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HRD09/4352

May 26, 2009

Honorable Laura H. Thielen, Chairperson
Ken C. Kawahara, Deputy Director
Commission on Water Resource Management
P.O. Box 621
Honolulu, HI 96809

RE: Request for comments on Hawaiian Commercial & Sugar Company's Surface Water Use Permit Application (Waihe'e-Hopoi Fields) – Existing Use, Nā Wai `Ehā Surface Water Management Areas, Maui.

Aloha e Laura H. Thielen and Ken C. Kawahara,

The Office of Hawaiian Affairs (OHA) is in receipt of the above-mentioned letter dated April 29, 2009 and appreciates the opportunity to comment on Hawaiian Commercial & Sugar Company's (HC&S) Surface Water Use Permit Application (SWUPA) for an existing use on its Waihe'e-Hopoi Fields in Nā Wai `Ehā's Surface Water Management Area.

As an initial matter, as the Commission is well aware, the establishment of the Interim Instream Flow Standards (IIFS) for Nā Wai `Ehā streams is currently pending and will determine how much water must be restored to and remain in these streams for public trust purposes, including the exercise of traditional and customary Hawaiian rights and appurtenant rights. Until the IIFS are established, the amount of water available for offstream uses is not known. Accordingly, it cannot yet be ascertained whether all existing uses can continue to be accommodated. *See, e.g., In re Waiāhole Ditch Combined Contested Case Hearing*, 94 Hawai'i 97, 149, 9 P.3d 409, 461 (2000) (*Waiāhole*) (observing that existing uses are not "grandfathered" under the constitution and the Code and stating that "the public trust authorizes the Commission to reassess previous diversions and allocations, even those made with due regard to their effect on trust purposes," and that, in setting the IIFS, "the Commission may reclaim instream values to the inevitable displacement of existing offstream uses" (emphasis added)). Nor can it be determined whether there are "competing applications" within the meaning of HRS §§ 174C-

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50(h) and -54. Therefore, the SWUPAs for existing uses of Nā Wai `Ehā stream water should not be considered until the IIFS are established. Once that occurs, the SWUPAs should be considered concurrently; in other words, HC&S should not have any priority simply by virtue of the fact that it filed its SWUPA earlier than other existing users.

HC&S cannot meet its burden to prove that its existing use of diverted Nā Wai `Ehā water on its Waihe`e-Hopoi Fields is reasonable-beneficial, because it is *not*, as a matter of law.¹ HC&S's purported existing use of 36.29 million gallons per day (mgd) is far more than necessary for economic and efficient utilization. There are measures HC&S could take to mitigate or eliminate the loss of the 9 mgd that seeps from its unlined reservoirs, and HC&S has not even researched those measures, let alone proven that they are not practicable. More fundamentally, Well No. 7, which HC&S used to irrigate these fields for more than half a century before it received the windfall of "surplus" Nā Wai `Ehā water in the late 1980s, could be pumped for a combined construction and operating cost of less than ten cents per thousand gallons and is obviously a practicable alternative water source; *i.e.*, it is available and capable of being used after taking into consideration cost, existing technology, and logistics. Accordingly, *no* use of Nā Wai `Ehā water on the Waihe`e-Hopoi Fields is reasonable-beneficial.

HC&S's Actual Water Need for the Waihe`e-Hopoi Fields is no More Than 19.1

HC&S seeks an existing use permit for 36.29 mgd of diverted Nā Wai `Ehā water to irrigate its Waihe`e-Hopoi Fields, which is more than the 31.64 mgd delivered to Wai`ale Reservoir in the year preceding designation (*see* HC&S SWUPA, Table 1), and more than the average 35.07 mgd delivered in 2004 through 2006 (*see* Exh. E-5). The amount HC&S is seeking admittedly has nothing to do with HC&S's actual water need; instead, the 36.29 mgd HC&S requests appears to be based on the average deliveries from the ditch system since 1993. (*See* HC&S SWUPA, Attachment, p. 5.)

