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COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII

Surface Water Use Permit Applications, Integration of Appurtenant Rights and Amendments to the Interim Instream Flow Standards, Na Wai Eha Surface Water Management Areas of Waihee, Waiehi, Iao and Waikapu Streams, Maui	)	Case No. CCH-MA-15-01 HAWAIIAN COMMERCIAL AND SUGAR COMPANY'S PROPOSED FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION & ORDER; CERTIFICATE OF SERVICE

HAWAIIAN COMMERCIAL AND SUGAR COMPANY'S
PROPOSED FINDINGS OF FACT, CONCLUSIONS OF LAW,
AND DECISION & ORDER

HAWAIIAN COMMERCIAL AND SUGAR, through its counsel, Morihara Lau & Fong, LLP, submits its Proposed Findings of Fact, Conclusions of Law, and Decision & Order in the above-captioned proceeding in accordance with Minute Order Nos. 9 and 11.

DATED: Honolulu, Hawai`i, February 17, 2017.

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PROPOSED FINDINGS OF FACT, CONCLUSIONS OF LAW,
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FINDINGS OF FACT

Procedural Facts

1. The surface water hydrologic units of Na Wai Eha (Waihee, Waiehu, Iao and Waikapu) were designated as surface water management areas as of April 30, 2008.

2. On April 22, 2009, Hawaiian Commercial and Sugar ("HC&S") timely filed (1) an application for an existing surface water use permit for 36.29 mgd of Na Wai Eha surface water supplied via the Waiale Reservoir for continued agricultural use on the Waihee-Hopoi Fields (SWUPA 2206) and (2) an application for an existing surface water use permit for 10.58 mgd of Na Wai Eha surface water supplied through Wailuku Water Company for continued agricultural use on leased lands designated as the Iao-Waikapu Fields (SWUPA 2205).

3. Processing the SWUPAs was held in abeyance pending the establishment of the interim instream flow standards ("IIFS") for the waters of Na Wai Eha and a determination of appurtenant rights.

4. On June 10, 2010, the Commission on Water Resource Management ("Commission") issued Findings of Fact, Conclusions of Law, and Decision and Order in CCH-MA06-01 ("2010 D&O"), establishing IIFS for the waters of Na Wai Eha. The 2010 D&O was appealed and the Hawai`i Supreme Court remanded the case to the Commission for further proceedings. *In re Iao Ground Water Management Area High-Level Source Water Use Permit Applications*, 128 Hawai`i 228, 287 P. 3d 129 (2012).

5. On remand, the parties to the IIFS contested case entered into a Stipulation Re Mediator's Report of Joint Proposed Findings of Fact, Conclusions of Law, Decision and Order ("Mediated Agreement") and the Hearing Officer recommended to the Commission adoption of the Mediation Agreement. By Order dated April 17, 2014, the Commission approved the Mediated Agreement, establishing IIFS for the Na Wai Eha streams.

6. On February 5, 2016, HC&S filed its opening brief and direct witness statements in support of SWUPA 2205 and SWUPA 2206.[1] Because of

[1] Throughout the contested case proceedings, HC&S mistakenly referred to its application for Na Wai Eha surface water for irrigation for the Waihee-Hopoi Fields as SWUPA 2205 and its application for the Iao-Waikapu Fields as SWUPA 2206, when it should have been the other way around. On

changed circumstances between the initial submission of SWUPA 2205 and SWUPA 2206 and the filing of its opening briefs and witness statements, HC&S modified its allocation request to 19.48 mgd (12-MAV) for the Waihee-Hopoi Fields and 4.84 mgd (12-MAV) for the Iao-Waikapu Fields. The request for 19.48 mgd for the Waihee-Hopoi Fields included an allocation of 17.33 mgd for agricultural irrigation and 2.15 mgd for system losses for those portions of the West Maui Ditch System that are operated and controlled by HC&S. Written Direct Witness Statement of Rick W. Volner, Jr. ("Volner WDS") at 1; Written Direct Witness Statement of Garret Hew ("Hew WDS") at 1.

7. A reply brief and reply witness statements in support of its application for irrigation water for the Waihee-Hopoi Fields were filed by HC&S on May 31, 2016

8. On July 25, 2016, HC&S gave notice that it will not pursue a surface water use permit for the Iao-Waikapu Fields because HC&S has decided that it will not continue to lease the lands. HC&S stated that Waikapu Properties, LLC, the owner of the Iao-Waikapu Fields will continue to pursue SWUPA 2205[2] in place of HC&S.

Background

9. HC&S had been engaged in sugar cultivation on Maui from 1870 through the end of 2016, when sugar cane cultivation ceased. Volner WDS at 2.

10. HC&S is committed to keeping its lands in agriculture by transitioning its sugar lands to diversified agriculture. HC&S's diversified agriculture plan envisions a patchwork of various agricultural uses over its 35,000 acres, including, but not necessarily limited to, vegetable and fruit crops, orchards, animal husbandry, feed and forage, and mechanically harvested row crops, including bioenergy crops. Diversification across the entire plantation includes livestock, both irrigated and unirrigated pasture, development of agricultural parks, larger scale truck farming for vegetable and fruit-type crops, orchard crops, and possibly tree-based oil crops, depending upon what the landscape can support. Volner WDS at 2; Reply Witness Statement of Rick W. Volner, Jr. ("Volner RWS"), Volner, Transcript ("Tr.") Vol. 8 at 201-202.

11. In developing is diversified agriculture plan, HC&S is keenly aware, from the experience of the closure of other sugar plantations, of the challenge of finding enough farmers with the interest, experience, and capital to

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February 3, 2017, HC&S filed a Correction of SWUPA Numbers requesting official notice of the inadvertent switch in SWUPA numbers.

[2] In its July 25, 2016 filing, HC&S mistakenly referred to SWUPA 2206. See footnote 1, above.

productively utilize approximately 35,000 acres of sugar lands in Central Maui. While the popular interest is in growing edible foods, HC&S does not believe that there will be enough farmers, local market demand or appropriate agronomic conditions to convert all 35,000 acres to the cultivation of edible foods. Volner RWS at 1.

12. Whereas HC&S itself cultivated and processed the sugar cane on its lands, under the diversified agriculture model, HC&S may farm some of the lands itself, but may also lease some of its lands to other farmers and/or partner with others on different agricultural pursuits. Volner WDS at 2.

