MINUTES OF THE
BOARD OF DIRECTORS MEETING
OF THE TURLOCK IRRIGATION DISTRICT

Turlock, California
19 March 2019

The meeting of the Board of Directors of the Turlock Irrigation District was called to order at 9:00 a.m. in regular session on the 19th day of March 2019. Present were: Directors Charles Fernandes (President), Rob Santos (Vice-President), Michael Frantz (Secretary) Joe Alamo and Ron Macedo, General Manager Casey Hashimoto and Executive Secretary to the Board Tami Wallenburg.

SALUTE TO THE FLAG

MOTION APPROVING CONSENT CALENDAR

Moved by Director Macedo, seconded by Director Frantz, that the consent calendar consisting of the following be approved:

A. Minutes of the regular meeting of March 12, 2019.
B. Demands against the District represented by check numbers 381961 to 382182, inclusive, in the amount of $14,468,133.62.

All voted in favor with none opposed. The President declared the motion carried.

PUBLIC COMMENT PERIOD

There was none.

WEEKLY UPDATE

Line Division Manager Denver Hodges presented the report for the Electrical Engineering and Line Department for the month of February. The SAIDI (System Average Interruption Duration Index) year-to-date figure is 4.3. (SAIDI totals the duration of each outage then divides it by the customer base, and is considered a commonly used formula in the industry). The monthly average for customers without power was 2.3 minutes. Major outage contributors in February show trees causing 35 percent, weather at 43 percent, equipment failure at 8 percent and animal interference at 14 percent. Electrical Engineering Design received 48 job requests with 80 sent to the Line Department for completion. Construction lead time in February for contracted crews was one week for customer jobs. The crew structure in February consisted of one 2-person crew, three 5-person crews, one 6-person crew and one 4-person contract crew. Capital work, customer jobs and maintenance remained balanced through the month of February.
Utility Analyst-Hydrology Olivia Cramer reported on current water conditions and forecast. Accumulated precipitation measured at the three mountain stations in the Tuolumne River watershed from September 1, 2018 to present total 36.3 inches, or 127.8 percent of normal to date. Snow pack remains well above April 1 average at 159 percent. Precipitation figures show rain beginning tonight through Friday with more expected the following week. San Francisco reservoirs contain 506,990 acre-feet and the Water Bank is at 574,657 acre-feet of credit, now down from encroachment level. Don Pedro contains 1,699,313 acre-feet, with average combined releases at 7,252 cubic feet per second. Computed natural flow is averaging 7,138 cfs, with approximately 7,000 going to the Tuolumne River and the remaining to the TID canal. Turlock Lake contains 23,678 acre-feet of water. The updated weekly watershed report shows Don Pedro decreased by almost 3 feet when compared to the previous week.

Utility Analyst-Hydrology Jason Carkeet introduced Neil Brackin, President of Weather Modification International (WMI), who the District contracts with for cloud seeding operations. Mr. Brackin provided an overview of WMI, their facilities in Fargo, North Dakota, and the many services they provide worldwide. The method of dispensing the cloud seeding product uses either fuselage mounted ejectable flare racks or wing mounted flare racks which are U.S. FAA certified. Mr. Brackin explained that as air rises over mountain ranges, it cools and forms water droplets. In the leeward, the sinking air warms and the droplets evaporate. He stated that water rarely freezes at 32 degrees Fahrenheit, instead it super cools, remaining liquid at much colder temperatures. This is induced by tiny particles called ice nuclei. Once the ice forms, the particles grow quickly, some forming flakes that become large enough to fall to the surface as snow. Those that don’t get large enough before moving beyond the peak encounter the descending, warming air, melt and evaporate which is inefficient precipitation. Cloud seeding provides ice nuclei that function at warmer temperatures allowing ice formation to begin sooner at temperatures as warm as -5 degrees Celsius. Snowfall is increased incrementally because more ice crystals have more time to grow into snow. Cloud seeding converts super cooled liquid cloud water into snow thus increasing cloud efficiency. The product used is environmentally friendly based on numerous positive studies from the EPA, government and academic organizations. Cloud seeding also benefits all water users including recreation, agriculture, hydro-power, fire risk reduction and all consumers. The World Meteorological Organization recognizes 52 countries that currently operate cloud seeding programs. Board members and customers in attendance asked several questions regarding hail mitigation, fire prevention, environmental concerns, hydropower enhancement and costs. The Board thanked Mr. Brackin for the informative presentation.

RESOLUTION NO. 2019 - 8

RESOLUTION CALLING FOR A PUBLIC HEARING ON THE PETITION FOR THE INCLUSION OF LAND INTO IMPROVEMENT DISTRICT NO. 00520, KNOWN AS DELHI STATE LAND SETTLEMENT, AND FOR THE LEVYING OF AN ASSESSMENT ON THE INCLUDED LAND

WHEREAS, a petition for the inclusion of additional land into Improvement District No. 00520, has been properly filed with the Executive Secretary of the Turlock Irrigation District, and

WHEREAS, the required data on said inclusion has been prepared by the Water Resources Administration of the Turlock Irrigation District in accordance with California Water Code Sections 23626 and 23877 and said data has been properly filed with the Executive Secretary.
IT IS HEREBY ORDERED that a public hearing on said petition shall be held at 9:00 a.m. on April 16, 2019, in the office of the Board of Directors of the Turlock Irrigation District, 333 East Canal Drive, Turlock, Stanislaus County, California, and that proper and timely notice of said public hearing shall be given in accordance with California Water Code Section 23646 and California Constitution Articles XIII.C and XIII.D.