HC&S has never even attempted to prove its actual water need, as is its burden. *Waiāhole* 94 Hawai`i at 161, 9 P.3d at 473 ("[a]t a very minimum, applicants must prove their own actual water needs"). Although it claims that it "determines irrigation needs of each field on a day-to-day basis using a computerized water balance model," (HC&S SWUPA, Attachment, p. 8), and thus clearly has in its database the records of the actual water needs of its past crops in the Waihe`e-Hopoi Fields as calculated by its water balance program, HC&S has never disclosed that information and does not provide it now. Instead, as in the IIFS contested case, HC&S talks only about its water *use* which, for the period 2004 through 2006, was 6,828 gad on the Waihe`e-Hopoi Fields. (*See* Exh. E-5.) Dr. Ali Fares, the expert retained by the Community Groups,

¹ The deficiencies in HC&S's attempt to show reasonable-beneficial use are set forth in more detail in Section VI of Petitioners Hui o Nā Wai `Ehā and Maui Tomorrow Foundation, Inc.'s Closing Brief and in Proposed Findings of Fact F-1 through F-202 of Petitioners Hui o Nā Wai `Ehā and Maui Tomorrow Foundation, Inc.'s Proposed Findings of Fact, both of which were joined by OHA and filed in the IIFS contested case, and are incorporated herein by reference. References herein to exhibits or testimony refer to evidence in the IIFS contested case.

OHA, and the County of Maui Department of Water Supply, used a computerized water balance program similar to HC&S's and, based on site-specific rainfall and evaporation data for a period of over fifty years, calculated that, for optimal irrigation, the actual need of the Waihe's-Hopoi Fields is 5,674 gad. (See Exh. A-80.)

In addition to its attempt to conflate its use with its actual need, HC&S has inflated the acreage it claims to be cultivating in sugar cane irrigated with Nā Wai `Ehā water. During the contested case hearing, HC&S consistently represented that the Waihe`e-Hopoi Fields comprised a total of 3,950 acres, which excluded Fields 921 and 922 (the 301.6 acres of scrub land that HC&S opened up "to be a wastewater land application for [Maui Land and Pineapple's (MLP)] wastewater") because those fields were not watered with Nā Wai `Ehā water. (Volner Dec. 9/14/07, ¶ 2; Hew Dec. 9/14/07, ¶ 5; Tr. 1/30/08 (Volner), p. 27, l. 24 to p. 28, l. 12; p. 27, ll. 24-25; Tr. 1/29/07, p. 163, ll. 1-9.) Exhibit E-5, HC&S's representation of its water use during the period 2004 through 2006, showed an average of 3,850 acres irrigated with Nā Wai `Ehā water in the Waihe`e-Hopoi Fields, presumably reflecting the 100 acres that were leased to Monsanto at the time. (See Exh. E-5; Tr. 1/29/07 (Volner), p. 198, ll. 12-18; Exh. A-197.) Since then, an additional 500 acres (for a total of 600 acres) have been leased to Monsanto. (Exh. A-198, A-199; HC&S SWUPA, Attachment, "Hopoi Fields" table.)

Although the 3,950 acres of the Waihe`e-Hopoi Fields, less the 600 acres leased to Monsanto, leaves 3,350 acres in sugar cane irrigated with Nā Wai `Ehā water, HC&S claims that it irrigates 3,808 "cane acres." (*Id.*) Part of the discrepancy is that HC&S has added Fields 921 and 922, the 300-acres irrigated with MLP wastewater (see HC&S SWUPA, Attachment, p. 4), although it is not at all clear that this was an existing use of Nā Wai `Ehā water as of the date of designation. HC&S testified in January 2008, in the IIFS contested case hearing, that Fields 921 and 922 were irrigated "exclusively" with MLP water, and that, through 2007, MLP water was "sufficient" for those fields. (Tr. 1/29/08 (Volner), p. 163, ll. 6-9; Tr. 1/30/08 (Volner), p. 28, ll. 6-12; p. 139, ll. 18-23.) The additional discrepancy is inexplicable, and presumably results from HC&S including roadways and other un-irrigated areas in its claimed acreage for the SWUPA.

