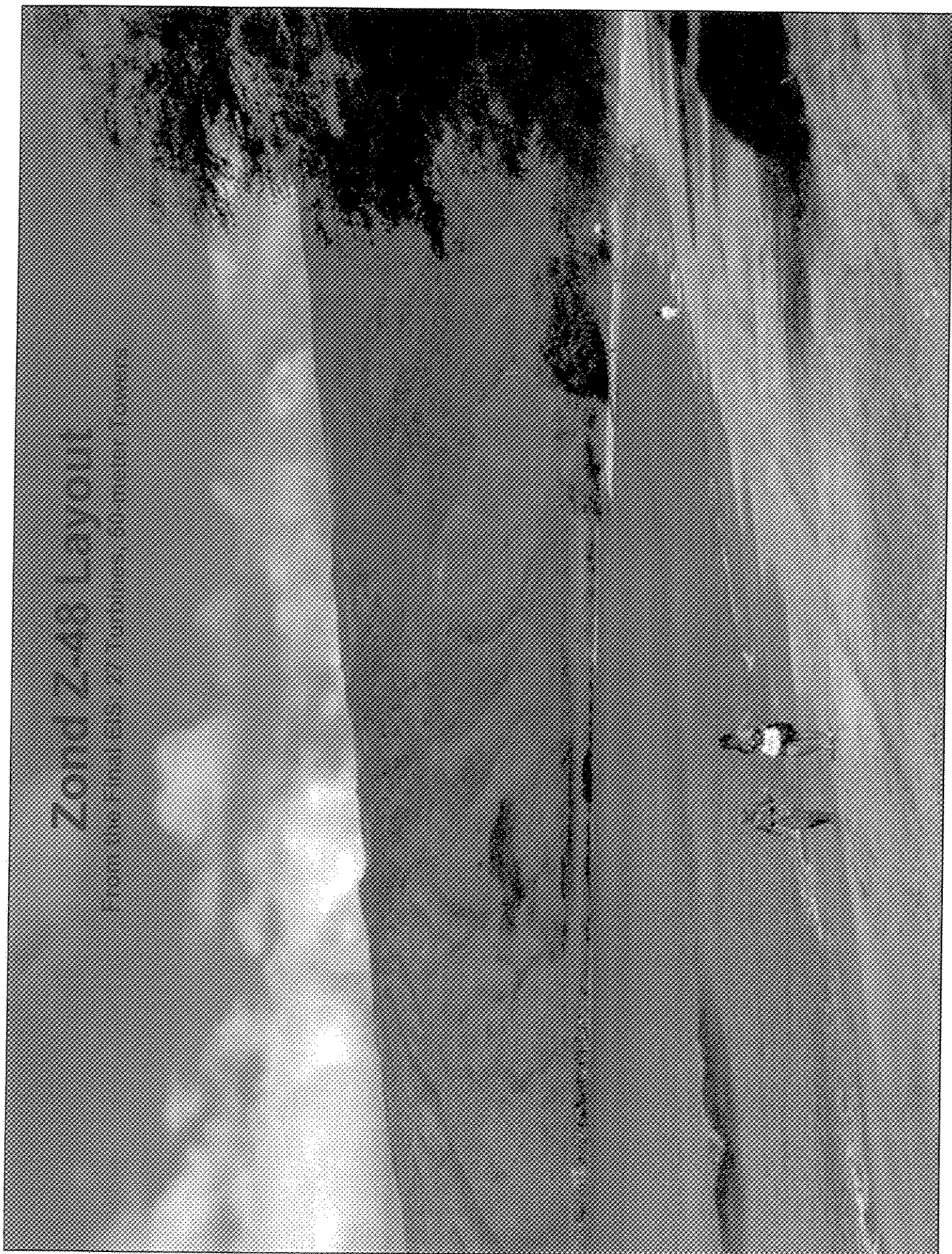


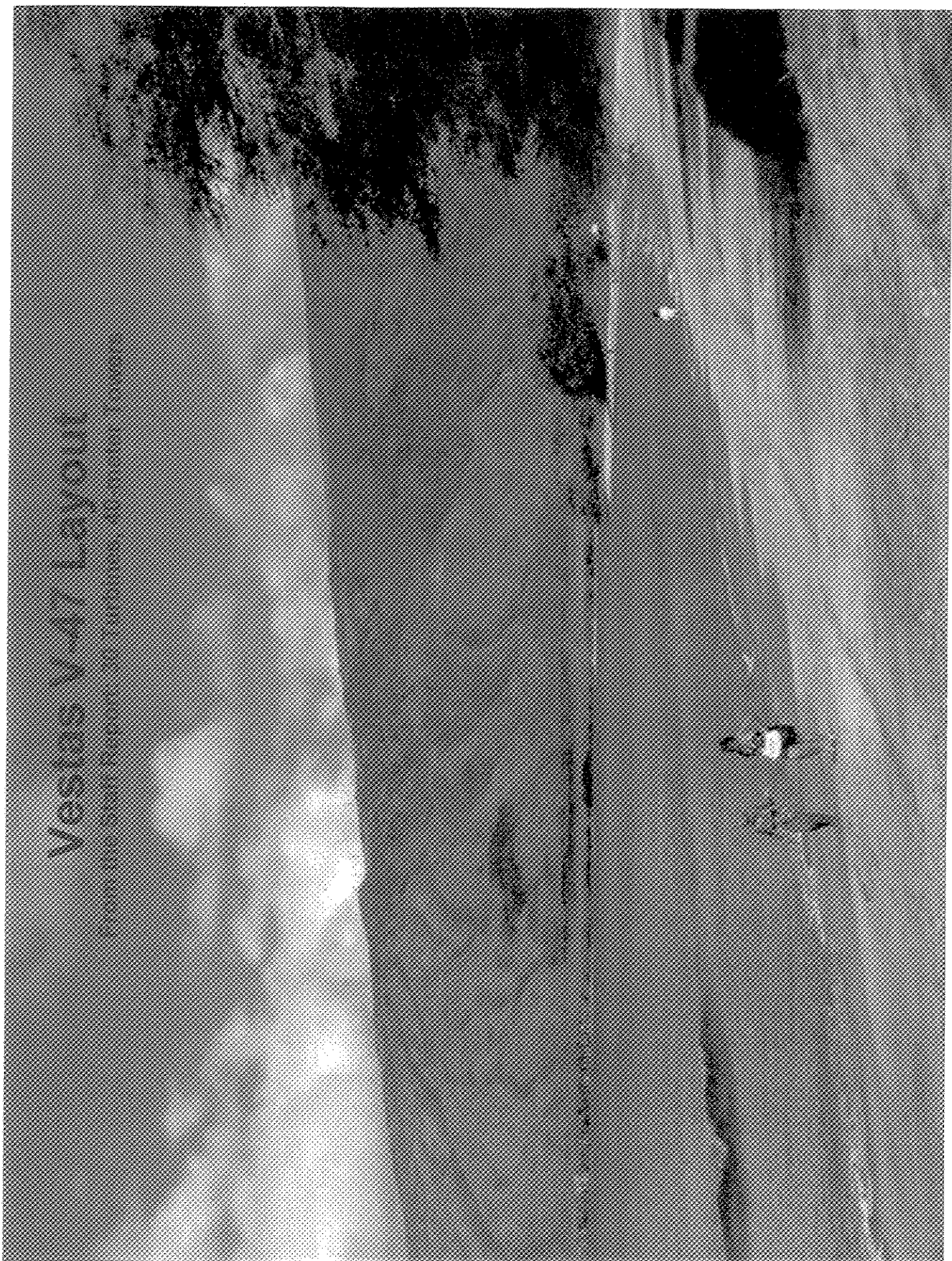
General Electric 1.5s Layout