Moved by Director Frantz, seconded by Director Santos, that the foregoing resolution be adopted.

Upon roll call the following vote was had:

Ayes: Directors Santos, Frantz, Alamo, Macedo, Fernandes
Noes: Directors - None
Absent: Directors - None

The President declared the resolution adopted.

IRRIGATION SEASON DISCUSSION

Water Distribution Department Manager Mike Kavarian reviewed proposed plans to begin the 2019 irrigation season. He stated that water is slowly being brought into the system to the Ceres Main Canal then into the Turlock Main today. Customers were notified the previous week of possible early irrigations with approximately a dozen signing up for water deliveries. As discussed during the March 12th Board Meeting, bringing water in the system now provides an early opportunity for customers to irrigate and also takes the edge off the system after winter maintenance. Mr. Kavarian noted that with the additional precipitation in the forecast this week and next, he may move the March 28 start date out a week depending on how much rainfall is received. He will report back at the next Board Meeting to confirm whether the start date will be revised. Hearing no questions or comments from the public, the Board took the following action:

RESOLUTION NO. 2019 – 9

RESOLUTION APPROVING THE 2019 IRRIGATION SEASON

WHEREAS, the Tuolumne River Watershed has received 135% of average precipitation for this date; and

WHEREAS, Don Pedro Reservoir is projected to fill; and

WHEREAS, planned recharge in wet years combined with strategic pumping in dry years is a water management practice that has been successfully implemented by the Turlock Irrigation District (District) for over a century.

NOW THEREFORE, BE IT HEREBY RESOLVED by the Board of Directors of the Turlock Irrigation District that:

1. The 2019 Irrigation Season shall begin on Thursday, March 28, 2019 and end on Wednesday, October 30, 2019.
2. Irrigation water shall be available for purchase using the Normal Year Water Rate Schedule, pursuant to Resolution 2015-1, adopted January 13, 2015.

3. The amount of water available for each acre of irrigated land during the 2019 Irrigation Season shall be 48 inches per acre.

4. Additional water will be available for those parcels who need more than 48” of water to produce a crop. This water will be billed at the appropriate tier.

5. Garden head parcels shall be delivered irrigation water once every two (2) weeks. The fixed water charge shall be $350 for each gardenhead parcel.

6. All irrigated parcels are required to place water orders for each lateral and sidegate combination to receive irrigation water from the District.

7. Sidegates will be required to be shut when not in use.

8. The Water Distribution Department Manager may adjust the season due to weather conditions and crop requirements.

Moved by Director Macedo, seconded by Director Alamo, that the foregoing resolution be adopted.

Upon roll call the following vote was had:

Ayes: Directors Santos, Frantz, Alamo, Macedo, Fernandes
Noes: Directors - None
Absent: Directors - None

The President declared the resolution adopted.

**DISCUSSION REGARDING REPLACEMENT WATER**

Water Distribution Department Manager Mike Kavarian reviewed the proposal to provide replenishment water during the 2019 irrigation season. He noted that planned recharge in wet years combined with strategic pumping in dry years is a water management practice that has been successfully implemented by the District for over a century. If approved, replenishment water will be made available for sale to lands outside the District’s irrigation service area that are within the Turlock groundwater Subbasin, and will also lessen the demand on groundwater pumping. The customer would be charged at the Tier 4 Level of $20 per acre-foot. Director Santos expressed concern over the cost and if there would be any long-term benefit to providing to customers outside district boundaries. As an example, Mr. Kavarian stated customers on the eastside would benefit greatly as they would be pumping much less and also reminded board members that replenishment water is only available to customers outside district boundaries who have existing connections to the system. Directors Frantz noted that he and Director Fernandes have met with eastside regulators in the past and will continue to work with them in the future but reiterated that the within-boundary customers are the Board’s first priority and that future decisions are dependent on the outcome of the SWRCB Substitute Environmental Document and the Don Pedro Relicensing. Hearing no further comments, the Board took the following action:
RESOLUTION NO. 2019 – 10

RESOLUTION APPROVING THE AVAILABILITY OF REPLENISHMENT WATER FOR THE 2019 IRRIGATION SEASON

WHEREAS, the Tuolumne River Watershed has received 135% of average precipitation for this date; and

WHEREAS, Don Pedro Reservoir is projected to fill; and

WHEREAS, this would be an ideal year to encourage flood irrigation for replenishment purposes and lessen the demand on groundwater pumping for lands outside the Turlock Irrigation District’s (‘District’) irrigation service area.; and

WHEREAS, planned recharge in wet years combined with strategic pumping in dry years is a water management practice that has been successfully implemented by the District for over a century.

