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LAND USE COMMISSION
STATE OF HAWAII
2011 OCT -3 P 1:42

BEFORE THE LAND USE COMMISSION
STATE OF HAWAII

In The Matter Of The Petition Of)	DOCKET NO. A03-743
)	
HAWAII ELECTRIC LIGHT)	ORDER GRANTING MOTION FOR
COMPANY, INC., a Hawai'i corporation)	MODIFICATION OF CONDITION NO. 5
)	CONTAINED IN FINDINGS OF FACT,
To Amend The Conservation Land Use)	CONCLUSIONS OF LAW, AND DECISION
District Boundaries Into The Urban Land)	AND ORDER ENTERED BY THE STATE
Use District For Approximately 15.643)	LAND USE COMMISSION ON
Acres Of Land at Keahole, North Kona,)	NOVEMBER 7, 2005 IN DOCKET NO. A03-
Island of Hawai'i , State of Hawai'i, Tax)	743; CERTIFICATE OF SERVICE
Map Key: 7-3-49, 36 and 37.)	
)	

**ORDER GRANTING MOTION FOR MODIFICATION OF CONDITION NO. 5
CONTAINED IN FINDINGS OF FACT, CONCLUSIONS OF LAW, AND
DECISION AND ORDER ENTERED BY THE STATE LAND USE COMMISSION
ON NOVEMBER 7, 2005 IN DOCKET NO. A03-743**

CERTIFICATE OF SERVICE

THIS IS TO CERTIFY THAT THIS IS A TRUE AND CORRECT
COPY OF THE DOCUMENT ON FILE IN THE OFFICE OF THE
STATE LAND USE COMMISSION, HONOLULU, HAWAII.

By  10/3/11
Executive Officer Date

074574



BEFORE THE LAND USE COMMISSION
STATE OF HAWAII

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STATE OF HAWAII

In The Matter Of The Petition Of)	DOCKET NO. A03-743
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**ORDER GRANTING MOTION FOR MODIFICATION OF CONDITION NO. 5
CONTAINED IN FINDINGS OF FACT, CONCLUSIONS OF LAW, AND
DECISION AND ORDER ENTERED BY THE STATE LAND USE COMMISSION
ON NOVEMBER 7, 2005 IN DOCKET NO. A03-743**

On August 26, 2011, the Hawai`i Electric Light Company, Inc. ("HELCO") filed a Motion for Modification of Condition No. 5 contained in the Findings of Fact, Conclusions of Law, and Decision and Order entered by the State Land Use Commission on November 7, 2005 in Docket No. A03-743 ("Motion") pursuant to section 15-15-70(d), Hawai`i Administrative Rules ("HAR").

On September 12, 2011, the State Office of Planning ("OP") filed its Statement of No Opposition to Petitioner's Motion for Modification of Condition No. 5 contained in the

Findings of Fact, Conclusions of Law, and Decision and Order entered by the State Land Use Commission on November 7, 2005 in Docket No. A03-743.

On September 13, 2011, the County of Hawaii Planning Department ("County") filed its Statement of No Objection to Petitioner's Motion for Modification of Condition No. 5.

This Motion for Modification of Condition No. 5 was heard in Lihue, Hawai'i, on September 22, 2011. Robert Marks, Esq. and Norman Verbanic appeared on behalf of Petitioner; Bryan Yee, Esq., appeared on behalf of OP; Bobbie Jean Leithead-Todd appeared on behalf of the County of Hawai'i.

At the hearing, OP indicated that it had no opposition to HELCO's Motion for Modification of Condition No. 5. The County of Hawai'i also had no opposition to HELCO's Motion for Modification of Condition No. 5.

After discussion and deliberation by the Commissioners, a motion was made and seconded to grant HELCO's Motion for Modification. There being a vote tally of 6 ayes and 3 excused, the motion carried.

This Commission, having duly considered the Motion for Modification of Condition No. 5 filed by HELCO, the arguments and representations by the parties and the record in this docket, hereby finds and concludes that HELCO has demonstrated that its position concerning the Motion for Modification of Condition No. 5. Therefore, for good cause shown,

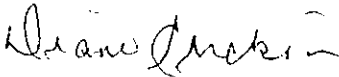
IT IS HEREBY ORDERED that the Motion for Modification of Condition No. 5 contained in the Findings of Fact, Conclusions of Law, and Decision and Order entered by the State Land Use Commission on November 7, 2005 in Docket No. A03-743 filed by the Hawai'i Electric Light Company, Inc. be GRANTED.

ADOPTION OF ORDER

The ORDER and its ADOPTION shall take effect upon the date this ORDER is certified and filed by this Commission.

DONE at Honolulu, Hawai'i, this 3rd day of October, 2011, per motion on September 22, 2011.

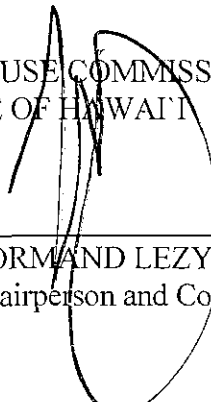
APPROVED AS TO FORM



Deputy Attorney General

LAND USE COMMISSION
STATE OF HAWAII

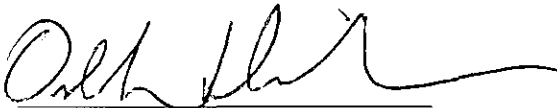
By



NORMAND LEZY
Chairperson and Commissioner

Filed and effective on:

10/3/2011



Executive Officer



BEFORE THE LAND USE COMMISSION
STATE OF HAWAII

In The Matter Of The Petition Of) DOCKET NO. A06-771
)
HAWAII ELECTRIC LIGHT) CERTIFICATE OF SERVICE
COMPANY, INC., a Hawai'i corporation)
)
To Amend The Conservation Land Use)
District Boundaries Into The Urban Land)
Use District For Approximately 15.643)
Acres Of Land at Keahole, North Kona,)
Island of Hawai'i , State of Hawai'i, Tax)
Map Key: 7-3-49, 36 and 37.)
_____)

CERTIFICATE OF SERVICE

I hereby certify that a copy of the ORDER GRANTING MOTION FOR MODIFICATION OF CONDITION NO.5 CONTAINED IN FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION AND ORDER ENTERED BY THE STATE LAND USE COMMISSION ON NOVEMBER 7, 2005 IN DOCKET NO. A03-743 was served upon the following by either hand delivery or depositing the same in the U. S. Postal Service by regular or certified mail as noted:

CERTIFIED MAIL: ROBERT MARKS, Esq.
PRICE OKAMOTO HIMENO & LUM
Ocean View Center
707 Richards Street Suite 748
Honolulu, Hawaii 96813
ATTORNEY FOR HAWAII ELECTRIC LIGHT CO., INC.

DEL.: JESSE SOUKI, Director
State Office of Planning
P. O. Box 2359
Honolulu, Hawai'i 96804-2359

REGULAR BRYAN C. YEE, Esq.
MAIL: Deputy Attorney General
425 Queen Street
Honolulu, Hawai'i 96813
ATTORNEY FOR STATE OFFICE OF PLANNING

REGULAR Bobbie Jean Leithead-Todd, Director
MAIL County of Hawaii, Planning Department
Aupuni Center
101 Pauahi Street, Suite 3
Hilo, Hawaii 96720

CERTIFIED Lincoln Ashida, Esq.
MAIL: Corporation Counsel
County of Hawaii
101 Aupuni Street, Suite 325
Hilo, Hawaii 96720
ATTORNEY FOR COUNTY OF HAWAI'I PLANNING
DEPARTMENT

Dated: Honolulu, Hawai'i, 10/3/11



ORLANDO DAVIDSON
Executive Officer

BEFORE THE LAND USE COMMISSION

OF THE STATE OF HAWAI'I

In The Matter Of The Petition Of)	DOCKET NO. A03-743
)	
HAWAII ELECTRIC LIGHT)	FINDINGS OF FACT,
COMPANY, INC., A Hawai'i)	CONCLUSIONS OF LAW, AND
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FINDINGS OF FACT,
CONCLUSIONS OF LAW, AND DECISION AND ORDER

BEFORE THE LAND USE COMMISSION

OF THE STATE OF HAWAII

In The Matter Of The Petition Of)	DOCKET NO. A03-743
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FINDINGS OF FACT,
CONCLUSIONS OF LAW, AND DECISION AND ORDER

HAWAII ELECTRIC LIGHT COMPANY, INC., a Hawai`i corporation ("Petitioner"), filed a Petition For Land Use District Boundary Amendment ("Petition") on November 25, 2003, pursuant to section 205-4, Hawai`i Revised Statutes ("HRS"), and chapter 15-15, Hawai`i Administrative Rules ("HAR"), to amend the land use district boundary to reclassify approximately 15.643 acres of land, situated at Keahole, North Kona, Island of Hawai`i, State of Hawai`i, identified by Tax Map Key ("TMK"): 7-3-49: 36 and 37 ("Petition Area"), from the State Land Use Conservation District to the

State Land Use Urban District for improvements and upgrades to the Keahole Generating Station and Airport Substation ("Project").

The Land Use Commission ("Commission"), having heard and examined the testimony, evidence, and argument of counsel presented during the hearing and the Stipulated Proposed Findings Of Fact, Conclusions Of Law, And Decision And Order entered into by Petitioner, the Office of Planning ("OP"), and the County of Hawai'i Planning Department ("Planning Department"), hereby makes the following findings of fact, conclusions of law, and decision and order:

FINDINGS OF FACT

PROCEDURAL MATTERS

1. On November 25, 2003, Petitioner filed the Petition. The Petition included an Environmental Impact Statement Preparation Notice, pursuant to section 343-5(a)(7), HRS, and section 11-200-6(b)(1)(F), HAR.

2. On December 22, 2003, Albert S. N. Hee and Waimana Enterprises, Inc., filed a Notice Of Intent To Intervene.

3. On January 15, 2004, and by a written Order dated February 9, 2004, the Commission required Petitioner to prepare an Environmental Impact Statement ("EIS").

4. On July 9, 2004, the Commission conducted a field trip to the Petition Area.

5. On February 10, 2005, and by a written Order dated May 24, 2005, the Commission accepted Petitioner's Final EIS.

6. On February 23, 2005, Petitioner filed an Amended Affidavit Of Naomi U. Kuwaye Attesting To Service Of Petition For Land Use District Boundary Amendment and Certificate Of Service.

7. On February 28, 2005, the Planning Department filed its Statement Of Position In Support Of The Petition.

8. By letter dated March 2, 2005, the Executive Officer of the Commission deemed the Petition a proper filing as of February 23, 2005.

9. On April 15, 2005, OP filed its Statement Of Position In Support Of The Petition.

10. On April 15, 2005, a prehearing conference was conducted at the Leiopapa A Kamehameha Building, Room 405, in Honolulu, Hawai'i, with representatives of Petitioner, OP, and the Planning Department present. A Prehearing Order was subsequently issued on April 27, 2005.

11. On May 18, 2005, the Commission conducted a hearing on the Petition at the King Kamehameha's Kona Beach Hotel, pursuant to a public notice published in the Honolulu Star-Bulletin and West Hawaii Today on March 16, 2005. The Commission did not receive any petition for intervention.

12. On May 19, 2005, the Commission continued the hearing on the Petition at the King Kamehameha's Kona Beach Hotel.

13. On July 13 and 14, 2005, the Commission continued the hearing on the Petition at the Sheraton Keauhou Bay Resort and Spa. On July 14, 2005, following the completion of the parties' respective cases, the Commission closed the hearing on the Petition.

