COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII

In the Matter of the Contested Case Hearing on the Water Use Permit Application Filed by Kukui (Molokai), Inc.	)))))	Case No. CCH-MO97-1 FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION AND ORDER

CONTENTS

Key to Abbreviations

Abbreviation	Description
1.11 1/9	the decimal value of 1/9 is 0.111..(*ad infinitum*), thus this number is 1.111..(*ad infinitum*)
12-MAV	12-month moving average, an average of the immediately preceding 12 months' pumpage
AG	Attorney General
CCH	Contested Case Hearing
COL	Conclusion of Law
CWRM	Commission on Water Resource Management, Commission
DOA	Department of Agriculture
DOH	Department of Health
DHHL	Department of Hawaiian Home Lands
Etc	et cetera (L): "and so forth"
Ex. or Exh.	official exhibit
FOF	Finding of Fact
Gpd	gallons per day
gd/ac	gallons per day per acre
HHCA	Hawaiian Homes Commission Act of 1920, as amended
HRS or Haw. Rev. Stat.	Hawaii Revised Statutes
KMI	Kukui (Moloka`i), Inc., owner of Kaluako`i Resort
OHA	Office of Hawaiian Affairs
USGS	United States Geological Survey (Water Resources Division, Pacific District)
Mgd	million gallons per day
mg/l	milligrams per liter (a chloride measure), equivalent to parts per million
MIS	Moloka`i Irrigation System
MPUI	Moloka`i Public Utilities, Inc., wholly owned by KMI
Tr	Transcript
WUP	Water Use Permit

Key to Well Numbers and Names

Well No.	Well Name	Owner/Lessee	Remarks
	Kualapu`u Aq. Sys.		
0801-01	Kauluwai #1	DHHL	primary potable source
0801-02	Kauluwai #2	DHHL	primary potable source
0801-03	Kualapu`u Mauka	Maui DWS	primary potable source
0901-01	Kalualohe, “Well 17”	Kukui (Mol), Inc	primary potable source
0901-03	Kualapu`u-Mol Ranch	Moloka`i Ranch	construction permit expired, not drilled
0902-01	Kualapu`u-Del Monte	Moloka`I Ranch	unused (brackish)
	Waikolu Aq. Sys.		
0855-01	"Well 22"	Dept of Ag (MIS)	dike well in MIS tunnel compensatory source
0855-02	"Well 23"	Dept of Ag (MIS)	dike well for MIS compensatory source
0855-03	"Well 24"	Dept of Ag (MIS)	dike well for MIS compensatory source
	Kaluakoi Aq. Sys.		
0915-01	Papohaku Beach	Kaluako`i	brackish, unused
1011-01	Kakaako Gulch	Kaluako`i	brackish, unused
1014-01	Papohaku Gulch 2	Kaluako`i	brackish, unused
1114-01	Kakaako Gulch 3	Kaluako`i	brackish, unused
1114-02	Pohakumauliuli 4	Kaluako`i	brackish, unused

I. INTRODUCTION

This contested case hearing, brought by Kukui (Moloka`i), Inc. ("KMI"), involves the issuance of a permit to withdraw water from Well #17 (Well No. 0901-01) for use at the Kaluako`i Resort (and its various properties) and Kualapu`u Town. Intervenor status was requested and granted to Judy Caparida and Georgina Kuahuia, the Department of Hawaiian Home Lands (DHHL), Sarah Sykes, and the Office of Hawaiian Affairs (OHA). A hearing was held to quantify how much water, if any, should be permitted based on §174C-50(b) (existing uses) and §174C-49(a) (proposed uses) and to make determinations on other issues raised by the parties.

II. BACKGROUND / CHRONOLOGY

July 15, 1992	Effective date of designation of Moloka`i as a Water Management Area, requiring all users to apply, within one year, for water use permits for uses existing as of the designation date. Once these "existing legal uses" were recognized, as required by the Water Code, consideration of "proposed uses" (since July 1992) was to follow.
March 1993	Application received from Moloka`i Irrigation System (MIS) and Moloka`i Ranch (then landowner) for 10% of pumpage from Well #17, the amount agreed by contract as that portion of total pumpage entering the MIS to be subtracted for system loss in the transport of Well #17 water to Mahana for use at the Kaluako`i Resort. Inquiries into the balance of the use of Well #17 uncovered the legal ownership difficulty for KMI in filing for the water use permit.
June 8, 1993	The water use permit application for the use of Well #17 was accepted by Commission staff as timely for the July 15 deadline, but considered incomplete pending further information coming from Kaluako`i.
October 1993	The well site was transferred from Moloka`i Ranch to KMI.
December 15, 1993	Kukui (Moloka`i), Inc. submitted an amended application for 2.0 mgd for existing and projected demands that was accepted but deemed incomplete, as it was unable to fully account for the requested amount.

April 14, 1994	At a regular Commission meeting, staff recommended approval of 1.275 mgd "existing use". Matthew Adolpho, Jr. requested a contested case hearing on this matter. The Commission deferred action pending determination of Mr. Adolpho's standing. Mr. Adolpho filed his written request for a contested case hearing in a timely manner.
September 15, 1994	The Commission denied standing to Matthew Adolpho, Jr. The Attorney General opined that the opportunity to request a contested case hearing does not extend to a meeting rescheduled solely for the purpose of determining standing on the first request. Staff amended its recommendation for approval of the reduced amount of 1.183 mgd "existing use" due to better information. New requests for a contested case hearing were made orally, and action was again deferred. Throughout this period, efforts were made to clarify information provided by the applicant as to what uses were in existence as of July 15, 1992.
March 14, 1995	At a regular Commission meeting, staff amended its recommendation to approval of the reduced amount of 0.871 mgd "existing use" due to better information. The Commission approved the issuance of an interim water use permit for reasonable-beneficial uses existing as of July 15, 1992 totalling 871,420 gallons per day (gpd). Consistent with the Commission's past practice in processing permit requests in newly-designated water management areas, the Commission deferred action on KMI's application for proposed water uses pending the establishment of all existing uses in the aquifer as of July 15, 1992. Disagreement between applicant and staff concerning the basis for arriving at an estimate of "reasonable-beneficial use" resulted in the Commission suspending enforcement of pumpage above the approved water use permit. The applicant was required to provide, within six months, calculations to support its request, information on non-potable alternatives for irrigation, and identification of means to eliminate or reduce wastage of filter backwash water.
April 6, 1995	KMI submitted a Motion for Reconsideration of the Commission's March 14, 1995 decision on existing uses.

June 14, 1995	The Commission denied KMI's Motion to Reconsider and reaffirmed their decision of March 14, 1995 on the water use permit for existing uses Well #17.
June 22, 1995	In compliance with Special Condition 2b of their approved water use permit for Well #17, KMI submitted monthly water meter readings for Moloka`i Public Utilities, Inc. (MPU) for the period July 1991 through June 1992 to support their request for an increased existing use allocation. The applicant was requested to provide additional information on the previous unclaimed uses and an explanation for the high usage at some of the Papohaku Ranchland Lots.
July 13, 1995	KMI filed an appeal in Second Circuit Court, challenging the Commission's March 14, 1995 approval of a water use permit for existing uses totalling 0.871 mgd and its June 14, 1995 denial of a Motion to Reconsider. On August 21, 1995, the Commission received notification that KMI had filed a similar appeal with the Hawaii Supreme Court. The Supreme Court dismissed the appeal on September 6, 1995 for lack of appellate jurisdiction. The Court found that an "existing use" permit was not a final appealable decision. The appeal in the Second Circuit Court was dismissed without prejudice on October 27, 1995.
August 30, 1995	In light of the MPU metered information and pursuant to the Commission's informational special condition under the suspension of enforcement, and in the further interest of establishing a clearer distinction between "existing" and "proposed" uses, CWRM requested additional information regarding previously unclaimed existing metered uses.
September 15, 1995	Commission staff conducted a preliminary field investigation, reporting a fourth unmetered existing water use for golf course irrigation from the effluent mixing pond. A site visit to the Papohaku Ranchlands subdivision identified 39 of 324 lots in use. Commission staff requested that KMI amend its application for Well #17 to include the three metered existing uses and four unmetered existing uses of the well not previously claimed on the application.

September 18, 1995	The Commission received a letter from D. Scott MacKinnon, attorney for KMI, providing information in a timely response to conditions of the interim water use permit. A second letter dated September 21, 1995 provided still further information, reiterated KMI's position that Commission staff had failed to adequately account for particular claimed uses, and acknowledged three unmetered uses of the well existing as of July 15, 1992.
October 20, 1995	At a regular Commission meeting, staff recommended, based on new information, amendment of the interim water use permit for existing uses to 1.046 mgd. Sheila Polena Awai requested a contested case hearing on the amendment and followed the verbal request with a written request as required.
December 29, 1995	The Commission received a letter from KMI attorney MacKinnon providing updated information concerning uses by Moloka`i Ranch from unmetered interconnections with the MPU system, the subsequent closing of certain connections and metering of others, notice of the completion of a pipeline routing all filter backwash to the golf course effluent pond, and an updated schedule of water uses for the period beginning June 1992.
May 21, 1996	Following a hearing to determine standing the Commission denied Ms. Awai's standing to request a contested case hearing and rejected staff's recommendation to amend the interim permit for existing uses. The Commission's action reaffirmed the existing use amount of 0.871 mgd, set three conditions relating to the MPU system structure, including additional metering, and invited KMI to return with a request for "proposed uses" (since July 1992) for any additional allocations. Following this decision but before the close of the CWRM meeting, D. Scott MacKinnon requested a contested case hearing on the decision and later submitted a written request as required.
June 5, 1996	Staff recommended that the Commission deny standing for a contested case hearing as untimely. The Commission deferred action for a legal opinion as to whether the request was timely, and whether an applicant could request a contested case hearing.

April 1, 1997	The Attorney General responded to the Commission's request for legal opinion on KMI's standing to request a contested case hearing, stating that a contested case hearing is required.
April 16, 1997	At a regular Commission meeting, the Commission recognized KMI's standing to request a contested case, directed staff to initiate a contested case proceeding on this application, and delegated to the Chairperson the authority to appoint a hearing officer. The process included publishing a notice identifying a deadline for filing written petitions to intervene.
April 24, 1997	Chairperson Michael D. Wilson appointed Peter Adler as hearing officer. On May 20, 1997, the Commission found no conflict of interest, as alleged by contesting parties, and confirmed Adler's appointment.
April 30, 1997	A public notice of a contested case hearing was published in the Honolulu Advertiser and the Moloka`i Advertiser-News, announcing a May 30, 1997 deadline to apply to be intervening parties. Next day, May 1, the announcement was published in the Moloka`i Dispatch.
June 3, 1998	Hearing Officer Adler held a hearing at the Civic Center on Moloka`i to determine standing to intervene in the contested case hearing.
June 24, 1998	Prehearing conference #1 identified protocols for motions, subpoenas, and evidence, a schedule for preliminary motions, opening briefs and responsive briefs, and opening arguments.
June 26, 1998	Minute Order Number 2 (Attachment A) confirmed attorneys representing parties and the prehearing motion schedule, identified the issues to be addressed in the case, and confirmed the burden of proof for meeting the requirements of the Water Use Permit on the applicant (Kukui (Moloka`i), Inc.).
September 16, 1998	Hearing Officer Adler issued Order Number 1 (Attachment B), admitting Kukui (Moloka`i), Inc., the Department of Hawaiian Home Lands, individuals Judy Caparida, Georgina Kuahuia, and Sarah Sykes, and via an August 26, 1998 Commission reconsideration of its July 15, 1998 denial, approval of the late entry of the Office of Hawaiian Affairs.

September 16, 1998	Order #2 ruled on seven motions brought by parties, concerning admission of testimony from another case, continuance pending county decision, applicability of statute and federal principle to this case, and summary denial of the water use permit.
October 2, 1998	KMI's opening brief modified its original application by reducing its requested allocation to the amount of its metered 12-MAV withdrawal from Well #17 as of July 15, 1992, which KMI calculated as totaling 1.205 mgd.
November 23, 1998	The Contested Case Hearing convened in the conference room of the Moloka`i Irrigation System office in Ho`olehua, Moloka`i. Testimony was presented over the course of eight days (Nov. 23 to 25, 30 and Dec. 1, 7 to 9, 1998) in Ho`olehua, and three days (Dec. 2, 11, 15, 1998) in Honolulu at the Kalanimoku Building. Closing arguments were heard in Honolulu on December 31, 1998.
January 26, 1999	Minute Order #9 set a February 26, 1999 deadline for proposed Findings of Fact, Conclusions of Law, and Decision and Order.
February 22, 1999	Minute Order #10 granted a request from Alan Murakami (Caparida, Kuahuia), with agreement from the other parties, to have the deadline extended from February 26, 1999 to March 12, 1999.
May 15, 2000	By Minute Order #11, the Hearing Officer's Proposed Findings of Fact, Conclusions of Law, and Decision and Order was distributed to the parties. The deadline to file written exceptions to the Proposed Findings of Fact, Conclusions of Law, and Decision and Order was set for noon, Friday, June 30, 2000.
June 26, 2000	Minute Order #12 granted Intervenors Judy Caparida, et al.'s request for an extension to submit written exceptions to July 31, 2000.
September 25, 2001	Minute Order #13 set the date for the Commission to hear oral arguments on the written exceptions for 9:00 a.m., Wednesday, October 17, 2001, at the Department of Hawaiian Home Lands, Molokai District Office, Kalamaula, Molokai.
October 15, 2001	Intervenors Sykes, Caparida, and Kuahuia, by facsimile, moved for: (1) a reopening of the record in this docket to receive recent

	material information on the water uses being made by Applicant Kukui Molokai, Inc.; and (2) a continuance of the October 17, 2001 hearing until this information can be incorporated by the parties in their arguments for the Commission's consideration of the new data. The Chairperson and presiding officer, Gilbert Coloma-Agaran, scheduled the motion as a non-hearing motion and provided the parties the following schedule: 1. Memorandum in Opposition must be filed and served no later than Tuesday, October 23, 2001. 2. Response to Memorandum in Opposition must be filed and served no later than Friday, October 26, 2001.
October 17, 2001	Chairperson Gilbert Coloma-Agaran, and commissioners Robert Girald, Brian Nishida, and Herbert M. Richards, Jr. heard oral arguments on the written exceptions to the Hearing Officer's Proposed Findings of Fact, Conclusions of Law, and Decision and Order at Kalamaula, Molokai. Joel D. Kam represented KMI, Alan Murakami represented Intervenors Caparida and Kuahuia, Clayton Lee Crowell represented the Department of Hawaiian Home Lands, and Jon Van Dyke represented the Office of Hawaiian Affairs.
October 23, 2001	KMI filed a Memorandum in Opposition to the October 15, 2001 motion.
October 26, 2001	Based on Alan Murakami's phone call representing that KMI had no objection to his request for an extension, the deadline to file responses to the Memorandum in Opposition was extended to October 30, 2001.
October 30, 2001	Intervenors Caparida and Kuahuia filed responses to KMI's Memorandum in Opposition.
November 2, 2001	Intervenor Sykes filed a further memorandum in support of her motion.

III. ISSUES

Minute Order Number 2 ("MO#2") issued on June 26, 1998, set forth the rules of the hearing, established preliminary deadlines agreeable to the parties, and limited the parties to the following issues:

A. Do the existing and proposed uses of water meet the criteria for the issuance of a water use permit as provided in the Haw. Rev. Stat. §§ 174C-49(a) and 174C-50(b)?

