SECTION 7 - SELECTED CONTROL MEASURE AND FEDERAL PM-10 STANDARD ATTAINMENT DEMONSTRATION

INTRODUCTION
MONO LAKE BASIN WATER DECISION 1631
SUMMARY OF AIR QUALITY IMPACT
DEMONSTRATION OF ATTAINMENT
CLEAN AIR ACT COMPLIANCE

7.1 Introduction

It is clear that the predominant source of PM-10 emissions in the Mono Basin Planning Area is windblown dust, resulting from the erosion of efflorescent salt deposits and sediments from the exposed lake shore of Mono Lake. 4,975 acres of relicted lake bed are now unprotected from the wind--a consequence of water diversions that have lowered the lake level 45 feet since 1941.

The control measure to reduce air pollution from PM-10 emissions in Mono Basin was adopted by the State Water Resources Control Board (SWRCB) on September 28, 1994. The control measure specifies a gradual increase in the water elevation of Mono Lake which will submerge much of the exposed emissive source area–the only feasible method to sufficiently reduce emissions to comply with the federal PM-10 Standard. The SWRCB promulgated its findings in the *Mono Lake Basin Water Right Decision 1631: Amending Water Right Licenses 10191 and 10192, City of Los Angeles, Licensee*. Pertinent sections of the adopted decision are summarized in Table 7-1. The complete Order and Certification is included in Appendix 6.

The decision of the SWRCB establishes water diversion criteria that shall apply over approximately 20 years to ensure that the water level of Mono Lake is restored to at least 6,391 feet and is sustained at or above that elevation (Figure 7-1). Under normal runoff hydrology, an estimated 26 years is required for Mono Lake to rise to this designated elevation. Extremely wet runoff years could result in the lake reaching 6,391 feet in as little as nine years, whereas it may take as long as 38 years under drought conditions (Figure 7-2). As a contingency, the SWRCB has the authority to further limit diversion of water by the Licensee to enforce the decision and its objective of protecting public trust resources. Submerging the exposed lake shore to 6,391 feet or higher will effectively eliminate emissions from lower source elevations characterized by net deflation. Emissions from the 6,391 to 6,400 foot contours will be curtailed through stabilization--a result of declining deposition of particulate matter and expanding natural vegetation cover. As will be demonstrated later in this section, predicted attainment of the PM-10 Standard will be accomplished in the Mono Basin Planning Area.

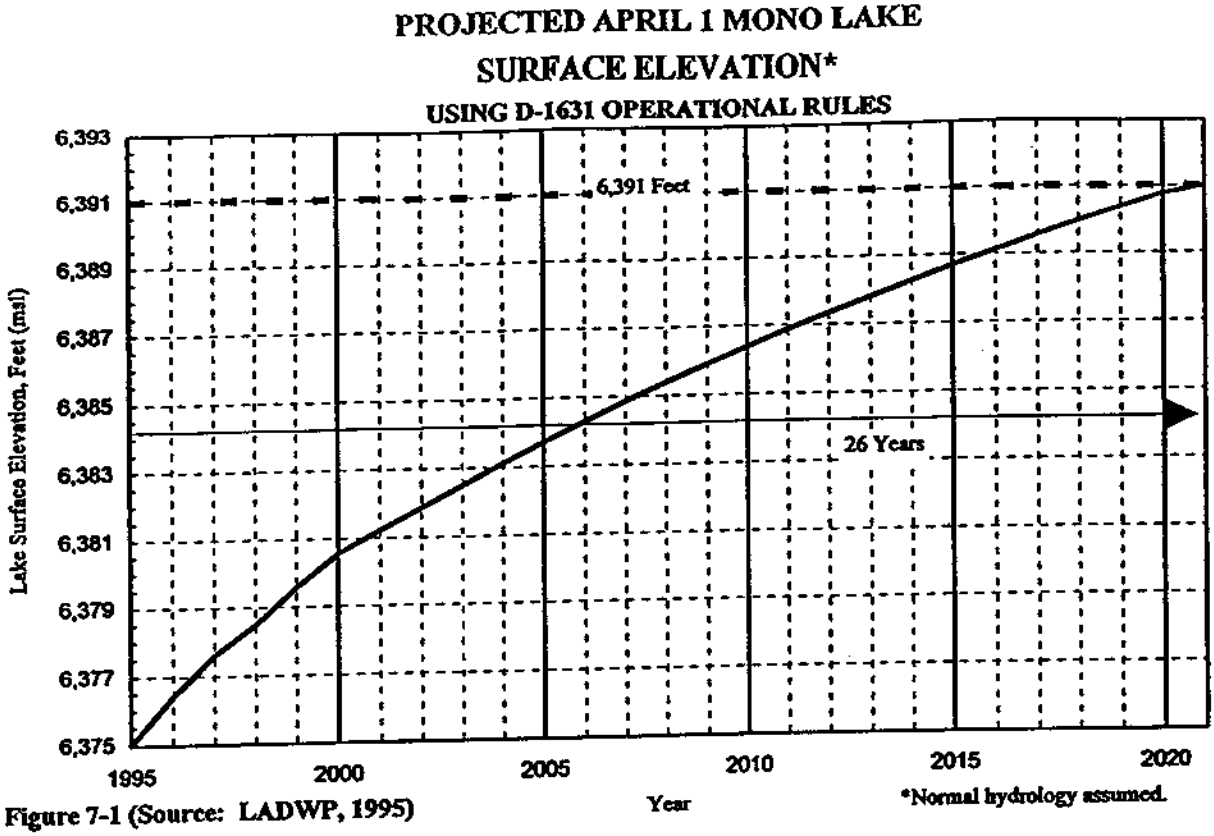


Figure 7-1 (Source: LADWP, 1995)

