



CHEMICAL COMPANY

May 22, 2015

Richard Healey
Enforcement Branch Manager
Water Division
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

RE: Annual Progress Report – El Dorado Chemical Company
NPDES No. AR0000752

Dear Mr. Healey:

Although no longer required under Part IB, Section B of the referenced NPDES permit, this letter serves as our Annual Progress Report.

As stated in previous annual reports, during the past year El Dorado Chemical Company (EDCC) has continued its efforts to ensure continued compliance with current permit limitations. The following paragraphs present the details.

1. Hydrologic Study

As related in previous reports, EDCC submitted a hydrologic study plan for the storm water outfalls. This plan was approved by ADEQ and then subsequently revised to modify the location of the background monitor for Outfalls 006 and 007. During the 3rd quarter of 2006 the hydrologic study was completed and the final report submitted to the ADEQ. During the 1st quarter of 2007, EDCC received comments dated January 5, 2007 and met with ADEQ to discuss those comments. Subsequent to that meeting, GBMc received a permitting options letter for which EDCC responded. During the 1st quarter of 2008, EDCC had discussions with NPDES permitting staff regarding the utilization of the hydrologic study in the permit renewal process. As of the date of this report, ADEQ and EDCC are in the process of discussing the renewal of its NPDES permit which will include utilizing the results of the hydrologic study to establish effluent limitations for outfalls 006 and 007.

2. Retention Basin Temperature Study

As documented in previous annual reports, pursuant to the requirements of the final NPDES permit, EDCC submitted a temperature study plan for the purpose of determining the influence of ambient conditions on the temperature regime of the retention basin at EDCC. The study report was completed and submitted to the ADEQ during the 4th quarter of 2005. EDCC received approval of the temperature study in a letter dated January 5, 2007 and the temperature limit will be removed from the permit upon renewal permit. As stated in the previous section, at this time ADEQ and EDCC are in the process of discussing the renewal of its NPDES permit.

3. Storm Water Outfall Compliance

In a letter to Ms. Leslie Allen-Daniel dated March 19, 2015 (attached), EDCC transmitted a Corrective Action Plan which presented information regarding compliance issues at the referenced outfalls. As discussed in the letter, there are complex regulatory issues involved in the renewal of the NPDES permit which will address the compliance issues at these outfalls. The letter also discusses compliance actions taken in relation to these outfalls.

4. Source Reduction and Wastewater Treatment

During the reporting period, source reduction activities have continued to be implemented to reduce waste loading to the wastewater system. These efforts have resulted in major reductions in the ammonia and nitrate concentrations measured in our stabilization basin (Lake Lee). For 2014 Lake Lee ammonia concentrations averaged 13 mg/L and nitrate averaged 17.7 mg/L. These source reduction efforts along with continued efficient operation of our wastewater treatment are shown in the Outfall 010 effluent characteristics.

The discharge from our wastewater treatment plant is now discharged through Outfall 010 to the Joint Pipeline. During this reporting period there were no violations at Outfall 010 for Ammonia-N or Nitrate-N. Likewise, all quarterly biomonitoring at Outfall 010 has passed since this outfall was put into service in September, 2013.

The attached charts show the source reduction and treatment effectiveness the plant accomplished through 2014 for Outfall 010.

5. Wastewater System

During the reporting period, EDCC continued use of the AquaMats in Lake Lee and Lake Kildeer. AquaMats are membranes for sustaining colonies of nitrifying and denitrifying bacteria. In addition in the spring of 2014 EDCC introduced tilapia into Lake Kildeer as an algae control measure. Under this program the tilapia were removed towards the end of 2014 to reduce biomass from Lake Kildeer.

6. Wastewater Treatment Bio-augmentation

As discussed in previous reports, during the reporting period, EDCC continued implementation of the alternative wastewater treatment technology. We continue the collection of performance data to determine the efficacy of the organisms in our wastewater treatment system.

The data that EDCC has collected so far indicates that the addition of various microbes continues to have a positive impact on the wastewater treatment system.

7. Joint Pipeline Activities

Construction of the joint pipeline began in July of 2012 and was completed on August 29, 2013. EDCC began utilizing the pipeline on September 9, 2013 through Outfall 010. There has not been a discharge through Outfall 001 since that time.

