United States Department of the Interior
BUREAU OF INDIAN AFFAIRS
WESTERN REGIONAL OFFICE
2600 North Central Avenue
Phoenix, Arizona 85004

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:
Division of Natural Resources

NOV 28 2018

Honorable Timothy Williams
Chairman, Fort Mojave Tribal Council
500 Merriman Avenue
Needles, California 92363

Dear Chairman Williams:

On October 9, 2018 a meeting attended by representatives of the Fort Mojave Tribe, the Bureau of Indian Affairs (BIA), and the Bureau of Reclamation was held. The purpose of the meeting was to engage in a 43 CFR, Part 417 (Part 417) consultation with the Fort Mojave Indian Tribe (Tribe). Part 417 obligates the BIA to see that releases of Colorado River water to tribal entities do not exceed those reasonably required for beneficial use. During this consultation meeting the Tribe's 2019 Colorado River water usage requirements and plans were discussed.

With consideration given to discussion held at the aforementioned consultation meeting and in fulfillment of responsibilities described in Part 417, the Regional Director, Western Regional Office, has formally determined the Tribe's 2019 Colorado River water order. This water order is provided in the table below and matches the diversion schedule previously submitted by the Tribe to the BIA. A copy of this diversion schedule, along with the Tribe's completed Consultation Questionnaire, is enclosed.

The Tribe's 2019 water order is (all quantities in acre-feet):

Month	Arizona	California	Nevada
JAN	2,500	700	200
FEB	5,000	1,500	400
MAR	7,000	2,000	500
APR	8,000	2,500	600
MAY	10,000	2,500	800
JUN	12,000	2,500	800
JUL	12,000	1,000	700
AUG	10,000	1,000	700
SEP	8,000	1,000	600
OCT	3,000	500	300
NOV	3,000	1000	200
DEC	2,000	520	200
TOTAL	82,500	16,720	6,000
ENTITLEMENT	103,535	16,720	12,534

This water order is being submitted to the Bureau of Reclamation for Colorado River water regulation and accounting purposes.

The Tribe's efforts in submitting diversion estimates for 2019 in a timely manner are appreciated.

Please direct any questions to Mr. Jonathan Cody, Irrigation Engineer, at (602) 379-6789.

Sincerely,

Regional Director

Enclosure

cc: Russell Ray, Fort. Mojave Tribe
✓ Regional Director, BOR LCRO
Steve Hvinden, BOR
Superintendent, Colorado River Agency

Ft. Mojave Tribe
Part 417 Consultation Questionnaire

The 43 Code of Federal Regulations, Part 417 (Part 417) obligates the Secretary of the Interior to see that releases of Colorado River water to Colorado River tribal entities will not exceed those reasonably required for beneficial use. Every year, the Ft. Mojave Tribe (Tribe) is asked to submit an estimate of the Tribe's twelve month Colorado River diversion rate and anticipated monthly diversion schedules to the Bureau of Indian Affairs (BIA) for the following calendar year. The BIA is directed by Part 417 to consult with Colorado River tribal entities each year regarding water conservation measures, operating practices, and the beneficial use of Colorado River water.

For calendar year 2019, the Part 417 consultation is being supplemented with the collection of written information. This information, along with other relevant materials, will be examined by BIA Western Region staff. Following this examination, the Regional Director's determination of the approved diversion amount will be communicated in writing to the Tribe. Part 417 establishes procedures under which the Tribe may request modification of the determination or later appeal it to the Secretary of the Interior. Please review this Part 417 Consultation Questionnaire and reply to the listed topics.

Diversion: Provided in Table 1 is a historic review of the Tribe's demands for Colorado River water since calendar year 2013 based upon data acquired from the Bureau of Reclamation website on August 13, 2018 (http://www.usbr.gov/lc/riverops.html). Past water use is one factor that can be used in determining water requirements for the Tribe.

Table 1. Colorado River diversions for the Ft. Mojave Tribe

Year	CA Diversion (Acre-feet)	AZ Diversion (Acre-feet)	NV Diversion (Acre-feet)
2018 Projected	12,886	64,587	4,327
2017	13,830	66,824	4,643
2016	11,546	62,427	4,998
2015	15,164	69,515	4,683
2014	16,509	66,430	3,873
2013	15,301	63,843	5,112

Part 417 Factors: Part 417.3 prescribes a list of factors to be examined by the BIA in approving a Tribe's annual water order. BIA consults annually with the Tribe on the Part 417.3 factors. During the month of October 2017, BIA staff met with Tribal staff and discussed each factor. Tribal responses are noted on the Consultation Questionnaire. The BIA requests an update of this information, and any additional written information that the Tribe desires to include, in order to support the Tribe's request for 2019 diversions. Please note that the implementation of water conservation measures may also affect water requirements.