13. Whereas HC&S's diversified agriculture plans for some of the approximately 35,000 acres of HC&S's sugar lands in Central Maui are premature, HC&S's plan for the 3,650 acres of the Waihee-Hopoi Fields is further along than plans for much of the other sugar lands. The reason is two-fold: (1) because of the large expanse of relatively flat and rock-free terrain, the Waihee-Hopoi Fields have been identified as the fields most suitable for growing bioenergy crops, which would be mechanically planted and harvested, and (2) HC&S plans to cultivate these bioenergy crops itself rather than try to identify someone else who will do it. Volner RWS at 2-3; Volner, Tr. Vol. 8 at 159-160, 189.

14. HC&S's plans to cultivate bioenergy crops on the 3,650 acres that comprise the Waihee-Hopoi Fields. "Bioenergy crops" include a variety of crops that can support biogas or biofuel production, including, but not limited to, fuel for jets, marine and land vehicles, and to generate electricity. These bioenergy crops may include, but are not limited to, annual seed crops, such as soybean, safflower, sunflower and canola; perennial oil bearing trees, such as jatropha, kukui and pongamia; and tropical grasses, such as energy canes, banagrass, sorghum, hemp and new hybridized perennial tropical grasses. Volner WDS at 2; Volner, Tr. Vol. 8 at 160.

15. The transition from sugar cane to bioenergy crops has several advantages. Because of the similarities between sugar cane and bioenergy crops, HC&S may be able to take advantage of existing infrastructure and equipment and adapt management practices (e.g., integrated pest management) to new crops). Volner RWS at 3.

16. HC&S plans to have a mix of bioenergy crops that will be rotated over the course of a few seasons. The primary focus for the Waihee-Hopoi Fields will be on tropical grasses to take advantage of the large expanse of contiguous, relatively flat fields that are conducive to the efficient planting and harvesting of these types of crops. The bioenergy crop most likely to initially replace sugar cane in the Waihee-Hopoi Fields is sorghum, which is in the same family as sugar cane. Sorghum was selected as an initial "anchor" crop because of the experience gained in the Department of Defense study and,

because it is a fast-growing perennial that can be harvested multiple times, HC&S has been able to engage in multiple trials and gain more experience with the crop. Volner WDS at 3; Volner RWS at 3; Volner, Tr. Vol. 8 at 188-191.

17. In 2010, HC&S was included in a five-year, $10 million study with the Department of Defense ("DoD") to study biofuel production. As part of this work, HC&S participated in crop and harvest trials of different varieties of energy crops and also participated in anaerobic digestion yield testing on a 6-acre plot, gaining some preliminary experience with the requirements, including water requirements and irrigation practices, for growing some of these energy crops. Sorghum was one of the crops included in the DoD study of biofuel production. Volner WDS at 3; Volner RWS at 3.

18. HC&S states that further research and testing is necessary for growing these energy crops on a large scale in Central Maui. HC&S has been capturing cost data, testing farming methods at scale, and refining the economic model based on a 50-acre trial field. Testing on larger acreages allows HC&S to better understand actual yields, inputs costs and the market for bioenergy crops. Volner WDS at 3; Volner, Tr. Vol. 8 at 175-176.

19. In mid-2016, HC&S planted an additional 200 acres in the Waihee-Hopoi Fields, including approximately 150 acres in sorghum and 25-30 acres of various oil seed crops, to validate bioenergy crop density, irrigation layout, per-acre yield in different soil types, water demand, and field-scale costs. HC&S states that the results will be critical to analyzing the economic viability of different energy crops on HC&S lands. Volner WDS at 3; Volner RWS at 3; Volner, Tr. Vol. 8 at 177-179.

20. Sugarcane was a two-year crop, meaning that it was planted and harvested on a two-year cycle. The energy crops that HC&S plans to cultivate mature in a much shorter period of 60 to 105 days, thus harvesting operations will occur more often. Multiple harvests from a single planting are possible with some crops, such as sorghum, but other crops are truly annual crops, providing only one harvest per planting. Volner, Tr. Vol. 8 at 160-161.

21. Sorghum ratoons, and, therefore, multiple harvests are possible without the need for replanting. In mid-2016, one of the sorghum trial plots was in its fourth harvest cycle and plant populations had continued at productive levels over the multiple harvests. Sorghum matures in three to four months, yielding up to four harvests per year. Yields, however, appear to decrease during the shorter day length period from November through February, and, therefore, HC&S is looking for varieties that will yield better during the fall and winter period. Volner RWS at 3.

22. In addition to sorghum trials, HC&S is also working on cover crops with mixtures including tillage radish, clovers, mung beans, rye grass, turnip, buckwheat, and sunn hemp, where appropriate. The focus is to increase soil organic matter, improve soil tilth and water holding capacity, and increase beneficial insect populations to reduce the need for pesticide spraying. At any one time, approximately ten percent of the Waihee-Hopoi Fields will be in cover crops. Cover crops will be utilized as borders around the fields of bioenergy crops. Also, after completion of bioenergy crops cycles lasting multiple years, the entire field will be planted in cover crops to protect against erosion and replenish the soil. Cover crops are expected to be planted in the entire field for approximately a three-month period as part of a three-year crop rotation cycle to minimize pests, control weeds, improve soil health and reduce tillage requirements. Volner RWS at 4; Volner, Tr. Vol. 8 at 161.

23. HC&S would not let the Waihee-Hopoi Fields lay fallow in the sense that there would be nothing planted for a period of time. The Waihee-Hopoi Fields are subject to very high winds; without cover crops, soil erosion would be a serious problem. Volner, Tr. Vol. 8 at 161

Existing Use on the Date of Designation

24. HC&S had been continuously cultivating sugar cane on the Waihee-Hopoi Fields for more than a century. Na Wai Eha surface water was reasonably-beneficially being used to cultivate sugar cane on approximately 3,650 acres within the Waihee-Hopoi Fields on the date of designation of Na Wai Eha as a surface water management area, April 30, 2008. (2014 FOF #44; 2014 COL #12)[3]; Volner WDS at 1.

25. In January 2016, HC&S announced that it would cease sugar cultivation by the end of 2016 and would use its agricultural lands for a variety of other agricultural pursuits. Volner WDS at 2.

26. The new agricultural activities on the Waihee-Hopoi Fields require Na Wai Eha surface water for irrigation purposes; however, the amount of irrigation water required will be less than what was required and used for sugar cane cultivation. Volner WDS at 2.