8. Water Quality (4g) Study for Dissolved Minerals

EDCC has suspended its efforts to get full USEPA approval of the amended State of Arkansas Water Quality Standards as approved by the Arkansas Pollution Control and Ecology Commission. It should be noted that USEPA did approve the removal of the drinking water uses from the waterbodies (Outfall 001 tributary through Flat Creek).

9. Outfall 002 Discharge Minimization Project

As discussed in the March 19th letter to ADEQ, EDCC has completed the installation of a 7000 gpm pump system to the gravity line to the final treatment unit. This will further minimize the possibility of discharge through Outfall 002.

Hopefully, this letter has adequately explained the status of our NPDES efforts over the last year. Should you have any questions, please feel free to call me at (870) 863-1400.

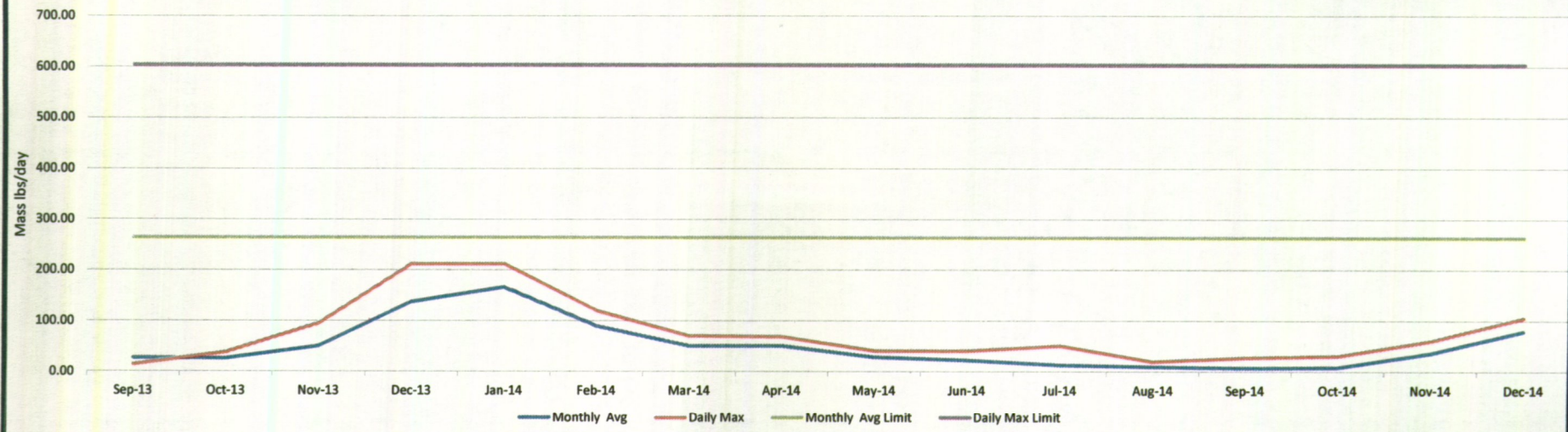
Sincerely,

A handwritten signature in cursive script that reads "Greg Withrow". The signature is written in black ink and is positioned above the printed name and title.