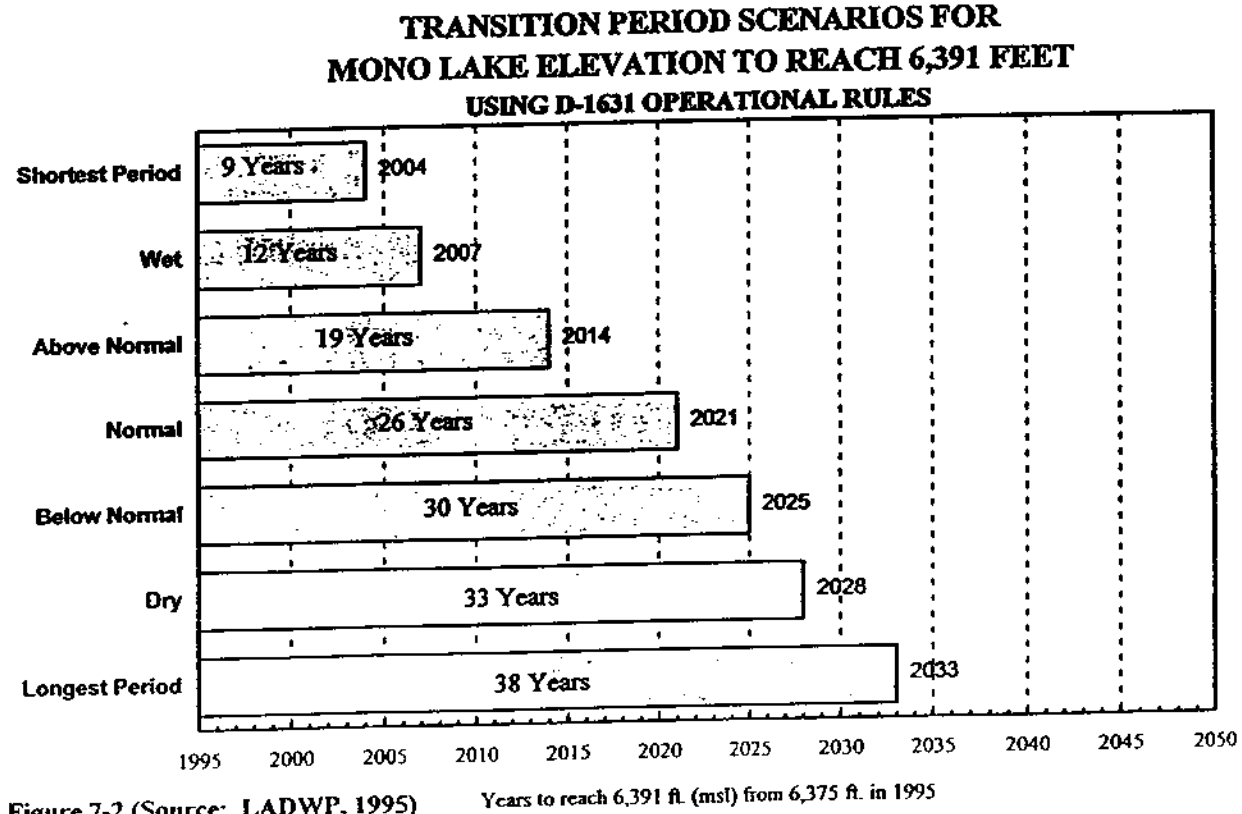


Figure 7-2 (Source: LADWP, 1995)

Assumptions Used to Develop Charts in Figures 7-1 and 7-2

Figure 7-1 Chart: Projected April 1 Mono Lake Surface Elevation

Chart values were calculated using the Los Angeles Aqueduct Simulation Model (LAASM) by using normal Mono Basin hydrology for 26 consecutive years. The simulation used a starting lake elevation of 6,375 feet (msl). Given 26 successive years of normal hydrologic conditions, the lake surface elevation would likely transition from the 1995 elevation of 6,375 feet to the 6,391 foot elevation as shown in the chart.

Figure 7-2 Chart: Transition Period Scenarios for Mono Lake Elevation to Reach 6,391 Feet

The range of transition period scenarios depicted in this chart was developed using the Mono Basin 1940-1993 hydrologic record as a database. A total of 54 independent simulations were made with each simulation using 54 years of hydrologic data. To vary the hydrologic sequence of each simulation, the database was systematically cycled through year-by-year. To facilitate this cycling process, two sets of the 1940-1993 hydrology were used. The second data set was appended to the end of the first data set. The following explanation should help clarify the process used.

The 45 successive simulations were completed as follows. The first simulation used one data set only; it began with 1940 and ended with 1993. However, the second simulation and all subsequent simulations required both data sets. The second simulation used the 1941-1993 data from the first set with 1940 from the second data set completing the 54 year cycle. Moving the starting point up one year with each iteration, 52 more simulation runs were conducted. The 54th and final simulation began with the last year of the first set, 1993, and cycled through 1992 of the second data set. Each simulation used 6,375 feet (msl) as the starting lake surface elevation. After all 54 simulations were completed, the calculated transition periods (years to reach a lake surface elevation of 6,391 feet from a starting point of 6,375 feet) from each simulation were tabulated.

Analyzing the frequency distribution of the tabulated data described above, a reasonable range was determined for the length of the transition period. It was determined that under a wet hydrologic scenario, the transition period may be as short as 12 years and under a dry hydrologic scenario, the transition may take as long as 33 years. In this context, the "Wet" scenario is defined as an upper hydrologic limit that is exceeded (conditions are wetter) only 10 percent of the time. Likewise, the "Dry" scenario is defined as a lower hydrologic limit that is exceeded (conditions are drier) only 10 percent of the time. Under extreme hydrologic conditions (wet or dry), the range is larger (9 years to 38 years). Three other probable scenarios between the "Wet" and "Dry" scenarios were also identified. These are "Above Normal," "Below Normal," and "Normal." These scenarios were also defined by looking at the frequency distribution of the 54 successive simulations. (Source: LADWP)

7.2 *Mono Lake Basin Water Decision 1631*

The Mono Lake decision requires specified actions for the recovery of resources degraded by years of water diversion from tributary streams normally flowing into the lake. The amendment of water right licenses includes the establishment of minimum in-stream flows, as well as periodic higher flows for channel maintenance and flushing. Further, the implementation of defined water diversion criteria will progressively increase the water elevation, thereby protecting aquatic and terrestrial ecosystems, enhancing scenic resources, and improving ambient air quality.