Under Consideration: 20 Turbines, 55-meter Towers



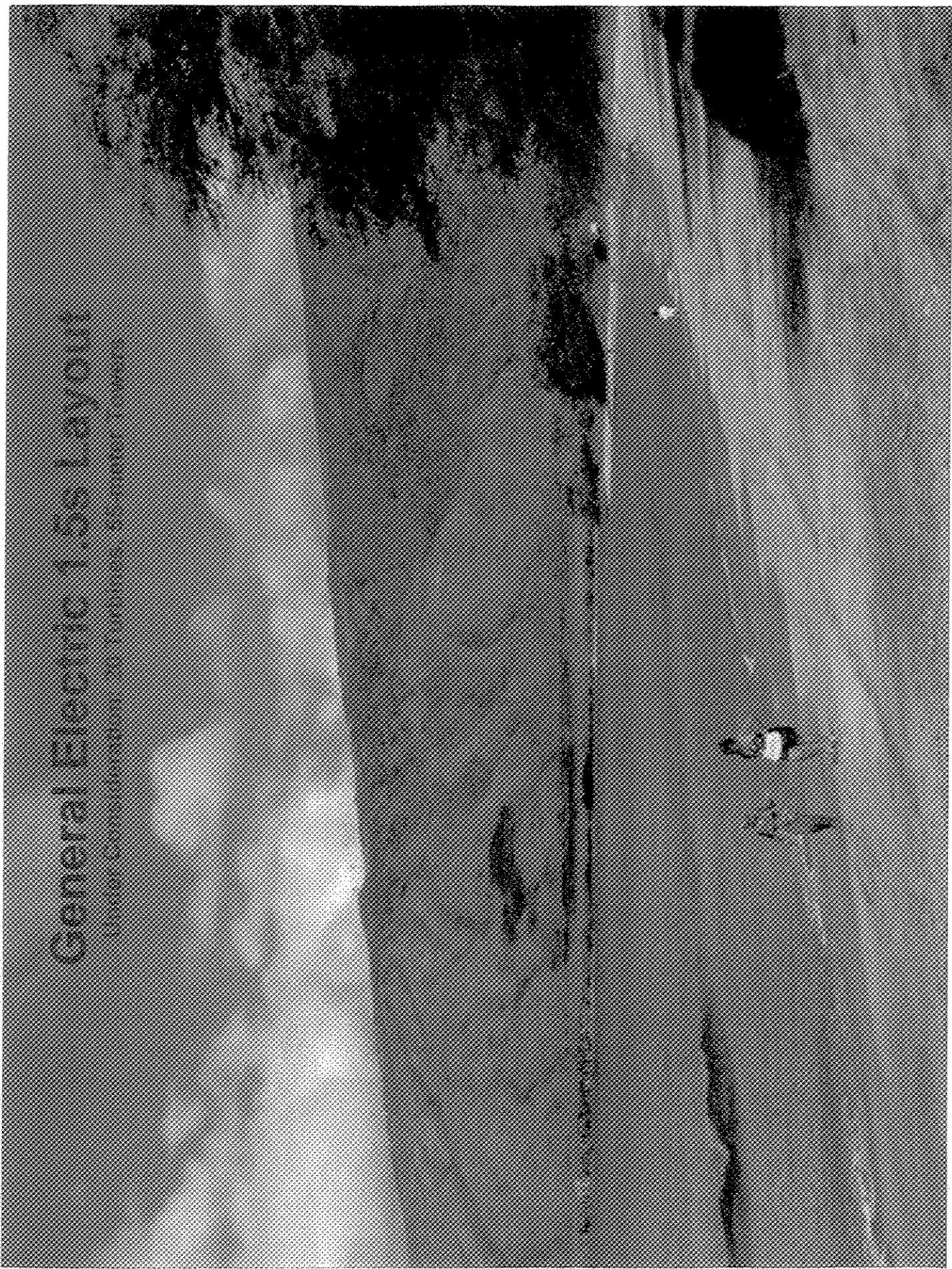
ZONING REGULATIONS





General Electric (Submitt)

10/10/10



The End

contacts:

Mike Gresham, Mutani Nui LLC

Michele McLean, Smith Development

Keith Avery, UpC Wind Partners

Mahalo