B. Are the existing and proposed uses reasonable-beneficial uses as defined in Haw. Rev. Stat. § 174C-3, and allowable under the common law of the State? Haw. Rev. Stat. § 174C-3 provides: ""Reasonable-beneficial" use means the use of water in such a quantity as is necessary for economic and efficient utilization, for a purpose, and in a manner which is both reasonable and consistent with the state and county land use plans and the public interest."

C. Are the existing and proposed uses consistent with the public interest, including but not limited to, the statement of policy objectives declared to be in the public interest as set forth in Haw. Rev. Stat. § 174C-2(c). Without limiting any other factual public interest issues that the parties deem relevant at the time, the parties shall address the quantified effect, if any, of the well pumping of ground water on stream flow and nearshore ocean resources.

D. Are the existing and proposed uses allowable under the common law of the State. Without limiting any other relevant factual issues that could be present hereunder, the parties shall address whether any party has any appurtenant or riparian right under Haw. Rev. Stat. § 174C-101, or any other right to water that is equal to or has priority over the existing and proposed uses of water by Applicants. The parties shall quantify the amount of water they are claiming.

E. In the event the above-referenced water use application is not denied, the conditions, if any, that should be imposed on the Applicants' water use permit for -the existing and proposed water uses.

MO#2 was the result of Prehearing Conference #1 held on June 24, 1998 at the Department of the Attorney General Conference Room, Kekuanaoa Building, 465 South King Street, Third Floor, Honolulu, Hawaii.

IV. FINDINGS OF FACT

Appendix A, found at the end of Section IV on page 36, lists the Commission's rulings on proposed findings of fact submitted by the parties and indicates whether they are accepted or rejected. Where findings of fact are based on party-submitted proposed findings, identification of the parties' facts are noted in brackets and in standard type. Modifications made by the Commission for clarification and accuracy are in Ramseyer Format. Deletions are in brackets and additions are underlined and both additions and deletions are in bold type for easier identification.

A. Major Findings

1. The existing and proposed uses of water by Kukui Moloka`i, Inc. shown in Exhibit 1, for a total of 1,018,000 gpd, meet the criteria for the issuance of a water use permit as provided in the Haw. Rev. Stat. §174C-49(a) and §174C-50(b). 936,000 gpd meets the criteria for the issuance of a water use permit for existing uses under Haw. Rev. Stat. §174C-50(b). 82,000 gpd meets the criteria for the issuance of a water use permit for proposed uses under Haw. Rev. Stat. § 174C-49(a).

2. The existing and proposed uses of the amounts of water shown in Exhibit 1 are reasonable-beneficial uses as defined in Haw. Rev. Stat. § 174C-3. These amounts are consonant with the economic and efficient utilization of the waters pumped from Well #17 and will be used in a manner that is reasonable and consistent with the public interest and state and county land use plans.

3. The existing and proposed uses shown in Exhibit 1 are not inconsistent with the public interest or with those policy objectives declared to be in the public interest as set forth in Haw. Rev. Stat. §174C-2(c). The use of these specific amounts of water from Well #17 are for domestic, irrigation, and commercial uses. Withdrawal of these waters in the amount shown do not interfere with traditional and customary Hawaiian rights, the protection and procreation of fish and wildlife, the maintenance of proper ecological balances and scenic beauty, and the preservation and enhancement of the waters of the State for the objectives specified in §174C-2(c).

4. The existing uses quantified in Exhibit 1 are allowable under the common law of the State.

B. Sustainable Yield of the Kualapu`u Aquifer System

5. Molokai is one of eight major Hawaiian Islands. [Sykes FOF 1]

6. On July 15, 1992, Molokai was designated as a water management area. (Ex. A-15, p. 3). [DHHL/OHA FOF 4]

7. Sustainable yield equals $D = I \times \{1 - (h_e / h_o)^2\}$. Where: D = draft or sustainable yield (mgd), I = infiltration (mgd), h_e = equilibrium head (feet), h_o = original head of the first drilled well in the aquifer (feet). Using this

equation, the sustainable yield of Kualapuu is 5.0 mgd (9.7 mgd x {1 – (7.4 ft / 10.5 ft)^2} = 5.0 mgd). (Ex. D-8; Ex. D-9). [DHHL/OHA FOF 186]

8. The **theoretical** equilibrium head **[of] across** the Kualapuu **Aquifer** at the sustainable yield of 5 mgd is 7.4 feet above mean sea level. (Ex. D-8; Ex. D-9; Meyer, Tr. 12/7/98, 207:13-25 to 209:1-23). [DHHL/OHA FOF 187]

9. **[The] Current** pumpage in Kualapuu is about 2.26 mgd. At the current rate of pumping, the water level at equilibrium is predicted to fall from 11 feet to about 8 feet if the distribution and rates of pumpage that existed from 1992-96 continue unchanged. (Exh. D-1, Table 3, p. 33; Meyer, D-T-3, 2:12-17; Meyer, Tr. 12/7/98, 211:1-15; Oki, D-T-2, 4:1-3; Oki, Tr. 12/7/98, 143:7-10). [DHHL/OHA FOF 188]

10. USGS model shows that increasing pumpage (2.26 mgd plus 0.8 mgd equals 3.06 mgd) will cause water levels to decline to about 7 feet **at the well site**. USGS model results show that 3.06 mgd cannot be developed from existing infrastructure if the equilibrium head is to be maintained at 7.4 feet. (Ex. D-9; Meyer, Tr. 12/7/98, 207:13-25 to 209:1-23). It is **[questionable] uncertain** if an 8 foot water level will allow existing pumpage to continue without saltwater intrusion of the wells; a 7 foot water level simply increases the potential for failure. (Meyer, D-T-3, 4:13-18). [DHHL/OHA FOF 190]

11. As of September, 1997, the 3 major water users in the Kualapu`u aquifer with approved water use permits from the CWRM were all pumping beyond their allocations by 322,000 gpd Exh. A-49:

User	**Well No.**	**Permitted use (mgd)**	**12-month MAV (mgd)**	**Difference**
DHHL	08001-01 and 0801-02	0.367	0.471	-0.104
Maui DWS	0801-03	0.516	0.543	-0.027
KMI	0901-01	0.871	1.062	-0.191
Totals		**1.754**	**2.076**	**-0.332**

[Caparida/Kuahuia FOF 211]

12. If the 2.905 mgd DHHL water reservation is **[included with] added to** the **[existing]** uses permitted thus far, the total commitment for Kualapu`u is

4.695 mgd, or 0.305 mgd less than the 5.0 mgd sustainable yield. Exh. A-50 (Exh. 2). [Caparida/Kuahuia FOF 212]

C. Permit Application Process

13. Molokai Public Utilities, Inc. ("MPUI"), a wholly-owned subsidiary of KMI and a licensed public utility, operates the KMI water system. See Neeley Witness Statement, p.1; Neeley Testimony, Vol. I, p.140. [KMI FOF H.3]

14. The KMI well site (TMK 5-2-12:29) consists of no more than 3 acres. Neely, TR 11/23/98 at 118:16-23. [Caparida/Kuahuia FOF 88]

15. On June 8, 1993, the Molokai Irrigation System and Molokai Ranch as landowner of the Well #17 site submitted an initial application for a water use permit on behalf of the users of the water to continue the existing use of Well #17 (Well No. 0901-01).

16. Kukui (Molokai), Inc. acquired ownership of the well site occupied by the Kalualohe Well ("Well #17", Well No. 0901-01) on October 19, 1993 (recorded at a later date).

17. On December 15, 1993, an amended water use permit application was received from KMI and accepted as complete.

18. Due to difficulties in reconciling KMI's reported actual use figures and what it learned from water pump meter readings and field investigations, the CWRM staff evaluating the existing use of Kukui could not accurately determine the actual amounts of water being used at the various points of usage, as of July 15, 1992, the date of designation of Moloka`i as a water management area. Exh. A-21. [Caparida/Kuahuia FOF 25]

19. Prior to the initial hearing on KMI's application in April 1994, KMI submitted the following information which supplemented KMI's application within the meaning of the Declaratory Ruling Re: WUP Application Processing:

    a. The number of homes built, the number of lots sold, and the total number of lots for each of the three residential subdivisions as of April 4, 1994. See Ex. A-4, p.2.

    b. The acreage of the Kaluakoi Hotel and the condominium complexes. See Ex. A-5.

c. Estimates of water usage at the Hotel and the condominium complexes assuming full occupancy, and a revised estimate of water usage for the residential subdivisions. See Ex. A-4, pp.2-3. [KMI FOF B.5]

20. On April 14, 1994, the CWRM staff recommended that an interim existing use permit be granted under certain conditions, the CWRM defer action on 240,200 gpd of "observed usage" for 90 days subject to conditions that KMI conserve water and more carefully justify an existing use allocation above 918,100 gpd, and all uses above an interim existing use of 928,000 gpd be deferred. Exhs. A-7, A-8 at 3.

21. **[However,] B**ecause of the filing of a request for a contested case hearing by **[a]** Hawaiian homesteader Mathew Adolpho on the application, the CWRM**, on April 14, 1994,** deferred action on the application to ascertain whether to grant the request. Exh. A-8 at 4. [Caparida/Kuahuia FOF 29]

22. At **[that] the September 15, 1994** , meeting, the CWRM denied Mr. Adolpho standing to participate in a contested case hearing. Exh. A-11 at 3. [Caparida/Kuahuia FOF 32]

23. On September 15, 1994, the CWRM **staff revised its** recommended **[an]** interim existing use permit of 1.183 mgd based on **additional information provided by KMI and** changed assumptions of an allowable use per residential unit in the resort subdivision of 1,950 gpd/unit, again subject to various conditions to conserve water. Exh. A-10 at 5. [Caparida/Kuahuia FOF 31]

24. KMI's application **[next]** came for hearing before the Water Commission on March 14, 1995, at which time the Water Commission acted on KMI's application by voting to adopt the recommendation of the staff to, *inter alia*, issue an interim water use permit for 871,420 gpd. See Ex. A-15, pp.3-5; Ex. A-16, Item 9. [KMI FOF B.11]

25. The allocation of 871,420 gpd recommended in the March 14, 1995 staff submittal was based **[, as it was in the December 8, 1994 staff submittal,]** on the following estimates of usage:

Property	Gallons Per Day	
Hotel	100,000	(see Ex. A-15, p.3)
Condominiums	193,200	(see Ex. A-15, p.3)

[345 units x 560 gpd]

Golf Course	475,600 [118.9 irrigated acres x 4000 gpd]	(see Ex. A-15, p.4)
Subdivisions	23,400 [39 units x 600 gpd]	(see Ex. A-15, p.3)
Subtotal	792,200	(see Ex. A-15, p.5)
MIS	79,220	(see Ex. A-15, p.5)
Total	871,420	(see Ex. A-15, p.3)

[KMI FOF B.12]

26. On March 30, 1995, the Water Commission **[issued] posted** its **[written decision and order] notice of action** to, *inter alia*, grant an interim water use permit to KMI for 871,420 gallons per day (the "March **[30] 14,** 1995 Decision").

    a. The March **[30] 14,** 1995 Decision included provisions which suspended enforcement of the interim water use permit for six (6) months to allow KMI to submit additional information in support of its water use calculations and determine whether an adjustment in the water allocation was appropriate prior to enforcement of the March **[30] 14,** 1995 Decision. See Ex. A-17, p.2, ¶¶2.a., 2.b., 2.c.

    b. The March **[30] 14,** 1995 Decision stated that KMI "will have the burden of proof to show within six (6) months reasonable-beneficial existing use calculations that support the applicant's request as opposed to staff's calculations." See Ex. A-17, p.2, ¶2.b. [KMI FOF B.13]

27. KMI filed a motion for reconsideration of the March **[30] 14,** 1995 Decision with the Water Commission, and also appealed the March **[30] 14,** 1995 Decision to the Hawaii Supreme Court and the Second Circuit Court.

    a. On April 6, 1995, KMI filed a timely motion for reconsideration of the March **[30] 14,** 1995 Decision, which was denied on June 14, 1995. See Ex. A-32, p.2.

b. KMI thereafter filed a timely appeal of the March **[30] 14,** 1995 Decision to the Hawaii Supreme Court and also to the Circuit Court of the Second Circuit. See Ex. A-32, p.2.

c. The Hawaii Supreme Court dismissed the Supreme Court Appeal for lack of appellate jurisdiction because in its view the March **[30] 14,** 1995 Decision was not final. See Ex. A-32, p.2. Specifically, the Hawaii Supreme Court found that "the decision allocating water for existing uses is not final until the Commission determines whether or not the allocation should be adjusted in light of further quantitative evidence that Appellant may provide the Commission within six months of the decision." The Hawaii Supreme Court did not reach the merits of KMI's application or the March **[30] 14,** 1995 Decision. See Order of Dismissal, dated September 6, 1995.

d. The Second Circuit Appeal was later dismissed without prejudice as a result of the Hawaii Supreme Court dismissal. The Second Circuit Court did not reach the merits of KMI's application or the March **[30] 14,** 1995 Decision. See Stipulation for Dismissal of Appeal without Prejudice as to All Parties and Claims, dated October 27, 1995.

[The pleadings relating to the motion for reconsideration, the Hawaii Supreme Court appeal, and the Second Circuit Court appeal are on file at the Water Commission and are part of the record in this case. See Minute Order Number 2, dated June 26, 1998, ¶A.11.] [KMI FOF B.14]

28. KMI's application next came before the Water Commission on October 20, 1995, but no action was taken thereon**. [and the] As a consequence of the March 14 requirement for more information, staff recommended that the interim water use permit for Well 17 be amended to increase the water allocation to 1.046 mgd. The** matter was deferred and continued due to a request for a contested case hearing on behalf of Ms. Sheila P. Awai. See Ex. A-30, Item 4, p.7. **[The October 20, 1995 Water Commission amended staff submittal recommended, *inter alia*, that the interim water use permit for Well 17 be amended to increase the water allocation to 1.046 mgd. See Ex. A-30, Item 4, pp.5-6.]** [KMI FOF B.17]

29. On May 21, 1996, **following a finding that Sheila Awai did not have standing to request a contested case hearing**, the Water Commission

took up the deferred **[and continued]** matter of KMI's Resubmittal Response and the staff recommendation thereon. Upon the conclusion of the public testimony the Water Commission voted to reject the staff recommendation to increase the daily water allocation to 1.045 mgd (see Ex. A-32, p.4 & Recapitulation of Attachment "A"), and instead voted to reaffirm the March 14, 1995 recommendation and to continue the interim water use permit at 871,420 gpd. **[No reasons were given by any of the Water Commission members as to why the Water Commission staff's recommendation was not followed.]** See Minutes for the Meeting of the Commission on Water Resource Management on May 21, 1996, a copy of which is on file at the Water Commission and is part of the record in this case pursuant to Minute Order Number 2, dated June 26, 1998, ¶A.11. [KMI FOF B.19]

30. Following the **[vote]** **decision** and prior to the close of the May 21, 1996 hearing, KMI made an oral request for a contested case hearing, and on May 31, 1996, timely filed a written request for a contested case hearing. A copy of KMI's request for a contested case hearing is on file at the Water Commission and is part of the record in this case. See Minute Order Number 2, dated June 26, 1998, ¶A.11. [KMI FOF B.20]