The process for review of Mono Basin water rights involved extensive evidentiary hearings. For that portion on air quality, the SWRCB considered computer modeling results predicting future air quality conditions at differing lake levels. These computer models, along with corroborating expert testimony, provided the SWRCB with the best evidence available for evaluating expected conditions under alternative proposals. The air quality improvement predicted as a result of increasing the water elevation to 6,391 feet or above was a determining factor in the final decision.

"[T]his decision and the process by which it has been reached satisfy the California Supreme Court's objective of taking `a new and objective look at the water resources of the Mono Basin.' (National Audubon Society v. Superior Court, 33 Cal.3d at 452, 189 Cal. Rptr. at 369.) The requirements set forth in the order . . . are in accord with the Court's mandate to protect public trust resources where feasible and the mandate of the California Constitution to maximize the reasonable and beneficial use of California's limited water resources."[34]

Table 7-1

MONO BASIN WATER RIGHT LICENSE AMENDMENTS

MINIMUM IN-STREAM FLOWS

- Establishes specific flow requirements (in cfs) for Lee Vining, Walker, Parker, and Rush Creeks for dry, normal, and wet years.
- Requires that specified flows remain in the stream channel and not be diverted.
- Requires release of water from Grant Lake storage, if necessary, to maintain dry year flow requirements in Rush Creek.

CHANNEL MAINTENANCE AND FLUSHING

- Establishes specific channel maintenance and flushing flow requirements for Lee Vining, Walker, Parker, and Rush Creeks for dry, normal, and wet years.
- Requires that change in flow not exceed specified "ramping rates."

HYDROLOGIC YEAR-TYPE CLASSIFICATION

- Establishes guidelines for determination of hydrologic year-type for April 1-March 31 period, including classification of projected runoff into dry, normal, and wet (LADWP Runoff Forecast Model).

MEASUREMENT OF STREAM FLOW

- Establishes procedures for measurement of stream flow above and below diversion facilities and for maintenance of records.

WATER DIVERSION CRITERIA

- Establishes procedure for measuring the water level of Mono Lake in order to set diversion limits for each April 1-March 31 period.
- Establishes acre-foot diversion limits for varying water levels until lake reaches 6,391 feet.
- Requires reconsideration of license amendments if water level has not reached elevation of 6,391 feet by September 28, 2014.
- Establishes acre-foot diversion limits once water level of Mono Lake attains 6,391 feet.

AUTHORITY

- Recites continuing authority of the State Water Resources Control Board over licenses, pursuant to California Water Code Sections 100 and 275 and common law public trust doctrine.

MONO LAKE BASIN WATER RIGHT DECISION 1631

PERTINENT SECTIONS OF ORDER AND CERTIFICATION

ORDER

IT IS HEREBY ORDERED that Water Right Licenses 10191 and 10192 are amended to include the following conditions:

1. For protection of fish in the specified streams, Licensee shall bypass flows below Licensee's points of diversion equal to the flows specified below or the streamflow at the point of diversion, whichever is less. However, if necessary to meet the dry year flow requirements on Rush Creek, Licensee shall release water from storage at Grant Lake Reservoir under the conditions specified below. The flows provided under this requirement shall remain in the stream channel and shall not be diverted for any other use.

   a. Lee Vining Creek

Dry Year Flow Requirements	
April 1 through September 30	37 cfs
October 1 through March 31	25 cfs

Normal Year Flow Requirements

April 1 through September 30	54 cfs
October 1 through March 31	40 cfs

Wet Year Flow Requirements

April 1 through September 30	54 cfs
October 1 through March 31	40 cfs

b. Walker Creek

Flow Requirements for All Types of Water Years

April 1 through September 30	6.0 cfs
October 1 through March 31	4.5 cfs

c. Parker Creek

Flow Requirements for All Types of Water Years

April 1 through September 30	9.0 cfs
October 1 through March 31	6.0 cfs

d. Rush Creek

Dry Year Flow Requirements

April 1 through September 30	31 cfs
October 1 through March 31	36 cfs

Normal Year Flow Requirements

April 1 through September 30	47 cfs
October 1 through March 31	44 cfs

Wet year Flow Requirements

April 1 through September 30	68 cfs
October 1 through March 31	52 cfs

The dry year flow requirements in Rush Creek shall be maintained, if necessary, by release of stored water from Grant Lake until Grant Lake reaches a volume of 11,500 acre-feet. If Grant Lake storage falls below 11,500 acre-feet,

the instream flow requirement shall be the lesser of the inflow to Grant Lake from Rush Creek or the specified dry year flow requirement.

For normal and wet hydrologic years, the instream flow requirements shall be the requirements specified above or the inflow to Grant Lake from Rush Creek, whichever is less. If during normal and wet hydrologic years the inflow to Grant Lake from Rush Creek is less than the dry year flow requirements, then Licensee shall release stored water to maintain the dry year flow requirements until Grant Lake storage falls to 11,500 acre-feet or less.

