Protection of Homesteaders Preference Rights and Water Conservation Measures

When is conservation needed?
The Molokai irrigation system (M.I.S.) distributes almost a billion gallons annually to its users, which equates to approximately 2,600,000 gallons daily. The average annual rainfall in Waikolu valley from which the M.I.S. receives its source, is about 70 inches, per USGS water resources data for Hawaii and other Pacific areas.

In recent years, the average rainfall totals have diminished substantially affecting the ability of the M.I.S. to accumulate sufficient water levels, making it difficult to sustain the water user demands during extended dry periods. During these times the department determines when reasonable conservation measures are necessary to forestall a water shortage and consequent emergency.

The M.I.S. water conservation plan would be triggered by the observation of the various water levels in the Kualapuu reservoir. It should be noted that before implementing any of the stated conservation measures, the department reviews various factors that may affect the level of conservation required to maintain irrigation water service. Some of these factors include:

- Checking the National Weather Service's near and long term forecasts for Hawaii and the Pacific region (e.g. El Nino, La Nina, or neutral conditions);
- Examining the rainfall data for Molokai from the National Oceanic and Atmospheric Administration (NOAA) and U.S. Geographic Survey (USGS) websites;
- Monitoring usage of the M.I.S. users and estimate consumption using the monthly meter readings and comparing it to prior year's history, the current volume of storage of MPL; and
- Reviewing the operational status of the system's pumps and determine if additional pumping is sustainable.

If HDOA determines that a need for conservation exists, it will implement measures described in §4-157-4 (HAR) below:

§4-157-4 (HAR) <u>Conservation measures and interruption of water supply.</u> (a) The department shall exercise reasonable diligence and care to deliver an adequate supply of water to the consumer and to avoid shortage or interruptions in water service, whenever possible, but shall not be liable for any interruption, shortage, insufficiency of supply, or any loss or damage occasioned thereby.

(j) Upon declaration of emergency conditions and implementation of mandatory conservation measures (i.e., ten per cent, twenty per cent, or thirty per cent cutbacks), consumers exceeding the level of mandatory cutback shall be assessed a surcharge as follows:

(1) Mandatory ten per cent conservation – consumers shall be assessed a surcharge of ten cents per thousand gallons of water consumed in excess of ninety per cent of their average use as calculated by the administrator–chief engineer;

(2) Mandatory twenty per cent conservation – consumers shall be assessed a surcharge of twenty cents per thousand gallons of water consumed in excess of eighty per cent of their average use as calculated by the administrator–chief engineer; and

(3) Mandatory thirty per cent conservation – consumers shall be assessed a surcharge of thirty cents per thousand gallons of water consumed in excess of seventy per cent of their average use as calculated by the administrator–chief engineer.

(d) The department reserves the right at any and all times to shut off water from the mains with reasonable notice for the purpose of making repairs, extensions, alterations, or for other reasons. Consumers who require a continuous supply of water shall provide, at their own cost, emergency water storage and any check valves or other devices necessary for the protection of equipment or fixtures against failure of the pressure or supply of water in the department's main. Repairs or improvements shall be carried out as rapidly as practicable and at the time or times as will cause the least inconvenience to consumers.

Examples of HDOA's course of action:

Example 1 (determination of need for conservation measures).

Assume:

Reservoir Height – 20 Ft. Y-T-D Rainfall – 16.4" (normal 39.8").
Forecast – no significant rainfall expected within 14 days.
Review of rainfall data for current and prior years – current year-to-date rainfall is 59% below normal.
Review M.I.S. monthly consumption and compare to prior year's – Current average monthly consumption is 79,000,000 gallons
Prior year's average monthly consumption was 75,000,000 gallons.
All pumps are operational.
Because the average rainfall has been below normal, the M.I.S. has been pumping the high level dikes to sustain reservoir levels to meet demand. Therefore, additional pumping may not continue for a prolonged period. Recommendation is to continue off-peak hour pumping, utilizing 2 pumps daily and alternate pumps daily to provide for recharge of the high level dike system.

Conclusion:

No significant rainfall expected. NWS is predicting less than normal tropical storm activity in the eastern Pacific Ocean which generally brings trade showers to the Hawaiian Islands. Monthly M.I.S. consumption is 6.7% higher than prior year.
All pumps are operational and can be utilized to supplement the water collected from stream diversions.