[3] References to Findings of Fact and Conclusions of Law within the Commission's Order Adopting 1) Hearings Officer's Recommendation on the Mediated Agreement Between the Parties; and 2) Stipulation Re Mediator's Report of Joint Proposed Findings of Fact, Conclusions of Law, Decision and Order in CCH-MA06-01, dated April 17, 2014, shall be cited as "2014 FOF #__" and 2014 COL #__", respectively.

Reasonable-Beneficial Use

Water Duty for Bioenergy Crops

27. Based on a preliminary assessment arising out of the DoD study, estimated water requirements for bioenergy tropical grasses, such as energy canes and banagrass, are approximately 80% to 85% of the water requirement for conventional, biannually-harvested sugarcane. Volner WDS at 3-4.

28. In the Na Wai Eha IIFS proceedings, the Commission found that HC&S's reasonable daily water use requirements for sugar cane cultivation (for sugar production) on the Waihee-Hopoi Fields was 21.75 mgd (2014 FOF #45) based on a water duty of 5958 gad. (2010 COL #92)[4] Using that as the benchmark, and applying the data from the DoD study, the reasonable water duty for bioenergy tropical grasses is between 4776 gad and 5064 gad. Volner WDS at 4.

29. HC&S requested an irrigation allocation based on the lower (80%) water duty of 4776 gad to be applied over the 3650 acres of the Waihee-Hopoi Fields, or 17.43 mgd. Volner WDS at 4.

30. Because of higher than normal rainfall during 2016, HC&S has been unable to conduct appropriate irrigation trials to accurately determine the actual water duty for sorghum. Volner RWS at 3.

31. The water duty for bioenergy crops, which would be grown year-round, is higher than for large scale diversified agriculture which involves crop rotation and long periods of fallowing. Volner RWS at 2.

32. Sorghum is a year-round crop; land is not fallowed from one crop to the next, and, therefore, the 2500 gad water duty applied to some diversified agriculture operations in the Waiahole Ditch case is inapplicable to the bioenergy crops planned for the Waihee-Hopoi Fields. Volner RWS at 3-4.

33. Given the similarities between sorghum and sugar cane and how they are cultivated, a water duty of 80% of the water duty for sugar cane in the same fields is reasonable. Volner RWS at 4.

34. After completion of bioenergy crop cycles lasting multiple years, the entire field will be planted in cover crops to protect against erosion and replenish the soil. Whether in bioenergy crops or cover crops, the Waihee-Hopoi Fields will always be planted and require year-round irrigation. Because the lands will not be fallowed, the 2500 gad water duty applied for some diversified

[4] References to Findings of Fact and Conclusions of Law within the Commission's Findings of Fact, Conclusions of Law, Decision and Order in CCH-MA06-01, dated June 10, 2010, shall be cited as "2010 FOF #__" and "2010 COL #__", respectively.

agriculture operations in the Waiahole Ditch case is inappropriate for HC&S's use of the Waihee-Hopoi Fields. Volner RWS at 4-5.

35. Energy crops grown on the Waihee-Hopoi Fields will be irrigated primarily through the use of drip irrigation, which is the most efficient and cost effective method to apply irrigation and fertigation to crops. In limited cases, micro sprinklers or overhead sprinklers may be used to initiate germination of certain crops, including cover crops. Volner WDS at 4.

System Losses

36. The portions of the West Maui Ditch System that are owned and controlled by HC&S includes approximately 10.51 miles of open, lined and unlined ditches and pipelines and two reservoirs. Hew WDS at 1; Hew, Tr. Vol. 8 at 99-100.

37. Evidence presented in the 2010 IIFS contested case included HC&S's estimate that it loses 6-8 mgd through seepage from Waiale Reservoir, depending on the level of the reservoir, and 3 to 4 mgd from seepage throughout the rest of its ditch and reservoir system. 2010 FOF # 122.

38. To spur HC&S to "aggressively address significant system losses" (2010 Decision and Order at p. 187), the Commission limited HC&S's reasonable system losses to 2.0 mgd "for purposes of the restoration of stream flows under an amended IIFS." 2014 COL # 16.

39. In response to the Hawai`i Supreme Court's instruction that the Commission determine the reasonableness of HC&S's system losses, on remand, HC&S presented evidence that HC&S's expected system losses, excluding Waiale Reservoirs, could range from 2.15 to 4.20 mgd, applying expected seepage rates obtained from the National Engineering Handbook published by the Soil Conservation Service of the United States Department of Agriculture, and an average daily evaporation rate of 0.40 inches. 2014 FOF #52; Hew WDS at 1.

40. In its 2014 Decision and Order, the Commission reaffirmed its conclusion that limited HC&S's system losses to 2.0 mgd "for purposes of restoration of stream flows under the amended IIFS." The Commission stated that "[t]his is without prejudice, however, to the rights of any party and of the Commission to revisit the issue in the context of any proceeding involving a WUPA by HC&S, in which proceeding HC&S will have the burden of justifying its water use in general, including its rate of system losses. 2014 COL # 16.

41. HC&S's request for 2.15 mgd of system losses is based on calculations for seepage rates using the National Engineering Handbook, which is published by the Soil Conservation Service of the US Department of Agriculture

("SCS-USDA"), plus an average daily evaporation rate of 0.40 acre-inches. Hew WDS at 1-2; Hew, Tr. Vol. 8 at 101, 109-113.

42. Based on these calculations, the combined losses for seepage and evaporation for HC&S's ditch and reservoir system, excluding the Waiale Reservoirs, ranges from 2.15 to 4.20 mgd. 2014 FOF #52; Hew WDS at 2; Reply Witness Statement of Garret Hew ("Hew RWS") at 1; Hew, Tr. Vol. 8 at 101.

43. The SCS-USDA National Engineering Handbook is an appropriate guide for determining reasonable system losses because it provides nationwide acceptable procedures to determine seepage losses with different types of material in a water conveyance system. It is an unbiased proxy to having to actually measure evaporation and seepage losses from each part of the system, which would be inordinately expensive, if not impossible. Hew WDS at 2; Hew RWS at 2.

44. HC&S's request for 2.15 mgd for system losses is at the low end of the range for expected HC&S system losses based on the SCS-USDA National Engineering Handbook. Hew WDS at 2; Hew, Tr. Vol. 8 at 101.