2. Licensee shall provide channel maintenance and flushing flows for each stream from which water is diverted in accordance with the flows specified below. In the event that the flows at the Licensee's points of diversion on Lee Vining Creek, Walker Creek and Parker Creek are insufficient to provide the channel maintenance and flushing flow requirements, Licensee shall bypass the highest flows which are expected to be present at its points of diversion for the length of time specified in the tables below, and shall notify as soon as reasonably possible the Chief of the Division of Water Rights of the reason that the normally applicable channel maintenance and flushing flow requirements could not be met. In addition, at times when Licensee is responsible for the change in flow in any of the streams from which water is diverted, Licensee shall adjust the rate of change of flow so as not to exceed the "ramping rate" specified below for each stream. Licensee is not required to compensate for fluctuations in the flow reaching Licensee's point of diversion. The specified ramping rates shall be determined based on the percentage of change in flow from the average flow over the preceding 24 hours.

a. Lee Vining Creek

CHANNEL MAINTENANCE & FLUSHING FLOW REQUIREMENTS LEE VINING CREEK

HYDROLOGIC CONDITION	REQUIREMENT
DRY YEAR	NO REQUIREMENT
NORMAL YEAR	160 CFS FOR A MINIMUM OF 3 CONSECUTIVE DAYS DURING MAY, JUNE OR JULY.
WET YEAR	160 CFS FOR 30 CONSECUTIVE DAYS DURING MAY, JUNE OR JULY
RAMPING RATE - NOT TO EXCEED 20% CHANGE DURING ASCENDING FLOW AND 15% DURING DESCENDING FLOWS PER 24 HOURS	

b. Walker Creek

CHANNEL MAINTENANCE AND FLUSHING FLOWS FOR LOWER WALKER CREEK

HYDROLOGIC CONDITION	REQUIREMENT
DRY YEAR	NO REQUIREMENT
NORMAL YEAR	15 TO 30 CFS FOR 1 TO 4 CONSECUTIVE DAYS BETWEEN MAY 1 AND JULY 31
WET YEAR	15 TO 30 CFS FOR 1 TO 4 CONSECUTIVE DAYS BETWEEN MAY 1 AND JULY 31
RAMPING RATE - NOT TO EXCEED 10% CHANGE IN STREAMFLOW PER 24 HOURS	

c. Parker Creek

CHANNEL MAINTENANCE & FLUSHING FLOWS FOR LOWER PARKER CREEK

HYDROLOGIC CONDITION	REQUIREMENT
DRY YEAR	NO REQUIREMENT
NORMAL YEAR	25 TO 40 CFS FOR 1 TO 4 CONSECUTIVE DAYS BETWEEN MAY 1 AND JULY 31
WET YEAR	25 TO 40 CFS FOR 1 TO 4 CONSECUTIVE DAYS BETWEEN MAY 1 AND JULY 31
RAMPING RATE - NOT TO EXCEED A 10% CHANGE IN STREAMFLOW PER 24 HOURS	

d. Rush Creek

CHANNEL MAINTENANCE & FLUSHING FLOW REQUIREMENTS RUSH CREEK

HYDROLOGIC CONDITION	REQUIREMENT
DRY YEAR	NO REQUIREMENT
DRY-NORMAL YEAR	NO REQUIREMENT
NORMAL YEAR	200 CFS FOR 5 DAYS
WET-NORMAL YEAR	300 CFS FOR 2 CONSECUTIVE DAYS RAMP DOWN TO 200 CFS. MAINTAIN 200 CFS FOR 10 DAYS
WET YEAR	300 CFS FOR 2 CONSECUTIVE DAYS RAMP DOWN TO 200 CFS. MAINTAIN 200 CFS FOR 10 DAYS
RAMPING RATE - NOT TO EXCEED A 10% CHANGE IN STREAMFLOW PER 24 HOURS	

Runoff year definition:

Dry	80-100% exceedence (68.5% of average runoff)
Dry-Normal	60-80% exceedence (between 68.5% and 82.5% of average runoff)
Normal	40-60% exceedence (between 82-5% and 107% of average runoff)
Wet-Normal	20-40% exceedence (between 107% and 136.5% of average runoff)
Wet	0-20% exceedence (greater than 136.5% of average runoff)

The ramping requirement applies to changes in flow made by LADWP. LADWP is not required to compensate for natural fluctuations in flow.

3. For purposes of determining: (1) applicable instream flows for protection of fish on Lee Vining Creek and Rush Creek; and (2) channel maintenance and flushing flow requirements on Lee Vining Creek, Walker Creek, Parker Creek, and Rush Creek, the hydrologic year type classification shall be determined using projected unimpaired runoff for the runoff year April 1 through March 31 as estimated using the LADWP Runoff Forecast Model for the Mono Basin. The unimpaired runoff is the sum of forecasts for the Lee Vining Creek, Walker Creek, Parker Creek, and Rush Creek sub-basins.

Preliminary determinations of the runoff classification shall be made by Licensee in February, March, and April with the final determination made on or about May 1. The preliminary determinations shall be based on hydrologic conditions to date plus forecasts of future runoff assuming median precipitation for the remainder of the runoff year. Instream flow requirements prior to the final determination in May

shall be based on the most recent runoff projection. Following issuance of final determination in May, that hydrologic year classification shall remain in effect until the preliminary runoff determination made in April of the next year. The hydrologic year type classification shall be as follows:

Wet Hydrologic Conditions:	Projected runoff greater than 136.5% of average
Normal Hydrologic Conditions:	Projected runoff between 68.5% and 136.5% of average (inclusive)
Dry Hydrologic Conditions:	Runoff less than 68.5% of average

For purposes of determining the channel maintenance and flushing flow requirements on Rush Creek, the hydrologic year-type determination shall be in accordance with the criteria specified in part "d" of the preceding condition.

4. Licensee shall maintain continuous instantaneous measuring devices at each point of diversion which are satisfactory to the Chief of the Division of Water Rights and which measure the streamflow above the diversion facility and the flow immediately below the diversion facility. Licensee shall maintain detailed records from which the flow above and below the diversion facility, and the quantity of water diverted can be readily determined. Licensee shall report to the Chief of the Division of Water Rights within 72 hours any event when the flows required by this order are not met. As soon as reasonably possible, Licensee shall provide an explanation of why the required flows were not met.