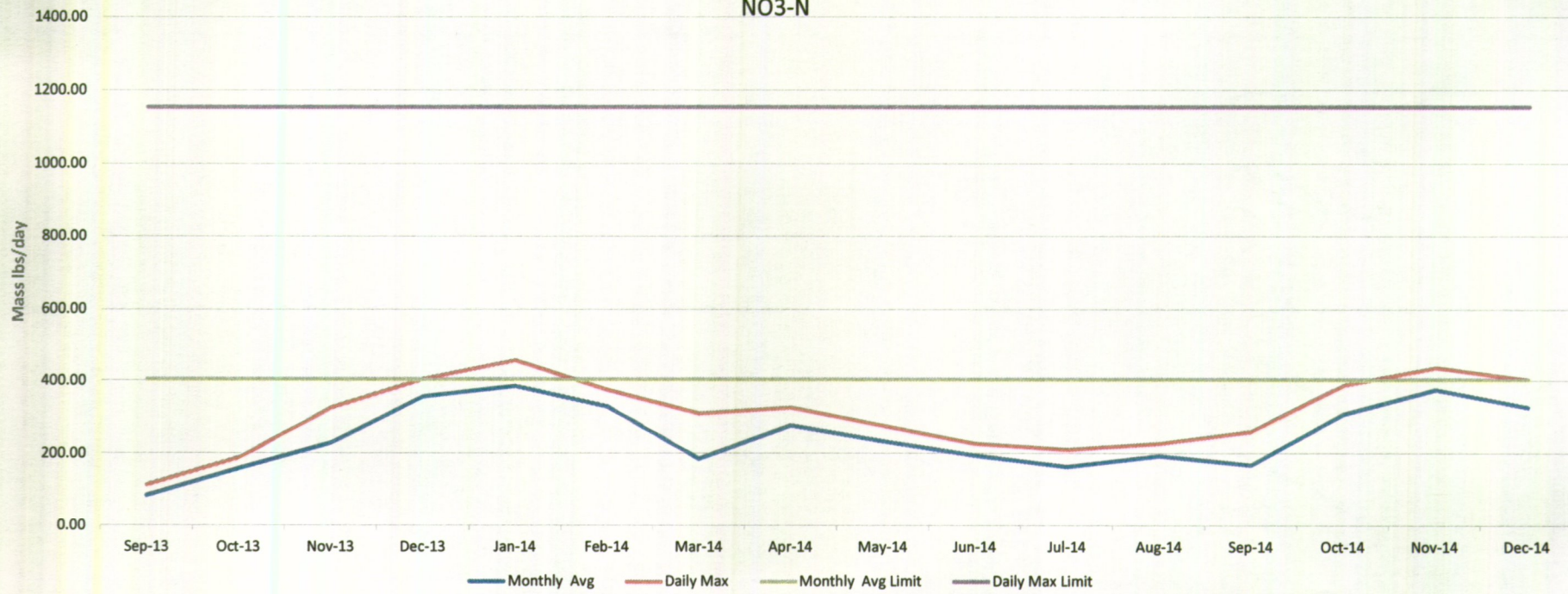
Greg Withrow
General Manager

cc: Mo Shaffi, Water Division Asst. Chief, ADEQ

El Dorado Chemical Company
Outfall 010
NH3-N



El Dorado Chemical Company
Outfall 010
NO3-N





March 19, 2015

Ms. Leslie Allen- Daniel
Enforcement Analyst
Water Division Enforcement Branch
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118-5317

Re: El Dorado Chemical Company (EDCC)
NPDES Permit No. AR 0000752 Corrective Action Plan (CAP)

Dear Ms. Allen-Daniel

We have reviewed your letter of February 20, 2015 requesting the development and submittal of a CAP in relation to NPDES permit limit excursions during the months of January 2014 through November 2014. This letter serves as the CAP. The following paragraphs present this information on an outfall- specific basis.

Outfall 002

This outfall discharged once during the period of record and, while excursions were reported by EDCC for ammonia and nitrate concentration limitations, it should be noted that the mass limitations for those parameters were not exceeded. In fact the mass loadings represented approximately 12% of the permitted mass value for ammonia and 14% for nitrate.

As you may be aware, this outfall represents the utilization of the overflow structure at our pretreatment unit. This unit receives process water and storm water. Under normal operating conditions, treated water from this unit is transmitted to our final treatment unit prior to discharge through Outfall 010 to the Joint Pipeline.

This discharge was related to a five inch rain event recorded on the site July 17, 2014 and the system was hydraulically overloaded as a result. We currently have a project underway to install a 7000 gpm pump system to the gravity line from the pretreatment unit to our final treatment unit. In this manner we can further minimize the possibility of discharge through Outfall 002. This pumping system should be operational in the next few weeks.

Due to the infrequency of the discharge and the conditions under which it may occur, we intend to discuss with ADEQ an amendment to the TMDL related to this outfall which would provide for more appropriate effluent limitations.

Outfall SUM

This not a physical outfall but represents a summation of the effluent limitations for ammonia and nitrate from Outfalls 001, 002 and 010. The same issues discussed in the previous section are applicable to this outfall.