31. In its Opening Brief filed in this matter on October 2, 1998, KMI reduced its requested allocation from 2.0 mgd to the amount of its 12-month moving average of actual metered water usage as of July 15, 1992 (the effective date of designation of Molokai as a water management area under the State Water Code). See KMI's Opening Brief, pp.1-9. **[The position thus taken was a reasonable response to the concerns of the Water Commission regarding the proximity of wells in the Kualapuu aquifer, and as such was a gesture to "sort out problems" identified by the Water Commission in respect of the proximity of wells in the Kualapuu aquifer and in respect of the various applications pending before the Water Commission for the Kualapuu aquifer. See Ex. A-18, p.2 ("The very purpose of the review process is to fill in information and sort out problems.").]** [KMI FOF B.21]

32. By KMI's **[own]** admission, its water uses in 1991-92 **[include]** **were** the following :

Use	Metered?	Request -	Request in CCH
Kualapu`u town	yes	0	0.076
Hotel	yes	0.100	0.131
Condominiums	yes	0.175	0.091
Moana Makani	yes		0.003
Papohaku	yes	0.330	0.136

Molokai Fairways	yes		0.002
Beach Park	yes	0	0.026
Nursery	yes	0	0.018
Golf Course	yes*	0.600	0.379
Filter backwash	no	0	0.100
Molokai Ranch	no	0	0.049
10% to MIS	no	0	0.124
Subtotal		1.205	1.057
Difference	no	0	0.026
System loss	no	0	0.084
Total		1.205	1.244

* While KMI meters the potable water used to irrigate the golf course, it does not meter the effluent and filter backwash releases that are added to the mixing pond, all of which is used to irrigate the front 6 holes of the golf course. Exh. A-10 at 3; Neeley, TR 11/23/98 at 105:20-25 to 115:1-21; Exhs. 34, 75; TR 11/24/98 at 70:16-25 to 74:1-20; at 182:12-17. [Caparida/Kuahuia FOF 103]

D. KMI Water Transmission and Uses

33. Water pumped from Well 17 is metered near the well head. See Ex. A-36, p.31 (Nance 1998 Report); Ex. A-76 (not-to-scale depiction of location of meter (a)); Neeley Testimony, Vol. I, p.106; Neeley Witness Statement, p.2. [KMI FOF H.4]

34. After the meter near the well head, the water is delivered into two side-by-side 0.2 million gallon head tanks located just above Well 17. See Ex. A-36, ¶ VII.B.1. & p.31 (Nance 1998 Report); Ex. A-76 (not-to-scale depiction of head tanks); Ex. A-65 (photo of head tanks); Neeley Testimony, Vol. I, p.106. [KMI FOF H.5]

35. The first connection off of the KMI water system is a single connection which supplies water to Molokai Ranch for **[further]** supply to the Kualapuu community. This connection is metered. See Ex. A-36, ¶VII.B.4 & p.31 (Nance 1998 Report); Ex. A-76 (not-to-scale depiction of location of meter (b)); Shimizu Testimony, Vol. IX, p.67; Neeley Testimony, Vol. I, pp.105-06; Vol. VIII, p.35; Neeley Witness Statement, p.2. [KMI FOF H.6]

36. For the year ending June 30, 1992, the 12-month moving average of actual metered water supply by KMI to Molokai Ranch for further supply to the Kualapuu community was approximately 75,890 gpd. See Ex. A-28,

Attachment A; Ex. A-32, Recapitulation of Attachment "A". [KMI FOF J.1]

37. After the Molokai Ranch connection servicing the Kualapuu community, water pumped from Well 17 is **[pumped] flows** into a transmission line for the Molokai Irrigation System ("MIS"). The volume of water **[pumped] flowing** into the MIS from this line is metered. See Ex. A-36, ¶ VII.C.1.-2. & p.31 (Nance 1998 Report); Ex. A-76 (not-to-scale depiction of location of meter (c)); Shimizu Testimony, Vol. IX, pp.89-90; Neeley Testimony, Vol. I, p.107; Neeley Witness Statement, pp.2-3. [KMI FOF H.7]

38. While in the MIS, the water flows through the MIS system's open reservoir, and then through the MIS system's distribution pipe network across Hoolehua to Mahana. See Ex. A-36, ¶ VII.C.1 & p.31 (Nance 1998 Report). [KMI FOF H.8]

39. The State has agreed to permit KMI to withdraw the equivalent to KMI's input into the State system less 10% attributable to water system losses up to a withdrawal flow rate of 2 mgd. Ex. D-4.

40. To determine the amount of water that KMI is able to withdraw from the MIS under the terms of the MIS Agreement, the following formula may be used: $w = \{p - k\} - 0.1 * \{p - k\}$

where: p = amount of water pumped from Well 17 (metered)
k = amount of water supplied to Kualapuu community (metered)
w = amount of water withdrawn by KMI from MIS at Mahana (metered)

$0.1 * \{p - k\}$ = 10% contribution by MIS for system losses

See MIS Agreement, § 5.
[KMI FOF K.3]

41. To determine the amount of water which KMI is required to input into the MIS under the terms of the MIS Agreement, the following formula may be used: $p - k = w * 1.11\ ^{1}/_{9}$

where: p = amount of water pumped from Well 17 (metered)
k = amount of water supplied to Kualapuu community (metered)
w = amount of water withdrawn by KMI from MIS at Mahana (metered) See MIS Agreement, § 12.
[KMI FOF K.4]

42. The water is then **[pumped out of] withdrawn from** the MIS at Mahana by KMI. The volume of water withdrawn from the MIS at Mahana by KMI is also metered. See Ex. A-36, ¶VII.C.1.-2. & p.31 (Nance 1998 Report); Ex. A-76 (not-to-scale depiction of location of meter (d)); Shimizu Testimony, Vol. IX, pp.89-90; Neeley Testimony, Vol. I, p.107; Neeley Witness Statement, pp.2-3. [KMI FOF H.9]

43. After water is withdrawn from the MIS at Mahana, it is pumped to two open reservoirs at an elevation of 1400 feet at the top of Puu Nana. See Ex. A-36, ¶VII.D.2. & p.31 (Nance 1998 Report); Ex. A-76 (not-to-scale depiction of Puu Nana reservoirs); Neeley Testimony, Vol. I, p.107; Neeley Witness Statement, p.3. [KMI FOF H.10]

44. There is a connection between KMI's reservoirs at Puu Nana and a Molokai Ranch reservoir which had been used in the past to transfer water from the Molokai Ranch reservoir to the KMI reservoir. See Shimizu Testimony, Vol. IX, pp. 94-95; Nance Testimony, Vol. VII, p.56 (referring to purchase of water by KMI from Molokai Ranch for 18-month period between October 1986 and April 1988); Ex. A-36, figure 3 (same); Ex. A-78, p.3 (Nance 1988 Study). [KMI FOF H.11]

45. From the Puu Nana reservoirs, water flows by gravity through former pineapple irrigation lines to the main pressure breaker tank located beyond the Kaluakoi Resort entrance. See Ex. A-36, ¶¶ VII.D.1.-2., VII.E.1. & p.31 (Nance 1998 Report); Ex. A-76 (not-to-scale depiction of system beyond Puu Nana reservoirs); Neeley Witness Statement, p.3. [KMI FOF H.12]

46. Between the Puu Nana reservoirs and the main pressure breaker tank, there are several metered connections to Molokai Ranch properties off of KMI's main line, which as of October 1, 1998 are no longer being used. See Shimizu Testimony, Vol. IX, pp.62-68, 95-107; Ex. A-76 (not-to-scale depiction of connections to Molokai Ranch properties); Neeley Supplemental Witness Statement, p.1. [KMI FOF H.14]

47. As of October, 1998, Molokai Ranch no longer extracts water that was estimated to be 0.049 mgd from the KMI water system. Neeley, TR 11/24/98 at 78:19-25; at TR 11/24/98 at 1086-13. [Caparida/Kuahuia FOF 144]

48. Just before the pressure breaker tank, there is a metered connection which supplies residential customers in the Moana Makani subdivision. See Ex. A-36, ¶VII.E.1.-2. & p.31 (Nance 1998 Report); Ex. A-76 (not-to-scale depiction of corrected location of **[meter (e)] the pressure break tank** as being situated after water meter which measures water flow into Moana Makani subdivision); Ex. A-78, figure 3; Shimizu Testimony, Vol. IX, pp. 108-09; Neeley Testimony, Vol. I, p.108; Neeley Witness Statement, p.3. [KMI FOF H.15]

49. There are two water filters to treat the water **[coming off of] entering** the Moana Makani subdivision connection, which are back washed daily to clear them of debris. See Ex. A-36, ¶¶VII.E.2.b., VII.F.2. & p.31 (Nance 1998 Report); Ex. A-76 (not-to-scale depiction of corrected location of filters as being situated before water meter which measures water flow into Moana Makani subdivision); Ex. A-78, figure 3; Shimizu Testimony, Vol. IX, pp. 69, 73, 108-09; Neeley Witness Statement, p.3. The waste water from the back wash process is neither metered nor reused. See Shimizu Testimony, Vol. IX, pp. 73, 109. [KMI FOF H.16]

50. Just after the pressure breaker tank, there is **a** meter for measuring inflows into the remainder of the water system. See Ex. A-36, p.31 (Nance 1998 Report); Ex. A-76 (not-to-scale depiction of location of meter (f)); Shimizu Testimony, Vol. IX, p.110; Neeley Testimony, Vol. I, p.108; Neeley Witness Statement, p.3. [KMI FOF H.17]

51. From the pressure breaker tank, water flows through a pipeline to two water filters. The water filters are automatically back washed daily to clear them of debris. The product of the backwash, which is nonpotable water, is diverted by a line to the golf course irrigation pond, but this amount is not metered. See Ex. A-36, ¶VII.E.-F. & p.31 (Nance 1998 Report); Ex. A-76 (not-to-scale depiction of water filters); Ex. A-31, p.2; Shimizu Testimony, Vol. IX, pp.69-72, 74-76, 125-30, 145-48, 150-51; Neeley Witness Statement, pp.3-4. [KMI FOF H.18]

52. Each of the two filters is estimated to use approximately 25,000 gallons per flush, and each filter flushes, on average, twice per day, suggesting an estimated combined total use of approximately 100,000 gpd. See Ex. A-77 (letter dated October 2, 1998 from Pacific Electro Mechanical, Inc. to KMI); Ex. A-78, p.8 (Nance 1988 Study) (noting that each of the two filters is estimated to use approximately 25,000 gallons per flush based on the manufacturer's written descriptions of the back wash cycle and confirmed by calculations of Pacific Electro Mechanical, Inc.); Ex. A-23. [KMI FOF R.5]

53. From the water filters, water is stored in a 2.0 million gallon tank for distribution to various end uses. See Ex. A-36,¶VII.E.-F. & p.31 (Nance 1998 Report); Ex. A-76 (not-to-scale depiction of 2.0 mg storage tank); Ex. A-62 (photo of 2.0 mg storage tank); Neeley Testimony, Vol. I, p.108; Neeley Witness Statement, p.4. [KMI FOF H.19]

54. The following is a list of various West Molokai end uses which are serviced from the water stored in the 2.0 million gallon tank, all of which are metered uses. See Ex. A-36, ¶VII.F. & p.31 (Nance 1998 Report); Shimizu Testimony, Vol. IX, pp.117-124, 135-36; Neeley Testimony, Vol. I, p.109; Neeley Witness Statement, p.4.

    a. Kaluakoi Hotel and West Molokai Resort condominiums;
    b. Ke Nani Kai condominiums;
    c. Paniolo Hale condominiums;
    d. Kaluakoi Golf Course (all potable water use is metered, but non-potable water use from sewage effluent and from back wash diversion line is not metered)
    e. Molokai Fairways residential subdivision
    f. Papohaku Ranchlands residential subdivision
    g. City and County public beach park.
    h. Nursery used to grow trees and plants for the Hotel and condominium grounds.

    [KMI FOF H.20]

55. The Kaluakoi hotel has 148 rooms and occupies 18.18 acres.Exh. A-5. [Caparida/Kuahuia FOF 4]

56. During the period from July 1991 to June 1992, occupancy rates at the hotel ranged from 38 to 71 percent. Due to low occupancy, KMI requests that more water should be granted than the Maui County guidelines and the 12-month mov**ing average**. Granting more water than is actually used, however, is inconsistent with Declaratory Rule No. DEC-OA94-G4. (Ex. A-26, p. 1; Ex. A-18). [DHHL/OHA FOF 27]

57. The Kaluakoi golf course consists of 151 acres, 118.9 acres of which is irrigated. Exh. A-32 (Attachment A). [Caparida/Kuahuia FOF 5]

58. For the year ending June 30, 1992, the 12-month mov**ing average** of recorded water usage for the golf course was 378,630 gpd. (Neeley Witness Statement, 5:20-21; Ex. A-31, meter readings for 1991-1992). This amount is about the same as fiscal year 1993's water usage on the

golf course of 384,900 gpd. (Neeley Witness Statement, 6:5-7; Ex. A-28, p. 2). [DHHL/OHA FOF 18]

59. For the years ending June 30, 1993 to 1995, the 12-month moving average usage figures of the Kaluakoi Golf Course are as follows:

Year ending June 30, 1993	384,900 gd
Year ending June 30, 1994	459,725 gd
Year ending June 30, 1995	501,900 gd

The annual water usage figures have increased over each of the last three years which reflects both the very wet winter of 1991/1992 and the much dryer years that have followed with the 1994/1995 year being particularly dry. (Exhibit A-28, p. 2, ¶ 5)

60. Records indicate that the average use of water on the Kaluakoi golf course is from 300,000 to 600,000 gd, probably around 500,000 gd. Neeley Testimony, Vol.II, pp.53-54.

61. The Commission finds that an annual water use of approximately 400,000 gd, or 3,390 gd/ac, is a reasonable amount for the Kaluakoi Golf Course, given its size, location, and water use history (see FOF 59).

62. The annual water usage figures have increased over each of the last three years which reflects both the very wet winter of 1991/1992 and the much dryer years that have followed with the 1994/1995 year being particularly dry. (Exhibit A-28, p. 2, ¶ 5)

63. The Kaluakoi Villas has 144 units and occupy 11.705 acres. Exh. A-5. [Caparida/Kuahuia FOF 6]

64. The Kenani Kai condominiums have 120 units and occupy 14.972 acres. Id. [Caparida/Kuahuia FOF 7]

65. Paniola Hale has 77 units and occupies 8.772 acres. Id. [Caparida/Kuahuia FOF 8]

66. Papohaku Subdivision has 252 lots and consists of 3200 acres. Neeley, TR 11/24/98 at 29:11-15. [Caparida/Kuahuia FOF 9]

67. Moana Makani Subdivision has 30 lots. Exh. A-32 (Attachment A) [Caparida/Kuahuia FOF 10]

68. Molokai Fairways has 16 lots. Id. [Caparida/Kuahuia FOF 11]

69. The three subdivisions consist of 4625 acres. Neeley, TR 11/24/98 at 38:14-20. Opening Br., Table 2. [Caparida/Kuahuia FOF 12]

70. As of July 15, 1992, there were twenty-six (26) residences in existence and using water in the Papohaku Ranchlands subdivision, three (3) residences in existence and using water in the Moana Makani subdivision, and no (0) residences in existence in the Molokai Fairways subdivision. See Ex. A-28, Attachment A; Ex. A-32, Recapitulation of Attachment "A"; Stipulation, Vol. II, p.93. [KMI FOF O.1]

71. There currently are (as of December 4, 1998):

    a. Thirty-two (32) residences in existence (on 29 lots) and using water in the Papohaku Ranchlands subdivision, all of which are metered [see Ex. A-90, p.1 {lots 33, 34, 38, 39, 48, 59, 63 (2 homes, separately metered), 64, 67, 69, 72, 76 (2 homes, only one meter), 86, 87, 88 (2 homes, only one meter), 161, 195, 205, 220, 222, 232, 241, 243, 244, 245, 255, 260, 261, 270}; Ex. A-92; Neeley Testimony, Vol. IX, pp. 154-56];

    b. Six (6) residences in existence and using water in the Moana Makani subdivision, all of which are metered[1] [see Ex. A-91 {lots 26, 31, 42, 43, 46, 50}; Ex. A-92; Neeley Testimony, Vol. IX, pp. 154-56]; and

    c. Four (4) residences in existence and using water in the Molokai Fairways subdivision, all of which are metered [see Ex. A-91 {lots 70, 74, 81, 85}; Ex. A-92; Neeley Testimony, Vol. IX, pp. 154-56; Stipulation, Vol. II, p.94].