14. On August 11, 2005, the Commission held an action meeting on the Petition at the Waikoloa Beach Marriott in Waikoloa, Hawai'i. Action on the Petition was deferred to the Commission's next meeting on the island of Hawai'i.

15. On September 29, 2005, the Commission continued its action meeting on the Petition at the Hapuna Beach Prince Hotel in South Kohala, Hawai'i.

DESCRIPTION OF THE PETITION AREA

16. The Petition Area consists of two adjoining parcels, TMK: 7-3-49: 36 and 37, within the ahupua'a of Keahole, North Kona, Island of Hawai'i, State of Hawai'i.

17. TMK: 7-3-49: 36 ("Keahole Generating Station" or "Parcel 36") consists of approximately 14.998 acres, and TMK: 7-3-49: 37 ("Airport Substation" or "Parcel 37") consists of approximately .645 acres for a total land area of approximately 15.643 acres. Both parcels are owned by Petitioner.

18. The Petition Area is located approximately eight miles north of Kailua-Kona.
19. Lava fields are located to the north and east of the Petition Area.
20. Lands to the north are currently owned by the Department of Hawaiian Home Lands (“DHHL”) and are planned for future residential and commercial development.
21. Four 90-foot towers owned by the Big Island Broadcasting Company are located on a four-acre parcel (TMK: 7-3-49: 38) on the Petition Area’s eastern boundary.
22. The 179-acre Keahole Agricultural Park, a subdivision of approximately 36 five-acre lots used for diversified agriculture, is located to the west, south, and southeast of the Petition Area. Approximately 25 of the lessees have built their homes within this subdivision.
23. Palamanui, a master-planned village community that will consist of single-family and multi-family residential lots and built units; commercial spaces (medical, office, classrooms, business hotel and health-related facilities); active and passive recreational facilities, including an 18-hole golf course with clubhouse and driving range; a lowland dry forest preserve; archaeological and cave preserve areas; active and passive activity parks; and a trail system, is located approximately 1.5 miles north of the Petition Area.

24. The future permanent location of the University of Hawai`i Center for West Hawai`i is located to the northeast of the Petition Area.

25. The Kona Palisades residential subdivision is located about 3,500 feet to the southeast of the Petition Area.

26. The Queen Ka`ahumanu Highway is to the west of the Petition Area and serves as the entry road to the Kona International Airport at Keahole ("Kona International Airport").

27. The Kona International Airport is approximately one mile west of the Petition Area.

28. The undeveloped portions of the Petition Area are generally vacant lava, grasses, and low brush.

29. The Petition Area's makai boundary is 190 feet and its mauka boundary is 230 feet above mean sea level.

30. The Petition Area is relatively flat and slopes gently from mauka to makai.

31. The annual rainfall on the Petition Area averages approximately 10 inches to 20 inches.

32. The soils within the Petition Area are characterized as Kaimu extremely stony peat and Punaluu extremely stony peat.

- Kaimu extremely stony peat is used for pasture, macadamia nut, papaya, and citrus.
- The Punaluu series is generally used for pasture.

33. Both soil types consist of well-drained thin organic soils over lava bedrock, rapidly permeable, with slow runoff and slight erosion hazard.

34. The Land Study Bureau classification of the Petition Area is "E" or "Very Poor."

35. The Petition Area is unclassified by the State Department of Agriculture's Agricultural Lands of Importance to the State of Hawai'i Map.

36. The Flood Insurance Rate Map designates the Petition Area as Zone "X," an area determined to be outside of the 500-year flood plain.

37. The Petition Area is located entirely on the flanks of Hualalai Volcano, the least active of the Big Island's three active volcanoes. The geology of the Petition Area consists of lava flows that were previously modified with the development of the Keahole Generating Station and Airport Substation. Based on analysis of historical lava flows in the region, the statistical probability that future flows from Hualalai adversely affecting the Petition Area is extremely low. However, future major earthquakes could have the potential to impact the Petition Area, and as such seismic forces must be taken into account in the engineering design of structures.

HISTORICAL OVERVIEW

38. On September 24, 1971, the Board of Land and Natural Resources (“BLNR”) approved Conservation District Use Permit (“CDUP”) No. HA-71/6/7-209 to allow Parcel 37 to be used for the Keahole Airport Substation. On December 14, 1973, the BLNR approved CDUP No. HA-487 which permitted construction and operation of a new electric generating and switching station at Keahole, North Kona, Hawai`i. The station was to consist of three 2.75-megawatt (“MW”) diesel generators and associated facilities resulting in a generating capacity of 8.25 MW. During the period between 1971 and 1988, Petitioner obtained three subsequent amendments to CDUP No. HA-487 that permitted improvements to the Keahole Generating Station, resulting in an increase of generating capacity from 8.25 MW to approximately 30.25 MW. On August 26, 1992, Petitioner filed a fourth amendment to existing CDUP No. HA-487 to increase the generating capacity of the Keahole Generating Station from 30.25 MW to 86.25 MW (“CDUA 1992”) and submitted an EIS for that purpose.

39. From 1993 until 2003, various stakeholders in opposition to the proposed expansion requested a contested case hearing and as a result of a lengthy complex process, the BLNR issued several decisions regarding CDUA 1992.

- In April 1996, the BLNR’s failure to take appropriate action on CDUA 1992 within the requisite deadline resulted in Petitioner’s “default entitlement” to proceed with expansion plans under CDUA 1992, which

was upheld in Civil No. 96-131K Final Judgment by the State of Hawai`i, Third Circuit Court, in February 1998.

- In September 2000, the Third Circuit Court determined that a three-year deadline applied to Petitioner's "default entitlement," and, as a result, in October 2000 Petitioner filed a request for extension of time to complete construction since the deadline had expired. The request was approved with conditions in March 2002.

40. In its last decision, rendered in October 2003, the BLNR approved a further 19-month extension of the construction deadline (to July 2005) to permit completion of the expansion of the Keahole Generating Station.

41. The BLNR conditioned its approval by requiring Petitioner to file with the Commission a petition for a district boundary amendment to remove the Petition Area from the State Land Use Conservation District.

42. Petitioner worked with other interested parties to initiate settlement negotiations to resolve issues raised by its immediate neighbors, surrounding property owners, and the concerned citizens of the community-at-large.

43. The protracted litigation spanning the period from 1993 until November 2003 culminated in Petitioner entering into an agreement ("Settlement Agreement") with all of the neighbors, individuals, and/or groups constituting the opponents to the Project (i.e., Keahole Defense Coalition ("KDC"); Peggy J. Ratliff; Mahi

Cooper; DHHL; Department of Health, State of Hawai`i ("DOH"); Director of Health, State of Hawai`i; Department of Land and Natural Resources ("DLNR"); and BLNR except Waimana Enterprises, Inc.

PROPOSAL FOR RECLASSIFICATION

44. Petitioner's proposal for reclassification includes, but is not limited to, the following improvements to the existing Keahole Generating Station¹:

- Conversion of two simple-cycle combustion turbines ("CT-4" and "CT-5") to a combined-cycle system by adding a steam turbine generation system ("ST-7") comprised of two heat recovery steam generators ("HRSG"); a steam condensing system; and a steam turbine generator, including ancillary equipment. These components will constitute a dual-train, combined-cycle plant.
- Implementation of new emissions controls, specifically, a Selective Catalytic Reduction ("SCR") system and improvements to the existing wastewater treatment system.

¹ The improvements are one of five alternatives that were considered in planning for the future of the Keahole facilities. The four other alternatives consisted of the following: (i) no action; (ii) West Hawai`i Alternative; (iii) East Hawai`i Alternative; and (iv) Renewable Resource Alternative. As an energy utility, Petitioner is required by the Public Utilities Commission to develop long-range plans for meeting Hawai`i's future energy needs through Integrated Resource Planning ("IRP"). IRP evaluates and integrates both resources that supply electricity and resources that reduce or better manage the demand for electricity. The above alternatives were formulated in coordination with Petitioner's second Integrated Resource Plan ("IRP-2") and the IRP-2 Evaluation. The Project was deemed the preferred alternative in that (i) the Petition Area is owned by Petitioner and is large enough to accommodate the necessary improvements; (ii) substantial air quality data have already been collected and submitted to the Environmental Protection Agency ("EPA"); (iii) it will meet the need to add new generating capacity; (iv) it will improve overall system reliability and keep additional capital, operating, and maintenance expenses at a reasonable level; and (v) it will optimize the benefits of using existing utility infrastructure.

45. As of July 13, 2005, approximately 99 percent of the construction of the CT-4 and CT-5 expansion has been completed.

46. The SCR system, combined with water injection, is an emissions control process that will reduce nitrous oxides (“NO_x”) emissions by up to 65 percent during the combined cycle operation of CT-4, CT-5, and ST-7.

47. SCR utilizes ammonia as a re-agent in the process. Petitioner will conduct additional studies to determine whether anhydrous ammonia or solid (urea) ammonia will be used in the SCR unit. The type of ammonia selected will be based on safety (during shipping, handling, mixing, storage, and use), operational, availability, and cost considerations. If solid ammonia is used, it is estimated that approximately 12,500 pounds will be used per week under full load conditions. If anhydrous ammonia is used, it is estimated that 5,000 gallons of liquified compressed gas ammonia would be used per week under full load conditions. It is anticipated that delivery of either form of ammonia to the Project would occur every two weeks.

48. SCR was not required and was not included in the plans submitted to BLNR in 1992 and arguably could not be added in the State Land Use Conservation District under current law. Pursuant to Act 270 (1994), the DLNR’s regulations no longer permit the future addition or improvement of fossil fuel burning power plants within the State Land Use Conservation District after 1994.

49. The construction of ST-7 together with the implementation of the SCR system is prohibited absent reclassification and rezoning, but the use of the Petition Area for the operation of the Keahole Generating Station will continue regardless of whether the land is reclassified from the State Land Use Conservation District to the State Land Use Urban District.

50. The construction of ST-7 with SCR and other auxiliary equipment will be done after land reclassification, rezoning, and applicable permits are received. Construction of ST-7 is estimated to take one year with completion in 2009. Currently, Petitioner's forecasts and plans for new generation only cover the present until 2017, and necessary generation in that time period is designed to be satisfied by the addition of ST-7.

51. Petitioner anticipates the following improvements and upgrades to the Airport Substation:

- Future replacement or addition of transformers and switchgear equipment to service the area community.
- Painting and landscaping to mitigate visual impacts.

52. Petitioner may explore the use of alternate fuels in the future and may consider a fuel conversion to naphtha to reduce emissions.

53. The potential fuel conversion may result in having to enlarge existing fuel storage tanks, tank-berm walls, adding more storage tanks, additional fuel

distribution pumps/piping, and additional fire protection (foam bank, nozzles, and piping).

NEED FOR THE PROPOSED RECLASSIFICATION

54. Petitioner is faced with an increased demand for electrical power due to the Big Island's steadily growing population and heightened economic activity, particularly in the West Hawai'i region.

55. The reclassification of the Petition Area from the State Land Use Conservation District to the State Land Use Urban District is required pursuant to the BLNR's 2003 Order and the terms of the Settlement Agreement.

56. The reclassification will also facilitate the completion of improvements necessary to increase the current generating capacity, which is a nominal 65 MW, to an anticipated generating capacity of a nominal 81 MW (net) upon the completion of ST-7.

57. The combined-cycle system (i.e., CT-4, CT-5, and ST-7) would capture the waste heat in the exhaust gas produced by the existing combustion turbines (i.e., CT-4 and CT-5) and convert this waste heat into additional megawatts, producing a nominal 16 MW (net) of generating capacity from ST-7 without any additional fuel.