45. To address leakage from HC&S's unlined Waiale Reservoirs, HC&S analyzed several loss mitigation options for the Waiale Reservoirs, including 1) lining the existing reservoir with either concrete or HDPE, 2) lining a smaller configuration of the reservoir, or 3) bypassing the existing reservoir with a flume through Reservoir 73 and/or a ditch through Reservoir 74. The analysis included, among other things, water levels in the reservoirs under the amended IIFS and storm water runoff into the reservoirs from adjacent developments. Pursuant to the analysis, HC&S determined that bypassing the Waiale reservoirs would be the most cost-effective way of mitigating losses. Thus, HC&S will no longer use the Waiale Reservoirs for water storage purposes. Although there will be evaporative losses through the bypass ditch and/or flume, such losses will be significantly less than the seepage loss experienced. Volner WDS at 4-5; Hew, Tr. Vol. 8 at 101.

46. Wailuku Water Company was able to substantially reduce its system losses by eliminating reservoirs on its system. Chumbley, Tr. Vol. 6 at 95-97.

47. Because of different operations requirements, system losses for Wailuku Water Company cannot be compared with system losses for HC&S. As an agricultural operation, HC&S cannot eliminate all its reservoirs to reduce system losses. HC&S's ditch and reservoir system is essential to the continued irrigation of its agricultural lands. Hew RWS at 2.

Consistent with State and County Land Use Plans

48. All the lands that comprise the Waihee-Hopoi Fields are classified as Agriculture under the State land use classification and zoned for agricultural use. Volner WDS at 5; Volner, Tr. Vol. 8 at 159.

49. A majority of the 3,650 cultivated acres within the Waihee-Hopoi Fields have been designated as Important Agricultural Lands ("IAL") pursuant to Part III, Chapter 205, Hawai`i Revised Statutes. As IAL, HC&S has committed to keep these lands in long-term productive agricultural use, provided that a sufficient supply of water is available to allow for profitable farming. Volner WDS at 5; Volner, Tr. Vol. 8 at 159.

In the Public Interest

50. HC&S is committed to keeping the Waihee-Hopoi Fields in long-term productive agricultural use, provided that a sufficient supply of water is available to allow for profitable farming. Volner WDS at 5.

51. Although the water duty for bioenergy crops, which would be grown year-round, is higher than for large scale diversified agriculture which involves crop rotation and long periods of fallowing, in HC&S's assessment, growing bioenergy crops is a key component to transitioning a significant portion of the approximately 35,000 acres of sugar land to other agricultural pursuits as quickly as possible. Volner RWS at 2.

52. Growing bioenergy crops serves the public interest by ensuring productive use of important agricultural lands and contributing towards Hawai`i's energy independence. Volner RWS at 2.

53. The bioenergy crops that HC&S plans to cultivate on the Waihee-Hopoi Fields will be processed directly into biogas or biofuels. Volner WDS at 7.

54. At this current stage of planning, it is not known whether HC&S will be involved in the processing of biofuels or whether biofuel stock grown by HC&S will be sold to a processor, and whether the processing will occur on HC&S land or elsewhere. HC&S states that, ideally, HC&S will be able to utilize some of the biofuel stock that it grows to generate electricity for its own use. Even if this were to happen, it will be several years before biofuel stock becomes available in sufficient quantities and HC&S would have to renovate or rebuild its power plant to be able to utilize new fuel sources. Volner WDS at 7.

55. HC&S will rely on its two hydroelectric power plants and MECO to supply electrical power to run the pumps for its wells and other facilities. Hydropower turbines which depend on the East Maui Irrigation system water

historically produced a maximum of 6 MWH of power. The amount of power that can be generated in the future will depend on the IIFS amendments for East Maui streams that are currently pending before the Commission. Volner WDS at 6.

56. As a sugar plantation, HC&S was one of the largest employers on Maui, employing approximately 800 full-time workers, and EMI employing about 17 workers. 2010 FOF #526. Each year HC&S spent more than $100 million in the domestic economy, primarily on Maui, and generated approximately $250 million annually to the County of Maui and State of Hawai`i economies. 2010 FOF # 527.

57. Under the diversified agriculture model, employment and spending by HC&S will be reduced; however, it is anticipated that, over time, diversified agriculture on HC&S lands will match sugar's economic importance. Instead of being dependent on the successes of one company growing a single crop, a number of different entities, operating as tenants of HC&S or in partnership with HC&S, and different agricultural ventures will be contributing to the employment of Maui residents and to the County's and State's economies. Volner WDS at 5-6.

58. HC&S's plan to cultivate bioenergy crops on the 3,650 acres that comprise the Waihee-Hopoi Fields contributes toward meeting the State's 100 percent renewable energy goal by 2045, which was established through Act 97, Session Laws of Hawai`i 2015.

Alternative Sources

59. From 1927 until additional Na Wai Eha water became available in the 1980s, HC&S's primary source of irrigation water for its Waihee-Hopoi Fields was Well No. 7 (USGS No. 16), a brackish water well. 2010 FOF # 494. However, HC&S minimized the use of Well No. 7 when Brewer ceased its sugar operations in the 1980s and the Waihee and Spreckels Ditch flows previously used by Brewer to irrigate its cane fields were allowed to flow uninterrupted into the Waiale Reservoir 24 hours a day, rather than being substantially reduced during the day, as was previously the case under the sharing arrangement between HC&S and Brewer. 2010 FOF # 263.

60. After 2010, HC&S spent $1,658,369 to upgrade Well No. 7 by installing a second booster pump (Pump 7D) and a 4,000-foot pipeline extending from Well No. 7 wellhouse to the Waihee Ditch, enabling HC&S to pump a maximum of 18.5 mgd on a sustained daily basis. 2014 FOF # 50. Thus, whereas in 2010 the Commission determined that Well No. 7 is a practicable alternative source of irrigation water at an annual average rate of 9.5 mgd, in 2014, the Commission concluded that "Well No. 7 is a practicable alternative source of irrigation water of up to 18.5 mgd on a sustained daily basis for

purposes of the restoration of stream flows under an amended IIFS." The Commission stated, however, "This is without prejudice, however, to the rights of any party of the Commission to revisit this issue in the context of any proceeding involving a WUPA by HC&S, in which proceeding HC&S will have the burden of justifying its water use in general, including the amount of water that should be deemed available from Well No. 7 as a reasonably practicable alternative to Na Wai Eha stream water." 2014 COL # 14.

61. The cost of pumping 18.5 mgd, or even 9.5 mgd, from Well No. 7 on a sustained basis would make diversified farming on the Waihee-Hopoi Fields uneconomical, at least for the short term, until crops can be grown on a commercial scale and producing revenues that can cover costs. Volner WDS at 6, Volner, Tr. Vol. 8 at 179.