6. In addition to the instream flow requirements for fishery protection, channel maintenance and flushing purposes, diversion of water under this license is subject to the limitations specified below. For purposes of determining the applicable water diversion criteria, the water level of Mono Lake shall be measured on April 1 of each year and the limitation on water diversions shall apply for the one year period of April 1 through March 31 of the succeeding year, except as otherwise specified below. The water level shall be measured at the LADWP gage near Lee Vining Creek or such other gage as is approved by the Chief of the Division of Water Rights.

a. Water diversion criteria applicable until the water level of Mono Lake reaches 6,391 feet:

(1) Licensee shall not export any water from the Mono Basin any time that the water level in Mono Lake is below 6,377 feet above mean sea level, or any time that the water level of Mono Lake is projected to fall below 6,377 feet at any time during the runoff year of April 1 through March 31.

(2) If the water level of Mono Lake is expected to remain at or above 6,377 feet throughout the runoff year of April 1 through March 31 of the succeeding year based on Licensee's final May 1 runoff projections and any subsequent runoff projections, then Licensee may divert up to 4,500 acre-feet of water per year under the terms of this license.

(3) If the water level of Mono Lake is at or above 6,380 feet and below 6,391 feet, then Licensee may divert

up to 16,000 acre-feet of water per year under the terms of this license.

(4) In the event that the water level of Mono Lake has not reached an elevation of 6,391 feet by September 28, 2014, the SWRCB will hold a hearing to consider the condition of the lake and the surrounding area, and will determine if any further revisions to this license are appropriate.

b. Water diversion criteria applicable after the water level of Mono Lake reaches 6,391 feet:

(1) Once the water level of Mono Lake has reached an elevation of 6,391 feet, no diversions shall be allowed any time that the water level falls below 6,388 feet.

(2) Once a water level of 6,391 feet has been reached and the lake level has fallen below 6,391, diversions by Licensee shall be limited to 10,000 acre-feet per year provided that the water level is at or above 6,388 feet and less than 6,391 feet.

(3) When the water level of Mono Lake is at or above 6,391 feet on April 1, Licensee may divert all available water in excess of the amount needed to maintain the required fishery protection flows and the channel maintenance and flushing flows, up to the amounts otherwise authorized under this license.

12. Pursuant to California Water Code Sections 100 and 275 and the common law public trust doctrine, all rights and privileges under this license, including method of diversion, method of use, and quantity of water diverted, are subject to the continuing authority of the State Water Resources Control Board in accordance with law and in the interest of the public welfare to protect public trust uses and to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of said water.

The continuing authority of the SWRCB may be exercised by imposing specific requirements over and above those contained in this license with a view to eliminating waste of water and to meeting the reasonable water requirements of licensee without unreasonable draft on the source. Licensee may be required to implement a water conservation plan, features of which may include but not necessarily be limited to (1) reusing or reclaiming the water allocated; (2) using water reclaimed by another entity instead of all or part of the water allocated; (3) restricting diversions so as to eliminate agricultural tailwater or to reduce return flow; (4) suppressing evaporation losses from water surfaces; (5) controlling phreatophytic growth; and (6) installing; maintaining, and operating efficient water measuring devices to assure compliance with the quantity limitations of this license and to determine accurately water use as against reasonable water requirements for the authorized project. No

action will be taken pursuant to this paragraph unless the SWRCB determines, after notice to affected parties and opportunity for hearing, that such specific requirements are physically and financially feasible and are appropriate to the particular situation.

The continuing authority of the SWRCB also may be exercised by imposing further limitations on the diversion and use of water by the Licensee in order to protect public trust uses. No action will be taken pursuant to this paragraph unless the SWRCB determines, after notice to affected parties and opportunity for hearing, that such action is consistent with California Constitution Article X, Section 2; is consistent with the public interest; and is necessary to preserve or restore the uses protected by the public trust.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full and correct copy of a decision duly and regularly adopted at a meeting of the State Water Resources Control Board held on September 28, 1994.

AYE: John Caffrey
James M. Stubchaer
Marc Del Piero
Mary Jane Forster
John W. Brown

NO: None.

ABSENT: None.

ABSTAIN: None.