58. The addition of ST-7 is intended to improve fuel efficiency and thereby contribute to a reduction in the facility's dependence upon increased consumption of petroleum.

59. The resulting increase in generating capacity would accommodate the increased demand for electrical energy by providing a firm and reasonably reliable source at the existing facility.

60. Reclassification of the Petition Area will accomplish several objectives, including:

- assignment of a more appropriate designation for the Petition Area in conformance with its long standing use as a power generating facility in the West Hawai`i region (i.e., North Kohala, South Kohala, North Kona, and South Kona);
- implementation of emissions reducing technology;
- increase the generating capacity by making use of the waste heat from existing units; and
- facilitate future operations and maintenance of the generating station.

61. Reclassification of the Petition Area facilitates the continued generation of firm power and voltage support where the demand is located and under more fuel-efficient and environmentally sound conditions.

62. Although Petitioner would like to meet the growing demand through the increased use of renewable energy resources, there are major impediments to the increased use of such resources, including high costs, proximity to the grid, and reliability. As such, Petitioner must continue to use a multi-faceted energy portfolio

employing combined-cycle, fossil-fuel-fired power plants together with wind, hydroelectric for central stations, geothermal, and distributed generation for selected sites to provide quality power reliably.

STATE AND COUNTY PLANS AND PROGRAMS

63. The Petition Area is within the State Land Use Conservation District, as reflected on the Commission's official map, H-2 (Keahole Point).

64. The Petition Area is zoned Open (O) by the County of Hawai'i. Petitioner intends to seek rezoning of the Petition Area from Open to General Industrial (MG).

65. The height of the existing exhaust stack was originally permitted within the State Land Use Conservation District and will become non-conforming upon reclassification of the Petition Area to the State Land Use Urban District; however, the height of the stack can be allowed as a legal non-conforming use under the zoning regulations of the County of Hawai'i.

66. The Hawai'i County General Plan Land Use Pattern Allocation Guide Map designates the Petition Area as Urban Expansion Area, which allows for a mix of high-density, medium-density, low-density, industrial and/or open designations in areas where new settlements may be desirable, but where the specific settlement pattern and mix of uses have not yet been determined.

67. The Petition Area is not located within the Special Management Area (“SMA”) of the County of Hawai‘i.

PETITIONER’S FINANCIAL CAPABILITY TO UNDERTAKE THE PROJECT

68. Petitioner has provided information on its financial status in Exhibit 10 to the Petition, which includes U.S. Securities and Exchange Commission Quarterly Report, Form 10-Q of Hawaiian Electric Industries, Inc., and Hawaiian Electric Company, Inc., for the quarterly period ended September 30, 2003.

69. Financing for the Project is provided for by a combination of equity investment and debt, including both long-term and short-term debt. Petitioner is financially capable of completing the Project upon reclassification, because it generally maintains a balance of debt and equity in its capital structure and this capital is used to fund all of Petitioner’s capital projects.

SOCIO-ECONOMIC IMPACTS

70. SMS Research (“SMS”) prepared a report entitled *Socio-Economic Impact Assessment of Redesignation of Keahole Generating and Transmission Sites* dated September 2004.

71. Existing socio-economic conditions are based on information derived from public documents (e.g., census) and interviews conducted with a wide range of stakeholders (e.g., residents of the Keahole Agricultural Park, Kona Palisades;

business owners and operators; and others active in West Hawai'i's civic and economic life).

72. The analysis of economic impacts is based upon information derived from the State Department of Business, Economic Development, and Tourism Input-Output Model to identify impacts at the State and County level.

73. Most of the interviewees did not have a strong reaction to the reclassification of the Petition Area. They viewed the issue as part of the Settlement Agreement that would allow Petitioner to proceed with the Project and to respond to the community's concerns. The construction of ST-7 with SCR was seen favorably as a means to contribute to near-term generating capacity and provide the island of Hawai'i with the firm capacity to depend on resources other than fossil fuels.

74. SMS also assessed the Project's impact upon population and housing. To the extent that the Project supported new permanent jobs, it could encourage in-migration. With new jobs, resident workers may have enough income to form new households. It is anticipated that the majority of the operational workers associated with the Project would be specialized, with new hires possibly coming from off-island and adding to the local housing demand. The number of these workers is expected to be small, minimizing the demand on the local housing market.

75. The Project's impact upon residential property values was also assessed. The presence of the Project is not expected to affect property values for the

following reasons: (a) sales in the Keahole Agricultural Park are well above assessed values; and (b) existing residential areas are nearly a mile or more away from the Petition Area.

76. Between 2006 and 2025, a total of \$45.2 million (in 2004 dollars) in construction spending would be realized and a total of 326 direct construction jobs (in person-years) could be expected with the Project. During the same time period, direct, indirect, and induced construction-related jobs (in person-years) are projected to amount to 812. Approximately 671 of these jobs are expected to be in the County of Hawai`i. The cumulative workforce income from direct construction-related jobs is expected to be \$15.10 million (in 2003 dollars), while income from all construction-related jobs (direct, indirect, and induced) is projected at \$29.8 million (in 2003 dollars). Approximately \$24.3 million (in 2003 dollars) of this income is expected to be in the County of Hawai`i.

77. Direct operational jobs with the Project are estimated to number approximately 21 in 2025, while direct, indirect, and induced operational-related employment would amount to approximately 65 jobs in 2025. Of this total, approximately 51 jobs are expected to be in the County of Hawai`i. The workforce income from direct operational jobs is projected at \$1.5 million (in 2003 dollars) in 2025, while income from direct, indirect, and induced employment is estimated to be \$2.8

million (in 2003 dollars) in 2025. The share of this income to the County of Hawai`i is anticipated to be approximately \$2.4 million (in 2003 dollars).

78. Over the 2006-2025 time period, the State is expected to realize approximately \$4.3 million (in 2003 dollars) from cash flows associated with the construction of the Project, including revenues from excise taxes, personal income taxes, and corporate income taxes.

79. The main revenue source for the County of Hawai`i is real property taxes. To the extent that utilities pay only nominal real property taxes, no difference in County receipts is anticipated as a result of the Project.

IMPACTS UPON RESOURCES IN THE AREA

Agricultural Resources

80. The Petition Area has been developed with the Keahole Generating Station and Airport Substation since the early seventies. There is currently no agricultural activity on the Petition Area.

81. The 179-acre State-owned and leased Keahole Agricultural Park that borders the Petition Area to the south and southeast is used for diversified agriculture, including flowers, plants, and local fruits. Residents of the subdivision had expressed concern about the Project's emissions.

82. Robert E. Paull prepared a report entitled *Emission Studies – Impact on Keahole Agricultural Park* dated June 27, 2004. The report examined the potential

effects of ethylene, sulfur dioxide (“SO₂”), and NO_x emissions on plants and crops in the Keahole area. Of these emissions, ethylene has the greatest potential to adversely impact plant growth and development, while SO₂ and NO_x would cause phytotoxic symptoms on plants. Given the infrequency and short duration of plume impact from the Project’s stacks on the park and the lack of any information on orchid phytotoxicity to these gases, it was difficult to determine the impacts. The plume’s short duration made extrapolation from research results difficult as most of the research was based on continuous chronic exposure of 24 hours or more. Phytotoxicity would not be immediately apparent under these circumstances. Given these conditions, cumulative response would not be expected with the impact duration and dose levels expected to affect the Keahole Agricultural Park. A reduction of ethylene levels would be anticipated as the diesel generators were phased out and simple combustion cycle and combined cycle combustion turbines were used exclusively.

83. The reclassification of the Petition Area will not adversely impact agricultural resources.

Flora Resources

84. Char & Associates, Botanical Consultants, prepared a report entitled *Botanical Resources Assessment Study* dated August 2003.

85. The vegetation within the Petition Area is composed almost exclusively of introduced or alien species.

86. The three native species found in the Petition Area, all indigenous, include the `uhaloa and `ilima, which were observed along the roadway and other disturbed areas, and the beach naupaka, which is used as landscape material.

87. None of the plants observed within the Petition Area and along the primary and secondary access roads is a threatened or endangered species or a species of concern.

88. The reclassification of the Petition Area will not adversely impact botanical resources.

Fauna Resources

89. Phillip L. Bruner, Environmental Consultant, prepared a report entitled *Avifaunal and Feral Mammal Field Survey of Keahole Generating Station, North Kona, Island of Hawaii* dated July 31, 2003.

90. A total of 13 species of introduced (non-native) birds were recorded on the survey and are typical of what is expected in this area.

91. The Petition Area does not contain any unusual or unique habitat important to native or migratory birds. No native birds or migratory birds were observed within the Petition Area.

92. No threatened or endangered animal species as listed by the U.S. Fish and Wildlife Service were found on the Petition Area.

93. The reclassification of the Petition Area will not adversely impact fauna resources.

Historical and Archaeological Resources

94. Paul H. Rosendahl, Ph.D., Inc., prepared a report entitled *Archaeological and Cultural Impact Assessment Study* dated February 2004. The report consisted of an updated inspection of Parcel 37 and the primary and secondary access roads to supplement the previous archaeological inventory survey of Parcel 36 done in 1992. The report also updated the previous cultural impact assessment of Parcel 36 in 1992 with the addition of Parcel 37 and the access roads. The report confirmed that the Petition Area has been extensively modified and developed for the operation of the Keahole Generating Station and Airport Substation.

95. Four quarry sites consisting of seven component features, all pahoehoe excavations, were identified and assessed as significant for their information content.

96. No subsurface test excavations were conducted since there were no cultural deposits of any kind within the identified features.

97. The pahoehoe excavations were interpreted as quarry features related to prehistoric occupation of the general area, as evidenced by the habitation and refuge cave sites previously identified to the south in the area of the Keahole Agricultural Park.

98. The State Historic Preservation Division of DLNR (“SHPD”) determined that no further work or preservation was recommended for any of the sites because the data collected during the inventory survey was deemed adequate.

99. The Project will not significantly affect or adversely impact any historic properties or archaeological resources on the Petition Area, and thus no mitigation measures of any kind are needed.

100. No evidence of any potentially significant traditional native Hawaiian cultural properties, natural resources, practices, or beliefs were identified during either the 1992 inventory survey of Parcel 36 (i.e., Keahole Generating Station) or the updated survey of the three additional Project elements (i.e., Parcel 37 and the primary and secondary access roadways).

101. There is no evidence of any kind that the Petition Area has any natural resources necessary to or is currently being used by either native Hawaiian cultural practitioners exercising traditional and customary access and use rights for any purposes or by individuals of any other cultural affiliation for any traditional cultural purposes.

102. The Project will not significantly affect or adversely impact any cultural resources, and thus no mitigation measures of any kind are needed.

Recreational Resources

103. Given the industrial nature of the Project, it is not anticipated to generate a demand for additional recreational resources nor adversely impact existing recreational facilities in the Keahole area.

Scenic Resources

104. Petitioner has committed to work with its immediate neighbors and the surrounding community to mitigate against the visual impacts of the Project as set forth under the Settlement Agreement.

105. Petitioner implemented the following visual mitigation measures: (1) low intensity stack lighting; (2) color coordinated exterior painting; and (3) perimeter landscaping.

106. Petitioner collaborated and consulted with KDC and the Kona Outdoor Circle in developing appropriate landscaping plans.