Water Conservation Planning: The Tribe annually implements measures to improve the management of its water supply and meet the water needs of its customers. Water management activities planned for 2018 were noted in the 2018 Consultation Questionnaire. In addition to providing a reply to each factor listed, the Tribe should also describe those activities implemented in 2018 which may influence the Tribe's water order for 2019.

Please respond to each item in the Consultation Questionnaire and fill out the attached diversion estimate table with your tribe's anticipated 2019 diversion quantities by month. The Tribe may return these completed forms to the BIA, or provide the requested information in a format of its choice, provided that the format addresses each factor. This written consultation, along with any other material considered to be relevant, will be used to determine the Tribe's approved diversion for calendar year 2019.

Part 417.3 Factors	2018 Reply	2019 Reply (Written)
Area to be Irrigated[1]	There has been no change in the number of turnouts in Arizona or Nevada. The southwestern part of the California farm has been converted to center pivot systems reducing the number of turnouts. Cultivated acres - 2017 Actual / 2018 Proposed Arizona 9,655 / 10,300 California 2,582 / 2,580 Nevada 428 / 428 Total **12,665** / **13,308** The above acreages do not include any land that may be acquired or subjugated in 2018.	There has been no change in the number of turnouts in Arizona or Nevada. Section 10 in the southwestern sector of the Arizona farm, and the NW California farm (last remaining flood-irrigated) will be converted to center pivot systems. Cultivated acres - 2018 Actual / 2019 Proposed Arizona 10,114 / 10,110 California 2,962 / 2,960 Nevada 428 / 428 Total **13,504** / **13,498** There are no plans to subjugate additional Tribal land in 2019
Climatic Conditions[2]	AZMET stations Mohave & Mohave 2 Annual mean temperature 70.1 °F Average annual rainfall 4.39 inches Average annual ETo 81.94 inches 2016 High temperature 123° on 6/20 2016 Low temperature 28° on 2/4 2016 Total rainfall 5.63 inches 2016 ETo 82.7 inches	AZMET stations Mohave & Mohave 2 2017 Data: Annual mean temperature - 70.58 °F Total 2017 rainfall - 3.54 inches Total 2017 ETo - 84.90 inches 2017 High temperature 123° on 6/24 2017 Low temperature 26° on 1/26
Location[3]	The California farm has converted an additional 475 acres of flood irrigated land to 347 acres under center pivot systems. The corners are not farmed at present. 100 Acres of sprinkler irrigated turf has been added in Arizona. Pumpage from the southernmost pump has been discontinued due to unreliable water levels.	(1) The NW section of the California farm will be converted to center-pivot-based delivery (752 acres) from the existing flood-based system (846 acres); (2) Arizona section 10 will be converted to a center-pivot system from the current flood irrigated system (498 acres).
Land Classification[4]	There will be no changes however it is the practice, as much as possible, to grow alfalfa on the sandy loams, cotton or wheat on the silty loams and Bermuda on heavier, saltier soils.	The only changes in land classification(s), may be a a result of market conditions [i.e. *cotton*] or problems with insect pests [i.e. *bermuda grass that attracts mosquitos*].

[1] Has the Tribe added or reduced the number of turnouts or cultivated acres in its service area?
[2] List weather stations used, annual mean temperature and rainfall, and reference evapotranspiration (ETo).
[3] Have there been any changes in the location of Tribe's facilities (e.g. canals, laterals, gates, etc.)?
[4] Quantify crop acres moved between soil classifications and projected impact on water use.