Maureen Marché
Administrative Assistant to the Board

7.3 Summary of Air Quality Impact

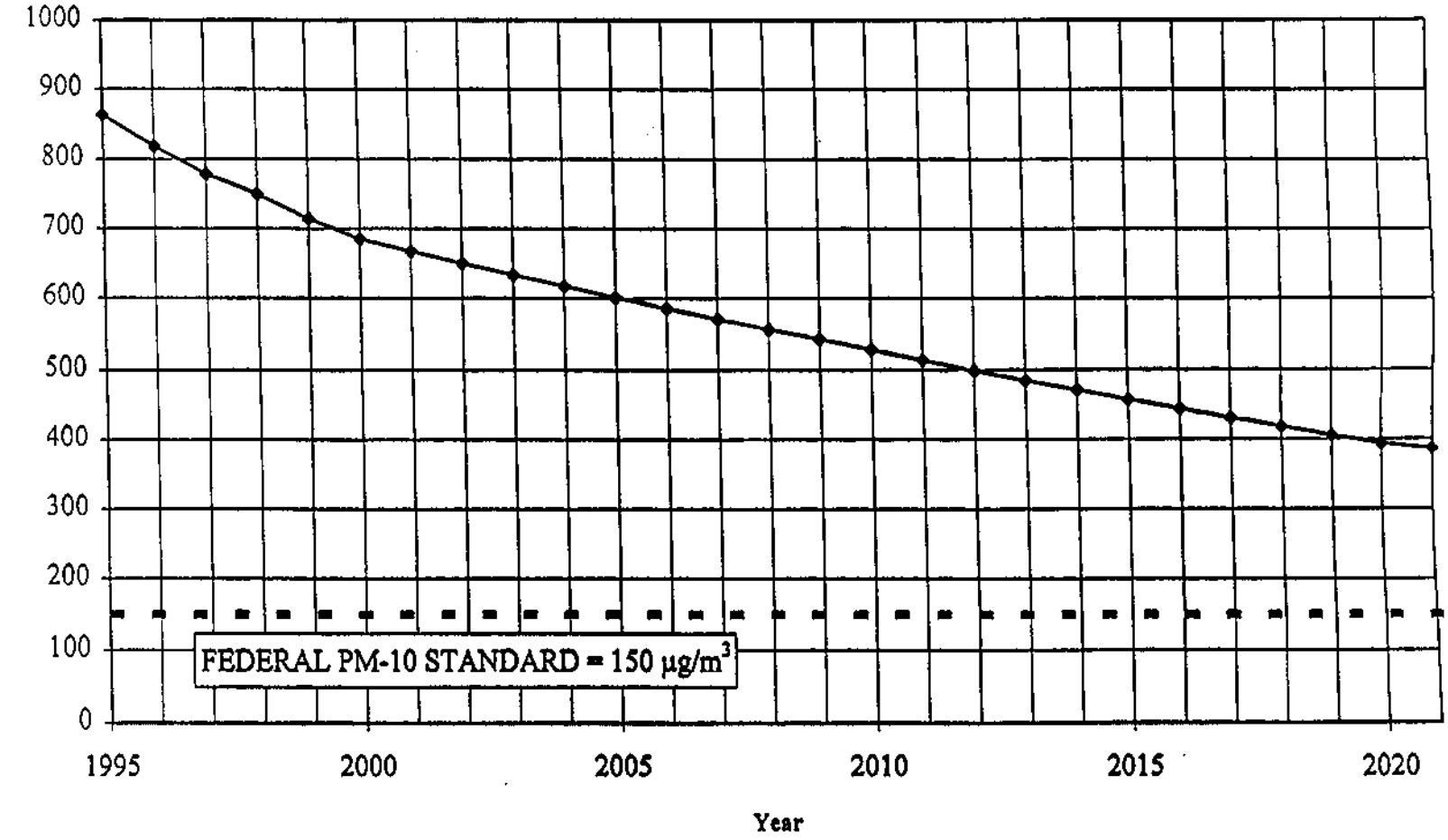
The dispersion modeling results presented in Section 5 indicate that receptor site 45 (on the 6,417 foot topographic contour) experiences the highest predicted 24-hour PM-10 concentrations. This section will describe important technical adjustments to the dispersion modeling results that produce a demonstration of attainment of the 150 $\mu g/m^3$ PM-10 Standard at receptor site 45 with a lake elevation of 6,391 feet, and a lower source boundary at 6,392 feet.

Modeled Impact. The sixth highest concentration for the May 8, 1991 design day at a source elevation of 6,393' is 356 $\mu g/m^3$ (Table 5-2, Dispersion Modeling). As noted in Section 5, the lower limits of a modeled source area will be somewhat higher in elevation than the actual lake level due to a one vertical foot stable band which has been observed to form above the water line. Specifically, a modeled source elevation of 6,393' will correspond to an actual lake level at about 6,392'.

Implementation of the water diversion criteria specified in the SWRCB decision will gradually restore the average water elevation of Mono Lake to approximately 6,391 feet above mean sea level.[35] Figure 7-3 below depicts changes in modeled PM-10 concentrations at receptor site 45 as a function of increasing water elevation.

Figure 7-3

MODELED PM-10 CONCENTRATIONS AT RECEPTOR SITE 45
for Increasing Mono Lake Surface Elevations



* Normal hydrology assumed

Adjusted Impact. The dispersion modeling study assumed that the source areas are spatially homogeneous and vary temporally solely as a function of wind speed. In fact, the higher lake shore areas closer to the prediversion water line have different surface characteristics--and less susceptibility to erosion--than lower areas of the relicted lake bed. Soil observations and sand transport measurements at 10 Mile Road on the North Shore of Mono Lake indicate that the exposed lake shore above 6,390' is a net deposition area, while the zone below that elevation is a net deflation area. (The substrate above 6,390' is comprised of coarser material, not readily suspended at the 16 mph threshold.) This means that as the water elevation increases over time, submerging source areas below the 6,390' contour, the supply of suspended or entrained particulate matter being deposited above the 6,390' contour will decrease.

Additionally, there is evidence of expansion of natural vegetation cover above the 6,390' elevation, especially in the Warm Springs and Simon Springs areas. Vegetation is an effective surface stabilizer, inhibiting wind erosion by catching and retaining particles and increasing resistance to organized flow.

The change in modeled air quality impact due to decreasing deposition from lower-to-higher exposed lake shore areas can be calculated. Modeled PM-10 emissions decrease proportionally with the decrease in size of net deflation source areas. Table 7 in Appendix 5 shows the area size of all lower source elevations (e.g., the exposed source area above each respective water elevation).

The following equation is used to derive the adjusted PM-10 concentration at receptor site 45 as the water elevation increases and submerges areas below 6,391'. It assumes a reduction of 63.4% to attain the Standard:

$$\textit{Adjusted PM-10 (source level)} = \textit{Modeled PM-10 (source level)} - (237\ \mu g/m^3) \times [\textit{Area (6,375')} - \textit{Area (lake level)}] / (2.092 \times 10^7\ m^2)$$

where: 237 = the difference between modeled (387) and attainment (150) PM-10 concentrations; and 2.092×10^7 = the difference in area size between 6,375'and 6,391' source elevations.

At a lake level of 6,391' (lower source level = 6,392'), the air quality at the highest impact site, receptor 45, is 387 $\mu g/m^3$ (interpolated from Table 10, *Final Air Quality Modeling Study*, page 31) and the area size is 3.28×10^6 m^2 (interpolated from Table 7, *Final Air Quality Modeling Study*, page 22). To meet the federal Standard, the impact at receptor 45 must be reduced from 387 to 150 $\mu g/m^3$. Considering the background concentration of 13.1 $\mu g/m^3$ which is used in the model, the source area above 6,392' must decrease its emissions by 63.4%. This would mean that the PM-10 emission rate for the source areas above 6,392'

must be about a third or less of the worst-case emission rate that was used for all areas in the model. As previously discussed, because of the decrease in deposition of erodible material and natural revegetation in the area above 6,392', it is reasonable to believe that the emission rate will be significantly less than what was used in the model and it will be less than a third of the worst-case emission rate.