HC&S's actual water need, to provide optimal irrigation on 3,350 acres of sugar cane in the Waihe`e/Hopoi Fields, is 19 mgd (5,674 gad x 3,350 acres). Even adding in the amount used by Monsanto, the total is less than 19.1 mgd. HC&S also seeks water for Puunene Mill, but acknowledges that there are practicable alternate sources for that water. (HC&S SWUPA, Attachment, p. 7.) Finally, HC&S claims the 9 mgd it loses through seepage from its unlined reservoirs and open ditches as an existing use but, as discussed below, has failed to show those losses are reasonable-beneficial.

HC&S Has Failed to Show that its System Losses Cannot Be Reduced by Practicable Measures

In the IIFS contested case proceeding, HC&S quantified and disclosed for the first time the amount of diverted Nā Wai `Ehā water that is delivered to Wai`ale Reservoir but *not* used to irrigate sugar cane, or for any other purpose. (See Tr. 1/29/07 (Volner), p. 201, ll. 5-12.) During the period 2004 through 2006, the total “differential” between the amount delivered to Wai`ale Reservoir and the amount used to irrigate the Waihe`e-Hopoi Fields was 9.88 billion gallons, or approximately 9 mgd (Exh. E-5; Tr. 1/30/08 (Volner), p. 56, ll. 17-24), which is 25.69% of the diverted Nā Wai `Ehā water delivered to Waiale Reservoir and represents only “part of the system loss.” (Tr. 1/31/08 (Holaday) p. 135, ll. 10-15.) Additional water is lost in the irrigation system itself. HC&S’s reported water use of 6,826 gad for the period 2004 through 2006 includes, in the calculation, an 80% efficiency factor that “accounts for system losses between the [HC&S internal] ditch and the water the crop actually receives” (See Exh. A-139, p. 11; Tr. 2/20/08 (Nakahata), p. 72, l. 14 to p. 73, l. 20; Exh. C-78 (Exh. F), p. 1; Volner Dec. 9/14/07, ¶ 10A.) Based on HC&S’s estimate of its irrigation efficiency,² only 80% of the average 26.16 mgd applied to the Waihe`e-Hopoi Fields in 2004 through 2006, or 20.93 mgd, actually reached the cane plants. Assuming, as HC&S does, an 80% irrigation efficiency factor, then out of the average 35.07 mgd delivered to Wai`ale Reservoir in 2004 through 2006, only 20.93 mgd, or 59.7 percent, reached the cane plants; HC&S’s system losses, which do not include the losses “upditch” of Wai`ale Reservoir, consumed fully **40 percent** of the diverted Nā Wai `Ehā water delivered to Wai`ale Reservoir in 2004 through 2006. Accordingly, it is not the case, as HC&S claims, that “HC&S’s system losses amount to approximately 25%” (SWUPA Attachment, p. 10); it is just that the 25% that seeps from HC&S’s reservoirs is the most glaringly obvious of its system losses.

HC&S acknowledged during the contested case hearing that “high density polyethylene lining could negate much of the seepage, not all of it” and that concrete lining “is obviously another option” (Tr. 1/30/08 (Volner), p. 58, ll. 18-25; see also Exh. E-45, p. 2), but, since becoming aware of the magnitude of the seepage from Wai`ale Reservoir no later than 2004, and notwithstanding its burden in that proceeding to demonstrate that its use was reasonable-beneficial, as of the close of the contested case hearing HC&S had not even gotten estimates of the cost to line Wai`ale Reservoir or the other reservoirs and ditches that it estimates lose 3-4 mgd to seepage, and had undertaken no engineering or financial analysis of what it would take to reduce the 9 mgd losses. (Tr. 1/30/08 (Volner), p. 59, ll. 6-17; Tr. 1/31/08 (Holaday), p. 135, l. 16 to p. 136, l. 14.) Nor is any such analysis is presented in its SWUPA.