Part 417.3 Factors	2018 Reply	2019 Reply (Written)
Kinds of crops raised[5]	At this writing the 2018 crop plans have not been finalized. In Arizona, the alfalfa and Bermuda acreage is not expected to change significantly. The remaining land will be planted to wheat and cotton. The mix will be a decision to be made this fall and will depend on anticipated market conditions in 2018. Irrigation demand will depend on the mix of these crops. In California, 347 acres under newly installed center pivots will be planted to alfalfa in the fall of 2017. Irrigation demand will increase. No changes are expected in Nevada.	At this writing, 2019 crop plans have not been finalized; crop types and the amount of each crop type will remain (roughly) the same as 2018. Based on crop types and their dedicated acreage planned, projected water use in 2019 will remain roughly the same as 2018. Though crops raised should remain the same as 2018, means of water delivery will change. With all other variables remaining the same as 2018, some water savings may be realized with center-pivot conversion.
Cropping Practices[6]	No changes are expected in 2018.	No changes are expected in 2019.
Type of Irrigation System in Use[7]	The Tribe continues to convert flood irrigated farmland to center pivot systems. The only drip system has been removed due to excessive maintenance cost. Work on existing ditches and canals will be confined to maintenance.	The Tribe continues to convert flood irrigated farmland to center-pivot systems - 1,250 acres in AZ and CA planned for center-pivot conversion in 2019.
Condition of Water Carriage & Distribution Facilities[8]	In 2016: Arizona 61,712 acre feet California 11,841 Nevada 4,911	Physical condition of water conveyances is adequate, as they're repaired with regular frequency. Storage reservoirs are constructed to accommodate new pivot systems. The next reservoir is scheduled to be installed in 2019, at roughly 100' north of a newly-installed reservoir on the west side of the California farm.
Record of water orders[9]	The Tribe does not submit daily water orders to the Bureau of Reclamation.	The Tribe does not submit daily water orders to the Bureau of Reclamation.
Record of Rejections of Water Orders[10]	No changes.	No changes.
General Operating Practices/Policies[11]	*The same answer as in 2017 however there* is now only one remaining lessee	*There is one remaining lessee (responsible* for operation and maintenance of their own river diversions) – same response as that submitted for 2018.

[5] List changes in crop types (e.g. more/less alfalfa than last year, etc…) and the projected impact on water use.
[6] Identify projected changes to cropping practices (e.g. sprinkle germination, etc..) and the expected impact on water use.
[7] Has there been a change in irrigation methods such as more/less drip acreage, level basin acreage, etc.?
[8] Amount of water delivered/sold to customers in acre feet.
[9] Does the Tribe amend daily water orders with the USBR more than three times a month?
[10] Have water orders from farmers been rejected by the Tribe (e.g. for non-payment, etc.), which would impact its water order?
[11] Have there been any changes to operating practices or policies? If so, describe the new operating practice or attach a description of the new policy.

Part 417.3 Factors	2018 Reply	2019 Reply (Written)
Operating Efficiencies	January 2016 through June 2017: ***Arizona:*** **N Casino/S Casino**- All flood, 1,250 ft runs; Calculated consumptive use: 23,959 af Measured diversion: 33,553 af Irrigation efficiency at **71%** **North Event Center Unit**- All center pivot; Calculated consumptive use: 2,306 af Measured diversions: 2,589 af Irrigation efficiency at **89%** **Cimarron Unit**- All Flood; mostly 1,320 ft runs Calculated consumptive use: 7,180 af Measured diversions: 9,696 af Irrigation efficiency at **74%** **Willow Unit**- All Flood, 880 ft runs Calculated consumptive use: 25,372 af Measured diversions: 42,778 af Irrigation efficiency at **59%** **Barrackman/Refuge Unit*** - All flood, mostly 880' runs Calculated consumptive use: 11,226 af Measured diversions: 14,724 af Irrigation Efficiency at **76%** ***California:*** **California 1 Unit**- Flood & Center Pivot Calculated consumptive use: 7,711 af Measured diversions: 10,221 af Irrigation efficiency at **75%** **California 2 Unit**- All center pivot Calculated consumptive use: 10,783 af Measured Diversions: *Questionable data, no IE determined* ***Nevada:*** **Nevada Unit**- All flood, various runs; Calculated consumptive use: 3,056 af Measured diversions: 4,830 af Irrigation efficiency at **63%**	January September 2018: ***Arizona:*** **N Casino/S Casino** - All flood irrigated; 1,250 ft runs Calculated consumptive use: 10,178 af Measured diversion: 13,342 af Irrigation efficiency at **75.4%** **North Event Center Unit** - All center-pivot irrigated; Calculated consumptive use: 1,166 af Measured diversions: 1,367 af Irrigation efficiency at **81.4%** **Cimarron Unit** - All flood irrigated; mostly 1,320 ft runs Calculated consumptive use: 2,480 af Measured diversions: 3,693 af Irrigation efficiency at **64.3%** **Willow Unit** – Flood & center-pivot; 880' runs Calculated consumptive use: 12,149 af Measured diversions: 16,218 af Irrigation efficiency at **74.1%** **Barrackman Unit** - All flood irrigated, mostly 880' runs; Calculated consumptive use: 3,342 af Measured diversions: 5,433 af Irrigation efficiency at **65.1%** ***California:*** **California 1 Unit** - Flood & center-pivot; Calculated consumptive use: 4,958 af Measured diversions: 5,146 af; Irrigation efficiency at **96.7%** - *Questionable Data* **California 2 Unit** - All center-pivot; Calculated consumptive use: 4,169 af Measured diversions: 4,656 af Irrigation Efficiency at **95.6%** ***Nevada:*** **Nevada Unit** - All flood; various runs Calculated consumptive use: 1,249 af Measured diversions: 1,865 af Irrigation efficiency at **66.0%**
*Refuge pump idle 2017-present, no Colorado River water diverted since		
Methods of Irrigation of the water users[12]	Surge/cutback is practiced on laser levelled fields equipped with large flow turnouts.	Surge/cutback is practiced on laser levelled fields equipped with large flow turnouts.
Amount and rate of return flow to the CO river[13]	The 2016 Decree Accounting Report lists the following total diversions and estimated return flows Arizona: Total Diversions 62,427 af; Return Flow 28,932 af California: 11,546 af; 5,333 af Nevada: 4,998 af; 1,649 af The Tribe disputes these numbers.	The 2017 Decree Accounting Report lists the following total diversions and estimated return flows: AZ: Total Diversions 64,847 af; Return Flow 30,739[2] af CA: 13,781 af; 6,389[2] af NV: 2,666 af; 1,532[2] af *[2]FMIT return flow est: AZ- 24,642 af; CA- 5,237 af; NV- 1,013 af*