NOW THEREFORE, BE IT HEREBY RESOLVED by the Board of Directors of the Turlock Irrigation District that:

1. Replenishment water shall be made available for sale during the 2019 Irrigation Season to lands outside the District’s irrigation service area that are within the Turlock groundwater sub-basin.

2. The cost for the replenishment water shall be at $20.00 per acre-foot.

3. The Water Distribution Department Manager, Water Records Manager and the Water Operations Managers are hereby authorized to sign the Replenishment Water Agreement form on behalf of the District.

4. All irrigated parcels are required to place water orders to receive irrigation water from the District.

Moved by Director Frantz, seconded by Director Macedo, that the foregoing resolution be adopted.

Upon roll call the following vote was had:

Ayes: Directors Santos, Frantz, Alamo, Macedo, Fernandes
Noes: Directors - None
Absent: Directors - None

The President declared the resolution adopted.
RESOLUTION NO. 2019 - 11

RESOLUTION DECLARING PROPERTY NO LONGER NECESSARY FOR DISTRICT PURPOSES AND AUTHORIZING SALE AT PUBLIC AUCTION, ONLINE, OR AT THE AGM – FINANCIAL SERVICES DISCRETION

WHEREAS, the Turlock Irrigation District owns certain property described in the attached property list identified as “Exhibit A” and made a part hereof by reference; and

WHEREAS, it has been determined in accordance with Section 22500 of the Water Code that said property is no longer necessary for District purposes and it is in the best interest of the District to sell said property; and

NOW, THEREFORE BE IT HEREBY RESOLVED by the Board of Directors of the Turlock Irrigation District that said property is declared surplus and that said property either be sold at public auction or disposed of by the Assistant General Manager of Financial Services under such terms and conditions, as he deems appropriate.

Moved by Director Santos, seconded by Director Frantz, that the foregoing resolution be adopted.

Upon roll call the following vote was had:

Ayes: Directors Santos, Frantz, Alamo, Macedo, Fernandes
Noes: Directors - None
Absent: Directors - None

The President declared the resolution adopted.

GENERAL MANAGERS UPDATE

General Manager Casey Hashimoto had no new items to report.

BUSINESS OF THE BOARD

There was none.

ENERGY IMBALANCE MARKET WORKSHOP

AGM Power Supply Brad Koehn, AGM Electrical Engineering & Operations Joe Gill, Director of Energy Markets Jim Farrar and Energy Markets Department Manager Dan Severson presented an overview of the California Independent System Operators’ (CAISO) western Energy Imbalance Market and the potential benefits for the District to join. The California ISO’s western Energy Imbalance Market (EIM) is a real-time bulk power trading market, the first of its kind in the western United States. EIM’s advanced market systems automatically find the lowest-cost energy to serve real-time customer demand across a wide geographic area. Utilities maintain control over their assets and remain responsible for balancing requirements while sharing in the cost benefits the market produces for participants. Current transaction and trading practice compared to the EIM showed a significant reduction in time for hourly trading which normally
takes place 40 minutes in advance then locked for the hour. This same hourly trading under the EIM show the transactions are optimized every five minutes. Currently, dispatch and balancing is manual dispatch for each individual balancing authority with the interchange locked for the hour. Under EIM, it is an economic dispatch and interchange on 5-minute basis over entire EIM footprint. There are currently 13 different companies who have joined the EIM, and as participation increases, the hour ahead markets are becoming less liquid as less trading partners equates to increased costs. In the near future, EIM is looking to expand to a Day-Ahead Market which could further reduce liquidity. The EIM also provides access to a larger network of energy providers in the CAISO without paying the export fees. Components of the District’s production cost savings show EIM provides access to CAISO market within the hour (purchase and sales) and eliminates the need to withhold from the market due to forecast uncertainty (transactions are automatic). TID’s thermal fleet can be optimized to take advantage of short term price spikes (Almond 2 Power Plant, Walnut Energy Center incremental). Staff then reviewed a 2016 and 2018 cost-benefit study as well as several production modeling results for 2017 and 2022. Staff anticipates a 2-year payback and emphasized the benefits of joining the EIM outweigh the costs as internal generation will also be utilized more effectively. Board members asked several questions in regards to new infrastructure, efficiency, potential impacts to day or hour ahead trading, and potential start-up costs to which staff responded. General Manager Casey Hashimoto asked how the EIM board is formed and their voting capacity. Staff stated the five-member EIM Board was appointed by the CAISO Board and do not include members who are part of a member agency but rather independent representatives, each having one vote. Mr. Koehn reviewed next steps which include returning to the Board the following Tuesday for consideration to implement a signed agreement with CAISO, then to retain an implementation consultant with a project kick-off the second quarter of 2019 and a completion date of April 1, 2021.

MOTION TO ADJOURN

Moved by Director Frantz, seconded by Director Macedo, that the regular meeting of the Board of Directors be adjourned.

All voted in favor with none opposed. The President declared the motion carried.

Tami Wallenburg
Executive Secretary to the Board of Directors