62. In the future, depending upon the revenue streams for diversified agriculture, it could be economical for HC&S to again utilize ground water wells as it did with sugarcane. Volner, Tr. Vol. 8 at 187-188.

63. As a by-product of sugar cane cultivation, HC&S generated electricity by burning bagasse. Combined with the operation of hydropower turbines on its East Maui ditch system, HC&S generated enough electricity to be self-sufficient and have excess power to sell to Maui Electric Company. With the cessation of sugar cane cultivation and processing, HC&S's ability to generate electricity, at least in the short term, will be limited to its hydroelectric facilities. The hydropower turbines which depend on the East Maui Irrigation system water historically produced a maximum of 6 MWH of power. The amount of power that can be generated in the future will depend on the IIFS amendments for the East Maui streams that are currently pending before the Commission. Volner WDS at 6.

64. The bioenergy crops grown by HC&S will be processed directly into biogas or biofuels. At this current stage of planning, it is not known whether HC&S will be involved in the processing of biofuels or whether biofuel stock grown by HC&S will be sold to a processor, and whether the processing will occur on HC&S land or elsewhere. HC&S states that, ideally, HC&S will be able to utilize some of the biofuel stock that it grows to generate electricity for its own use. Even if this were to happen, it will be several years before biofuel stock becomes available in sufficient quantities and HC&S would have to renovate or rebuild its power plant to be able to utilize new fuel sources. Until such time, HC&S will rely on its two hydroelectric power plants and MECO to supply electrical power to run the pumps for its 14 wells, including Well #7, and other facilities. Volner WDS at 7.

65. It is estimated that it will cost $178 (based on MECO's rate of $0.22 per kwh) to pump 1 million gallons of water from Well No. 7 to the Waihee Ditch. At that rate, the annual cost of pumping 18.5 mgd from Well No. 7 would amount

to more than $1.2 million. The cost of pumping 9.5 mgd (the Well No. 7 alternative source amount determined by the Commission in its 2010 Decision and Order) amounts to more than $600,000 per year. Volner WDS at 6-7.

66. During the research and testing phase to determine the economic viability of cultivating bioenergy crops on a large scale, no income is derived from the crops, Under such circumstances, the cost of pumping 18.5 mgd or 9.5 mgd would be prohibitive. Volner WDS at 7.

67. Until more data is collected to populate its economic model, HC&S would not know what water costs can be borne. Given the current stage of the energy crop industry in Hawai`i and the lack of agronomic data, Well #7 cannot be viewed as a practicable alternative source of irrigation water during the period of transition from sugar to diversified agriculture. Volner WDS at 7.

68. There is a concern that the continued sustained pumping of 18.5 mgd from Well No. 7 will adversely affect the Kahului Aquifer. The Kahului Aquifer has a sustainable yield of only 3 mgd based on natural recharge (Water Resources Protection Plan). The historical ability to pump an average of 21 mgd (2010 FOF # 495) is dependent upon irrigation recharge, and as irrigation amounts decrease under the diversified agriculture model, aquifer withdrawals should likewise decrease to prevent harm to the aquifer.

69. Between 1927 and 1985, when HC&S pumped an average of about 21 mgd from Well No. 7, both HC&S and Brewer were cultivating sugar cane, largely irrigated by furrow irrigation methods, which meant that there was significant irrigation recharge. When Brewer ceased sugar cane cultivation, although there was a decrease in irrigation recharge, there was, concomitantly, a decrease in pumping from Well No. 7. 2010 FOF # 494-495, 500.

70. After 2010, HC&S upgraded Well No. 7 facilities and increased pumping to approximately 18.5 mgd, and, at the same time, surface water imports decreased as a result of the amended IIFS. Hew WDS at 3; Hew, Tr. Vol. 8 at 102.

71. To date, well data shows no significant adverse impact to the aquifer due to the increase in pumping and decrease in surface water imports after 2010. However, 2014, 2015 and the first half of 2016 have been relatively wet years, which may have mitigated the impact of increased withdrawals, and, thus, data collected thus far is not sufficient to assess the long-term impact of increased pumping from Well 7 and decreased surface water imports to the Kahului Aquifer. In the future, with less irrigation recharge (due to lower irrigation requirements for bioenergy and other diversified agricultural crops) and less seepage from the Waiale Reservoirs, it is reasonable to anticipate

that optimal withdrawal amounts from Well 7 will decrease. Hew WDS at 3; Hew RWS at 2; Hew, Tr. Vol 8 at 102

72. According to Tom Nance, qualified as an expert in water resource engineering, the closure of the HC&S plantation substantially reduces the amount of the recharge to the aquifer and, therefore, the viability of Well 7 needs to be pragmatically determined as the years roll by. Nance, Tr. Vol 10 at 9, 16.

73. HC&S's Iao Tunnel (Well No. 5330-02) develops ground water which is discharged into Spreckels Ditch between HC&S's intakes on South Waiehu and Iao Streams. 2010 FOF # 155. HC&S has WUP No. 691, which is an interim permit with an allocation for 0.1 mgd from Iao Tunnel. 2010 FOF # 154; Hew WDS at 2.

74. When the interim permit was issued on October 28, 2010, Iao Tunnel was not separately metered, and, there was uncertainty as to the amount of water being developed by this source. One of the conditions of the interim permit is that HC&S measure the amount collected and, within five years the Commission is to make a final determination of the amount of the allocation. Hew WDS at 2.

75. HC&S installed a flow meter in its Iao Tunnel in February 2011 and has been submitting monthly ground water reports to the Commission. In June 2015, HC&S requested, by letter, conversion of the interim permit to a full and final permit. To date, the matter has not been brought before the Commission. Hew WDS at 3.

76. Provided that the Commission approves HC&S's request to convert the interim permit to a permanent permit with an allocation of 0.1 mgd, the Iao Tunnel water is a practicable alternative source to Na Wai Eha surface water.

77. The County of Maui's Wailuku-Kahului Wastewater Treatment Facility ("WWRF") generates at least 5 mgd of recycled wastewater. 2010 COL #107. HC&S retained ATA to prepare a feasibility report pertaining to the use of reclaimed water produced at the WWRF as an alternative to using Na Wai Eha surface water for agricultural irrigation. 2014 FOF #55. According to the ATA Report, approximately 2.95 mgd of treated effluent could potentially be reliably made available to HC&S 365 days a year from the WWRF upon construction of improvements at an estimated capital cost of approximately $16.9 million and a definitive agreement being reached between HC&S and the County of Maui stating the terms and conditions under which the County would provide, and HC&S would accept, reclaimed wastewater, including allocation of the improvements costs, the quality and quantity of water to be delivered, and the water rate charged by the County. Even if agreement between HC&S and the County could be reached, completion of the

necessary infrastructure would not occur until 2020 at the earliest. Thus, the Commission concluded in 2014 that it was not practicable at that time for HC&S to use this reclaimed water as an alternative to using Na Wai Eha surface water for agricultural irrigation. 2014 FOF #55-57, COL # 15.