    [KMI FOF O.4]

72. There currently are (as of December 4, 1998) at least four (4) lots in the Papohaku Ranchlands subdivision on which no residence has been built but which have used water for landscaping purposes, all of which are metered. See Ex. A-90, p.1 (lots 65,66,224,247); Ex. A-92; Neeley Testimony, Vol.IX, pp. 154-56. [KMI FOF O.5]

[1] However, KMI previously stipulated, in error, to there being only five (5) residences currently in existence and using water in the Moana Makani subdivision. See Stipulation, Vol. II, p.94, Vol. VIII, p.29.

73. There currently are (as of December 4, 1998) at least six (6) residences in the Papohaku Ranchlands subdivision under construction, all of which are metered. See Ex. A-90, p.2 (lots 30, 196,219,262, 275, 268); Ex. A-92; Neeley Testimony, Vol.IX, pp. 154-56. The acreages of these six (6) lots are: lot 30 – 5.0 acres; lot 196 – 5.0 acres; lot 219 – 5.4 acres; lot 262 – 6.0 acres; lot 275 – 5.5 acres; lot 268 – 5.9 acres, for a total of 32.8 acres. See Ex. A-14, Attachment 2. [KMI FOF O.6)

74. The information provided by the applicant describing the existing uses, especially for the resort residences, did not correspond with the pumpage data and the staff's field investigation. There were questions raised as to whether the inordinately high water use (see FOF 77) at some of the Papohaku Ranchlands subdivision lots was reasonable-beneficial considering the arid and windy conditions in the area. The Commission, in its March 14, 1995 action, was "compelled" to use County guidelines for the purpose of establishing an interim allocation for "reasonable beneficial" existing use. See STAFF SUBMITTAL, May 21, 1996, p.1.

75. Papohaku Ranchlands had a metered use, in June 1992, of 50.2 mg/year, or 138,000 gd, for the 26 existing residences. 138,000gd/26 residences = 5308 gd/residence. Moana Makani had a metered use, in June 1992, of 1.2 mg/year, or 3,000 gd, for 3 residences. 3000 gd/3 residences = 1,000 gd/residence. Total metered use for the two subdivisions: 138,000 plus 3,000 = 141,000 gd. See STAFF SUBMITTAL, May 21, 1996, Exhibit 11.

76. Although a better picture of KMI's metered water uses was obtained through data from the MPUI, staff was unable to analyze the newly-identified existing uses (e.g. the residential lots) for reasonable beneficial water use because basic use information (i.e. irrigated acreages, crop types) was not provided by KMI. The staff submittal of May 21, 1995 recommended that KMI address the following: "For each houselot at Papohaku Ranchlands subdivision at which agricultural operations were in place as of July 15, 1992, KMI shall identify the name, address, and TMK of the agricultural water user, provide an estimate of irrigated acres and identify crop type, and set up a field investigation with Commission staff." See STAFF SUBMITTAL, May 21, 1995, pp.3, 4.

77. Metered water use by the top four highest users in the Papohaku Ranchlands subdivision, for the year ending June 30, 1992, ranged from 5,373,040 gallons/year (about equal to 14,700 gd) to 10,766,200 gallons /year (29,500 gd). See Exhibit A-28, Attachment D. The county standard is 600 gd per unit.

78. Kaluakoi has imposed no restriction on the amount of water that can be used on the subdivision lots in the covenants, conditions and restrictions applying to lot owners, only a limit on the size of the meter for each lot owner, which is ¾". Neeley, TR 11/23/98 at 150:5-10. [Caparida/Kuahuia FOF 171]

79. For the year ending June 30, 1992, the 12-month mov**ing average** of recorded water usage for the condominiums was 90,959 gpd. (Ex. A-75; Ex. A-31, Meter readings for 1991-1992). [DHHL/OHA FOF 31]

80. For the year ending June 30, 1992, the 12-month moving average of actual metered water usage for the beach park was 26,027 gpd. See Ex. A-28, Attachment A; Ex. A-32, Recapitulation of Attachment "A". [KMI FOF P.1]

81. For the year ending June 30, 1992, the 12-month moving average of actual metered water usage for the nursery was approximately 17,534 gpd. See Ex. A-28, Attachment A; Ex. A-32, Recapitulation of Attachment "A". [KMI FOF Q.1]

82. A figure of 10% for **[normal]** system losses/unaccounted for uses for that portion of KMI's water system from Mahana to the West Molokai end uses is **[not excessive, and is well]** within the range (10% - 12%) of what would reasonably be expected for a municipal water system such as KMI's system. See Ex. A-36, ¶VII.F.2. (Nance 1998 Report); Nance Testimony, Vol. VII, pp.26-28. [KMI FOF S.8]

83. Essentially all components of KMI's water system from Mahana to the Kaluakoi Resort entrance are comprised of antiquated former pineapple irrigation mains installed by Dole Plantation, which were reactivated to serve the Resort in 1976. See Ex. A-36, ¶ VII.D.1 (Nance 1998 Report); Shimizu Testimony, Vol. IX, pp.66-67. [KMI FOF S.9]

84. Sources of **[normal]** system losses for the portion of KMI's water system from Mahana to the West Molokai end uses include normal leakage. See Ex. A-36, ¶VII.F.1.-2. (Nance 1998 Report); Nance Testimony, Vol. VII, p.28. [KMI FOF S.10]

85. Sources of **[normal]** system losses for the portion of KMI's water system from Mahana to the West Molokai end uses include evaporation from the two open reservoirs at Puu Nana. See Ex. A-36, ¶ VII.D.2.b. & p.31 (Nance 1998 Report); Nance Testimony, Vol. VII, p.28. [KMI FOF S.11]

86. The two reservoirs have approximately 0.4 acres of open water surface. See Ex. A-36, ¶ VII.D.2.a. (Nance 1998 Report).

87. Evaporation occurs from these reservoirs at a rate of 2200 to 3400 gpd. See Ex. A-36, ¶¶ VII.D.2.b., VII.F.2. (Nance 1998 Report).

88. Sources of normal system losses for the portion of KMI's water system from Mahana to the West Molokai end uses include seepage at the Puu Nana reservoirs (likely negligible). See Ex. A-36, ¶VII.D.2.b. (Nance 1998 Report). [KMI FOF S.12]

89. Sources of unaccounted for uses for the portion of KMI's water system from Mahana to the West Molokai end uses include the back washing process of the two water filters at the connection serving the Moana Makani subdivision. See Ex. A-36, ¶¶VII.E.2.b., VII.F.2. & p.31 (Nance 1998 Report); Ex. A-76 (depiction of proper location of filters as being situated before water meter which measures water flow into Moana Makani subdivision); Ex. A-78, figure 3 (same); Shimizu Testimony, Vol. IX, pp. 69, 73, 108-09; Nance Testimony, Vol. VII, p.28. [KMI FOF S.13]

90. Backwash at Moana Makani was estimated to be 3,000 to 4,000 gpd. (Nance, Tr. 12/7/98, 28:5-7). [DHHL/OHA FOF 97]

91. Sources of unaccounted for uses for the portion of KMI's water system from Mahana to the West Molokai end uses include the use of fire hydrants to extinguish brush fires, the use of fire hydrants for line flushing, and the testing of fire hydrants. See Ex. A-36, ¶VII.F.1.-2. (Nance 1998 Report); Nance Testimony, Vol. VII, pp.27-28; Neeley Witness Statement, p.4.

E. Consistency with Policy Objectives Under § 174C-2(c) Regarding Beneficial Uses

92. There are approximately one hundred twenty-nine (129) full and part time employees employed by KMI, primarily for the Hotel and golf course. See Neeley Testimony, Vol. I, p.117, Vol. VIII, p.121; Neeley Witness Statement, p.1. In addition, approximately forty-three (43) persons are employed by the three condominium complexes. See Neeley Witness Statement, p.1; Neeley Testimony, Vol. I, p.117. [KMI FOF V.2]

93. There are four retail concessionaires working out of the Hotel. See Neeley Witness Statement, p.7. [KMI FOF V.3]

94. Whereas the overall unemployment rate for the State of Hawaii since 1990 to the present has ranged from 2.8 percent to 6.4 percent, the unemployment rate for the Island of Molokai for the same period has ranged from 8.4 percent to 18.1 percent, and as of 1997 was 14.8%. See Ex. A-41; Guard Witness Statement, p.1. This is compared to 1997 unemployment rates of 7.5% for the County of Maui as a whole, and 6.4% for the State of Hawaii as a whole. See Guard Witness Statement, p.1. The unemployment rate for the Island of Molokai as of August 1998 was 14.2%, compared to 6.3% for Maui County as a whole, and 6.1% for the State as a whole. See Guard Supplemental Witness Statement, p.1. [KMI FOF V.4]

95. One of the goals of the Molokai 10-year strategic plan as outlined in the Rural Federal Empowerment Zone Application is that "Molokai's existing visitor accommodations will be filled with travelers who are comfortable with the island's rural pace and who value its living Hawaiian cultural heritage." See Arakaki Testimony, Vol. V, p.134; Ex. B-63, Volume III, Part I, Section 3, page 1. [KMI FOF V.10]

96. The Kualapuu community uses **of the KMI water system** are comprised of domestic, commercial and municipal uses. (see Neeley Testimony, Vol. I, p.106; Neeley Witness Statement, p.2), **[and therefore are "consistent with . . . the statement of policy objectives declared to be in the public interest as set forth in Haw. Rev. Stat. 174C-2(c)."]** [KMI FOF U.4a]

97. The Moana Makani subdivision and Papohaku Ranchlands subdivision uses **of the KMI water system** are comprised of domestic uses, and irrigation and other agricultural uses (see Neeley Witness Statement, pp.3-4) **[, and therefore are "consistent with . . . the statement of policy objectives declared to be in the public interest as set forth in Haw. Rev. Stat. 174C-2(c)."]**. [KMI FOF U.4.b]

98. The Molokai Fairways subdivision uses **of the KMI water system** are domestic uses(see Neeley Witness Statement, p.4). **[and therefore are "consistent with . . . the statement of policy objectives declared to be in the public interest as set forth in Haw. Rev. Stat. 174C-2(c)."]** [KMI FOF U.4.c]

99. The Kaluakoi Hotel and West Molokai Resort Condominium uses **of the KMI water system** are comprised of domestic and commercial uses(see Neeley Witness Statement, p.4). **[, and therefore are "consistent with . .**

. the statement of policy objectives declared to be in the public interest as set forth in Haw. Rev. Stat. 174C-2(c)."] [KMI FOF U.4.d]

100. The Ke Nani Kai and Paniolo Hale Condominium uses **of the KMI water system** are domestic uses (see Neeley Witness Statement, p.4). **[, and therefore are "consistent with . . . the statement of policy objectives declared to be in the public interest as set forth in Haw. Rev. Stat. 174C-2(c)."]** [KMI FOF U.4.e]

101. The Kaluakoi Golf Course use **of the KMI water system** is both a commercial use and a public recreational use(see Neeley Witness Statement, p.5; Neeley Testimony, Vol. I, p.109) **[, and therefore is "consistent with . . . the statement of policy objectives declared to be in the public interest as set forth in Haw. Rev. Stat. 174C-2(c)."]** [KMI FOF U.4.f]

102. The beach park use **of the KMI water system** is a public recreational use and municipal use (see Neeley Witness Statement, p.4) **[, and therefore is "consistent with . . . the statement of policy objectives declared to be in the public interest as set forth in Haw. Rev. Stat. 174C-2(c)."]** [KMI FOF U.4.g]

103. The nursery **use of the KMI water system** is used to grow trees and plants for the grounds of the hotel and condominiums, and, to a limited extent, also for sale to third parties (see Neeley Witness Statement, p.4) **[, and therefore these uses are "consistent with . . . the statement of policy objectives declared to be in the public interest as set forth in Haw. Rev. Stat. 174C-2(c)."]** [KMI FOF U.4.h]

104. The 10% contribution to the MIS, normal system losses after Mahana, and water filter back washing are **[all]** collateral to **[, and an integral]** and presently unavoidable **[part] attributes** of, all of the other above-described uses**[, and therefore are "consistent with . . . the statement of policy objectives declared to be in the public interest as set forth in Haw. Rev. Stat. 174C-2(c)"; these uses are also integral and presently unavoidable aspect of KMI's water supply system, and therefore are consistent with the declared public interest category of "public water supply".]** [KMI FOF U.4.i]

F. Rights of the Department of Hawaiian Home Lands Under the Hawaiian Homes Commission Act

105. **The** State **[agencies have] of Hawaii has** trust obligations toward native Hawaiians. Public policy articulated in the Hawaii Admission Act, Hawaii State Constitution, HHCA, and the Water Code authorizes the DHHL and other public agencies to undertake a range of activities for the benefit of native Hawaiians. (Yagodich, D-T-1, p. 2:14-17). [DHHL/OHA FOF 193]

106. DHHL has 25,383 acres of land on Molokai in Hoolehua, Kalamaula, Kalaupapa, Kamiloloa, Kapaakea, Makakupaia, and Ualapue which were set aside for use as Hawaiian home lands upon the passage of the HHCA in 1921. (Yagodich, D-T-1, 3:20-22). [DHHL/OHA FOF 197]

107. There are 812 homestead leases on Molokai and 1,615 applicants on the homestead waiting list. Construction and design projects in progress include a multi-service center and over 100 homestead lots in Hoolehua and Kalamaula. Leases will include industrial and commercial leases, agricultural, pastoral, and residential lots. (Yagodich, D-T-1, 4:1-5). Future water use would come from DHHL's reservation. (Yagodich, D-T-1, 6:9-12). [DHHL/OHA FOF 198]

108. DHHL has two wells serving these homestead areas, operating as a battery at a single site in Kualapu`u aquifer system, Well Nos. 0801-01 constructed in 1948 with an installed capacity of 600 gpm and 0801-02 constructed in 1983 with an installed capacity of 800 gpm. (Yagodich, D-T-1, 6:9-12).