Therefore, M.I.S. issues a conservation notice to all non-homestead users to voluntarily reduce consumption. As the situation progresses, M.I.S. will continuously monitor the above conditions and will make adjustments to the conservation measures as needed.

Example 2 (calculation of conservation surcharge).

Based on the previous example: a water conservation measure is implemented requiring a 20% reduction in irrigation water usage effective November 5, 2007. DOA calculates the water charges as follows:

Average the customer's water consumption for the month of November for the latest three non drought years, e.g. 2004, 2005 and 2006. Multiply the "monthly average" for November by the respective level of the conservation measure (i.e. 90%, 80% or 70%). The product is the threshold above which surcharges will be applied.

Assume: Nov. 2004 = 12,500,000 gallons
Nov. 2005 = 13,700,000 gallons
Nov. 2006 = 12,800,000 gallons

(12,500,000+13,700,000+12,800,000) / 3 = 13,000,000 gallons.
13,000,000 gallons x 80% = 10,400,000 gallons.

Conclusion:

A 20% conservation measure would result in the customer being required to consume no more than 10,400,000 gallons during the month of November 2007 or be assessed a surcharge. If the customer uses 14,000,000 gallons for the month, their bill will be calculated as follows:

14,000,000 gallons x $0.335 per thousand gallons = $4,690 plus a surcharge of $0.20 per thousand gallons in excess of their "average monthly" consumption or 3,600,000 gallons x $0.20 per thousand gallons = $720 for a total water bill of $5,410.

Homesteaders' Preference

HDOA will strictly adhere to the preference provision for Homesteads and ensure that Homesteaders' rights are protected. The law and HDOA's administrative rules are clear on how the law and rules will be implemented.

§168-4 (HRS) Preference. To the extent that the same may be necessary from time to time for the satisfaction of their water needs, domestic and agricultural, the Hawaiian Homes Commission and lessees of the Hawaiian Homes Commission shall at all times, upon actual need therefor being shown to the board of agriculture, have a prior right to two-thirds of the water developed for the Molokai irrigation and water utilization project by the tunnel development extending to Waikolu valley and ground water developed west of Waikolu valley, which was planned by the board of land and natural resources as the first stage of the Molokai irrigation project.

§4-157-2 (HAR) Definitions
"Actual need" means the volume of irrigation water consumed by an irrigation customer. The volume of irrigation water shall be actual use as determined by monthly meter readings or as otherwise provided in these rules.

§4-157-4 (HAR) Conservation measures and interruption of water supply

(k) Notwithstanding any provision herein to the contrary, subsection (j) shall not apply to the users of the Molokai Irrigation System who are also lessees of the Department of Hawaiian Home Lands (homesteaders), provided that an actual need is shown and the homesteader's aggregate irrigation water consumption remains at or below two-thirds of the water developed in the first phase of the construction of the Molokai Irrigation System, based on the most current monthly three year average of non-drought years. Should the homesteader's use exceed the homesteader's two-thirds preference, the homesteader shall be subject to the terms and conditions contained in subsection (j). The homesteader shall be subject to subsection (j) until the homesteader's usage falls to a two-thirds to one-third ratio or less, based on the most current monthly three year average of non-drought years, or until the conservation notice for the Molokai Irrigation System is canceled, whichever first occurs.

Example 1 (determination of Homesteaders' water availability).

Assume:

Total homesteader use for the current month of July = 16,248,000.

Average production of the Waikolu tunnel development for the past three non drought years for the month of July: 90,000,000 gallons.

Conclusion:

Homesteader's limit for non-conservation water use for the current month of July = 2/3 * 90,000,000 = 60,000,000 gallons.

DHHL homestead customers would have needed to use 43,752,000 gallons more for the month of July before conservation measures described in subsection "j" (pgs. 1-2) are applicable to the homesteaders.

Only if the homesteader's aggregate use exceed two-thirds of the water developed by the tunnel development extending to Waikolu valley, shall they be subject to subsection "j" of the irrigation rules, requiring mandatory cutbacks as determined by the department.