The 63.4% emission reduction that is needed to attain the federal Standard at 150 $\mu g/m^3$ is determined by the following equation:

Emission
Reduction = 1 - (Standard - Background) / [Modeled Impact (at 6,392') - Background]
= 1 - [(150 $\mu g/m^3$ - 13.1 $\mu g/m^3$) / (387 $\mu g/m^3$ - 13.1 $\mu g/m^3$)]
= 0.634 or 63.4%

This level of reduction or better will be achieved through depletion of deposition material and natural revegetation on the upper playa.

Table 7-2

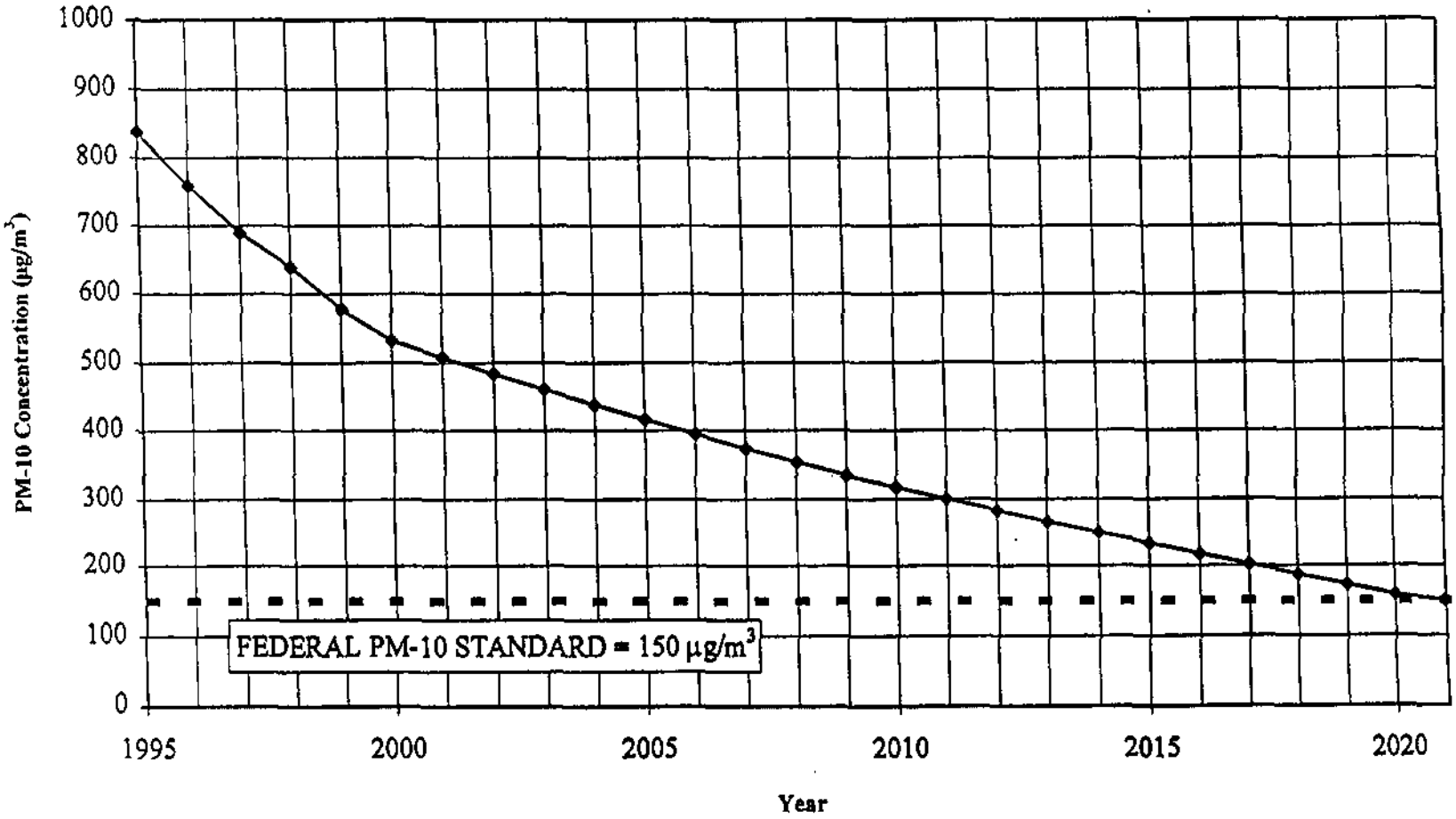
ADJUSTED PEAK 24-HOUR PM-10 CONCENTRATIONS
($\mu g/m^3$)

Water Elevation	Source Area Size (m^2)	Modeled PM-10 at Receptor 45	Adjusted PM-10 at Receptor 45
6,374'	2.42 (10^7)	895 $\mu g/m^3$	895 $\mu g/m^3$
6,376'	1.98 (10^7)	831 $\mu g/m^3$	781 $\mu g/m^3$
6,380'	1.12 (10^7)	700 $\mu g/m^3$	553 $\mu g/m^3$
6,386'	5.80 (10^6)	540 $\mu g/m^3$	332 $\mu g/m^3$
6,391'	3.28 (10^6)	387 $\mu g/m^3$	150 $\mu g/m^3$

Figure 7-4 shows the changes in adjusted PM-10 concentrations at receptor site 45 as a function of increasing water elevation.

Figure 7-4

ADJUSTED PM-10 CONCENTRATIONS AT RECEPTOR SITE 45
for Increasing Mono Lake Surface Elevations



* Normal hydrology assumed

7.4 Demonstration of Attainment

Table 7-2 and Figure 7-3 show estimates of adjusted PM-10 concentrations at receptor site 45. The combined effects of

(1) increasing the water elevation of Mono Lake to 6,391 feet, and

(2) eliminating deposition of particulate matter in the area between the 6,391' to 6,400' elevation,

accomplishes attainment of the PM-10 Standard of 150 $\mu g/m^3$. As depicted in Figure 7-1, the water elevation will have risen to approximately 6,391 feet by the year 2014. The rate of increase will depend in large part on future hydrology. However, once the prescribed elevation is restored, the present analysis indicates that the Mono Basin Planning Area will attain the PM-10 Standard and maintain compliance into the future.