Outfall 003

During the period of record there were four unrelated permit excursions reported for this outfall (monthly average and daily max for ammonia and two for pH). This outfall represents the discharge of treated domestic wastewater. After assessment, it was determined that no structural changes were needed and that the following operational actions were appropriate to address the excursions:

- 1) The sand beds were tilled with the addition of lime during the tilling and;
- 2) Bio-augmentation through the addition of Archaea to the Imhoff tanks was initiated to boost biological activity.

Outfall 010

The two listed excursions (pH in July 2014 and monthly average TSS concentration in March 2014) are not related. After assessment it was determined that no structural or operational changes were needed as the excursions were caused by algae activity in Lake Kildeer (the final treatment unit).

It should be noted that this outfall has extensive effluent monitoring requirements which entail reporting over 3200 effluent constituent values each year. Based on these two excursions, EDCC maintained a 99.93% compliance rate on an annual basis. It is our intention to continue the diligent operation of the current treatment system associated with this outfall.

Outfalls 006 and 007

The vast majority of the excursions (approximately 92%) listed in the attachment to the February 20, 2015 letter were related to these storm water outfalls. As requested in the letter the following are the discharge dates in 2014 for both outfalls.

January 9 and 10

February 2, 4 and 20

March 2 and 15

April 4, 14 and 24

May 9, 13, 14, 28, 30 and 31

June 2 and 23

July 17 and 23

August 1

September 2

October 2 and 28

November 5

December 5, 12, 19, 26, 27 and 28

These discharges were related to rain events during the stated period of record.

Outfall 007 pH

During the period of record there were four pH excursions at Outfall 007. The facility has had an ongoing assessment process and has taken action to increase the pH of the storm water through the distribution of pelletized lime in the drainage areas of both outfalls after each significant rain event. For the year 2015 we intend to distribute 3000 lbs. of pelletized lime on the 007 drainage area and 1000 lbs. on the 006 drainage area after each rain event.

We intend to continue these operations in an attempt to bring the outfall into continuous compliance with the pH effluent limitations.

Zinc and Lead

Because both outfalls experienced excursions for Lead and Zinc and the regulatory issues involved are parallel for these outfalls, we have combined the discussion for these outfalls. The NPDES permit for the facility required EDCC to conduct a background flow study in relation to these storm water outfalls. The purpose of the study was to document the "dilution of the effluent in the receiving stream as result of storm event". The study was completed in 2006 and submitted to ADEQ.

In 2008 the ADEQ prepared a pre-draft permit incorporating the results of the background flow study which documented background to effluent flow ratios of 53.6:1 for Outfall 006 and 15:1 for Outfall 007.

The following tables present these pre-draft permit limitations (which incorporate the previously listed dilution ratios) for Lead and Zinc for these outfalls along with a comparison of period of record values.

Comparison of Pre-draft NPDES Permit Limits with Period of Record (POR) Effluent Values

Outfall 006		
Zinc	Monthly Average	Daily Maximum
Pre-draft Limits	2161.53 ug/L	4337.00 ug/L
POR Values	710 ug/L	710 ug/L
Lead	Monthly Average	Daily Maximum
Pre-draft Limits	Report Only	Report Only
POR Values	155 ug/L	155 ug/L

Outfall 007		
Zinc	Monthly Average	Daily Maximum
Pre-draft Limits	688.17 ug/L	1380.78 ug/L
POR Values	449 ug/L	449 ug/L
Lead	Monthly Average	Daily Maximum
Pre-draft Limits	Report Only	Report Only
POR Values	20.30 ug/L	20.30 ug/L

Note: POR Values represent the highest Monthly Average and Daily Maximum values.

As can be seen upon review, the Zinc and Lead compliance issues will be resolved once ADEQ issues and finalizes the renewal NPDES permit incorporating the background dilution ratios as listed in the pre-draft NPDES permit. Based on the calculations ADEQ used in the pre-draft permit, there will be no limits necessary for Lead at either outfall due to no potential to exceed. As such, there are no structural or operational changes to be made to bring these outfalls into compliance with the future permit limitations for these parameters. Future compliance in regards to these parameters rests with ADEQ renewing the EDCC NPDES permit.