107. Petitioner hired a landscape architect to produce a plan to mitigate visual impacts of the building lines a viewer might see from the airport, airport access road, along Queen Ka`ahumanu Highway, and the surrounding community.

108. The final landscaping plan ("Landscape Concept Plan") developed by the landscape architect is in the process of being implemented.

Groundwater Resources

109. Tom Nance Water Resource Engineering prepared a report entitled *Potential Impact on Water Resources of the Expansion of the Hawaii Electric Light Company's Power Generating Station at Keahole in North Kona, Hawaii*, dated December 2003 and revised in October 2004.

110. The Petition Area is located on the western flank of the Hualalai mountain. Due to the high permeability of the ground surface, stormwater runoff does not occur in significant amounts. Two distinctly different modes of groundwater occur in the general vicinity of the Petition Area. Groundwater underlying the entire coastal zone occurs in a thin, brackish to saline basal lens which is underlain by saltwater at depth and is in hydraulic contact with seawater at the shoreline. There is an abrupt change from basal to high-level groundwater inland near Mamalahoa Highway extending approximately 20 miles from Kalaoa to Kealahou. The existence of high-level groundwater was discovered in 1990. The exact geologic cause of this abrupt change is unknown, but the result is a significant reservoir of potable quality groundwater.

111. Due to the high formation permeabilities at and below the sea level where the basal lens resides and the relatively low flow of groundwater through the lens, the basal groundwater in the Keahole area, including the Petition Area, is relatively saline.

112. The flow of brackish groundwater beneath the Petition Area is in the range of 1.2 to 2.0 million gallons per day (“MGD”) per coastal mile.

113. The Project may affect the water resources in four ways: (i) by increased pumpage of an additional 15,000 gallons per day (“gpd”) of the high-level wells that constitute the County Department of Water Supply’s (“DWS”) North Kona System; (ii) by the use of onsite brackish groundwater drawn from the underlying basal lens at Well 4461-02; (iii) by the disposal of plant wastewater in the saline zone below the basal lens; and (iv) by the disposal of domestic wastewater in the existing septic tank and leach field system.

114. The increased pumpage of the DWS’s high-level wells by 15,000 gpd would decrease the ultimate discharge of groundwater into the marine environment by 15,000 gpd. This total represents a decrease of less than one-tenth of 1 percent of the total groundwater flow to the marine environment. The decreased groundwater flow rate is not anticipated to adversely impact the saline wells or the anchialine ponds that are downgradient from the Petition Area.

115. The pumpage of onsite brackish groundwater would eliminate the need for the additional 15,000 gpd from the high-level wells. This would allow the DWS to reduce pumpage (at least until the water is used by other developments) from its Kahalu`u wells, which have been excessively pumped to the extent that they have produced undesirable salinity levels.

116. Any salinity changes to groundwater in the coastal area as a result of the pumpage of onsite brackish groundwater are expected to be insignificant and of no consequence to wells downgradient of the Petition Area, including the wells used by Uwajima Fisheries, given the large amount of saltwater disposal already occurring at the Natural Energy Laboratory of Hawai`i ("NELH") facility.

117. Most of the major chemical constituents of the plant's wastewater would be similar to diluted seawater, although there would be minor amounts of other constituents that media and cartridge filters failed to remove. The DOH Underground Injection Control ("UIC") Permit No. UH-1776 specifies the maximum allowable levels of these constituents. Petitioner intends to comply with these requirements. None of the functioning wells downgradient of this disposal are expected to be adversely impacted due to (i) the large amount of saltwater that is currently being disposed of from activities at the NELH facility (Petitioner's disposal rate of about 0.1 MGD will be two orders of magnitude less than the present rate of saltwater disposal at NELH); and (ii) the horizontal and vertical separation between Petitioner's wells and the downslope wells (Petitioner's disposal via the injection wells occurs approximately 1.8 miles away from the Uwajima Fisheries' wells at substantial depth below the basal lens).

118. The wastewater that will be treated and disposed of in the Project's existing septic tank and leach field system will ultimately reach the underlying basal lens. The addition of nutrients to the groundwater beneath the Petition Area in the

form of nitrogen and phosphorus is expected to represent less than 0.5 percent of the nitrogen and phosphorus that are continually discharged into the marine environment through natural groundwater flux.

119. The Project is not expected to adversely impact present or foreseeable uses of groundwater in the Keahole area.

Coastal Resources

120. Marine Research Consultants prepared a report entitled *An Assessment of Potential Impacts to the Marine Environment* dated February 2004.

121. The assessment of the effects of the Project on nearshore waters is based on data from the NELH Authority Cooperative Environmental Monitoring Program ("CEMP"), as well as estimates of change to groundwater composition. The CEMP data were utilized to develop a conservative mixing model that scales nutrient concentrations to salinity to determine the extent of nutrient subsidies to nearshore areas that exceed the levels of natural input.

122. The two intake pipes used to pump deep, cold, nutrient-rich water to NELH are located relatively far offshore (approximately 5,000 feet) from Keahole Point at relatively great depths (approximately 2,000 feet).

123. Another "warm surface water pipe" is located about 300 feet offshore at a depth of about 65 feet.

124. There will be no effect on intake water for NELH even if there were a detectable change of groundwater from the Petition Area, because all of NELH's intake pipes are located in waters of sufficient depth and distance from shore that they will not be affected by any changes to groundwater discharge.

125. The Project will not have a significant or even measurable effect on marine waters in the region.

ENVIRONMENTAL QUALITY

Noise

126. HFP Acoustical Consultants, Inc., prepared a noise study entitled *Noise Study for Draft Environmental Impact Statement* dated October 13, 2004.

127. The Settlement Agreement specifically provides that Petitioner will install and/or use noise mitigation equipment, operating procedures, and other measures to meet the applicable 55 dBA (decibel (A-weighted scale))(day time) and 45 dBA (night time) Class A Zoning District noise standards for the normal operation of the Keahole Generating Station.

128. Petitioner is implementing a variety of noise mitigation measures to lessen the acoustical impacts on the immediate neighboring community pursuant to the Settlement Agreement, including, but not limited to: (a) silencers (similar to automobile mufflers) in the exhaust ductwork and stacks; (b) double encasements around exhaust ductwork with insulation; (c) sound-absorbing enclosures surrounding engine

compartments; (d) sound-absorbing enclosures encompassing all major subsystems with moving equipment, including pumps, motors, filters, orifices, and valves; (e) flexible couplings; and (f) replacement of inertial particle separators with paper filters.

129. The combined cycle equipment will also be chosen and installed to meet Petitioner's overall property line noise target. Once equipment design is completed, actual property line or other sound level targets will be calculated for each piece of combined cycle equipment and included in the specification of equipment.

130. The acoustical environment will significantly improve after the Project and associated noise abatement projects are completed due to the comprehensive noise abatement equipment that has been and will be installed at the Petition Area pursuant to the Settlement Agreement.

Air Quality

131. Jim Clary & Associates prepared a report entitled *Climate and Air Quality Assessment* dated July 2004.

132. The emissions of air pollutants are regulated at the federal level pursuant to the Clean Air Act ("CAA").

133. The maximum ground level concentrations for SO₂, carbon monoxide, and particulate matter less than 10 microns in diameter for CT-4 and CT-5 and the existing diesel and combustion turbine units were predicted using a modeling analysis. No federal or state ambient air quality standards were exceeded.

134. To comply with the applicable air quality standards, Petitioner must demonstrate that the CT-4 and CT-5 emissions do not exceed the rates used in these studies by continuously monitoring pollutant rates and by periodic independent source tests that also measure emission rates. Petitioner's air permit includes those emission rates as enforceable permit emission limits.

135. Petitioner must demonstrate to the DOH and the EPA during the permitting process that the immediate areas surrounding the Petition Area will not be adversely impacted by the emissions from the generating units.

136. The DOH will assess everything outside the Petition Area boundary to determine the predicted concentrations for various pollutants, various averaging times, and whether they meet health-based standards. Performing such an assessment is one criterion for obtaining an air permit from the DOH, and this is accomplished through complex air dispersion models approved by the EPA.

137. Petitioner's dispersion models have been reviewed by both the DOH and EPA. Both agencies have confirmed that the surrounding areas will not be adversely impacted by these generating units and approved Petitioner's air permit in July 2001.

138. Petitioner has been conducting post-construction monitoring of the air quality since July 2004 in accordance with permit conditions issued by the DOH.

139. The results of this monitoring confirm that the air quality is not being adversely impacted by Petitioner's activities on the Petition Area, and the actual air quality impacts are much less than predicted in the conservative dispersion models.

140. Petitioner will commence engineering, design, and construction of ST-7 with SCR upon obtaining the necessary permits and approvals as set forth under the Settlement Agreement, and thereafter will operate the Keahole Generating Station with SCR.

141. The ST-7 unit operates as a heat recovery unit and does not burn fuel in and of itself because it operates entirely on the exhaust heat generated by CT-4 and CT-5.

142. The ST-7 unit will meet all applicable air quality standards based on the DOH's and EPA's reviews of the modeled impacts of the ST-7 unit.

143. The addition of the SCR system with ST-7 will further reduce NO_x emissions by up to 65 percent when CT-4, CT-5, and ST-7 are run in combined cycle mode.

144. The Project will not adversely affect air quality and will ultimately improve it with the expected reduction in emissions.

Water Quality

145. The federal regulations set forth under the Safe Drinking Water Act govern the Keahole Generating Station's treatment and disposal of industrial

wastewater into groundwater via injection wells. The Safe Drinking Water Act is administered in Hawai'i by the DOH, Safe Drinking Water Branch ("SDWB").

146. A UIC permit is required for the disposal of treated wastewater from the Keahole Generating Station and the UIC permitting is handled by the SDWB's UIC section. The UIC permit process is designed to be protective of the environment, particularly groundwater resources.

147. UIC Permit No. UH-1776 allows Petitioner to dispose of treated industrial wastewater, including wastewater from: the water treatment system [e.g., reverse osmosis ("RO"), demineralization, and dual media filter systems]; oil/water separator system ("OWS"); reinjection filter backwash system; demineralized water; and stormwater from the fuel oil berm. The permit was recently renewed in January 2004 and is valid for five years until it expires on January 14, 2009.

148. UIC Permit No. UH-1776 specifies the maximum allowable levels of chemical constituents that may be contained in the wastewater with which Petitioner must comply.

ADEQUACY OF PUBLIC SERVICES AND FACILITIES

Highway and Roadway Facilities

149. Belt Collins Hawaii Ltd prepared a report entitled *Traffic Impact Analysis Study* dated October 2004.

150. The Petition Area has two access roads, one on the north and one on the south.

151. The principal access road is from Pukiawe Street, which intersects with Kaiminani Drive and terminates at the Petition Area in the northbound direction. Pukiawe Street is a two-lane collector road that provides access to both the Petition Area (to the north) and a portion of the Keahole Agricultural Park (to the south).

152. A secondary access is provided on the north of the Petition Area by Reservoir Road, which is mauka of the extension of the Kona International Airport Access Road (“Airport Access Road”). The Airport Access Road is a two-lane collector road providing access to the Kona International Airport.

153. In 2009, the signalized intersections on Queen Ka`ahumanu Highway at Reservoir Road and at Kaiminani Drive will be operating with significant delays even without the plans for the Project.

154. The Project is projected to contribute approximately one-half of one percent to the total traffic volume.

155. The Project will have no significant adverse impacts on current or future traffic conditions on the Queen Ka`ahumanu Highway.

156. The Department of Transportation (“DOT”) recommended that Petitioner coordinate its plans with the DOT highway or airport district offices on the Big Island.