The air quality monitoring program currently operating in the Mono Basin will continue PM-10 data collection in order to measure change in emissions as the water elevation increases. This observed data will be compared to predicted results.

If a contingency measure is required to ensure the targeted water elevation–and, thereby, compliance with the CAA--the SWRCB has the enforcement authority to further limit diversion of water by the Licensee. Decision 1631 includes a provision to consider appropriate revisions to the water right licenses, in the event that the water level of Mono Lake has not reached an elevation of 6,391 feet by September 28, 2014.

7.5 Clean Air Act Compliance

This submittal has been prepared to satisfy all SIP requirements of the federal Clean Air Act Amendments of 1990 in a single, consolidated document.

The Introduction described the normal sequence and longest possible time line for compliance actions, as follows:

Moderate PM-10 (RACM) SIP	June 29, 1995
Best Available Control Measures (BACM) SIP	June 29, 1998
Demonstration of Attainment (DOA) SIP	December 29, 2000
Serious Attainment Date	December 31, 2003
Extension of Attainment Date Initial Five Year	December 31, 2008

Presented below are significant accomplishments-to-date which fulfill required elements of RACM, BACM, and DOA SIP submittals for the Mono Basin as a designated nonattainment area:

- Decision 1631 found that the only feasible control measure to reduce PM-10 emissions in the planning area is to increase the water elevation of Mono Lake.The decision, by operation of law upon adoption, represents an enforceable assurance that the control measure will be implemented.

- Modeling predictions demonstrate that full implementation of the control measure will bring the area into attainment with the NAAQS. If the Standard is not attained by December 31, 2008, a 5% reduction of emissions per year is required. This is 12 years before the demonstrated attainment date when the lake level is expected to reach 6,391 feet. Assuming the ambient impact is proportional to the emissions, there must a 15.9 $\mu g/m^3$ average reduction per year to achieve the 5% reduction requirement. The average reduction for the control measure is estimated at 16.5 $\mu g/m^3$ per year. This means that the Mono Basin is expected to experience a 5.2% reduction per year after December 31, 2008 until it reaches attainment in 2021.

- Predictions of PM-10 concentrations at different source elevations provide quantitative milestones to measure emissions reduction as a function of water elevation--a method to demonstrate "reasonable further progress" (RFP). The District commits to submit RFP reports every three years to track progress toward attainment.

- Serious nonattainment areas are required to apply Best Available Control Technology (BACT) to control emissions from "major sources"--those emitting 70 tons or more of PM-10 per year. Existing District Rule 209-A (Appendix 7) meets this requirement.

In conclusion, this document substantially satisfies the compliance requirements of the Clean Air Act Amendments of 1990. It is not possible to comply with the serious attainment date of December 31, 2003, and additional time will be required. An Extension of Attainment Date--to set said date to be coterminous with the schedule prescribed by the SWRCB decision--is considered reasonable and is herewith requested.

REGULATORY TIME LINE OF CLEAN AIR ACT COMPLIANCE ACTIONS FOR THE MONO BASIN PLANNING AREA

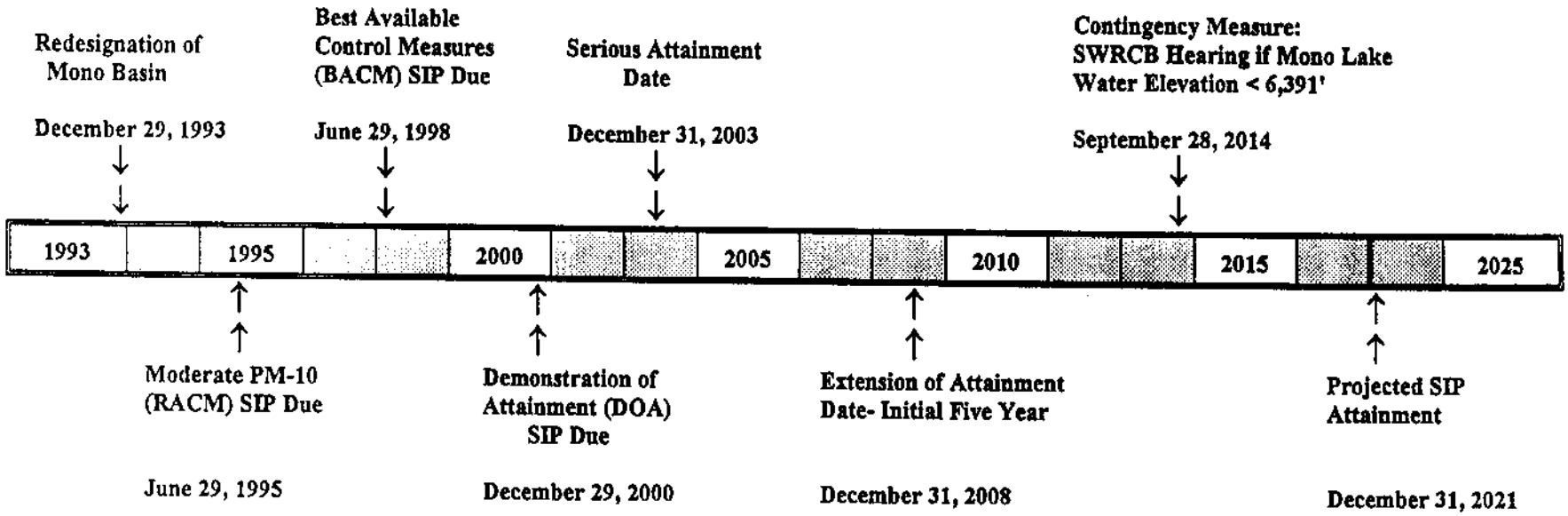


Figure 7-5 Regulatory Time Line