HC&S’s suggestion that its profligate waste of almost enough water to restore North Waiehu, South Waiehu, *and* Waikapū Streams to their natural flows should be sanctioned with an existing use permit and allowed to continue unabated because it “contribute[s] to the recharge

² HC&S may be correct that “[d]rip remains the most efficient irrigation technology available,” (SWUPA Attachment, p. 2); drip irrigation systems can typically deliver in excess of 90% efficiency and are designed for no less than 85% efficiency. (Tr. 2/15/08 (Fares), p. 52, l. 10 to p. 53, l. 6; p. 127, l. 21 to p. 128, l. 3; p. 132, ll. 1-11.) HC&S understandably failed to mention that, if its assumption of 80% efficiency is correct, its own drip irrigation system is substantially below the industry standard for drip irrigation.

of the Kahului Aquifer System” (SWUPA Attachment, p. 10) is disingenuous, at best, given that HC&S is the only user of the non-potable water from the Kahului Aquifer. HC&S has failed to demonstrate, as is its burden, that its system losses cannot be reduced or eliminated by practicable measures. Its claimed existing use, therefore, is not reasonable-beneficial as a matter of law.

Well No. 7 is a Practicable Alternative Source for Irrigating the Waihe`e-Hopoi Fields

When WWC’s predecessor was still using Nā Wai `Ehā water to irrigate sugar cane, HC&S’s primary source of irrigation water for the Waihe`e-Hopoi Fields was Well No. 7, a non-potable well that was described by the USGS in 1942 as “the well with the largest yield in the Territory,” with “a pumping capacity of 40,000,000 gallons a day [which] is the largest for any single well in the Hawaiian Islands and is sufficient to supply a city the size of Honolulu.” (Exh. A-143, pp. 127, 156 (map), ¶ 4.) Between 1927 and 1985, HC&S pumped an average of about 21 mgd from Well No. 7, and, when it suits HC&S’s purposes, it continues to pump that well heavily. (See Exh. A-148, pp. 1-2, 5) For example, for the month of October, 1996, HC&S pumped an average of 33.5 mgd from Well No. 7, and for the six-month period from June through November of that year, pumped an average of 25 mgd (*id.*, p. 3); for the month of June, 2000, HC&S pumped an average of 31.4 mgd from Well No. 7, and for the six month period from May through October of that year, pumped an average of 18.9 mgd (*id.*). There is thus no question that HC&S generates sufficient electrical power to operate the pumps for Well No. 7 as well as satisfy its other requirements for electrical power. As it admitted in the IIFS contested case hearing, HC&S is *not*, in fact, limited to its current reduced level of pumping by the electric power available; rather, whether to pump from Well No. 7 is “simply an economic decision.” (Tr. 1/30/08 (Volner), p. 120, ll. 15 to p. 121, l. 24.)

One factor in that “economic decision” is the lost revenues from power sales to Maui Electric Company (MECO) if HC&S were to use electricity to pump water instead of selling the electricity to MECO. HC&S claims revenues from power sales “is a very important factor in the continued economic viability of HC&S.” (HC&S SWUPA (Waihe`e-Hopoi) Attachment, p. 12.) Those revenues, however, have plummeted since August 2008, when the Public Utilities Commission approved a new formula to calculate the electric utilities’ avoided cost, which is the amount they pay to independent power producers such as HC&S. At the time of the contested case hearing, MECO was paying HC&S avoided costs of approximately \$0.24/kWh, or \$240/MWH; HC&S estimated that pumping 14 mgd would require 12 MWH, so the lost revenue if 12 MWH was used for pumping would be \$2,900 per day. (Tr. 1/29/08, p. 206, l. 21 to p. 207, l. 22; Volner Dec. 11/16/07, ¶ 4.) As of May 1, 2009, the avoided cost MECO pays to HC&S, and thus HC&S’s lost revenues from using internally generated power to pump Well No. 7, is only \$0.09/kWh (\$92.95/MWH during peak hours and \$89.87/MWH during off-peak hours) ([see http://www.heco.com/vcmcontent/StaticFiles/FileScan/PDF/EnergyServices/Tarrifs/HECO/AvoidedCost04-8-09.pdf](http://www.heco.com/vcmcontent/StaticFiles/FileScan/PDF/EnergyServices/Tarrifs/HECO/AvoidedCost04-8-09.pdf)). Currently, therefore, assuming it requires 12 MWH to pump each 14 mgd

increment, HC&S's lost revenues resulting from using internally generated electrical power to pump from Well No. 7 translate to, at most, \$0.07967, or less than 8 cents, per thousand gallons.