78. Brown and Caldwell conducted a cost analysis for various alternative water sources for the County of Maui and reported in 2013 that construction costs for infrastructure for recycled water from the WWRF in the Wailuku-Kahului area would amount to $37.6 million for 0.6 mgd. Lekven, Tr. Vol. 5 at 47-48.

79. Since 2014, there has been no progress in discussions between HC&S and the County regarding reclaimed water from the WWRF. Therefore, reclaimed water from the WWRF is still not a practicable alternative to using Na Wai Eha surface water for the Waihee-Hopoi Fields. Volner WDS at 8.

80. HC&S had utilized wastewater from its Puunene Mill to irrigate certain fields; however, none of those fields are part of the Waihee-Hopoi Fields. 2010 FOF # 505. Moreover, Puunene Mill has shut down with the cessation of sugar cultivation. Thus, recycled mill water is not a practicable alternative source for irrigating the Waihee-Hopoi Fields. Volner WDS at 8

81. There are no desalinization plants on Maui. Given the current technology and power costs, it would be cost prohibitive to desalinate water for irrigation of bioenergy crops. Volner WDS at 8.

82. In addition to Well No. 7, there are ~~14~~ 13 other brackish water wells that supplement surface water from the East Maui Irrigation System for the HC&S plantation. Water from these wells is pumped into gravity flow dependent infrastructure that brings water to HC&S's eastern fields. To bring this water to the Waihee-Hopoi Fields would require the construction of infrastructure to pump water from these wells uphill to the west side fields. Hew WDS at 3.

83. The cost of constructing the infrastructure to pump water from these brackish wells uphill to the west side fields would be cost-prohibitive to HC&S. Additionally, the parts of the plantation serviced by the EMI System have historically been water short and cannot afford to lose this supplemental ground water source. Volner WDS at 8.

84. The Ola Wai 1 and Ola Wai 2 wells have not been drilled. A&B is working with the County of Maui on the possible development of these wells. If these wells are drilled, they will be connected to the County water system for domestic and municipal uses, and not for agricultural irrigation. Volner RWS at 5.

Other Applications

85. Individual lo`i can require very little water in its early stages, or massive amount in its later stages, and that could be an amount of 300,000 gallons per acre per day and on up. Reppun, Tr. Vol. 1 at 116, 120.

86. Water usage for taro varies according to the stage of the crop. A field that is fallow requires no water. A field that is just planted requires just a thin skin of water. A field in full vegetative state might not require very much water because it has very good leaf coverage and stays cool. A field that is maturing, shrinking down requires an increase in water. Reppun, Tr. Vol. 1 at 117, 120.

87. Water requirements for taro is also influenced by temperature of the water, which varies with elevation and time of year. Reppun, Tr. Vol. 1 at 136-139 143-146.

88. Taro farmers who apply chemical fertilizers have periods during which water entering and leaving the lo`i is halted. For these farmers, there may be a two-week period out of every month to two months that water would not be needed. Reppun, Tr. Vol. 1 at 148.

89. The amount of water required in a taro lo`i or complex varies throughout the year during the various phases of cultivation. During a 14-month period, there is about a month during which organic taro farmers are not flowing water through the lo`i at a rate needed to keep the water cool. Reppun, Tr. Vol. 1 at 149; Brito, Tr. Vol. 9 at 37; Nakama, Tr. Vol. 9 at 105-106.

90. Taro farmers stop the flow of water into the lo`i during weeding. Reppun, Tr. Vol. 1 at 149.

91. Several applicants claiming appurtenant rights have testified that they would like to increase kalo cultivation on their lands. See, e.g., Alueta, Tr. Vol. 2 at 24; Ciotti, Tr. Vol 2 at 31-33; De Hart, Tr. Vol. 2 at 41-44; Rodrigues (Faustino), Tr. Vol. 2 at 45-46; Pua`a-Freitas, Tr. Vol 2 at 59; Valez, Vol. 2 at 76, 79; Kailiehu, Tr. Vol. 2 at 88-89, 93; Fisher, Tr. Vol. 2 at 102-105; Ishikawa, Tr. Vol. 3 at 29; Smith, Tr. Vol. 3 at 47, 49; Sakata, Tr. Vol. 3 at 58; Texeira, Tr. Vol. 3 at 65-66, 71; Kana, Tr. Vol. 3 at 86-87; Cerizo, Tr. Vol. 3 at 93, 95; Santiago, Tr. Vol. 3 at 110; Rivera, Tr. Vol. 3 at 130; Walker, Tr. Vol. 4 at 22; L. Vida, Tr., Vol. 4 at 26; Ornellas, Tr. Vol. 4 at 39; Harders, Tr. Vol. 4 at 61; Sevilla, Tr. Vol. 4 at 76, 89; McLean, Tr. Vol. 4 at 107; Pelegrino, Tr. Vol. 4 at 116, 131; Smythe, Tr. Vol. 5 at 11-12; Duey, Tr. Vol. 7 at 24, 27; Higashino, Tr. Vol. 7 at 190; Brito, Tr. Vol. 9 at 37-38; Nakama, Tr. Vol. 9 at 67; Nakama, Tr. Vol. 9 at 98-101; Russell, Tr. Vol. 10 at 65-66, 69-72, 86

92. For some applicants, the task of re-opening up new lo`i would be a slow process. Ishikawa, Tr. Vol. 3 at 29-31; and may take a couple years, Sakata, Tr. Vol. 3 at 60; Pelegrino, Tr. Vol. 4 at 117

CONCLUSIONS OF LAW

1. To obtain a water use permit for existing uses, the applicant must demonstrate that the use (1) was existing as of the effective date of designation and (2) is reasonable-beneficial.

2. HC&S was cultivating sugar cane on the Waihee-Hopoi fields on the date of designation of the Na Wai Eha streams as surface water management areas, thus, it was an existing use on the date of designation. FOF # 24.