[12] Types of irrigation management practices employed (e.g. surge, cutback, etc.). Describe any changes to the type of management practice utilized and provide the quantity of acres affected by these changes.

[13] Amount (cfs) and average rate (ft/sec) of return flow to the river.

Part 417.3 Factors	2018 Reply	2019 Reply (Written)
Municipal Water Requirements[14]	2016 Municipal Industrial Turf Total Arizona 260 af 226 af 0 486 af California 46 0 0 46 Nevada 303 0 1,458 1,761	2017 Municp Indust Turf Total AZ 235 af 72 af 1,295 af* 1,602 af CA 49 af 0 0 49 af NV 215 af 0 1,762 af 1,977 af
Provisions of Users Water Delivery Contract[15]	There are no water service contracts.	There are no water service contracts.
Water Rates[16]	No change except now there is only one lessee.	No change from CY 2018 – only lessee is Harter Farms (AZ and CA)
Number of Ditch Riders[17]	There are no ditch riders in the usual sense however the tribal farm does have dedicated personnel to operate the pumps and main canal gates.	There are no ditch riders in the usual sense however the tribal farm does have dedicated personnel to operate the pumps and main canal gates.
Water Conservation[18]	The Tribe expects to spend $400-500,000 in the continuing effort to convert to more efficient center pivot systems. However, if the law is correct and all water not consumptively used returns to the river, there is no net gain to the system.	FMIT plans to spend roughly $2,500,000 for center-pivot conversion in Arizona's section 10, and NW California farms. And additional land leveling cost estimates for 2019 is $150,000.
Other Relevant Factors[19]	**Unresolved Issues:** Overruns/Underruns and the IOPP The Tribe is concerned when, as we rely almost entirely on Bureau of Reclamation operated gages to measure our diversions, these numbers change after the fact. We don't understand how something can be re-counted after it is consumed but we have no problems trueing up any reported overruns/underruns the following year. We do have a problem when diversions upped after year's end results in placing us under the extremely punitive provisions of the Inadvertent Overrun and Payback Policy. The post year adjustments are often quite significant, for a California example: Year Year End Figure Adjusted Figure 2016 11,841 af 11,546af 2015 15,549 15,164 2014 16,087 16,509 2013 15,295 15,301 2012 16,404 15,839 When there is a 5-600 acre foot discrepancy, we have little choice but to shut down a thousand acre feet short of entitlement/order. The Tribe considers this to be an unacceptable loss of resource.	FMIT remains concerned that USBR data reported throughout the year is often adjusted weeks or months later in subsequent reports (in this case, the HBD system database that reports tribal water use weekly). As stated in FMIT's 2018 questionnaire, USBR data changes have the potential of undermining tribal water use reporting accuracy that affects our efforts to determine irrigation efficiency, effectively plan for Colorado River withdrawals onto the California reservation [and avoid inadvertent overrun], and to (generally) distort our knowledge of how much system water we actually use. FMIT is additionally concerned with USBR's calculated rate of return flow to the Colorado River. Questionable USBR data calculation uses a multiplier (approximately .46) that is inaccurate when compared to actual rates of return based on widely published ETo data for commonly grown crops (alfalfa, cotton, wheat, bermuda grass) and combined with other environmental variables (temperature, wind speed, humidity, etc.). FMIT believes that multiplier should be +.38 (* *Inclusion of Huukan Golf Course turf (2017) into trust*)

[14] The amount of water going to non-agricultural uses (municipal, industrial, feedlots, other, etc…) in acre feet.
[15] Have there been any changes in the water service contract?
[16] Have there been any changes in water rates? If so, submit the changed rates.
[17] Number of ditch riders and areas/divisions each ditch rider works.
[18] How much money will be spent by the Tribe on water conservation for 2019?
[19] Optional, please identify any other relevant factor/factors and explain why it would impact the water order.