157. The DOT further recommended that Petitioner participate in the planning for a roadway connection next to the Petition Area at the Kona International Airport entrance should such a roadway connection become necessary.

Water Service

158. The DWS, through its North Kona System, currently provides approximately 40,000 gpd of potable water to the Petition Area.

159. Approximately three-quarters of the 40,000 gpd of potable water is used for power generation. The potable water is also used for domestic consumption by employees and landscape irrigation.

160. Petitioner will use brackish groundwater from its onsite well, rather than potable water, as the primary source of water for operation of the Project pursuant to the terms set forth under the Settlement Agreement. Once the legal challenge to the BLNR's issuance of the water lease that granted Petitioner the use of brackish groundwater is resolved (*Waimana Enterprises, Inc. v. Board of Land and Natural Resources, et al.*), Petitioner will transfer 90 percent of its existing additional incremental potable water allocation of 100,000 gpd to the DHHL, subject to the approval of the DWS.

161. In a letter dated October 29, 2004, the DLNR confirmed that it would allow Petitioner continued use of the brackish groundwater until resolution of the pending litigation.

162. Upon completion of the Project, it is anticipated that the demand for potable water will be reduced from 40,000 gpd to 15,000 gpd.

163. Until this potable water is used by other developments, Petitioner's reduced use of potable water at the Petition Area will allow the DWS to reduce pumpage from its Kahalu`u wells, if only slightly.

164. Although Petitioner's onsite well produces brackish groundwater too saline for irrigation purposes, it is suitable for power generating purposes after treatment by media filtration, RO filtration, and demineralization.

165. CT-4 and CT-5 require approximately 170,000 gpd of brackish groundwater.

166. The use of brackish groundwater will be approximately 190,000 gpd upon installation of ST-7.

Wastewater Treatment and Disposal

167. Petitioner presently disposes of its industrial wastewater through two underground injection wells within the Petition Area.

168. Petitioner's monitoring of wastewater discharged into the underground injection wells is consistent with industry practice and in accordance with UIC permit requirements.

169. In addition to monitoring required under the UIC permit, Petitioner has voluntarily conducted weekly monitoring of wastewater discharges of

total petroleum hydrocarbon (“TPH”) using a hand-held TPH meter to confirm that wastewater TPH concentrations are below permit levels prior to discharge to the injection wells.

170. Petitioner has taken additional measures to assure wastewater discharges meet permit requirements, including, but not limited to: automatic pH monitoring; manual operation of the OWS; weekly water samples taken to check TPH levels, coupled with use of a hand-held TPH meter to confirm TPH levels; and installation of an on-line TPH monitor (i.e., Turner Designs TD 4100) in June 2005 to continuously measure TPH levels of treated wastewater prior to discharging into the injection wells.

171. Petitioner’s wells are configured to deliver the effluent between 250 and 300 feet below sea level where the groundwater is of seawater salinity, and, as a result, the effluent discharged into saline groundwater at this depth will move toward the shoreline.

172. Although the density difference between the slightly lighter effluent and the denser saline groundwater may cause the injectate to rise as it moves toward the shoreline, other factors, specifically the dip of the lava flows and their substantial vertical to horizontal permeability contrast would tend to inhibit the density-driven upward movement, spreading this movement over a greater lateral distance than would otherwise be the case.

173. The injectate would be mixed into the saline groundwater during this process, increasing its salinity and density and thereby decreasing the density-driven upward movement.

174. The injectate plume cannot rise any higher than into the lower half of the transition zone because the injectate starts with a density similar to that of water in the upper half of the transition zone of the basal lens and its density would be progressively increased by mixing with saline groundwater.

175. There was a concern raised by NELH regarding the need for groundwater monitoring wells, but the treatment and disposal of industrial wastewater at the Petition Area is closely monitored in a manner beyond the requirements set forth under the DOH UIC program. In comparison, a groundwater monitoring well would only be monitored intermittently, limiting its effectiveness.

176. There is the potential for 10,000 gallons of SCR/HRSG-related boiler tube cleaning wastewater to be generated per cleaning activity. If HRSG boiler tube cleaning is needed on a quarterly basis, the estimated annual wastewater volume generated, on a worst-case basis, would be approximately 40,000 gallons. The actual wastewater volume, washing frequency, and waste characteristics will not be determined until ST-7 operations commence.

177. Wastewater samples would need to be collected during the cleaning activity to determine if any portion of the HRSG wastewater will be hazardous.

178. There are two main options for the disposal of SCR/HRSG-related wastewater: (i) collect and transport the wastewater to an EPA-approved disposal facility on the mainland; or (ii) construct a totally enclosed treatment system to treat the wastewater onsite. If cleaning is not required as often as anticipated and/or washing volumes are minimal, it may be more economical to treat the wastewater offsite. In that case, hazardous wastewater would be placed in EPA and DOT-approved containers for shipment to an EPA-approved disposal facility on the mainland. Hazardous wastes would be shipped by registered hazardous waste transporters only. All transporters are 40-hour Hazardous Waste Operations and Emergency Response (“HAZWOPER”) trained and carry spill kits on their vehicles for first response. In the event additional response is needed, emergency callouts can be made to the local fire department, HAZMAT team, and police. If the frequency of washing and the volume of wastewater generated require that it be treated onsite, the resulting non-hazardous wastewater can be disposed of with other plant wastewater via the facility’s injection wells. This would require a modification to the UIC permit.

179. Domestic wastewater generated by the Project will be treated and disposed of in Petitioner’s existing septic tank and the leach field system.

180. The amount of domestic wastewater generated by employees from sinks, showers, and toilets that will be treated and disposed of in the septic tank and leach field system will be increased by approximately 2,000 gpd. The additional leachate will add nutrients to the underlying basal groundwater but in negligible quantities as compared to the levels of nutrients naturally occurring in the groundwater.

Drainage

181. There is no significant stormwater runoff because of the high permeability of the ground surface at the Petition Area.

182. The Project is not anticipated to have a cumulative impact upon drainage or runoff, when combined with the projected effects of the adjacent DHHL lands.

Solid Waste Disposal

183. Solid waste disposal will be handled in accordance with all applicable County, State, and federal regulations.

184. At full buildout, the Keahole Generating Station and Airport Substation are anticipated to generate approximately 150 pounds of solid waste per day, or 50 pounds more than the 100 pounds currently generated.

185. The refuse is the direct result of day-to-day plant operations and includes trash generated by employees, as well as used materials such as filters and cleaning supplies which are all disposed of at the Pu`u Anahulu landfill.

186. The solid waste generated represents only .03 percent of the average daily volume handled at the Pu`u Anahulu landfill.

187. The Project will have no significant negative impact upon solid waste disposal at the Pu`u Anahulu landfill.

Schools

188. The North Kona region is served by four public school complexes: Konawaena, Ho`okena, Kahakai, and Kealakehe. The Kealakehe school complex is closest to the Petition Area and is approximately 3.5 miles away.

189. Given the industrial nature of the Project, it is not expected that it will adversely impact school facilities in the region. Rather, the Project will ensure the availability of firm power to the region's schools and minimize the future potential for occasional disruption to service.

Police and Fire Protection

190. Police protection is available from the Kealakehe station and the closest fire station is located near the corner of Palani Road and Queen Ka`ahumanu Highway in Kailua-Kona.

191. The nearest fire department facility is located on Palani Road.

Advanced life support ambulance units are located at the Kailua-Kona fire station on Palani Road.

192. Fire sensors are installed and alarms are annunciated at the Petition Area and also at Petitioner's operations center in Hilo. The fire department would be contacted if there were an alarm.

193. The Keahole Generating Station has an automated fire suppressant system with electric and diesel-fuel-fired water pumps.

Medical Services

194. The Kona Community Hospital is located approximately 16 miles south of the Petition Area in Kealahou. Kona Community Hospital has 61 licensed beds, of which 44 are for acute care.

195. The Project will ensure the availability of firm power to the Kona Community Hospital and minimize the future potential for occasional disruption to service.

Emergency Response

196. Concerns have been raised about Petitioner's ability to respond in the event of a fuel truck accident within the vicinity of the Petition Area and the Kona International Airport. Petitioner has and will continue to address this concern with appropriate contingency plans developed in accordance with applicable law.

197. Petitioner's onsite staff is trained to handle containment and cleanup in accordance with Occupational Safety and Health Administration's HAZWOPER.

198. Petitioner has a draft Spill Prevention Control and Countermeasure plan, which prescribes inspections and preventive measures to minimize the likelihood of a fuel release within the Petition Area.

199. Petitioner's personnel are trained in response procedures in the event of a fuel release within the Petition Area and have response supplies available to handle most release situations.

200. Petitioner is a member of the Clean Island Council ("CIC") and can activate CIC response personnel as needed.

201. If Petitioner converts to the use of naphtha fuel in the future, Petitioner will be required and is committed to address any environmental impacts of converting to naphtha in addition to redesigning the fuel storage, fuel handling, and fire protection systems currently at the Petition Area.

202. Naphtha would be delivered to the Petition Area by barge from Honolulu and then trucked to the Petition Area using the same method as is currently used for diesel.

203. Upon determination of the form of ammonia that will be used at the Petition Area, Petitioner will develop and implement a response plan based on how

ammonia will be delivered, how it will be stored, and the type of equipment that will be on the Petition Area.

204. Petitioner's Risk Management Plan will be developed in accordance with guidelines issued by the EPA pursuant to Section 112r of the CAA Amendments of 1990 prior to bringing the ammonia on the Petition Area.

Electricity and Telephone Service

205. Electricity and telephone services are available within the Petition Area.

206. The Keahole Generating Station presently uses 0.8 MW of electrical energy to power the facility. Upon completion of the ST-7 unit, the total electrical energy consumption of the plant will increase to 2.1 MW. The increase of 1.3 MW is necessary to operate the ancillary equipment associated with the operation of the proposed HRSG and the SCR system, which require the pumping of approximately 200,000 gpd of brackish water through the demineralized system. The impacts of this increase are considered negligible as it represents approximately 1.5 percent of the total energy output of the facility and will ultimately contribute to the operational efficiency of the facility.

COMMITMENT OF STATE FUNDS AND RESOURCES

207. It is not anticipated that the reclassification of the Petition Area will result in any commitment of State funds or resources, except for the costs associated

with the hearing and processing of the Petition. The construction of the Project is, in fact, expected to generate revenues for the State in the form of excise taxes, personal income taxes, and corporate income taxes.

CONFORMANCE TO URBAN DISTRICT STANDARDS

208. The proposed reclassification of the Petition Area is in general conformance to section 15-15-18, HAR, standards for determining "U" Urban District boundaries, as follows:

- (1) *It shall include lands characterized by "city-like" concentrations of people, structures, streets, urban level of services and other related land uses*

The Petition Area has been developed into an existing power generating station and substation.

- (2) *It shall take into consideration the following specific factors:*
 - (A) *Proximity to centers of trading and employment except where the development would generate new centers of trading and employment;*
 - (B) *Availability of basic services such as schools, parks, wastewater systems, solid waste disposal, drainage, water, transportation systems, public utilities, and police and fire protection; and*
 - (C) *Sufficient reserve areas for foreseeable urban growth*

The Keahole Generating Station is an existing facility that has been in operation and providing the electrical energy needs of West Hawai'i for over thirty years. Basic services are already available to serve the Project and Petition Area. The Petition Area is in proximity to Kailua-Kona, the Kona International Airport, and the resort developments of North Kona and South Kohala. The proposed reclassification of

the Petition Area will enable Petitioner to effectuate improvements to increase the generating capacity and efficiency of the existing operations to meet the electrical needs of West Hawai`i.