109. DHHL has a reservation of 2.905 mgd of water in the Kualapuu aquifer system, pursuant to section 13-171-63, HAR. (Yagodich, D-T-1, 11:1-3). DHHL relies on the reservation and the 1.0 mgd capacity of its wells to service its homesteaders. (Yagodich, Tr. 12/2/98, 24:2-12). [DHHL/OHA FOF 199]

110. DHHL has a permit to use 0.367 mgd of water from wells 0801-01 and 02 for use in its Hoolehua and Kalamaula homestead areas. (Yagodich, D-T-1, 5:6-7). **[One well, constructed in 1948, has a 600 gpm capability. The other well, constructed in 1983, has an 800 gpm capability.]** (Yagodich, Tr. 12/2/98, 17:8-11).] [DHHL/OHA FOF 204]

111. The location of Well 17, TMK 5-2-12-029, is within the Central aquifer sector, Kualapuu aquifer system. (Ex. A-39; Neeley Witness Statement, p. 2). **[Most of KMI's landholdings are on TMK's 5-1-various, which**

are located within the West aquifer sector and outside of the aquifer of origin.] (Yagodich, D-T-1, 10:15-16). [DHHL/OHA FOF 222]

112. On or about September 13, 1996, the Department of Hawaiian Home Lands ("DHHL") filed an application to increase its permitted pumpage from Well Nos. 0801-01 and 0801-02 from 0.367 mgd to **[0.761] 1.247** (an increase of **[0.394] 0.879** mgd over existing permitted pumpage). See Ex. A-46. [KMI FOF C.2]

113. In a Water Commission **draft (not for action)** staff submittal prepared for the January 28, 1998 public hearing on DHHL's **[amended]** application, it was recommended that the application be denied on the grounds that the geographic concentration of Well Nos. 0801-01, 0801-02, 0801-03 and 0901-01 militated against granting a permit for the requested new withdrawals **of 0.879 mgd** from the existing DHHL wells, and suggesting that **[any] such** new withdrawals from the Kualapuu aquifer should be from new wells strategically located **elsewhere** within the aquifer so as not to interfere with the water quality in the existing wells. See Ex. A-50. [KMI FOF C.4]

114. At the January 28, 1998 public hearing, DHHL representatives proposed reducing the amount of its request from 0.88 to 0.21 mgd, to be taken from the water reservation of 2.905 mgd.

115. **[Shortly thereafter] In a letter dated February 5, 1998,** the Water Commission requested that DHHL arrange for the U.S. Geological Survey ("USGS") to review the question of whether an increase in pumpage from the two DHHL wells by 0.2 mgd would increase chloride concentrations to unacceptable levels. See Ex. A-51. [KMI FOF C.6]

116. On or about June 18, 1998, in response to the Water Commission's request, DHHL stated that the USGS was not able to answer that question based on available information. **[However, DHHL nonetheless stated that it was "amending its Water Use Permit Application for DHHL Wells 0801-01 and 02, previously filed on September 17, 1997, to focus on our highest priority areas for development and reduce projected pumpage in Kualapuu, Molokai." Specifically,]** DHHL **[submitted an] also** amended **its** water use application with a requested increase in permitted pumpage from 0.367 mgd to 0.637 mgd (an increase of 0.270 mgd over existing permitted pumpage). See Ex. A-54 (amended application); Ex. A-53 (statement by DHHL that "DHHL will follow the strategy of . . . [r]educing our WUP application from 870,000 gpd to 270,167 gpd"). [KMI FOF C.7]

117. The USGS developed a groundwater model entitled "Geohydrology and Numerical Simulation of the Groundwater Flow System of Molokai, Hawaii" ("USGS model"). (Ex. D-1). The USGS model was peer reviewed. (Oki, Tr. 12/7/98, 146:21-25 to 147:1-9). [DHHL/OHA FOF 123]

118. The purpose of the USGS model was to describe (1) the geologic and hydrologic setting of Molokai, (2) the numerical groundwater flow model developed, (3) the results of model simulations that qualitatively assess the hydrological effects of withdrawals at rates in excess of the average 1991-96 rates, and (4) data needs.(Ex. D-1, p. 2). [DHHL/OHA FOF 125]

119. The USGS model **[was developed to]** simulate**d** groundwater levels and discharge for the period 1954-61 on Molokai. The period of 1954-61 was selected because rainfall, withdrawals, and water levels were relatively steady. (Ex. D-1, p. 29; D-T-2, 3:4-6; Oki, Tr. 12/7/98, 142:7-20). [DHHL/OHA FOF 127]

120. The USGS model cannot predict local scale upconing in the immediate vicinity of a well, nor can it predict local scale drawdown in the immediate vicinity of a well. It mainly looked at regional drawdowns. (Oki, Tr. 12/7/98, 162:24-25 to 163:1-3). The USGS model estimated the hydraulic conductivity for the area, not just a particular well. (Oki, Tr. 12/7/98, 171:18-19). [DHHL/OHA FOF 128]

121. Pineapple was cultivated on Molokai from 1923 to 1988. During this era, there was a higher rate of groundwater recharge and a lower rate of pumpage than there is today. The higher rate of recharge is because evapotranspiration from unirrigated pineapple is less than natural vegetation. Results of the water budget model indicate that pineapple cultivation on Molokai increased recharge, relative to natural vegetation conditions, by about 13 mgd, with about half of the increase occurring near Kualapuu. (Oki, D-T-2, 4; Meyer, D-T-3, 1:16-20 to 2:1-2). [DHHL/OHA FOF 130]

122. The USGS model simulated the long-term effects of pumping at the average 1992-96 withdrawal rates, the base case scenario. (Oki, D-T-2, 3:12-15; Oki, Tr. 12/7/98, 143:1-3). [DHHL/OHA FOF 131]

123. The average rate of withdrawal near Kualapuu during 1954-61 was about 0.42 mgd. The average rate of withdrawal near Kualapuu during 1992-96 was about 2.26 mgd. (Meyer, D-T-3, 2:5-10). [DHHL/OHA FOF 132]

124. During the 1950's and 1960's, measured water levels in the Kualapuu area were about 10-12 feet above sea level. Groundwater levels in Kualapuu are currently declining due to this reduction in recharge and the increase in pumpage. (Oki, D-T-2, 3:10-11; Meyer, D-T-3, 2:12-15). [DHHL/OHA FOF 133]

125. The thickness of a freshwater lens can be estimated by the Ghyben-Herzberg principle which estimates that for every foot of freshwater above sea level there is approximately 40 feet of freshwater below sea level. (Ex. D-1, p. 28; Meyer, D-T-3, 3:5-7; Oki, Tr. 12/7/98, 145:9-12). [DHHL/OHA FOF 140]

126. A water level of 8 feet results in a calculated depth to the interface of 320 feet below sea level. The two DHHL wells extend to a depth of about 90 feet below sea level. Thus, the distance between the bottom of the wells and the theoretical position of the interface would be 230 feet. (Meyer, D-T-3, 3:10-14). [DHHL/OHA FOF 141]

127. The location of the transition zone varies between islands. The thickness of the transition zone above the interface is about 80 feet in North Kohala on the Big Island, about 130 - 150 feet in the Iao aquifer on Maui, and about 150 - 325 feet on Oahu. Using these values as an approximate guide to the thickness of the transition zone above the interface at the DHHL wells on Molokai, an 8 foot water level could result in the DHHL wells being intruded by saltwater. (Meyer, D-T-3, 3:15-22 to 4:1). [DHHL/OHA FOF 142]

128. Whether or not the existing rate of pumpage can be maintained without the chloride concentration rising to unacceptable levels at the DHHL wells is unknown. Available data do not allow this question to be completely addressed. (Meyer, D-T-3, 2:19-22). One would need to know the depth to and thickness of the transition zone between freshwater and saltwater in the vicinity of the wells. It would also be necessary to understand how these two factors are changing with time. (Meyer, D-T-3, 2:22 to 3:1-3). [DHHL/OHA FOF 143]

129. There is no deep monitor well in Kualapuu; it is unknown how thick the transition zone is from the mid-point to the top of the transition zone or where the potable quality of water becomes an issue. (Ex. A-50, p. 3). [DHHL/OHA FOF 144]

130. The average chlorides from DHHL well 0801-01 increased by about 25 mg/l in 1991 and the average chlorides in well 0801-02 increased by 10 mg/l at the same time. (Nance Witness Statement, 3:20-23 to 4:1-2; Nance Report, Ex. A-36, ex. 12 and 13). The increase suggests that the top of the transition zone may be near the bottom of the DHHL wells. [(Meyer, D-T-3, 4:4-11; Oki, D-T-2, 4:6-8). DHHL/OHA FOF 145]

131. The CWRM recognized the interference between wells when it stated in its staff submittal regarding DHHL's water use permit application, "[the] two DHHL wells (Well nos. 0801-01 & 02), the County Department of Water Supply (DWS) well (Well no. 0801-03), and the Kukui Molokai Well 17 (Well no. 0901-01) all reside within one-half mile of each other. In terms of a regional scale, these wells are concentrating pumpage in one spot in the aquifer system. . . Chloride levels in the two DHHL wells and the DWS well are sensitive to pumping rates. . . Early low chloride readings from these wells were around 60 mg/l during the 1980's but have risen above 100 mg/l during more recent years of the 1990's. On occasion, chloride levels have reached 180 mg/l. The EPA potability guideline for chloride is to 250 mg/l. Therefore, the increases in chloride levels in response to relatively small increases in pumpage from this well field is an indication that localized upconing and interference between these wells is occurring."(Ex. A-50, p. 2). [DHHL/OHA FOF 154]

132. On January 28, 1998, the CWRM staff issued its staff submittal for the DHHL request for new uses in the Kualapu`u aquifer, noting that the 5 mgd sustainable yield reflects a withdrawal rate from an aquifer which would not impair "the utility or quality of the aquifer system as a whole." Exh. A-50 at 1. [Caparida/Kuahuia FOF 220]

133. The increase in chlorides in the DHHL well #0801-01 by about 20-25 mg/l from below to above 100 mg/l is in **large** part attributable to the commencement of pumping in the nearby county well (0801-03) in 1991, which raised the level of withdrawal from 0.367 mgd to 0.867 mgd in the immediate area. Id. at 2; Exh. B-7. [Caparida/Kuahuia FOF 222]

G. Traditional and Customary Native Hawaiian Practices

134. The gathering of crab, fish, limu, and octopus are traditional and customary practices that have persisted on Moloka`i for generations. Hamakua, B-T-6 at 2. [Caparida/Kuahuia FOF 324]

135. These practices reflect the traditions of the ancient Hawaiian culture and are predominantly followed for religious, cultural, and subsistence purposes. Hamakua, B-T-6 at 2. [Caparida/Kuahuia FOF 325]

136. Moloka`i is an island whose population is primarily Hawaiian and has **[an unbroken] a** tradition of continuing these gathering practices **[regularly since ancient times]**. McGregor, B-T-9 at 6-7; Hamakua, B-T-6 at 2, Lee, Alcain, Mendes, Caparida. [Caparida/Kuahuia FOF 326]

137. Moloka`i is unique because of the high ratio of Hawaiians and the continuation of their traditions by them. [Caparida/Kuahuia FOF 327]

138. **Dr. Davianna McGregor's** study **[revealed] suggests** that **many** Hawaiians on Moloka`i rely **[heavily]** on the natural resources of the land and the ocean. Their subsistence activities include extensive gathering of marine resources including fish, shellfish, `ula, he`e and limu to feed their `ohana (extended family). In addition, they rely on mountain areas for hunting and to gather plants for medicinal, subsistence, and cultural purposes. Exh. B-8. [Caparida/Kuahuia FOF 330]

139. Intervenors fish for mullet, weke, aholehole, and palani. [Caparida/Kuahuia FOF 308]

140. A variety of crab species -- ala`eke (Samoan Crab), kuhonu, mo`ala, and ali`i -- are gathered along the south shore. [Caparida/Kuahuia FOF 313, 316]

141. Shrimp (opae), which live near fresh water seeps, **[can be and is] are** being gathered off Kapa`akea and Kalama`ula. CWRM-1; Alcain, Tr. 10/30/97, 152:16-25, 153:1-19; Lee, Tr. 10/30/97, 115:22-25. Opae lolo, which also live near fresh water seeps, can be found along the Kamiloloa coastline up through Meyer's pond. Alcain, B-T-1. [Caparida/Kuahuia FOF 309, 317]

142. A variety of limu (ogo, `ele`ele, wawae`ole, manuea, and huluhuluwaena) are gathered from the nearshore waters. [Caparida/Kuahuia FOF 350]]

143. Endemic plants to support the continuation of the practice of la`au lapa`au, or the traditional Hawaiian use of natural herbal remedies to treat illnesses. B-T-6; B-T-3. [Caparida/Kuahuia FOF 318]

H. Effect on Nearshore Ocean Resources and Resource Use

144. The salinity of **near-shore sea** water **also** has an effect on limu growth. Regardless of the nutrient concentrations in the groundwater, a reduction in salinity caused by a groundwater seepage may very well be beneficial to the growth of both wild and cultured limu, as limu frequently grows best in a mixture of seawater and freshwater. *Gracilaria* is example of this. **[Any] A** reduction in groundwater inputs would be expected to **[further]** increase salinities over the reef flat and be detrimental to the growth of limu. Laws, B-T-15 at 13-14, 15-16; Laws, Tr. 12/8/98 at 215:24-25, 216:9-12; see Exhibit B-39. [Caparida/Kuahuia FOF 429]

145. Primary factors which affect the growth of algae include light, water motion (which is the way nutrients are delivered to the plants), and nutrients. A substrate for the algae to attach to is also an absolute requirement, although many seaweeds can grow in the absence of a substrate but may just be exported out rather than stay in an area on a reef. Secondary factors are temperature and salinity, which are still important but do not directly act on a day to day basis because their changes tend to be spread over longer periods of time. The places where salinity would change are areas where there would be groundwater discharge. Smith, Tr. 12/2/98 at 228:1-22. [Caparida/Kuahuia FOF 451]

146. Groundwater is a source of nutrients for plants, not only the limu species, but for other species as well. These other species are likely to be food items for other organisms at higher levels of the trophic system. **[So the removal of nutrients could potentially depress the productivity of that whole group in the ecosystem, leading to potential downturn in several other levels.]** Smith, Tr. 12/2/98 at 220:24-25, 221:1-17. [Caparida/Kuahuia FOF 450]

147. Mullet (ama`ama), aholehole and milkfish (awa) depend on a euryhaline or brackish water environment for the nursery stage of their life cycle. Tamaru testimony B-T-13 at 2. [Caparida/Kuahuia FOF 466]

148. Fresh water is a necessary and integral part of the live food pyramid for these fish because it provides the nutrients for the growth of phytoplankton, the basis for the live food pyramid for juvenile mullet and milkfish (also referred to as "pua" or "fry"), which in turn enables the fish to switch over from a predatory diet to an omnivore or even herbivore diet. Tamaru Tr. 12/8/98 at 127:12-25, 128-32; Tamaru, B-T-13 at 4. [Caparida/Kuahuia FOF 472]

149. There are springs located throughout the shoreline, and these springs create a nursery habitat of indeterminate size. It is impossible to determine what the precise effect will be if the freshwater is reduced by a certain amount, because you don't know which **[part of the]** springs the reduction is going to affect. **[What will happen is the feed structure, the bottom of the food pyramid, will change. Even though it is impossible to determine precisely how the food pyramid will change, the effects would be exponential.]** Tamaru, Tr. 12/8/98 at 141:8-14; Tamaru, B-T-13 at 10. [Caparida/Kuahuia FOF 493]

150. It is impossible to tell how much of an impact taking out a percentage of water from the aquifer will have on the nursery ground or nursery habitat. No one **[in the world can say what]** **knows if**, for example, a 10% reduction would mean **[or]** a 15% or 20% reduction. **[The only thing that can be said is the effects are not proportional. An 11% reduction in the freshwater won't result in an 11% change in habitat. It will be an exponential change.]** Tamaru, B-T-13 at 7. [Caparida/Kuahuia FOF 475]