Part 417.3 Factors	2018 Reply	2019 Reply (Written)
	Colorado River Depletions as Reported in the Decree Accounting Reports The Colorado River Accounting and Water Use Reports list the consumptive use on the Reservation to be ±54%. This is obviously incorrect. The true number is ±71% and rising as we convert to more efficient center pivot systems. The Tribe may use it's entitlement for any beneficial use as long as the River is not depleted by more than would have resulted from agricultural irrigation. This has not been too important in the past but will be as we expand from only agricultural uses. As an example, The California Reservation has an entitlement of 16,720 acre feet. The 2016 Colorado River Accounting Use Report lists the consumptive uses at 53.4% of diversion. Resulting in a depletion of 8,928 acre feet at full diversion right. Should the Tribe develop a fully consumptive non-agricultural use of 4,000 acre feet per year, only 4,928 acre feet of depletion is left, using the 53.4% figure, or enough to irrigate about 1,400 acres. However if a more realistic 75% figure is used, there is 12,540 acre feet of depletion and enough left to irrigate about 1,700 acres. The Tribe clearly needs a solid number and we hope that, working with the Bureau of Indian Affairs and the Bureau of Reclamation, such a number could be firmly established that would allow the Tribe to develop the Reservation to it's full potential.	Consumptive use on FMIT lands will steadily decrease as efficient center-pivot systems are installed on Tribal farms. The Tribe may use its water savings for any beneficial use as long as the Colorado River is not depleted by more than would have resulted from agricultural irrigation. The Tribe clearly needs an accurate number (consumptive use) and we hope that, working with BIA and the BOR, such a number could be firmly established that would allow the Tribe to develop the Reservation to its full potential.

WATER CONSERVATION PLAN IMPLEMENTATION[20]

2018 Activity

[20] Water conservation activities/measures/practices the Tribe implemented in 2018.

OTHER[21]

Russell Ray
Ft. Mojave Indian Tribe
Department of Physical Resources

9-21-2018
Date

[21] Other relevant materials to submit (e.g. new water conservation plan, transfers, water price sheet, etc.).

FORT MOJAVE INDIAN TRIBE 2019 ESTIMATE OF COLORADO RIVER DIVERSIONS

MONTH	ARIZONA	CALIFORNIA	NEVADA	TOTAL
January	2,500 acre fee	700 acre feet	200 acre feet	3,400 acre feet
February	5,000	1,500	400	6,900
March	7,000	2,000	500	9,500
April	8,000	2,500	600	11,100
May	10,000	2,500	800	13,300
June	12,000	2,500	800	15,300
July	12,000	1,000	700	13,700
August	10,000	1,000	700	11,700
September	8,000	1,000	600	9,600
October	3,000	500	300	3,800
November	3,000	1,000	200	4,200
December	2,000	520	200	2,720
Total	82,500	16,720	6,000	105,220
Entitlement	103,535	16,720	12,534	132,789
% of Entitlement	80%	100%	48%	79%

Prepared by:
Fort Mojave Tribe Physical Resources Department
September 10, 2018

FORT MOJAVE INDIAN TRIBE 2018 ESTIMATE OF COLORADO RIVER DIVERSIONS

MONTH	ARIZONA	CALIFORNIA	NEVADA	TOTAL
January	2,500 acre fee	700 acre feet	200 acre feet	3,400 acre feet
February	5,000	1,500	400	6,900
March	7,000	2,000	500	9,500
April	5,000	2,500	600	8,100
May	10,000	2,500	800	13,300
June	12,000	2,500	800	15,300
July	12,000	1,000	700	13,700
August	10,000	1,000	700	11,700
September	6,000	1,000	600	7,600
October	4,000	500	300	4,800
November	3,000	1,000	200	4,200
December	2,000	520	200	2,720
Total	78,500	16,720	6,000	101,220
Entitlement	103,535	16,720	12,534	132,789
% of Entitlement	76%	100%	48%	76%

Prepared by:
Fort Mojave Physical Resources Department
August 24,2017