Total Dissolved Solids (TDS)

TDS excursions were noted for both Outfalls 006 and 007 for the period of record. Similar to the previous discussion for Lead, at such time as the background dilution ratios are applied to the outfalls through the permit renewal, there will be a substantial increase in the effluent limitations, as documented in the pre-draft permit. The following tables present those calculated effluent limitations compared to the POR value.

Comparison of Pre-draft NPDES Permit Limits with Period of Record Effluent Values

Outfall 006		
TDS	Monthly Average	Daily Maximum
Pre-draft Limits	1203 mg/L	1804 mg/L
POR Values	1200 mg/L	1200 mg/L

Outfall 007		
TDS	Monthly Average	Daily Maximum
Pre-draft Limits	2807 mg/L	4210 mg/L
POR Values	1000 mg/L	1000 mg/L

POR Values represent the highest Monthly Average and Daily Maximum values.

Similarly to the metals issue, TDS compliance issues are tied to the renewal of the NPDES permit for EDCC along with the resolution of some complex regulatory issues including the effective implementation by ADEQ of its planned Temporary Variance Requirements policy which is being developed at this time. A copy of that draft policy as developed by ADEQ is attached to this CAP. In addition to that emerging policy, the renewal of the NPDES permit was put on hold by the ADEQ management as part of its Interim Strategy on Dissolved Minerals, developed a few years ago. It is our understanding that the Interim Strategy is still in effect pending finalization of the Temporary Variance Requirements.

In addition, a modification to the technically inaccurate historical Total Maximum Daily Load (TMDL) for dissolved minerals is required. At the request of ADEQ, EDCC submitted a

modification to that TMDL in January of 2013 but it has not been acted upon by ADEQ to our knowledge. It is essential that a modification to the erroneous Dissolved Minerals TMDL be effective prior to the renewal of the NPDES permit as discussed at the time of ADEQ's request for submittal of a modification.

We appreciate the opportunity to present this information and hope it has answered your concerns regarding our continuing compliance efforts. We are available for a meeting to discuss these issues and any other items of concern.

Sincerely,

A handwritten signature in cursive script that reads "Greg Withrow". The signature is written in black ink and is positioned above the printed name and title.

Greg Withrow
General Manager

Statement of Basis/Fact Sheet

Temporary Variance Requirements

In accordance with Section 302(b)(2) of the Clean Water Act (CWA) and 40 CFR §124.62(b)(2) as incorporated by reference in APC&EC Regulation No. 6.104(A)(5), the permittee is granted a temporary variance to the water quality based effluent limitations for total dissolved solids (TDS), chlorides, and sulfates required under APC&EC Regulation §2.511. Including a variance in this permit can lead to improved water quality over the term of the variance due to advances in treatment technologies, control practices, or other changes in circumstances, thereby furthering the objectives of the CWA.

In accordance with the "2013 EPA Discharge-Specific Variances on a Broader Scale", variances are useful to consider when there is a new or more stringent effluent limit imposed as long as the State can also provide a demonstration that attaining the criterion is not feasible for the term of the variance, but the criterion may be attainable in the longer term. By including this variance, the interim requirements do not replace the criteria for the waterbody as a whole; therefore, any implementation of CWA Section 303(d) to list impaired waters must continue to be based on the designated uses and criteria for the waterbody rather than the interim requirements.

The CWA specifies that an interim goal, "wherever attainable," should ensure that water quality provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water. The EPA interprets variances can be granted based on any one of the six factors listed at 40 CFR §131.10(g). ADEQ has included the subject variance for TDS, chlorides, and sulfates based on 40 CFR §131.10(g)(6) which states "... Controls more stringent than those required by sections 301(b) and 306 of the Act would result in substantial and widespread economic and social impact." In the case of minerals treatment, the treatment system currently available that can effectively reduce minerals is reverse osmosis (RO), which would be extremely costly for the City and the taxpayers.