151. It is difficult to determine the **exact** percentage of freshwater required to create **and maintain** a **viable and healthy** nursery habitat. **[The]** **One of the** determinative factor**s** is the nutrient load carried in the freshwater percolating through the ground. Tamaru, Tr. 12/8/98 at 137:19-25, 138:1-10. [Caparida/Kuahuia FOF 488]

152. Small nursery habitats may spring up wherever freshwater comes up from the ground, and collectively form a large nursery habitat. Tamaru, Tr. 12/8/98 at 138:10-12. [Caparida/Kuahuia FOF 489]

153. There is no precise ideal salinity level for brackish water nursery habitats. Rather, there is a range of salinity levels. Tamaru, Tr. 12/8/98 at 138:1-23, 139:16-23; Tamaru, B-T-13 at 9; Exhibit B-24. [Caparida/Kuahuia FOF 490]

154. **[Exhibit B-65 is the kind of]** **There is a statistical** curve which those in fisheries refer to as the maximum sustainable yield. This is a general curve which **[would]** **could** be used **[for example,]** to show overall productivity for fish, rather than a specific species of fish. The object is to stay just below the curve so that the resource is continuously being naturally replenished. If you are below the curve, you could increase the amount of freshwater being taken out of the aquifer. But if you are above curve or the maximum sustainable yield, the result will be a change in the habitat. **[Once that occurs, it is very difficult to reverse.]** The difficulty

is determining precisely where one is on the curve. One way to determine this is **[to start]** monitoring **[the situation]**. A decrease of abundance will signal a change of habitat.Tamaru, Tr. 12/8/98 at 146:9-25, 147:1-14. [Caparida/Kuahuia FOF 503]

155. **[This is why baseline information is necessary.]** With baseline information, **[one can determine exactly]** how much water may be withdrawn without negative effects **could be better determined. Baseline information does not currently exist**. Tamaru, Tr. 12/8/98 at 149:11-18, 160:6-12. [Caparida/Kuahuia FOF 504]

156. **["The well] Well 17** is located on the central plain at an **[altitude] elevation** of 981 feet. **[The observed water level in the well . . . is well below the altitude of nearby streambeds, and t] T**here are no perennial streams or other surface waters in the vicinity of the well.**["]** See Ex. A-15, p.4. [KMI FOF W.2a]

157. **["]**No basal groundwater discharges into streams in this aquifer. Manawainui Gulch and its upper tributaries are dry except during and immediately following rainfall events.**["]** See Ex. A-36, ¶VI.B.3. (Nance 1998 Report); Nance Witness Statement, p.5. [KMI FOF W.2b]

158. **["]**Ground water does not discharge into the streams in central and southwest Molokai .**[. . .]** Perennial streams in southeast Molokai will not be impacted because the ocean is closer to the pumping wells in the Kualapuu aquifer than the perennial streams **are**.["] See Ex. A-12, p.2; see also Ex. A-12, p.1 (stating that pumping a well near Kualapuu will not impact streams in Northeast Molokai due to the high density of dikes within the rift zone of the East Molokai Volcano). [KMI FOF W.2c]

159. A reasonable estimate of the natural flowrate of groundwater through the Kualapuu aquifer is approximately 11.5 mgd. See Ex. A-36, ¶VI.A. (Nance 1998 Report); Nance Witness Statement, p.5. [KMI FOF W.3]

160. Disposition of this groundwater flow (~11.5 mgd) **[may]** occur**s** in the following ways: (i) spring discharge into streams or diffuse seepage into streams; (ii) pumpage by wells; and (iii) discharge into the marine environment, either concentrated at springs or more diffusely over larger areas of the coastline. See Ex. A-36, ¶VI.B.1. (Nance 1998 Report); Nance Witness Statement, pp.4-5. [KMI FOF W.4]

161. **[With regard to disposition of the Kualapuu aquifer groundwater flow by well pumpage, b] B**ased on available data for the 1997-98 period,

the draft from all wells in the Kualapuu aquifer was approximately 2.0 to 2.2 mgd, or approximately 17 to 19 percent of the Kualapuu aquifer's total groundwater flow. See Ex. A-36, ¶VI.B.2. (Nance 1998 Report). [KMI FOF W.6]

162. **[With regard to disposition of the Kualapuu aquifer groundwater flow by discharge into the marine environment, t] T**he remainder of the groundwater flow that is not accounted for by well pumpage ultimately discharges into the marine environment. See Ex. A-36, ¶VI.B.4. (Nance 1998 Report); Nance Witness Statement, p.5. [KMI FOF W.7]

163. Assuming all other things being constant, if there is no increase in the amount of water being pumped by Well 17, there **[would] will** be no decrease in the amount of water that **[would]** discharge**s** into the marine environment as a result of the continued pumpage of Well 17 at status quo levels. See Oki Testimony, Vol. VII, pp.151-52, 179. Hence, there would be no impact on the marine environment as it now exists as a result of KMI's continued pumpage of Well 17 at status quo levels. See Dollar Testimony, Vol. VI, p.118 ("keeping the historical pumpage the same should not have any effect on the situation as we see it now"); Laws Testimony, Vol. VIII, p.254 ("If things stay the same, then presumably there's not going to be any impact."); Tamaru Testimony, Vol. VIII, pp.159-60 (testimony from Dr. Tamaru that, if KMI were not seeking to increase pumpage from Well 17 above status quo levels, "[t]hat would assume there would be no change," and therefore Dr. Tamaru "wouldn't say anything" regarding KMI's application); McGregor Testimony, Vol. V, p.51. [KMI FOF W.8]

164. Most of the groundwater flow through the Kualapuu aquifer in the vicinity of Well 17 would emerge directly down gradient from that area along the portion of the Manawainui aquifer shoreline between Kamehameha Coconut Grove and Manawainui Gulch (in other words, the stretch of shoreline bounded by the channel cut in the reef off of Manawainui Gulch to the west and Coconut Grove to the east). See Nance Testimony, Vol. VII, pp. 44, 49-50; Ex. A-36, ¶VI.B.4. (Nance 1998 Report) (referencing USGS Report 97-4176, figures 22 and 23); Nance Witness Statement, p.5; Nance Rebuttal Witness Statement, pp.1-2; Oki Testimony, Vol. VII, pp. 179-80 (testimony that figure 23 of USGS Report 97-4176 was intended to show Kualapuu aquifer flow directions for average 1992-1996 pumpage conditions); see also Ex. A-83 (figure 23 of USGS Report 97-4176, overlaid with aquifer boundaries). For ease of reference, the above-identified stretch of shoreline is hereinafter referred to as the "Manawainui Shoreline". [KMI FOF W.9]

165. A smaller amount of the groundwater flow through the Kualapuu aquifer emerges along the Kaunakakai shoreline east of Coconut Grove. See Ex. A-36, ¶VI.B.4. (Nance 1998 Report) (referencing USGS Report 97-4176, figures 22 and 23); Nance Witness Statement, p.5; Nance Rebuttal Witness Statement, p.2. **[With respect to this area, Dr. Dollar based his conclusions on a prior study done by Dr. Dollar on behalf of Waiola O Molokai which included the shoreline to the east of Coconut Grove from the location of the sewage treatment plant to the east of the Kaunakakai Harbor entrance channel. See Ex. A-79, p.14 (Dollar Report); Dollar Witness Statement, p.7.]** [KMI FOF W.10]

166. The distribution of the shoreline discharge of the groundwater flow in the vicinity of Well 17 generally diminishes with distance from the shoreline area that is directly downgradient of the groundwater flow.**[[2]]** See Nance Rebuttal Witness Statement, p.1.

167. The total groundwater flow discharge along the Manawainui Shoreline **[would be] is** roughly the sum of the Kualapuu aquifer flow, minus pumping by wells in the Kualapuu aquifer, plus the local recharge in the Manawainui aquifer, minus pumpage from wells in the Manawainui aquifer, for a total Manawainui Shoreline discharge with an order of magnitude of approximately 11 to 12 mgd over approximately 4 coastal miles (or an average of 2.7 to 3.0 mgd/mile). See Nance Testimony, Vol. VII, pp.45, 51-52; Ex. A-36, ¶VI.B.5. (Nance 1998 Report); Nance Witness Statement, pp.5-6. [KMI FOF W.13]

168. This discharge is not evenly distributed along the Manawainui Shoreline. See Nance Testimony, Vol. VII., p.51; Ex. A-36, ¶VI.B.5. (Nance 1998 Report); Ex. A-79, pp.6-7 (Dollar Report); Dollar Testimony, Vol. VI, p.110. [KMI FOF W. 14]

[[2] This general principle of hydrology is also reflected in a finding of fact in the Waiola contested case based on testimony of Mr. Oki. See CCH-MO96-1, Findings of Fact, Conclusions of Law, and Decision and Order, at p.25 (FOF 129) ("The largest effects [of groundwater pumpage on shoreline discharge] occur in areas nearest the well and effects diminish with distance from the well.").]

Appendix

Rulings on Party-Submitted Findings of Fact

The Commission on Water Resource Management makes the following rulings on the parties' proposed findings of fact. Findings are in two categories. Category A lists findings that are accepted in their entirety, or accepted with minor modifications or corrections that do not significantly alter the meaning of the original findings. Category B lists findings that are rejected, in whole or in part, because they are not relevant, taken out of context, repetitious, not supported by the reliable and probative evidence, or are, in whole or in part, contrary to the facts or the law. Any proposed finding of fact submitted by a party not adopted by the Commission herein, or rejected by clear contrary finding of fact herein, are denied and rejected.

I. KMI, Inc. *

A. ACCEPTED - The Commission accepts the following findings of fact in their entirety, or with minor modifications: B5, B11-14, B17, B19-21; C2, C4, C6, C7; H3-12, H14-20; J1; K3, K4; O1, O4-6; P1; Q1; R5; S8-13; U4a-i; V2-4, V10; W2a-c, W3, W4, W6-10, W13, W14.

B. REJECTED - The Commission rejects the following findings of fact: B2, B3, B4, B6-10, B15, B16, B18, B22; C1, C3, C5, C8-11; D1-4; E2-9; F1-4; G2-10; H1, H2, H13, H21; I1-4; J2-10; K1, K2, K5-13; L1-7; M1-11; N1-15; O2, O3, O7-23; P2-8; Q2-8; R1-4, R6-12; S1-7, S14, S15; T1-19; U1, U2; V1, V5-9, V11, V12; W1, W5, W11, W12, W15-22; X1, X2, X4, X5; Y1-7; Z1-10; AA1-4.

II. Caparida/Kuahuia

A. ACCEPTED - The Commission accepts the following findings of fact in their entirety, or with minor modifications: 4-12, 25, 29, 31, 32, 88, 103, 144, 171, 211, 212, 220, 222, 308, 309, 313, 316, 317, 318, 324-327, 330, 350, 429, 450, 451, 466, 472, 475, 488-490, 493, 503, 504.

B. REJECTED - The Commission rejects the following findings of fact: 1-3, 13-24, 26, 27, 28, 30, 33-87, 89-102, 104-143, 145-170, 172-210, 213-219, 221, 223-307, 310-312, 314, 315, 319-323, 328, 329, 331-349, 351-428, 430-449, 452-465, 467-471, 473, 474, 476-487, 491, 492, 494-502, 505, 506.

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* KMI submitted some of its proposed findings of facts and conclusions of law together. The above rulings pertain only to findings of facts.

III. Sykes

A. ACCEPTED - The Commission accepts the following findings of fact in their entirety, or with minor modifications: 1.

B. REJECTED - The Commission rejects the following findings of fact: 2-47.

IV. DHHL/OHA

A. ACCEPTED - The Commission accepts the following findings of fact in their entirety, or with minor modifications: 4, 18, 27, 31, 97, 123, 125, 127, 128, 130-133, 140-145, 154, 186-188, 190, 193, 197-199, 204, 222.

B. REJECTED - The Commission rejects the following findings of fact: 1-3, 5-17, 19-26, 28-30, 32-96, 98-122, 124, 126, 129, 134-139, 146-153, 155-185, 189, 191, 192, 194-196, 200-203, 205-221, 223-225.

V. CONCLUSIONS OF LAW

A. Authority of the Commission

1. The Commission has the authority pursuant to chapter 174C, Hawaii Revised Statutes (HRS), and chapter 13-171, Hawaii Administrative Rules (HAR), to designate water management areas and act upon and approve water use permit applications (WUPA) in those designated areas.

2. Pursuant to the Commission's authority under chapter 174C, HRS, the Commission designated 16 ground-water management areas on the island of Molokai on May 13, 1992 that became effective on July 15, 1992. One of the ground-water management areas is the Kualapu`u Aquifer System.

3. Once an area has been designated as a ground-water management area, no person may make any withdrawal or consumptive use of water within the designated area without a permit. Section 174C-48, HRS.

B. KMI's water use application

4. Section 174C-50(c), HRS, provides that "an application for a permit to continue an existing use must be made within a period of one year from the effective date of designation."

5. There was a timely application for a water use permit to continue the existing use of Well 17 on June 8, 1993, for a 2.0 mgd allocation from Well 17, which is within the Kualapu'u Aquifer. However, on October 2, 1998, KMI amended its original application by reducing its requested allocation to the amount of its 12-MAV actual metered water usage as of July 15, 1992, which KMI calculated as totaling 1.205 mgd.

6. The property overlying Well 17 was transferred from Molokai Ranch, Ltd. to KMI in October 1993.

C. Application is for an Existing Use Permit

7. The application is for an Existing Use Permit issued under section 174C-50(b), HRS.

8. Section 174C-50(b), HRS, authorizes the Commission to issue permits for existing uses upon a determination that the existing use is a reasonable-beneficial use and is allowable under the common law of the State.

9. The term "reasonable-beneficial use" is defined in section 174C-3, HRS, as:

> the use of water in such a quantity as is necessary for economic and efficient utilization, for a purpose, and in a manner which is both reasonable and consistent with the state and county land use plans and the public interest.

10. Based on the evidence presented, the Commission concludes that the use of the water from Well 17 is consistent with (1) state and county land use plans, and (2) public interest.

11. The common law of this State is defined in section 1-1, HRS, as follows:

> The common law of England, as ascertained by English and American decisions, is declared to be the common law of the State of Hawaii in all cases, except as otherwise expressly provided by the Constitution of laws of the United States, or by the laws of the State, or fixed by Hawaiian judicial precedent, or established by Hawaiian usage.

12. As the owner of the land on which Well 17 is located and which overlies the Kualapu'u Aquifer, KMI has correlative rights to make reasonable use of the water with due regard to the rights of other co-owners in the same waters and subject to regulation by the government. City Mill Co. v. Honolulu Sewer and Water Commission, 30 Haw. 912 (1929).

13. Therefore, based upon the evidence presented, the Commission concludes that the existing use of water from Well 17 in the amount of 877,489 gpd is allowable under common law.

14. Section 174C- 50(i), HRS, states that an existing use shall be given priority over any other application provided that the use remains the same and is reasonable and beneficial and water is available.

15. Based on the evidence presented, the Commission concludes that accountable existing uses of water from Well 17 remain the same and the allocation herein is reasonable and beneficial and allowable under common law.

D. Application for Proposed Water Use Permit

16. Section 174C-49(a), HRS, places the burden on an applicant to establish that the proposed water uses meet all the following seven criteria:

    a. Can be accommodated with the available water source;

    b. Is a reasonable-beneficial use as defined in section 174C-3;

    c. Will not interfere with any existing legal use of water;

    d. Is consistent with the public interest;

    e. Is consistent with state and county general plans and land use designations;

    f. Is consistent with county land use plans and policies; and

    g. Will not interfere with the rights of the department of Hawaiian home lands as provided in section 221 of the Hawaiian Homes Commission Act.