3. A change in crops is not construed as a change in use. HRS § 174C-3 defines "existing agricultural use" as "replacing or alternating the cultivation of any agricultural crop with any other agricultural crops, which shall not be construed as a change in use. Thus, notwithstanding the fact that HC&S will be transitioning from sugar cane cultivation to diversified agriculture, and more specifically to bioenergy crops, on the Waihee-Hopoi Fields, HC&S's use of Na Wai Eha water constitutes an "existing use."

4. "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. HRS § 174C-3.

5. Agriculture is clearly in the public interest. Article XI, § 3 of the state constitution states:

> The State shall conserve and protect agricultural lands, promote diversified agriculture, increase agricultural self-sufficiency and assure the availability of agriculturally suitable lands.

6. The State Water Code declares that the use of water for "irrigation and other agricultural uses" is in the public interest. HRS § 174C-2(c).

7. HC&S plans to transition its plantation from sugar cane to diversified agriculture. Therefore, the use of Na Wai Eha surface water for agricultural irrigation on these lands is in the public interest. FOF # 10-14.

8. All the lands that comprise the Waihee-Hopoi Fields are classified as Agriculture under the State land use classification and zoned for agricultural use. Thus, use of Na Wai Eha water for agricultural irrigation on these lands is consistent with State and County land use plans. FOF# 48.

9. The declared policy underlying the laws governing Important Agricultural Lands is set forth in HRS § 205-41, which states:

> It is declared that the people of Hawai`i have a substantial interest in the health and sustainability of agriculture as an industry in the State. There is a compelling state interest in conserving the State's agricultural lands for agricultural use to achieve the purposes of:
> (1) Conserving and protecting agricultural lands;
> (2) Promoting diversified agriculture;
> (3) Increasing agricultural self-sufficiency; and
> (4) Assuring the availability of agriculturally suitable lands, pursuant to article XI, section 3, of the Hawai`i State constitution.

10. HRS § 205-50(g) provides that a farmer or landowner with IAL designated lands may petition to remove the IAL designation "if a sufficient supply of water is no longer available to allow profitable farming of the land due to government actions, acts of God, or other causes beyond the farmer's or landowner's reasonable control."

11. Most of the lands comprising the Waihee-Hopoi Fields have been designated Important Agricultural Lands. The use of Na Wai Eha surface water for agricultural irrigation on the Waihee-Hopoi Fields supports the continued commitment to keep these lands in productive agricultural use. FOF# 49.

12. Through Act 97, Session Laws of Hawai`i 2015, the State established a 100 percent renewable energy goal by 2045. HC&S's plan to cultivate bioenergy crops on the 3,650 acres that comprise the Waihee-Hopoi Fields contributes toward meeting that goal, and is, therefore, in the public interest. FOF # 14-19, 52-53.

Water Duty

13. The Hawai`i Supreme Court recognized that while diversified agricultural operations are in their embryonic state, water use permits should be based on approximate demand. *Waiahole I*, 94 Hawai`i at 162, 9 P.3d at 474.

14. HC&S's request for irrigation water is based on a reasonable-beneficial water duty of 4776 gallons per acre per day for the bioenergy crops planned for the Waihee-Hopoi Fields, which is 80% of the water duty that the Commission found to be reasonable-beneficial for sugar cane cultivation on these same fields in the IIFS proceedings. Given (i) the similarities between sorghum (the primary bioenergy crop planned for the Waihee-Hopoi Fields) and sugarcane, (ii) the bioenergy crops planned for the Waihee-Hopoi Fields are year-round crops, (iii) while bioenergy crops are not being cultivated, the fields need to be

planted in cover crops, which require irrigation, to prevent erosion and replenish the soil, and (iv) and based on experience gained in the DoD study, a water duty of 4776 gad is reasonable-beneficial. FOF # 27-35.

15. The 2500 gad water duty for diversified agriculture established in the Waiahole Ditch contested case was based on having only one-third to one-half of the cultivated acres being planted at any time. *Waiahole II*, 105 Hawai`i 1, 22, 93 P.3d 643, 664 (2004). The 2500 gad water duty was not applied across the board in the Waiahole Ditch case, but was based on specific facts. Some farmers received water allocations based on water duties that were closer to 4000 gad. CWRM Legal Framework, Findings of Fact, and Decision and Order, December 28, 2001 (Waiahole Remand I), pp. 84, 122.

System Losses

16. HC&S's reliance on the SCS-USDA National Engineering Handbook to determine seepage losses is a reasonable proxy to having to actually measure evaporation and seepage losses from each part of the ditch system, which would be inordinately expensive, if not impossible. FOF # 43.

17. HC&S's request for 2.15 mgd of system losses, which is based on the low end of the range for expected HC&S system losses based on the SCS-USDA National Engineering Handbook plus an average daily evaporation rate of 0.40 acre-inches, is reasonable. FOF # 36-47.

Alternative Sources of Water.

18. In 2014, while HC&S was still cultivating sugar cane, the Commission determined that Well No. 7 is a practicable alternative source of irrigation water of up to 18.5 mgd on a sustained daily basis. 2014 COL #14. As a by-product of sugar cane cultivation, HC&S generated electricity by burning bagasse, which, along with hydropower turbines on the East Maui ditch system enabled HC&S to be energy self-sufficient and have excess power to sell to Maui Electric Company. Thus, there was no energy cost to HC&S associated with the pumping of Well No. 7. As HC&S transitions to diversified agriculture, HC&S will have to purchase power from MECO to run Well No. 7. Additionally, while HC&S is in the research and testing phase to determine the economic viability of cultivating bioenergy crops on a large scale, HC&S will derive no income from the crops. These changed circumstances diminish the practicability of using Well No. 7 as an alternative source of irrigation water for the Waihee-Hopoi Fields. FOF # 61-68.

19. In the IIFS proceedings, the Commission concluded that it was not practicable at that time for HC&S to use this reclaimed water from the County of Maui's Wailuku-Kahului Wastewater Treatment Facility ("WWRF") as an alternative

to using Na Wai Eha surface water for agricultural irrigation. Capital expenditures for infrastructure amounting to tens of millions of dollars and definitive agreements on the terms and conditions for the provision of reclaimed water would need to be in place before this alternative source would be available. Even if agreement between HC&S and the County had been reached in 2014, completion of the necessary infrastructure would not occur until 2020 at the earliest. 2014 FOF #55 - # 57, COL # 15. Inasmuch as no agreement has been reached by 2016, reclaimed water from the WWRF is still not a practicable alternative source of water. FOF # 78-80.

20. Recycled water from HC&S's Puunene Mill is not a practicable alternative source of water as the mill has shut down with the cessation of sugar cultivation. FOF #81.