Final effluent limits for TDS, chlorides, and sulfates have been calculated based on the Water Quality Standards (WQS) in APC&EC Regulation No. 2.511(A) and (C) using the procedures outlined in the Continuing Planning Process (CPP) and a harmonic mean background flow as required in APC&EC Regulation No. 2.106 (definition of "critical flows"). With issuance of this NPDES permit, the Department authorizes a variance from these calculated effluent limits for TDS, chlorides, and sulfates in accordance with 40 CFR §124.62(b)(1) and (2), as adopted by APC&EC Regulation No. 6.104(A)(5). Ten (10) years from the effective date of this NPDES permit, the permittee must complete any necessary study to develop site specific criteria, any revision of a TMDL, and any facility upgrades needed to comply with the final TDS, chlorides, and sulfate limits, or request an extension of the variance period by submitting a detailed justification for the required additional time.

The goal of the variance period is to move NPDES permitted discharges toward meeting the WQS for minerals contained in APC&EC Regulation No. 2.511(A) and (C). During the ten (10) year variance period, the permittee is encouraged to meet the interim effluent benchmark levels

of 250 mg/l chlorides, 250 mg/l sulfates, and 500 mg/l TDS, in addition to implementing a Pollutant Minimization Plan (PMP), as outlined in 40 CFR § 122.44(k)(3) and (4). It should be noted that these benchmark levels are not considered limits, and therefore, any exceedances of these levels will not be considered a violation of the NPDES permit.

As a requirement of this NPDES permit, the permittee must develop and implement a PMP which includes Best Management Practices (BMPs) that will be implemented to control, abate, and minimize the discharge of TDS, chlorides, and sulfates in the permittee's effluent. Detailed documentation of the permittee's efforts must be maintained at the facility and a summary must be submitted to the Department with each NPDES permit renewal application.

Part II Conditions

Pollutant Minimization Plan

The permittee must develop and implement a Pollutant Minimization Plan (PMP) which includes Best Management Practices (BMPs) that will be implemented to control, abate, and minimize the discharge of TDS, chlorides, and sulfates in the effluent within one (1) year from the effective date of this permit. The PMP must identify potential sources of TDS, chlorides, and sulfates and the measures to reduce or eliminate TDS, chlorides, and sulfates loading. The PMP must include the following at a minimum:

1. A program plan which includes the permittee's commitments for:
 - a) Identification of potential sources of TDS, chlorides, and sulfates that contribute to discharge concentrations (includes a review of existing data);
 - b) Reasonable, cost-effective activities to reduce or eliminate TDS, chlorides, and sulfates loadings from identified sources;
 - c) Tracking TDS, chlorides, and sulfates source reduction implementation and TDS, chlorides, and sulfates source monitoring;
 - d) Quarterly monitoring of wastewater treatment plant influent and effluent;
 - e) Resources and staffing;
2. Implementation of cost-effective control measures for direct and indirect contributors; and
3. An updated status report must be submitted to the Department with each renewal application that includes:
 - a) A list of potential TDS, chlorides, and sulfates sources;
 - b) A summary of actions taken to reduce or eliminate TDS, chlorides, and sulfates discharges and progress toward meeting water quality standards; and
 - c) TDS, chlorides, and sulfates source reduction implementation, source monitoring results, influent and effluent, and results for the previous year; and proposed revisions to the program plan based on findings from the previous year.

Parameter Benchmark Values

If the monitoring results from Part IA exceed the parameter benchmark value for any of the effluent characteristics listed below, the facility shall investigate the cause and/or source of the elevated pollutant levels, review the PMP, and determine a plan to address the benchmark exceedance. The facility shall commence with the above process within 30 calendar days of the exceedance. Note: An exceedance of a benchmark parameter does not constitute a violation of a permit limit.

Parameter	Benchmark Value mg/l
Chlorides	250
Sulfates	250
Total Dissolved Solids (TDS)	500

The plan must include the following: the results of the review; the actions that will be taken by the permittee to address the benchmark exceedance, including whether modification or addition of BMPs is necessary; and an implementation schedule including alternative methods for implementing existing site controls, or methods for implementing additional effective site controls, if the site controls have not already been implemented.

The permittee must document the date that actions are initiated and completed, or expected to be completed. A copy should be retained onsite with the PMP documents.

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El Dorado Chemical Company
4500 NW Ave

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