17. The applicant's burden of proof is by a preponderance of the evidence. Section 91-10(5), HRS.

18. Based on the evidence presented, the Commission concludes, for the reasons set forth below, that the water use permit application for proposed uses, as amended by this decision and order, meets all the conditions in sections 174C-49(a), HRS, by a preponderance of the evidence.

    (1) The proposed use can be accommodated with the available water source. Section 174C-49(a)(1), HRS.

19. The application seeks an allocation from the Kualapu`u Aquifer. The current sustainable yield for the Kualapu`u Aquifer is 5.0 mgd. The existing permitted uses for the Kualapu`u Aquifer total 1.754 mgd. DHHL has a water reservation of 2.905 mgd in the Kualapu`u Aquifer. Thus, the total commitment for Kualapu`u Aquifer is 4.783 mgd, below the sustainable yield of 5.0 mgd. The Commission concludes that the existing and proposed use can be accommodated within the available water source.

(2) The proposed use is reasonable and beneficial. Section 174C-49(a)(2).

20. "Reasonable and beneficial use" is defined in section 174C-3, HRS, as "the use of water in such a quantity as is necessary for economic and efficient utilization, for a purpose, and in a manner which is both reasonable and consistent with the state and county land use plans and the public interest."

21. Based on the evidence presented, the Commission concludes that the allocation based on this decision and order is an economic and efficient utilization of water. The domestic, commercial, agricultural, and municipal uses as set forth in the application are consistent with the standards utilized by the County of Maui. The Commission further concludes that an allocation for system loss is not necessary in this case because, for allocation purposes, system losses are factored into the calculation of the domestic consumption guideline used.

22. Therefore, the Commission concludes the allocation set forth in this decision and order to be reasonable and beneficial.

(3) The proposed use does not interfere with any existing legal use. Section 174C-49(a)(3), HRS.

23. Section 13-171-63, HAR, sets forth the applicable DHHL reservation for the Kualapu'u Aquifer as follows:

> The commission hereby reserves 2.905 million gallons per day of ground water from state lands in the Kualapu`u Aquifer System for use on Hawaiian homelands on Molokai. In conformance with section 174C-49(d), Haw. Rev. Stat., all DHHL reservations are aquifer specific. See also sections 13-171-61 and 62, HAR. The reservation for DHHL is in the Kualapu`u Aquifer from state lands and not the Kamiloloa Aquifer.

24. DHHL, OHA, and Intervenors Judy Caprida, Georgina Kuahuia, and Sarah Sykes (collectively "Intervenors") have asserted that the water reservation in favor of DHHL in the Kualapu`u Aquifer is an existing legal use that is being interfered with by this proposed use. The Commission disagrees because a water reservation is not an existing legal use. Section 174C-49(d) states:

25. The commission, by rule, may reserve water in such locations and quantities and for such seasons of the year as in its judgment may be

necessary. Such reservations shall be subject to periodic review and revision in light of changed conditions; provided that all presently existing legal uses shall be protected.

26. A statute should be construed to avoid making a word superfluous. Yamaguchi v. State Farm Mutual , 706 F.2d 940 (9th Cir. 1983) . No clause, sentence, or word should be construed as superfluous, if a statutory construction can be legitimately found to give force to all words of the statute. State v. Ortiz, 74 Haw. 343, 845 P.2d 547 (1993). Words should be given their ordinary meaning and should be construed to carry out the intent of the legislature. Keliipuleole v. Wilson, 85 Haw. 217, 941 P.2d 300 (1995).

27. Section 174C-49(d), HRS, clearly provides that a reservation is subject to periodic review and may be subject to revision in light of changed conditions. Reservations are also subject to "existing legal uses." The argument that a reservation is an "existing legal use," is not supported by the statutory provision, which clearly set out the two as separate. If reservations were existing legal uses, the last proviso of section 174C-49(d) HRS would be a nullity.

28. Based on the evidence presented, the Commission concludes that there is sufficient water within the Kualapu`u Aquifer to meet the allocation and DHHL's reservation without exceeding the sustainable yield.

29. Based on the foregoing, the Commission concludes that the proposed use does not interfere with any existing legal use.

(4) The allocation is in the public interest. Section 174C-49(a)(4), HRS.

(a) Water uses and objectives that are in the public interest. Section 174C-2, HRS.

30. Section 174C-49(a)(4), HRS, requires that the proposed use be in the public interest. Section 174C-2, HRS, defines uses of water and objectives that are in the public interest. Section 174C-2, HRS, states:

> The state water code shall be liberally interpreted to obtain maximum beneficial use of the waters of the State for purposes such as domestic uses, aquaculture uses, irrigation and other agricultural uses, irrigation and other agricultural uses, power development, and commercial and industrial uses. However, adequate provision shall be made for the protection of traditional

and customary Hawaiian rights, the protection of fish and wildlife, the maintenance of proper ecological balance and scenic beauty, and the preservation and enhancement of the waters of the State for municipal uses, public recreation, public water supply, agriculture, and navigation. Such objectives are declared to be in the public interest.

31. The proposed uses include municipal recreation (beach park and golf course), domestic (residential units), commercial (hotel and golf course), and agricultural (irrigation) uses. Under section 174C-2, HRS, those uses are in the public interest.

32. Further, the State has certain public trust responsibilities over all waters of the State. See Robinson v. Ariyoshi, 65 Haw. 641, 658 P.2d 287 (1982).

33. The State has a duty to protect, control, and regulate water resources and must act with a sense of fiduciary responsibility with regard to the use of water. The State Water Code embodies the public trust responsibilities over all waters of the State. The Code mandates consideration of the large variety of public interests. The definition of "public interest" in the Code broadly encompasses the protection of the environment, traditional and customary practices of native Hawaiians, scenic beauty, protection of fish and wildlife, and protection and enhancement of the waters of the State. These values embodied in the Code encompass those values set forth in the public trust responsibilities set forth in Robinson.

34. Based on the evidence presented, particularly the minimal effect on the environment, fish and wildlife, and the waters of the State, and the conditions set forth in this proposed decision and order which the Commission believes will ameliorate any negative effects, the Commission concludes that the allocation meets the public trust principles set forth in Robinson and the Water Code.

35. Based on the evidence presented, the Commission concludes that the allocation is in the public interest.

(a) The allocation does not abridge or deny traditional and customary rights of native Hawaiians. Section 174C-49(a)(5), HRS.

36. Article XII, Section 7 of the Hawaii State Constitution provides for the protection of native Hawaiian traditional and customary gathering 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 descendants of native Hawaiians who inhabited the Hawaiian Islands prior to 1778, subject to the right of the State to regulate.

37. In Public Access Shoreline Hawai'i v. County Planning Commission, (PASH), 79 Hawai'i 425, 903 P.2d 1246 (1995), and the Hawaii Supreme Court stated:

> > The State's power to regulate the exercise of customary and traditionally exercised Hawaiian rights…necessarily allowed the State to permit development that interferes with such rights in certain circumstances…Nevertheless, the State is obligated to protect the reasonable exercise of customary and traditionally exercised rights of Hawaiians to the extent feasible.
>
> Id. at 450 n. 43, 903 P.2d at 1271 n. 43.

The PASH case dealt specifically with access to and from lands where the reasonable exercise of customary and traditional rights of Hawaiians took place. The decision and its predecessors dealt with the obligation of the State to insure that development projects do not interfere with the access to lands where these practices occur. Pele Defense Fund v. Paty, 73 Haw. 578, 837 P.2d 1247, cert.den. 507 U.S. 918, 113 S.Ct. 1277, 122 L.Ed2d 671 (1993). Kalipi v. Hawaiian Trust Company, 66 Haw. 1, 656 P.2d 745 (1982).

38. In making the determination concerning interference with these rights, governmental agencies must address three questions: (1) whether traditional and customary native Hawaiian rights are exercised in the project area; (2) the extent to which, if such rights exist, they will be affected by the proposed action; and (3) the feasible measures, if any, that should be undertaken by the agency to protect these rights, if they are found to exist.

39. Based on the evidence presented, the Commission concludes that the shoreline and nearshore area makai of the project area contain many different kinds of limu, fish, and other marine life. The Commission concludes that the Intervenors have demonstrated that traditional and customary native Hawaiian practices are exercised on the shoreline and nearshore area makai of the project area, including subsistence fishing and gathering.

40. However, the Commission also concludes that no evidence was presented that the use of water from Well 17 would adversely affect the exercise of traditional and customary native Hawaiian rights. Nor does the Commission conclude that any evidence was presented that the existing or proposed uses would adversely affect any access to the shoreline or the nearshore areas. Therefore, the Commission concludes that the allocation will not in any way diminish access for traditional and customary native Hawaiian practices in the project area, shoreline, or nearshore areas.

41. The Water Code also provides in section 174C-101, HRS, for the protection of native Hawaiian traditional and customary gathering rights. The section states in pertinent part:

> Traditional and customary rights of ahupua`a tenants who are descendants of native Hawaiians who inhabited the Hawaiian Islands prior to 1778 shall not be abridged or denied by this chapter. Such traditional and customary rights shall include, but not be limited to, the cultivation or propagation of taro on one's own kuleana and the gathering of hihiwai, opae, o`opu, limu, thatch, it leaf, abo cord, and medicinal plants for subsistence, cultural, and religious purposes.

42. Intervenors argue that the Commission also has a statutory duty under the Water Code to not permit any proposed use that abridges or denies traditional and customary native Hawaiian gathering rights. Intervenors argue that further withdrawal of ground water in the Kualapu`u Aquifer for consumptive use will reduce the amount of ground-water discharge into the nearshore area makai of the project area. Intervenors argue that the reduction of ground water will have an effect on the marine life in the nearshore area that is traditionally and customarily gathered by native Hawaiians. They argue that the reduction of marine life, if severe enough, will diminish their ability to practice traditional and customary native rights even if access is not impaired by the proposed use.

43. Potential adverse impacts of the current level of ground water pumpage on the ground water flux at the coastline in support of natural habitat should already be visible. Evidence does not show that nearshore resources are in decline, that ground water flux has changed over the course of historic pumpage, or that any such change should be considered anything more than one of a number of potentially causative factors if the biological resources do indeed decline.

44. Based on the evidence presented, the Commission concludes that the proposed use will have no measurable adverse impact on the limu, fish and

other marine species traditionally and customarily gathered and consumed by native Hawaiians.

45. Even though the Commission concludes that the impacts are minimal and the proposed use is in the public interest, the Commission believes that it has a legal mandate to protect the reasonable exercise of traditional and customary native Hawaiian practices. Because the project may have an impact, albeit minimal, on the traditional and customary native Hawaiian practices, the Commission imposes as a condition of this permit, that should there be changed conditions that impact traditional and customary native Hawaiian practices, any party may petition the Commission or the Commission on its own motion, may order a show cause hearing why the allocation in this case should not be reduced.

46. Therefore based on the evidence presented, the Commission concludes that the allocation set forth in this decision and order does not abridge or deny traditional or customary native Hawaiian rights, customs, practices, or appurtenant water rights, or any other rights referred to or protected by Part IX of the state Water Code, the common law, or the Constitution of the State of Hawaii.

(5) The allocation set forth in the decision and order is consistent with state and county general plans, land use designations, plans and policies. Section 174C-49(a)(5) and (6), HRS.

47. Section 174C-49(a)(5), HRS, requires that the proposed use be consistent with State and county general plans and land use designations. Section 174C-49(a)(6), HRS, requires that the proposed use be consistent with county land use plans and policies.

48. Based on the evidence presented, the Commission concludes that the allocated existing and proposed uses are consistent with State and county general plan, land use designations, plans and policies. They are referenced in Exhibit 1 "Calculation for Kaluako`i Resort and Kualapu`u Town" of this decision.

(6) The allocation does not interfere with the rights of the department of Hawaiian home lands as provided in section 221 of the Hawaiian homes commission act. Section 174C-49(a)(7), HRS.

49. Section 174C-49(a)(7), HRS, requires that the proposed use not interfere with the rights of DHHL as provided in section 221 of the Hawaiian Homes Commission Act.

50. DHHL has asserted that the proposed use will interfere with its existing well located in Kualapu`u because the increased pumping caused by the proposed use will significantly impact the DHHL well. Based on the evidence presented, the Commission concludes that the allocation does not interfere with the rights of DHHL as provided in section 221 of the Hawaiian Homes Commission Act.

51. Finally, DHHL asserts that continuing the existing and permitting the proposed uses would make it impossible for DHHL to utilize its full allocation in Kualapu`u by increasing the chloride concentration levels. There was no conclusive evidence presented that the proposed pumpage in Well 17 alone would increase the chloride concentration to unacceptable levels at the DHHL wells.

52. Based on the evidence presented, the Commission concludes that there is sufficient water available to accommodate DHHL's water reservation and the proposed allocation to KMI without exceeding the sustainable yield for the Kualapu'u aquifer.

53. Therefore, based on the evidence presented, the Commission concludes that the allocation does not interfere with the rights of DHHL as provided in section 221 of the Hawaiian Homes Commission Act.

E. Compliance with Law

54. The Commission will retain jurisdiction over this water use permit. If there are significant or unexpected increases in chlorides or drawdowns in the two DHHL wells, the DWS well, or KMI's Well 17, substantially in excess of what they were on the effective date of designation, any party may petition the Commission, or the Commission may on its own motion, order a show cause hearing as to why the permitted amounts of withdrawal of water should not be reduced along with lawful and equitable reductions in pumpage from other wells in the Kualapu`u Aquifer.

55. The provisions of chapter 91, HRS, and chapter 13-167, subchapter 4, HAR, pertaining to contested case hearings, have been fully complied with in this proceeding.

56. Based on the evidence and testimony, and the files and records of this case, the Commission concludes that the Applicant has met its overall burden of proof and the Commission concludes the weight of the evidence supports the issuance of a water use permit, as set forth in this Decision and Order.

57. If any statement denominated a conclusion of law is more properly considered a finding of fact, then it should be treated as a finding of fact. Conversely, if any statement denominated a finding of fact is more properly considered a conclusion of law, then it should be treated as a conclusion of law.

VI. DECISION AND ORDER

A. Pursuant to § 174C-50, HRS, concerning existing uses, the Commission approves the issuance of a water use permit to Kukui (Moloka`i), Inc. ("KMI") for the withdrawal and reasonable-beneficial use of 936,000 gpd (as listed in Exhibit 1, "Calculation for Kaluako`i Resort and Kualapu`u Town") from Kalualohe Well ("Well #17", Well No. 0901-01). The allocations listed in Column #4 of Exhibit 1 are not a water "budget" for each of the water uses listed but, instead, the calculations used to determine the 12-month moving average (12-MAV) as of July, 1992 which shall be the amount permitted. KMI shall be given flexibility in the operation of its water system subject to its 12-MAV allocation. This water use permit is subject to "Standard Water Use Permit Conditions" (Attachment C).

B. Pursuant to § 174C-49(a), HRS, concerning proposed uses, the Commission approves the issuance of a water use permit to KMI for the withdrawal and reasonable-beneficial use of 82,000 gpd (as listed in Exhibit 1, "Calculation for Kaluako`i Resort and Kualapu`u Town") from Kalualohe Well ("Well #17", Well No. 0901-01). The amounts listed in Column #5 of Exhibit 1 are not a water "budget" but, instead, the calculations used to determine the proposed allocations of water that may be reasonably and beneficially used at Kualapu`u Town; KMI's resort units, residential lots, and golf course; and for the collateral system usage fees required by the Molokai Irrigation System and the line and evaporative losses that are attendant to KMI's current water system. This permit is subject to "Standard Water Use Permit Conditions" (Attachment C).