21. There are no desalinization plants on Maui. Given the current technology and power costs, desalinated water for irrigation of the Waihee-Hopoi Fields is not a practicable alternative. FOF#82.

22. In addition to Well No. 7, there are ~~14~~ 13 other brackish water wells that supplement surface water from the East Maui Irrigation System for the HC&S plantation. Using water from these wells is not a practicable alternative source of water for the Waihee-Hopoi Fields due to the cost of constructing the infrastructure to pump water from these brackish wells uphill to the west side fields and the need for water from these wells for use on other parts of the plantation. FOF #83-84.

23. The Ola Wai 1 and Ola Wai 2 wells have not been drilled. A&B is working with the County of Maui on the possible development of these wells. If these wells are drilled, they will be connected to the County water system for domestic and municipal uses, and not for agricultural irrigation, and, therefore, would not be a practicable alternative source of water. FOF # 85.

24. The State Water Code encourages mutual sharing and the accommodation of competing applications for water where possible. HRS § 174C-54 provides:

> **Competing applications**. If two or more applications which otherwise comply with section 174C-49 are pending for a quantity of water that is inadequate for both or all, or which for any other reason are in conflict, the commission shall first, seek to allocate water in such a manner as to accommodate both applications if possible; second, if mutual sharing is not possible, then the commission shall approve that application which best serves the public interest.

DECISION AND ORDER

HC&S is eligible for an existing use surface water use permit and has demonstrated reasonable-beneficial use for 17.33 mgd of Na Wai Eha surface water for agricultural irrigation on the Waihee-Hopoi Fields and 2.15 mgd for system losses for those portions of the West Maui Ditch System that are operated and controlled by HC&S.

From the experience of prior plantation closures in Hawai`i, the Commission is aware of the challenges of retaining prior sugar fields in agricultural production. As the people of Hawai`i have voiced support for a vibrant agricultural economy through the State Constitution and adoption of the Important Agricultural Lands law, the public interest dictates that the Commission support, rather than hinder, HC&S's transition to diversified agriculture. Nevertheless, the use of HC&S's Waihee-Hopoi Fields for diversified agriculture is not the sole, nor the overriding, public interest in the use of Na Wai Eha surface water. The State Water Code advocates mutual sharing of water resources and this decision adheres to that policy by attempting to accommodate, to a reasonable extent, the various public interests.

In 2014, the Commission determined that HC&S's Well 7 is a practicable alternative source of up to 18.5 mgd of irrigation water. However, that determination was made while HC&S was cultivating sugar cane, a business it had been in for more than 100 years. Bagasse, a by-product of sugar cane, was used to generate electricity, which substantially reduced HC&S's cost of operating Well 7.

As HC&S transitions from sugar cane to diversified agriculture, HC&S, at least in the short-term, would not have the "free" energy to operate Well 7. Additionally, while HC&S is in the research and development phase of transitioning the Waihee-Hopoi Fields to bioenergy crops, HC&S will not be generating income from these fields to cover operational costs, including, but not limited to, the energy costs for operating Well 7. Thus, although it is a technologically feasible to pump up to 18.5 mgd from Well 7 to irrigate the Waihee-Hopoi Fields, it is not a practicable alternative source of irrigation water for HC&S, at least for the short-term.

Notwithstanding the short-term economic hardship to HC&S of operating Well 7, it is an alternative source of water available to HC&S. Many surface water use permit applicants in this case, who have also demonstrated reasonable-beneficial uses for water, either have no alternative sources of water or have appurtenant rights that entitle them to the use of Na Wai Eha surface water.

Many of the applicants who have met the burden of proving their appurtenant rights have indicated intentions to re-open taro loi on their properties in the future. Cultivating wetland taro requires substantial amounts of water and, on paper, it would appear that there would not be enough water to satisfy instream requirements (IIFS) and all reasonable-beneficial offstream uses.

In reality, however, offstream water use will vary from day to day throughout the year. During the various phases of taro cultivation, there are times when as much as

300,000 gallons per acre per day are necessary to flow through the lo`i to maintain the optimum water temperature; at other times, water flow into the lo`i is halted. Moreover, several applicants who intend to increase kalo cultivation indicated that it may take time to fully re-open all of their lo`i. Additionally, surface water flows in Na Wai Eha vary greatly throughout the year and even in the course of a day. Thus, there will be times when IIFS requirements are met, when the needs of other surface water permittees are met, and there will still be Na Wai Eha water available for other reasonable-beneficial offstream uses.

HC&S is the last user on the Spreckels Ditch. Thus, HC&S's use of whatever water is available in the Spreckels Ditch at its terminus may be used by HC&S without impacting any other permittee's allocation.

HC&S is nearly the last user on the Waihee Ditch. Very few permittees take water from the Waihee Ditch after HC&S. HC&S and the other down-ditch permittees should be able to coordinate their day to day water requirements such that HC&S, from time to time, will be able to utilize Na Wai Eha surface water collected in the Waihee Ditch without negatively impacting down-ditch permittees' allocations.

To the extent that HC&S's water needs for the Waihee-Hopoi Fields cannot be accommodated with Na Wai Eha surface water available at the terminus of Spreckels Ditch or in Waihee Ditch in coordination and cooperation with other down-ditch permittees, HC&S has the ability to use Well 7 water.

HC&S is granted a surface water use permit to use 17.33 mgd (12 MAV) for agricultural irrigation on the Waihee-Hopoi Fields and 2.15 mgd (12 MAV) for system losses for those portions of the West Maui Ditch System that are operated and controlled by HC&S; provided that HC&S's is permitted to exercise its allocation rights by utilizing water available at the terminus of Spreckels Ditch and by coordinating with other permittees on the Waihee Ditch down-ditch of HC&S. In other words, HC&S's permit shall not deprive other permittees of their actual need for water on a day-to-day basis.

COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII

Surface Water Use Permit Applications, Integration of Appurtenant Rights and Amendments to the Interim Instream Flow Standards, Na Wai Eha Surface Water Management Areas of Waihee, Waiehi, Iao and Waikapu Streams, Maui	)))))))	Case No. CCH-MA 15-01 CERTIFICATE OF SERVICE

CERTIFICATE OF SERVICE

The undersigned hereby certifies that, on this date, a true and correct copy of the Hawaiian Commercial & Sugar Company's Proposed Findings of Fact, Conclusions of Law, and Decision & Order was duly served on the following parties by electronic service, as indicated below:

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