- (3) *It shall include lands with satisfactory topography, drainage, and reasonably free from the danger of any flood, tsunami, unstable soil condition, and other adverse environmental effects*

The Petition Area is relatively flat and is not subject to adverse environmental effects. The Project would involve the installation of new equipment on an existing asphalt pad. The Petition Area itself is located on the axis of a high-standing mound of pahoehoe lava and does not lie in any observed potential flood channel. The Petition Area is outside of the 500-year flood plain. The lava flows surrounding and underlying the Petition Area are highly permeable and surface water would quickly percolate downward. These lava flows are generally well suited to support properly designed construction. No indications of tectonic ground cracking or other secondary deformation structures were observed in the vicinity of the Petition Area. Finally, the Petition Area is located approximately 3.5 miles from the shoreline and out of the tsunami evacuation zone.

- (4) *Land contiguous with existing urban areas shall be given more consideration than non-contiguous land, and particularly when indicated for future urban use on state or county general plans*

The Petition Area abuts lands within the State Land Use Urban District and is further identified on the Hawai`i County General Plan as Urban Expansion.

- (5) *It shall include lands in appropriate locations for new urban concentrations and shall give consideration to areas of urban growth as shown on the state and county general plans*

The Petition Area has been in urban use since the early 1970s with the construction and operation of the Keahole Generating Station. Over time, areas of urban growth consistent with State and County plans have developed in close proximity to the Petition Area.

- (6) *It may include lands which do not conform to the standards in paragraphs (1) to (5):*
- (A) *When surrounded by or adjacent to existing urban development; and*
- (B) *Only when those lands represent a minor portion of this district*

The reclassification of the Petition Area conforms to the standards in paragraphs (1) through (5) above.

- (7) *It shall not include lands, of which the urbanization will contribute toward scattered spot urban development, necessitating unreasonable investment in public infrastructure or support services; and*

The proposed reclassification of the Petition Area will not contribute toward scattered spot urban development as there is already an existing urban use on the Petition Area that has been established for over 30 years. Other major urban developments such as the Kona Palisades residential subdivision and Kona International Airport are located in proximity to the Petition Area. Public infrastructure and support services are already available to serve the Project and Petition Area.

- (8) *It may include lands with a general slope of twenty per cent or more if the commission finds that those lands are desirable and suitable for urban*

purposes and that the design and construction controls, as adopted by any federal, state, or county agency, are adequate to protect the public health, welfare and safety, and the public's interests in the aesthetic quality of the landscape.

This criterion is not applicable because the Petition Area is essentially flat.

The Petition Area does not have a general slope of 20 percent or more. It is relatively flat and gradually slopes downward in a mauka to makai direction.

CONFORMANCE WITH THE GOALS, OBJECTIVES, AND POLICIES OF THE HAWAI'I STATE PLAN; RELATIONSHIP WITH APPLICABLE PRIORITY GUIDELINES AND FUNCTIONAL PLANS

209. The proposed reclassification of the Petition Area is in general conformance with the following goals, objectives, policies, and priority guidelines of the Hawai'i State Plan:

Section 226-4 State Goals

Section 226-4(1): A strong, viable economy, characterized by stability, diversity, and growth, that enables the fulfillment of the needs and expectations of Hawai'i's present and future generations.

Both the State and County of Hawai'i have planned for and projected economic growth in the West Hawai'i region. As the primary power provider, Petitioner is improving its facilities to meet the near-term and long-term consumer demand for firm power and voltage support. The Project will contribute to the physical, social, and economic well being of the community by providing an efficient, reliable source of electrical power to meet its energy needs.

Section 226-10 Objective and Policies for the Economy-Potential Growth Activities

Section 226-10(a): Planning for the State's economy with regard to potential growth activities shall be directed towards achievement of the objective of development and expansion of potential growth activities that serve to increase and diversify Hawai'i's economic base.

Section 226-10(b)(1): Facilitate investment and employment in economic activities that have the potential for growth such as diversified agriculture, aquaculture, apparel and textile manufacturing, film and television production, and energy and marine-related industries.

The Project will improve and upgrade the Keahole Generating Station and Airport Substation, providing additional electric power to support further investment and employment in industries with potential for growth, including diversified agriculture, aquaculture, commercial retailing, and industrial activities that depend on the reliable delivery of electrical services.

Section 226-13 Objectives and Policies for the Physical Environment-Land, Air, and Water Quality

Section 226-13(a)(1): Maintenance and pursuit of improved quality in Hawai'i's land, air, and water resources.

Section 226-13(b)(4): Encourage actions to maintain or improve aural and air quality levels to enhance the health and well-being of Hawai'i's people.

The Project will include (i) SCR with ST-7 to reduce NO_x emissions; (ii) additional noise controls, such as new enclosures for diesel units, CT-2, and ancillary equipment, barrier walls along portions of the Petition Area boundary, and possible

increases to the diameter of the upper portion of the CT-2, CT-4, CT-5, and diesel units' stacks; and (iii) upgrades to the wastewater collection and treatment system.

Section 226-14 Objective and Policies for Facility Systems-In General

Section 226-14(a): Planning for the State's facility systems in general shall be directed towards achievement of the objective of water, transportation, waste disposal, and energy and telecommunication systems that support statewide social, economic, and physical objectives.

Section 226-14(b)(1): Accommodate the needs of Hawai'i's people through coordination of facility systems and capital improvement priorities in consonance with state and county plans.

Section 226-14(b)(2): Encourage flexibility in the design and development of facility systems to promote prudent use of resources and accommodate changing public demands and priorities.

Section 226-14(b)(3): Ensure that required facility systems can be supported within resource capacities and at reasonable cost to the user.

As the primary electrical utility that serves the County of Hawai'i, Petitioner worked with State and County projections to ensure that the necessary electrical infrastructure would be in place to accommodate the expected growth in the West Hawai'i region. The Project will improve overall system reliability and keep additional capital, operating, and maintenance expenses at a reasonable level. The Project will further optimize the benefits of using existing utility infrastructure, such as existing transmission lines.

Section 226-18 Objectives and Policies for Facility Systems-Energy

Section 226-18(a)(1): Dependable, efficient, and economical statewide energy systems capable of supporting the needs of the people.

Section 226-18(c)(3): Base decisions of least-cost supply-side and demand-side energy resource options on a comparison of their total costs and benefits when a least-cost is determined by a reasonably comprehensive, quantitative, and qualitative accounting of their long-term, direct and indirect economic, environmental, social, cultural, and public health costs and benefits.

Section 226-18(c)(5): Ensure to the extent that new supply-side resources are needed, the development or expansion of energy systems utilizes the least-cost energy supply option and maximizes efficient technologies.

The reclassification of the Petition Area is the most viable of the alternatives examined in planning for the future of the Keahole facilities. The alternatives were formulated in coordination with Petitioner's IRP-2 and the IRP-2 Evaluation. The Petition Area is in a beneficial location near the demand and has the necessary transmission infrastructure in place to deliver the electricity in a timely, more fuel-efficient, and relatively cost-effective manner. The Project's combined cycle system will capture the waste heat in the exhaust gas produced by the existing combustion turbines, CT-4 and CT-5, and convert this waste heat into additional megawatts, producing an additional nominal 16 MW net of generating capacity from ST-7 technology without any additional fuel, thereby contributing to a reduction in the facility's dependence upon increased consumption of petroleum.

Section 226-103 Economic Priority Guidelines

Section 226-103(a): Priority guidelines to stimulate economic growth and encourage business expansion and development to provide needed jobs for Hawai`i's people and achieve a stable and diversified economy.

Section 226-103(a)(1): Seek a variety of means to increase the availability of investment capital for new and expanding enterprises.

Section 226-103(a)(1)(A): Encourage investments which:

Section 226-103(a)(1)(A)(i): Reflect long term commitments to the State.

Section 226-103(a)(1)(A)(ii): Rely on economic linkages within the local economy.

Section 226-103(a)(1)(A)(iii): Diversify the economy.

Section 226-103(a)(1)(A)(iv): Reinvest in the local economy.

The Project will provide the necessary firm electrical power to support current and future economic activities, including but not limited to agriculture, communication, construction, manufacturing, distributing, retail, finance, hotel, and food service, that diversify the local economy and provide long-term investment opportunities that link local businesses to the rest of the global economy.

Section 226-104 Population Growth and Land Resources Priority Guidelines

Section 226-104 (a): Priority guidelines to effect desired statewide growth and distribution:

Section 226-104(a)(3): Ensure that adequate support services and facilities are provided to accommodate the desired distribution of future growth throughout the State.

The Project will provide additional generation capacity in West Hawai`i where development of resort and resort-residential projects, as well as large-scale residential and commercial uses, is occurring and is expected to continue in the future

in accordance with State and County plans. All of these developments depend on electrical generating capacity being available to support their activities.

210. The reclassification of the Petition Area is in general conformance with the Energy Functional Plan. The Project will increase the generating capacity of the Keahole Generating Station by making efficient use of waste heat. It will also utilize emissions reducing technology. The Project will facilitate the generation of firm power and voltage support to the West Hawai`i region where the demand is located.

CONFORMANCE WITH THE COASTAL ZONE MANAGEMENT PROGRAM

211. The reclassification of the Petition Area is in general conformance with the policies and objectives of the Coastal Zone Management Program, chapter 205A, HRS. The Petition Area is not located within the SMA and is approximately 3.5 miles mauka of the shoreline. No coastal recreation opportunities will be impacted. There are no significant historical sites or features within the Petition Area nor is there any evidence of significant traditional native Hawaiian cultural resources, practices, or beliefs within the Petition Area. Petitioner has undertaken various measures to mitigate the visual impacts from the Project, including low intensity stack lighting, color coordinated exterior painting, and perimeter landscaping. It is anticipated that the Project will have no significant or even measurable effect on the marine environment. Industrial and domestic wastewater will be treated and disposed of in an appropriate manner. The Petition Area is suitable for the Project as the Keahole Generating Station

has been in operation at this location for over 30 years. Because the Petition Area is located approximately 3.5 miles from the coastline, it is not subject to tsunami inundation or storm waves. The Petition Area is located within Zone "X," an area determined to be outside of the 500-year flood plain, and the high permeability of the land surrounding the Petition Area minimizes the potential for stormwater runoff and erosion. Given the age of the underlying lava flow, the Petition Area is not subject to subsidence. The addition of the SCR system with ST-7 will reduce NO_x emissions and improve the air quality in the area. Although the Project does not involve the management of marine and coastal resources, it has been subject to the environmental review process under chapter 343, HRS, inviting public participation and awareness of the Project. Finally, the Project will not adversely impact efforts to protect, use, and develop any marine and coastal resources.

CONFORMANCE WITH THE COUNTY GENERAL PLAN

212. The reclassification of the Petition Area is in general conformance with the goals, policies, and standards of the County of Hawai'i General Plan in the following areas: Economic, Energy, Environmental Quality, Flooding and Other Natural Hazards, Natural Resources and Shoreline, Public Facilities, Public Utilities, Electricity, Land Use, and Land Use-Industrial.

INCREMENTAL DISTRICTING

213. As of July 13, 2005, approximately 99 percent of construction for CT-4 and CT-5 expansion has been completed. The construction for ST-7 with SCR and other auxiliary equipment will be done after land reclassification, re-zoning, and applicable permits are received. Construction of ST-7 is anticipated to begin in 2008 and will take approximately one year. Therefore, Petitioner anticipates that the Project will be completed within ten years after urbanization of the Petition Area.