C. Because the sustainable yield of the Kualapu'u Aquifer system is close to full allocation, the issuance of both permits is subject to the following special conditions:

1 If there are significant or unexpected increases in chlorides or drawdowns in the two DHHL wells, the DWS well, or KMI's Well 17, substantially in excess of what they were on the effective date of designation, any party may petition the Commission, or the Commission may on its own motion, order a show cause hearing as to why the permitted amounts of withdrawal of water should not be reduced along with lawful and equitable reductions in pumpage from other wells in the Kualapu`u Aquifer.

2 The approximately 100,000 gpd of water used to clean the filters through back washing near the Moana Makani subdivision are to be metered, recaptured, and used for irrigation of the golf course or for other outdoor uses. A flow meter, approved by the Chairperson, shall be installed to measure the back wash water used to clean the filters. The flow meter shall be operational within 90 days of the issuance of the aforementioned

permits. Meter readings are to be taken monthly and made available to the Commission upon request. If and when the back-washing system is no longer needed, that amount of water may be used to blend with non-potable alternative sources for the resort's other non-potable applications and uses.

3 Meters are to be installed within 90 days of the issuance of the aforementioned permits (a) to measure the amount of non-potable sewage effluent going into the golf course irrigation lake; and (b) to measure the amount of non-potable water withdrawn from the golf course irrigation lake for irrigation of Holes 2 through 6 of the golf course. Meter readings are to be taken monthly and made available to the Commission at their request.

4 Within six-months of the date of issuance of the aforementioned permits, KMI will prepare and present to the Commission a report on the affirmative steps it is taking to control leakage and evaporation from the KMI water system. This report need not include leakage or evaporative losses incurred as KMI's permitted water passes through the Molokai Irrigation System.

5 Within twenty-four months of the date of issuance of the aforementioned permits, KMI will prepare and present to the Commission a feasibility study on the development of a new source of nonpotable water near Mahana which can be blended to irrigate the golf course.

6 Through xeriscaping, low-flow fixtures, water-blending, and other similar practices, Kukui (Moloka`i), Inc., or its successors or assigns, will make every reasonable effort to encourage and practice the conservation of potable and non-potable water at its hotel and resort condominium operations lots and at private residences that are users of water pumped from Well #17. KMI will submit a written report to the Commission, within six months of the date of issuance of the aforementioned permits, on the progress of compliance with the terms of this condition.

7 KMI will prepare and distribute a memorandum to all lot and condominium owners notifying them of the need to practice conservation of potable and non-potable waters. A copy of the memorandum shall be sent to the Commission.

8 If and when KMI is able to establish its own potable water delivery system from Well 17 to the Kaluakoi Hotel, resort condominiums, and residential

lots, the amounts permitted as "MIS System User Charges" (Columns #4 and #5, Exhibit 1) will be rescinded.

D. Action on Outstanding Motion

MOTION: INTERVENORS SYKES, CAPARIDA AND KUAHUIA'S MOTION FOR REOPENING OF RECORD AND CONTINUANCE OF ARGUMENT ON EXCEPTIONS TO HEARING OFFICER'S PROPOSED DECISION AND ORDER (received by mail on 10/18/01).

ACTION: On October 15, 2001 (received by facsimile), Intervenors Sykes, Caparida, and Kuahuia moved for: (1) a reopening of the record in this docket to receive recent material information on the water uses being made by Applicant Kukui Molokai, Inc.; and (2) a continuance of the October 17, 2001 hearing until this information can be incorporated by the parties in their arguments for the Commission's consideration of the new data.

On October 15, 2001, the Chairperson and presiding officer, Gilbert Coloma-Agaran, scheduled the motion as a non-hearing motion and provided the parties the following schedule:

1. Memorandum in Opposition must be filed and served no later than Tuesday, October 23, 2001.
2. Response to Memorandum in Opposition must be filed and served no later than Friday, October 26, 2001.

On October 23, 2001, KMI filed a memorandum in opposition to the motion.

On October 26, 2001, based on Alan Murakami's phone call representing that KMI had no objection to his request for an extension, the deadline to file responses to the memorandum in opposition was extended to October 30, 2001.

On October 30, 2001, Intervenors Caparida and Kuahuia filed responses to KMI's Memorandum in Opposition.

On November 2, 2001, Intervenor Sykes filed a further memorandum in support of her motion.

After consideration of the legal arguments made, evidence submitted by the parties, and based upon the record as a whole, the Commission denies the motion pursuant to HAR 13-167-59.

EXHIBIT 1

Calculation for Kaluako`i Resort and Kualapu`u Town

Water Use	*Reported gd, July '92*	*Recommended Standard*	*Allocation Existing*	*(New)*	*Total*
Kaluako`i Hotel (148 units) 18 acres	64,000[1]	350 gd/unit[2], 60% occupancy[3] 2000 gd/ac[4]	64,000[5]	3,000[5]	67,000[5]
Resort Condos[6] (341 units) 35.5 acres	158,000[7]	560 gd/unit[8], 60% occupancy[3] 2000 gd/ac[4]	158,000	28,000[9]	186,000[9]
Residential lots[10]	141,000[11]	1000 gd/unit[12], 29 ex'tg[13], 22 new[14]; 51 units total[14]	29,000[15]	22,000[16]	51,000
Golf Course (118 acres turf)	379,000[17]	testimony (see FOF 60), comparables[18] see also[19]	379,000	21,000	400,000[18]
Beach Park	26,000[17]	current use	26,000	0	26,000
Nursery	18,000[17]	current use	18,000	0	18,000
Filter Backwash	100,000	consultant estimated average (see FOF 52)	100,000[19]	0	100,000
Moloka`i Ranch	49,000[20]	(connections closed)	0	0	0
System loss	109,000[21]	0[22]	0	0	0
Kaluako`i Total	**1,044,000[23]**		**774,000**	**74,000**	**848,000**
MIS System Use Charge	124,000[24]	10% by contractual arrangement[25]	86,000[25]	8,000[25]	94,000[25]
Kualapu`u Town (167 units)	76,000[17]	current use	76,000	0	76,000
Total	1,244,000[26]		**936,000[27]**	**82,000[27]**	**1,018,000[27]**

I. EXHIBIT 1 NOTES

1. Kaluakoi Hotel and West Molokai Resort condominiums (also called Kaluakoi Villas) have a common meter (see FOF 53.a.) That metered amount, "existing" as of the designation date, is listed under "HOTEL" in exhibit A-31 as 47.7 mg/year, or 0.131 mgd = 131,000 gallons per day. To separate the hotel use from the condominium use, the amount estimated for Kaluakoi Villas (67,000, see note 7) is subtracted from the "HOTEL" total. Actual hotel use therefore is 131,000 minus 67,000 (rounded) = 64,000.

2. 350 gd/unit based on Exhibit A-44, Table 15, DOMESTIC CONSUMPTION GUIDELINE, for RESORT, MAUI.

3. 60% selected as a reasonable occupancy estimate based on a range of 38 to 71% (see FOF 55).

4. The standard used for irrigation of the common areas of the Kaluakoi Hotel and Resort Condos is estimated two ways: 1) using Oahu parks estimate of 4,000 gd/ac (see Exhibit A-44, Table 15) and Honolulu BWS average estimated xeriscaping savings of 50% (50% of 4,000 = 2,000 gd/ac); or 2) using Maui parks estimate of 1,700 gd/ac (see Exhibit A-44, Table 15), rounded to 2,000 gd/ac.

5. The allocation for Kaluakoi Hotel combines the recommended standard of water use per unit (350 gd/unit), at 60% occupancy, with an allowance for xeriscape landscaping (2,000 gd/ac):

   148 units * 60% occupancy = 88.8, rounded to 89 units.
   89 units * 350 gd/unit = 31,150 gd, rounded to 31,000.

   18 acres * 2,000 gd/ac = 36,000 gd

   The combined total allocation: 31,000 + 36,000 = 67,000 gd

   Of the combined total allocation, if 64,000 gd is considered as existing use (see Note 1, the estimated amount of use as of July '92), then 3,000 gd can be considered as new use, for a total of 67,000 gd.

6. The "Resort Condos" consist of the Kaluakoi Villas – 144 units (part of Kaluakoi Hotel meter, see Note 1), the Kenani Kai condos – 120 units, and Paniola Hale – 77 units (see FOF 61 to 63), for a total of 341 units.

7. Kenani Kai (120 units) and Paniolo Hale (77 units) used 33.2 mg/year or 0.091 mgd, listed under "CONDOS" in Exhibit A-31. The use per unit (0.091 mgd/197 total units) = 462 gallons per unit per day. The amount of water used by Kaluakoi Villas was estimated by multiplying the number of units (144) by 462 gallons per unit per day (462 * 144 = 66,528 or 67,000 rounded). The total use of the three (3) condos is estimated by adding the Kaluakoi Villas estimate (67,000) with the metered amount (0.091) from Kenani Kai and Paniola Hale. The estimated use from the three condos is therefore 91,000 plus 67,000 (rounded) = 158,000.

8. 560 gd/unit based on Exhibit A-44, Table 15, DOMESTIC CONSUMPTION GUIDELINE, for RESIDENTIAL, Multi-Family Low Rise, MAUI.

9. The allocation for Resort Condos combines the recommended standard of water use per unit (560 gd/unit), at 60% occupancy, with an allowance for xeriscape landscaping (2,000 gd/ac):

   341 units * 60% occupancy = 204.6, rounded to 205 units.
   205 units * 560 gd/unit = 114,800 gd, rounded to 115,000.

   35.5 acres * 2,000 gd/ac = 71,000 gd

   The combined total allocation: 115,000 + 71,000 = 186,000 gd

   Of the combined total allocation, 158,000 gd can be considered as existing use (the estimated amount of use as of July '92), and 28,000 gd can be considered as new use, for a total of 186,000 gd.

10. The "Residential lots" consist of Papohaku Ranchlands – 252 lots, Moana Makani – 30 lots, and Molokai Fairways – 16 lots (see FOF 61 to 63).

11. Papohaku Ranchlands had a metered use, in June 1992, of 50.2 mg/year, or 138,000 gd, for the 26 existing residences. 138,000gd/26 residences = 5308 gd/residence. Moana Makani had a metered use, in June 1992, of 1.2 mg/year, or 3,000 gd, for 3 residences. 3000 gd/3 residences = 1,000 gd/residence. Total metered use for the two subdivisions: 138,000 plus 3,000 = 141,000 gd.

12. Maui County's standard for residential, single family or duplex, is 600 gd/unit or 3,000 gallons per acre, based on Exhibit A-44, Table 15, DOMESTIC CONSUMPTION GUIDELINE, for RESIDENTIAL, Single Family or Duplex, MAUI. Commission staff has considered as "reasonable-beneficial use", 1,000 gd/unit based on actual use in neighboring homestead areas on Molokai. The 1,000 gd/unit reflects "larger lot sizes, larger household sizes, and a larger range of beneficial uses" (see Exhibit A-50, STAFF SUBMITTAL for the Public

Hearing, COMMISSION ON WATER RESOURCE MANAGEMENT, January 28, 1998, Kaunakakai, Molokai, p.3). KMI has requested "in the alternative" that the Commission "grant an allocation of water for the residential subdivisions based upon the Commission staff's recommended standard of 1,000 gpd per unit for the similarly situated DHHL lots" (see EXCEPTIONS TO THE HEARING OFFICER'S PROPOSED FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION AND ORDER, Dated July 31, 2000, pp. 10, 11).

13. As of June 1992, there were twenty-six (26) existing residences for Papohaku Ranchlands and three (3) existing residences for Moana Makani, for a total of twenty-nine (29) existing residences (see FOF 65).

14. By December 1998, Papohaku Ranchlands had a total of thirty-two (32) residences: the twenty-six (26) "existing" ones and six (6) "new" residences. Moana Makani had six (6) total residences: the three (3) "existing" ones and three (3) "new" ones. KMI earlier stipulated that there were only five (5) residences in the Moana Makani subdivision, so two (2) will be considered as "new" uses. Molokai Fairways had a total of four (4) residences, all "new" uses (see FOF 66). Also by December 1998, there were at least four (4) lots in Papohaku Ranchlands, without any residences built, but which were being irrigated for landscaping purposes, and were metered, and at least six (6) lots with residences under construction and metered (**see FOF 72**). To summarize, as of December 1998, there were twenty-nine (29) "existing" uses, and twenty-two (22) "new" uses (including the ten (10) metered uses without residences or with residences being built), for a total of fifty-one (51) uses.

15. Twenty-nine (29) existing units times 600 gd/unit: 29 units * 600 gd/unit = 17,400 rounded to 17,000 gd.

16. Twenty-two new units times 600 gd/unit: 22 units * 600 gd/unit = 13,200 rounded to 13,000 gd.

17. Metered amount rounded to nearest 1,000 gallons.

18. Park standard, Oahu: 4,000 gd/ac; Maui: 1,700 gd/ac (Exhibit A-44, Table 15); Makaha golf courses: 3,170 & 2,463 gd/ac; Kukui allocation: 3390 gd/ac. 3390 gd/ac * 118 ac = 400,020 rounded to 400,000 gd (**see FOF 61)**.

19. The filter backwash is recycled to golf course.

20. Estimated. No longer used as of October 1, 1998 (see FOF 46).

21. System loss is an estimate which includes: 1) unaccounted losses between the amount of water pumped from Well 17 and the amount of water withdrawn and measured at Mahana, indicated as "DIFFERENCE" (9.4 mg/year or 26,000 gd) on Exhibit A-31; and 2) EVAPORATION & LINE LOSSES (30.6 mg/year or 84,000 gd) on Exhibit A-31. System loss = 26,000 plus 84,000 = 109,000 gd.

22. Recommended Standard for System loss is zero (0) in this particular case. The "Recommended Standard" for all but the Beach Park and Nursery are estimates based on standard duties developed for planning purposes. Losses are included in the development of the standard duties.

23. "METER READINGS-MAHANA" from Exhibit A-31. 381.0 mg/year = 1,043,836 rounded to 1,044,000 gd.

24. "10% TO MIS" from Exhibit A-31. The "10% TO MIS" in Exhibit A-31 is listed as 45.4, which is 10% of the "WELL 17 TOTALS" of 454.1, for the year ending June 1992. The "10% TO MIS" or "MIS System Use Charge" should more accurately be stated as 10% of the amount of water pumped from Well 17 (p) minus the amount of water supplied to Kualapuu Town (k), or 0.1 * (p - k), or 0.1 * (454.1 - 27.7) = 0.1 * 426.4 mg/year. 426.4 mg/year = 1.168 mgd * 0.1 = 116,822 rounded to 117,000 gd. **(see FOF 40).**

25. The "MIS System Use Charge"for the allocation amounts is calculated as follows:

    10% contribution to MIS for system losses = 0.1 * (p – k). Where: p = amount of water pumped from Well 17 (metered); k = amount of water supplied to Kualapuu community (metered) **(see FOF 40).**

26. "WELL 17 TOTALS" (metered) from Exhibit A-31. 454.1 mg/year = 1,244,109 rounded to 1,244,000 gd.

27. Calculated amount of water pumped from Well 17: p - k = w * 1.11 1/9. Where: p = amount of water pumped from Well 17 (metered); k = amount of water supplied to Kualapuu community (metered); and w = amount of water withdrawn by KMI from MIS at Mahana (metered).