HC&S also points out that there would be capital costs for the infrastructure that would be required to use Well No. 7 as the sole source of water for the Waihe'e-Hopoi Fields. HC&S estimates that it would cost \$425,000 to install a pipeline to Field 715, which is the only field in the Waihe'e-Hopoi Fields that cannot currently be irrigated with water from Well No. 7. (SWUPA Attachment, p. 12). Adding another booster pump and distribution line to increase the volume that could be pumped from Well No. 7 to HC&S's Waihe'e Ditch from 14 mgd to 28 mgd is estimated to cost \$525,000. (*Id.*, p. 12-13.) In addition, HC&S estimates that it would cost another \$777,650 to upgrade its pumps and related equipment so that MECO would install a direct service connection to Well No. 7 to provide power in the event HC&S did not have enough internally generated power to run the pumps for Well No. 7. (*Id.* p. 13.) The total construction costs, \$1,777,650, amortized over ten years and assuming an 8% cost of money, result in a cost of less than 2 cents (\$0.0188) per thousand gallons, based on 28 mgd. If HC&S decided to fallow Field 715, which it testified might be more prudent than expending funds for additional infrastructure to irrigate it (Holaday Dec. 10/26/07, ¶¶ 5, 7), its total construction costs would be \$1,302,650, which amounts to a cost of \$0.0138 per thousand gallons when amortized over ten years assuming an 8% cost of money.

HC&S's final excuse for not using Well No. 7 is that the use of brackish ground water would, over time, have a negative effect on sugar yields. (SWUPA Attachment, p. 13). HC&S made this same argument at the IIFS contested case hearing, but was unable to adduce a shred of evidence in support of it, notwithstanding that it used Well No. 7 to irrigate the Waihe'e-Hopoi Fields for more than half a century. (*See* Community Groups' proposed FOF F-148 – F-156.

In light of HC&S's long-term historic use of Well No. 7, and the combined capital and operating costs of less than 10 cents per thousand gallons, there is simply no room for HC&S to argue (let alone meet its burden to prove) that use of Well No. 7 as an alternative water source is not practicable; *i.e.*, not available and capable of being used after taking into consideration cost, existing technology, and logistics. Instead, it argues that Well No. 7 is "not a preferred alternative source to ditch water for irrigating the Waihe'e-Hopoi Fields." (SWUPA Attachment, p. 13.) The public trust doctrine, however, does not accommodate the "preferences" of private commercial users when public trust purposes are being frustrated and demonstrably practicable alternatives exist.

For the foregoing reasons, OHA objects to HC&S's SWUPA for an existing use on the Waihe'e-Hopoi Fields.

OHA is the "principal public agency in this State responsible for the performance, development, and coordination of programs and activities relating to native Hawaiians and Hawaiians." (Hawaii Revised Statutes (HRS) § 10-3(3)). It is our duty to "[a]ssess[] the policies

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and practices of other agencies impacting on native Hawaiians and Hawaiians, and conduct[] advocacy efforts for native Hawaiians and Hawaiians.”³ (HRS § 10-3(4)). As such, we thank you for the opportunity to comment, and for your diligent efforts to protect these public trust resources. If you have further questions, please contact Grant Arnold by phone at (808) 594-0263 or e-mail him at granta@oha.org.

‘O wau iho nō me ka ‘oia‘i‘o,



Clyde W. Nāmu‘o
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³ OHA is a party in the on-going `Iao Ground Water Management Area High Level Source Water Use Permit Applications and Petition to Amend Instream Flow Standards of Waihe`e, Waiehu, `Iao, and Waikapū Streams Contested Case Hearing (Case No. CCH-MA06-01) (“IIFS contested case”) and has numerous beneficiaries who have property interests in, and/or use surface water from, the `Iao, Waihe`e, Waiehu, and Waikapū surface water management areas.