RULING ON PROPOSED FINDINGS OF FACT

Any of the findings of fact submitted by Petitioner or other parties not already ruled upon by the Commission by adoption herein, or rejected by clearly contrary findings of fact herein, are hereby denied and rejected.

Any conclusion of law herein improperly designated as a finding of fact should be deemed or construed as a conclusion of law; any finding of fact herein improperly designated as a conclusion of law should be deemed or construed as finding of fact.

CONCLUSIONS OF LAW

1. Pursuant to chapter 205, HRS, and the Commission Rules under chapter 15-15, HAR, and upon consideration of the Commission decision-making criteria under section 205-17, HRS, this Commission finds upon the clear preponderance of the evidence that the reclassification of the Petition Area, consisting of approximately

15.643 acres of land at Keahole, North Kona, Island of Hawai'i, State of Hawai'i, identified by TMK: 7-3-49: 36 and 37, from the State Land Use Conservation District to the State Land Use Urban District, and subject to the conditions stated in the Order below, conforms to the standards for establishing the boundaries of the State Land Use Urban District, is reasonable, not violative of section 205-2, HRS, and is consistent with the policies and criteria established pursuant to sections 205-16, 205-17, and 205A-2 HRS.

2. Article XII, Section 7, of the Hawai'i Constitution requires the Commission to protect native Hawaiian traditional and customary rights. The State reaffirms and shall protect all rights, customarily and traditionally exercised for subsistence, cultural, and religious purposes and possessed by *ahupua'a* tenants who are descendents of native Hawaiians who inhabited the Hawaiian Islands prior to 1778, subject to the right of the State to regulate such rights. The State and its agencies are obligated to protect the reasonable exercise of customarily and traditionally exercised native Hawaiian rights to the extent feasible. Public Access Shoreline Hawai'i v. Hawai'i County Planning Commission, 79 Hawai'i 425, 450, n.43, 903 P.2d 1246, 1271, n.43 (1995), certiorari denied, 517 U.S. 1163, 116 5. Ct. 1559, 134 L.Ed.2d 660 (1996).

3. The Commission is empowered to preserve and protect customary and traditional rights of native Hawaiians. Ka Pa`akai O Ka `Aina v. Land Use Commission, 94 Hawai'i 31, 3 P.3d 1068 (2001).

4. There are no significant historic properties within the Petition Area because of the developed condition of the Petition Area.

5. The Project will not significantly affect or adversely impact any historic properties or archaeological resources. Therefore, no mitigation measures of any kind are needed.

6. Absent any evidence that the Petition Area is currently being used for any traditional cultural purposes by either native Hawaiian cultural practitioners or individuals of any other cultural affiliation within the otherwise fully developed Petition Area, the Project will not significantly affect or adversely impact any cultural resources. Therefore, no mitigation measures of any kind are needed.

7. Article XI, Section 1, of the Hawai`i Constitution requires the State to conserve and protect Hawai`i's natural beauty and all natural resources, including land, water, air, minerals, and energy sources, and to promote the development and utilization of these resources in a manner consistent with conservation and in furtherance of the self-sufficiency of the State.

8. The addition of ST-7 is intended to improve fuel efficiency and thereby contribute to a reduction in the facility's dependence upon increased consumption of petroleum.

9. The Project will use brackish water rather than potable water as the primary source of water. After treatment by media filtration, RO filtration, and demineralization, the water will be suitable for power generating purposes.

10. Article XI, Section 7, of the Hawai`i Constitution states that the State has an obligation to protect the use of Hawai`i's water resources for the benefit of its people.

11. The treatment and disposal of treated industrial wastewater is subject to federal regulations set forth under the Safe Drinking Water Act, which is administered by the DOH. A UIC permit is required for the disposal of treated wastewater to protect the quality of underground sources of drinking water. The UIC program identifies aquifers that should be protected from subsurface disposal of wastewater through injection wells and designates areas currently being used or could potentially be used for drinking water. The underground sources of drinking water are protected and the program prohibits the construction of new injection wells that may pollute these sources. Injection wells are allowed in exempted areas. The UIC line separates the underground sources of drinking water from the exempted areas. The Petition Area is located makai of the UIC line, and therefore injection wells are permissible without affecting the underground drinking water sources. Petitioner's current UIC permit expires on January 14, 2009. In addition to the monitoring required

under the UIC permit, Petitioner has conducted additional monitoring of wastewater discharges to ensure they meet permit requirements.

ORDER

IT IS HEREBY ORDERED that the Petition Area, being the subject of this Docket No. A03-743, consisting of approximately 15.643 acres of land at Keahole, North Kona, Island of Hawai`i, State of Hawai`i, further identified by TMK: 7-3-49: 36 and 37, and approximately shown on Exhibit "A," attached hereto and incorporated by reference herein, shall be and is hereby reclassified from the State Land Use Conservation District to the State Land Use Urban District, and the State land use district boundaries are amended accordingly.

Based upon the findings of fact and conclusions of law stated herein, it is hereby determined that the reclassification of the Petition Area will not significantly affect or impair the preservation or maintenance of natural systems and habitats or the valued cultural, historical, agricultural, and natural resources of the area.

IT IS HEREBY FURTHER ORDERED that the reclassification of the Petition Area from the State Land Use Conservation District to the State Land Use Urban District shall be subject to the following conditions:

1. **Visual Mitigation.** Petitioner shall provide additional landscaping to mitigate the visual impacts of the Keahole Generating Station, as set forth in the Landscape Concept Plan.

2. **Air Emissions Mitigation, SCR.** Petitioner shall expeditiously commence the permitting process and, subsequent to obtaining the necessary permits and governmental approvals, proceed expeditiously with the process of engineering, design, and construction of ST-7 with SCR for installation at the Keahole Generating Station in conjunction with CT-4 and CT-5.

3. **Air Emissions Mitigation, CT-2.** After CT-4 and CT-5 are operational, Petitioner shall operate within the limits set forth in the original air permit granted for CT-2.

4. **Air Emissions Mitigation, General.** Petitioner shall comply with all applicable federal, state, and county laws, rules, and regulations relating to air quality in the operation of the Project.

5. **Noise Mitigation.** Petitioner shall install and use noise mitigation equipment, operating procedures, and other measures to meet the 55 dBA (day time) and 45 dBA (night time) Class A Zoning District noise standards for the normal operation of the Keahole Generating Station, provided the foregoing requirements shall not apply to occasional and unavoidable noise peaks associated with Keahole Generating Station operations, emergency operational impacts, construction, startup and testing of generators, and other equipment at the Keahole Generating Station. Petitioner shall not commence full time (twenty-four (24) hours a day, seven (7) days a

week) operations of CT-2, CT-4, and CT-5 until after the noise mitigation equipment is installed and Petitioner is able to comply with the foregoing noise standards.

6. **Potable Water Rights Transfer.** Petitioner shall transfer its excess potable water right commitments for the Project to the DHHL in accordance with the provisions of the Settlement Agreement.

7. **Transportation.** When a roadway connection (concerning access to Queen Ka`ahumanu Highway such as via Reservoir Road) next to the Petition Area at the Kona International Airport entrance becomes necessary as determined by the DOT, Petitioner shall participate in the planning for the roadway in facilitating the connection, including any necessary arrangements for the use of the Keahole Generating Station's two access roads (from Reservoir Road off Queen Ka`ahumanu Highway, and from Pukiawe Street off Kaiminani Drive).

8. **Wastewater Treatment and Disposal Facilities.** Petitioner shall provide adequate wastewater treatment, transmission, and disposal facilities, including underground injection wells and groundwater monitoring (including consideration of groundwater monitoring wells in the future if deemed by the DOH to be a necessary and appropriate monitoring method to address groundwater issues arising in the operation of the Keahole Generating Station) as determined by the DOH.

9. **Previously Unidentified Burial/Archaeological/Historic Sites.**

Without any limitation to any other condition found herein, if any burials or

archaeological or historic sites, such as artifacts, marine shell concentrations, charcoal deposits, stone platforms, pavings, and walls not previously identified in studies referred to herein, are discovered during the course of construction of the Project, then all construction activity in the vicinity of the discovery shall stop until the issuance of an archaeological clearance from the SHPD that mitigative measures have been implemented to its satisfaction.

10. **Air Quality Monitoring.** Petitioner shall participate in an air quality monitoring program as specified by the DOH.

11. **Drainage Improvements.** Petitioner shall fund the design and construction of drainage improvements required as a result of the Project to the satisfaction of appropriate State and County agencies.

12. **Integrated Solid Waste Management Plan.** Petitioner shall cooperate with the DOH and County of Hawai`i to bring the operation of the Project into conformity with the program goals and objectives of chapter 342G, HRS, and the County of Hawai`i's approved integrated solid waste management plan in accordance with a schedule and timeframe satisfactory to the DOH.

13. **Water Resources Allocation.** Petitioner shall provide adequate potable and non-potable water source, storage, and transmission facilities and improvements to accommodate the Project as approved by appropriate State and County agencies.

14. **Best Management Practices.** Petitioner shall implement Best Management Practices (“BMP”) to protect surface and groundwater resources on or beneath the Petition Area. The BMP shall be designed to minimize infiltration and runoff from construction and vehicle operations, reduce or eliminate soil erosion and ground water pollution, and effect dust control measures during and after the development process in accordance with the DOH guidelines.

15. **Water Conservation Measures.** Petitioner shall implement water conservation measures and best management practices, such as use of indigenous and drought tolerant plants and turf, and incorporate such measures into the landscape planting.

16. **Hazardous Materials.** Storage and/or disposal of hazardous materials/wastes on the Petition Area shall be in conformance with all applicable DOH and EPA requirements.

17. **Civil Defense.** Petitioner shall fund and construct or provide its fair share of adequate civil defense measures serving the Petition Area as required by the State Department of Defense, Office of Civil Defense, and the County Civil Defense Agency.

18. **Compliance with Representations to the Commission.** Petitioner shall develop the Petition Area in substantial compliance with the representations made to the Commission. Failure to so develop the Petition Area may result in reversion of

the Petition Area to its former classification, or change to a more appropriate classification.

19. **Notice of Change of Ownership.** Petitioner shall give notice to the Commission of any intent to sell, lease, assign, place in trust, or otherwise voluntarily alter the ownership interests in the Petition Area, prior to development of the Petition Area.

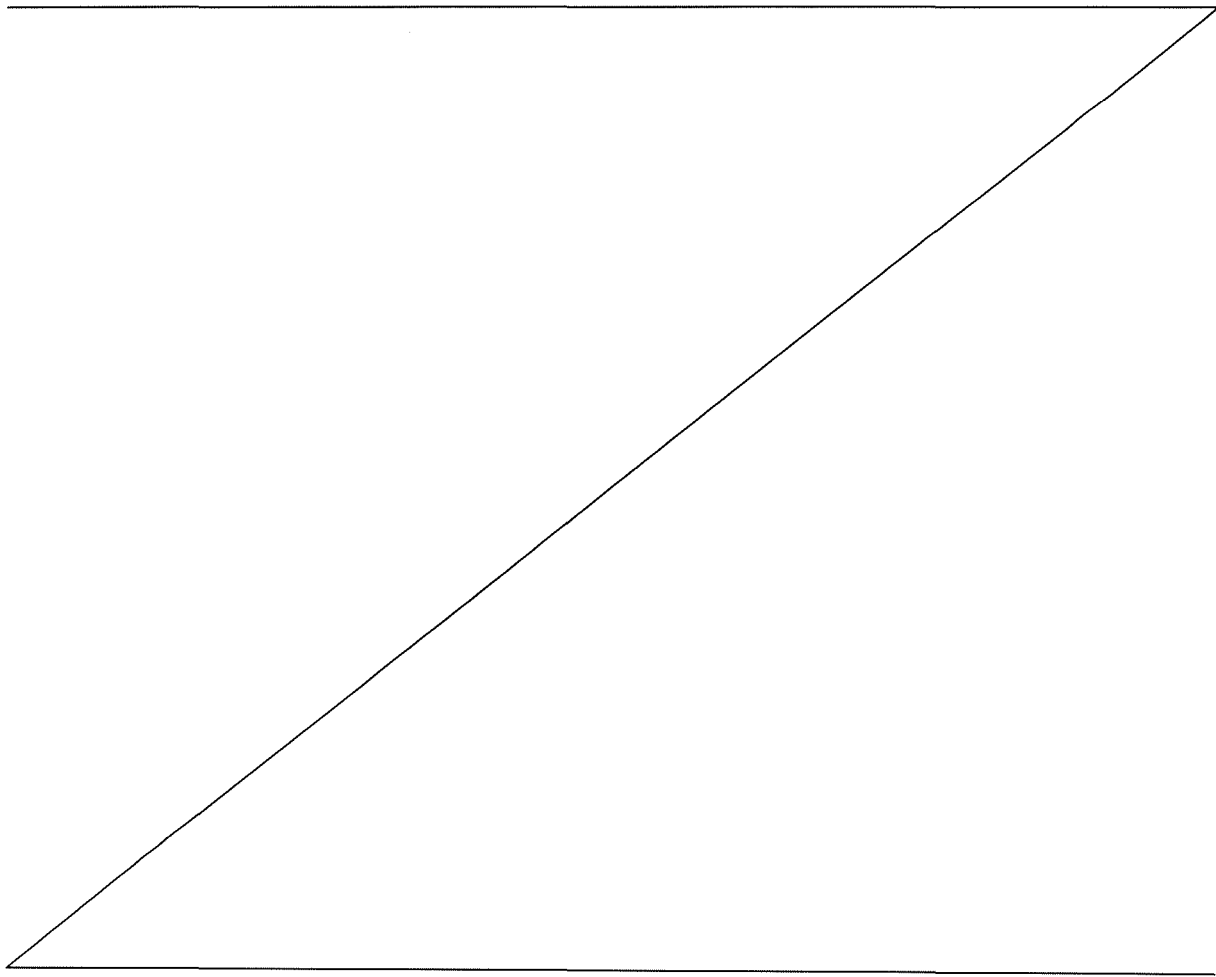
20. **Annual Reports.** Petitioner shall timely provide without any prior notice, annual reports to the Commission, OP, and the Planning Department in connection with the status of the Project and Petitioner's progress in complying with the conditions imposed herein. The annual report shall be submitted in a form prescribed by the Executive Officer of the Commission.

21. **Release of Conditions.** The Commission may fully or partially release the conditions provided herein as to all or any portion of the Petition Area upon timely motion and upon the provision of adequate assurance of satisfaction of these conditions by Petitioner.

22. **Notice of Imposition of Conditions.** Within seven days of the issuance of the Commission's Decision and Order for the subject reclassification, Petitioner shall (a) record with the Bureau of Conveyances a statement that the Petition Area is subject to conditions imposed herein by the Commission in the reclassification

of the Petition Area; and (b) file a copy of such recorded statement with the Commission.

23. **Recordation of Conditions.** Petitioner shall record the conditions imposed herein by the Commission with the Bureau of Conveyances pursuant to section 15-15-92, HAR.



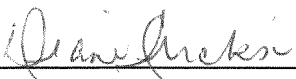
ADOPTION OF ORDER

The undersigned Commissioners, being familiar with the record and proceedings, hereby adopt and approve the foregoing ORDER this 7th day of November, 2005. This ORDER and its ADOPTION shall take effect upon the date this ORDER is certified and filed by this Commission.

Done at Honolulu, Hawai'i, this 7th day of November, 2005, per motion on September 29, 2005.

APPROVED AS TO FORM

LAND USE COMMISSION
STATE OF HAWAII

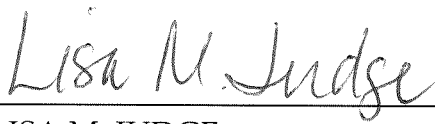


Deputy Attorney General

By 

RANDALL SAKUMOTO
Chairperson and Commissioner

By _____ (absent)
STEVEN LEE MONTGOMERY
Vice-Chairperson and Commissioner

By 

LISA M. JUDGE
Vice-Chairperson and Commissioner

By Thomas Contrades
THOMAS CONTRADES
Commissioner

By Michael D. Formby
MICHAEL D. FORMBY
Commissioner

By Kyong-Su Im
KYONG-SU IM
Commissioner

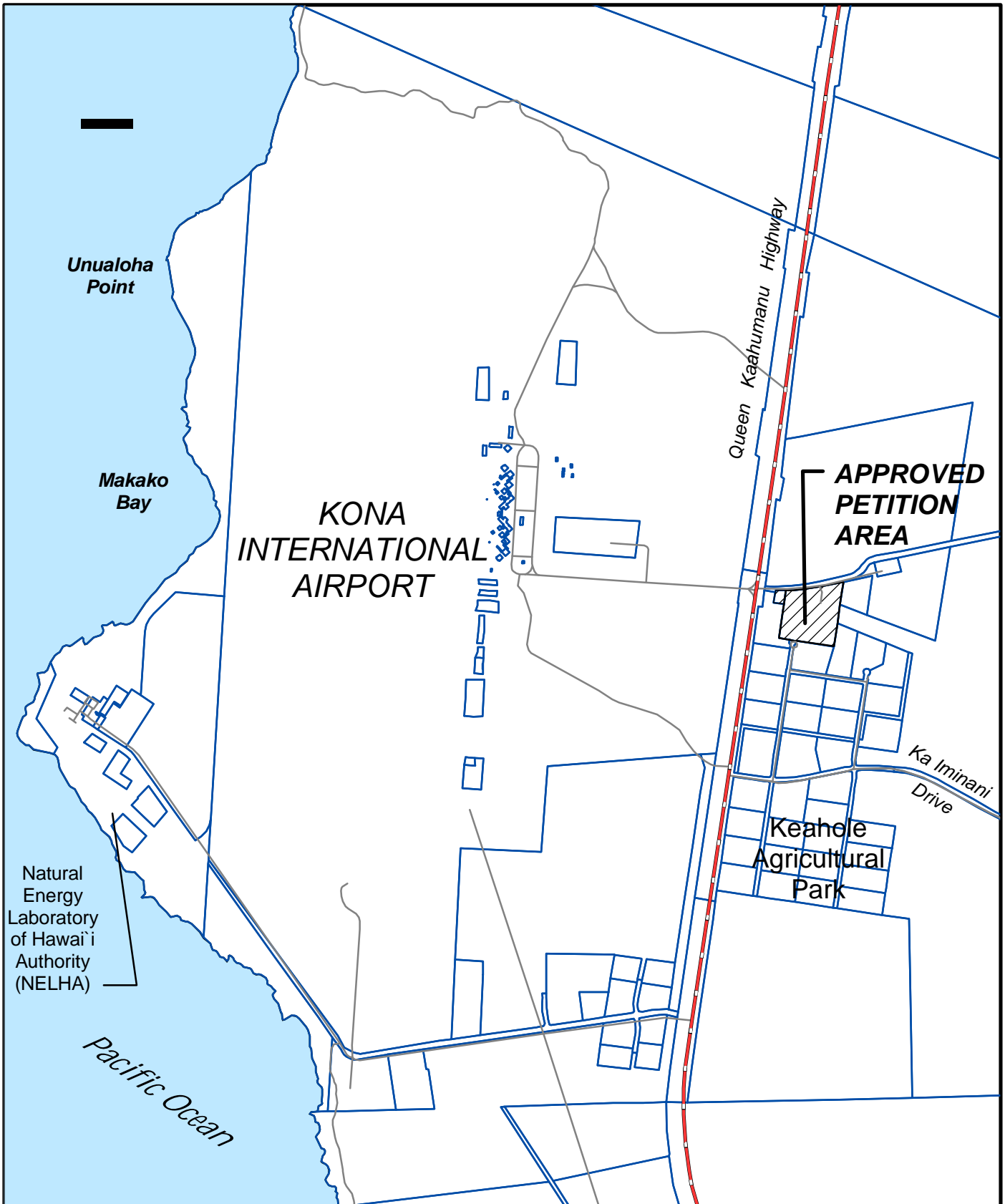
Filed and effective on
NOV 07 2005

By Duane Kanuha
DUANE KANUHA
Commissioner

Certified by:

Anthony J. H. Ching
ANTHONY J. H. CHING

By Ransom Piltz
RANSOM PILTZ
Commissioner



A03-743 HAWAII ELECTRIC LIGHT COMPANY, INC.

MAP LOCATION

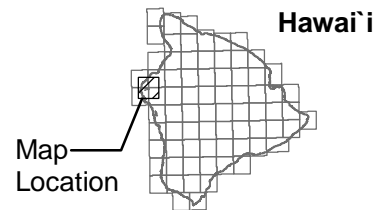
Tax Map Key: 7-3-49: 36 and 37

Keahole, North Kona, Island of Hawai'i, State of Hawai'i

Scale: 1" = 2,000 ft.

 Approved Petition Area

EXHIBIT "A"



Map Location

BEFORE THE LAND USE COMMISSION

OF THE STATE OF HAWAII

In The Matter Of The Petition Of) DOCKET NO. A03-743
)
HAWAII ELECTRIC LIGHT) CERTIFICATE OF SERVICE
COMPANY, INC., A Hawai`i)
Corporation)
)
To Amend The Conservation Land Use)
District Boundary Into The Urban Land)
Use District For Approximately 15.643)
Acres Of Land At Keahole, North Kona,)
Island Of Hawai`i, State of Hawai`i, Tax)
Map Key: 7-3-49: 36 And 37)
)
_____)

CERTIFICATE OF SERVICE

I hereby certify that a copy of the Findings of Fact, Conclusions of Law, and Decision and Order was served upon the following by either hand delivery or depositing the same in the U. S. Postal Service by regular or certified mail as noted:

DEL. LAURA THIELEN, Director
Office of Planning
P. O. Box 2359
Honolulu, Hawaii 96804-2359

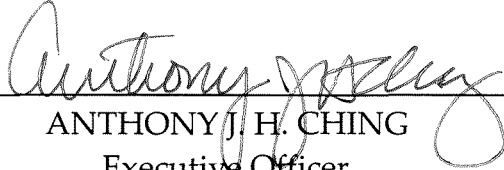
JOHN CHANG, Esq.
Deputy Attorney General
Hale Auhau, Third Floor
425 Queen Street
Honolulu, Hawaii 96813

LINCOLN ASHIDA, Esq.
Corporation Counsel
County of Hawaii
101 Aupuni Street, Suite 325
Hilo, Hawaii 96720

CHRISTOPHER YUEN, Director
Planning Department
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

CERT. BENJAMIN A. KUDO, Esq.
WESLEY M. FUJIMOTO
NAOMI U. KUWAYE
745 Fort Street, 17th Floor
Honolulu, Hawaii 96813

Dated: Honolulu, Hawai`i, NOV 07 2005.



ANTHONY J. H. CHING
Executive Officer