



# **Sacramento Regional County Sanitation District Sacramento Regional Wastewater Treatment Plant**

## **Progress Report Method of Compliance Work Plan and Schedule for Ammonia Effluent Limitations and Title 22 or Equivalent Disinfection Requirements**

**Submitted: February 1, 2016**

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## 1.0 Introduction

On June 9, 2011, the Sacramento Regional County Sanitation District (Regional San) submitted a Method of Compliance Work Plan and Schedule for Ammonia Effluent Limitations and Title 22 or Equivalent Treatment Requirements (Work Plan). This submittal was required by the compliance schedule contained in the waste discharge requirements Order No. R5-2010-0114 (NPDES Permit) adopted by the Central Valley Regional Water Quality Control Board (Regional Board) on December 9, 2010. The NPDES permit imposed new final effluent limitations for ammonia discharged by the Sacramento Regional Wastewater Treatment Plant (SRWTP) and new requirements for Title 22 or equivalent filtration and disinfection (and related effluent limitations for total coliform, turbidity, total suspended solids and biochemical oxygen demand). The NPDES Permit allowed for a period of up to 10 years to achieve compliance and further required the submittal of annual progress reports by February 1 of each year following approval of the Work Plan. The Regional Board approved the Work Plan on July 8, 2011.

On December 4, 2012, the State Water Resources Control Board adopted an order based on its review of Order R5-2010-0114. As relevant here, the State Water Board prescribed some changes in the final ammonia effluent limitations specified in the Regional Board's Order R5-2010-0114. The Regional Board incorporated the revised modified final effluent limitations for ammonia into the NPDES permit through Order No. R5-2013-0124, adopted on October 4, 2013, and those are the applicable final limitations.<sup>1</sup> In addition, the NPDES Permit contained new effluent limitations for nitrate. The SRWTP currently complies with the nitrate limitations, and the compliance activities below assume the need to comply with both the applicable ammonia and nitrate limitations.

In addition, the NPDES Permit required submittal of an Ammonia Pollution Prevention Plan (Ammonia PPP), which was submitted on December 8, 2011. A Revised Ammonia PPP was submitted on November 15, 2012 to address Regional Board comments. The Regional Board approved the Ammonia PPP on May 17, 2013.

Also, the Sacramento Superior Court has entered orders having the effect of shifting the “due date” for ultimate compliance and various steps toward compliance. The controlling order was issued by the Superior Court on May 6, 2013. The updated deadlines with respect to compliance are noted in Tables 1 and 2 in Section 2 below. The annual progress report required by Provision VI.C.7.b and Reporting Requirement X.D.1 of the NPDES Permit (i.e., Compliance Schedule for Final Effluent Limitations for Ammonia), which was due by February 1 of each year, is now due by July 13 of each year. Also in a Partial Settlement Agreement, Regional San stated that it will post on its website a second progress report on or before February 1 of each year until completion of the nutrient reduction facilities has occurred. Previous progress reports posted on Regional San's website on or before February 1 provided a status of only the nutrient reduction facilities. At Regional San's discretion, future progress

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<sup>1</sup> The Regional Board also amended Order R5-2010-0114 in 2011, by Order R5-2011-0083, and in 2014 by Order R5-2014-0122. None of these amendments in the Orders related to compliance schedules for final ammonia or nitrate effluent limitations, and Title 22 equivalent requirements.

reports required on or before February 1 will also include an update on the Title 22 or Equivalent Disinfection Requirements in addition to the nutrient reduction facilities.

Further, the annual progress report required by Provision VI.C.7.a and Reporting Requirement X.D.1 of the NPDES Permit (i.e., Compliance Schedule for Title 22 or Equivalent Disinfection Requirements) that was due by February 1 of each year is now due on July 9 of each year starting on July 9, 2014. Since progress reports for both requirements are due within a few days of each other, only one progress report will be submitted to satisfy the reporting requirements for both the Final Effluent Limitations for Ammonia and Title 22 or Equivalent Disinfection Requirements Work Plan and PPP.

The Regional Board amended the NPDES permit in 2014 by Order R5-2014-0103 resulting in the Title 22 or equivalent requirements applying seasonally and settlement of the case. The applicable NPDES permit requirements and schedules are all reflected in Order R5-2010-0114.

## 2.0 Overall Compliance Schedule

The following compliance schedules for Ammonia Effluent Limitations and Title 22 or Equivalent treatment requirements are listed below in Table 1 and Table 2, respectively:

**Table 1. Compliance Schedule for Ammonia Final Effluent Limitations**

Task	Relevant Dates
i. Submit Method of Compliance Workplan/Schedule	Due Date: 9 June 2011 Date Submitted: 9 June 2011 Date Approved: 8 July 2011
ii. Ammonia PPP	Due Date: 9 December 2011 Date Submitted: 8 December 2011 Revised Plan Submitted: 15 November 2012 Date Approved: 17 May 2013
iii. Progress Reports	Progress report required by permit due 13 July, annually <sup>1</sup>
iv. Begin CEQA process for Compliance Project	Due Date: 19 May 2015 Process Initiated: 22 August 2012 Date EIR Approved: 24 September 2014
v. Begin Construction of Compliance Project	Due Date: 19 May 2018
vi. Submit Operations Plan	Due Date: No later than 30 days prior to the first day of discharge.
vii. Full Compliance	Due Date: 11 May 2021

<sup>1</sup>Regional San will prepare an additional report annually, to be posted on the Regional San's website on or before February 1 of each year, beginning in 2014. This additional report is not required by the NPDES Permit, but is a report the Partial Settlement Agreement states that Regional San will prepare. Both reports will be posted on Regional San's website but only the report required by July 13 will be transmitted directly to the Regional Board.

**Table 2. Compliance Schedule for Title 22 or Equivalent Treatment Requirements**

Task	Relevant Dates
i. Submit Method of Compliance Workplan/Schedule	Due Date: 9 June 2011 Date Submitted: 9 June 2011 Date Approved: 8 July 2011
ii. Progress Reports	Progress report required by permit due 9 July, annually
iii. Begin CEQA process for Compliance Project	Due Date: 16 May, 2017 Process Initiated: 22 August 2012 Date EIR Approved: 24 September 2014
iv. Begin Construction of Compliance Project	Due Date: 16 May 2020
v. Full Compliance	Due Date: 9 May 2023

Installation of advanced treatment technologies is needed to meet the new discharge permit requirements. To construct the required treatment facilities, Regional San identified other major activities needed to achieve compliance with the NPDES Permit requirements, including:

- Treatment Technology Identification - Completed
- Pilot Study Implementation
  - ❖ Phase 1 - Treatment Technology Selection - Completed
  - ❖ Phase 2 - Design Criteria Optimization - Completed
  - ❖ Phase 3 - Process optimization and operator training - In planning
- Establishment of the Program Management Office (PMO) - Completed
- Select treatment technologies for environmental review, design, and implementation - Completed
- Design full-scale treatment systems - In progress
- Environmental Analysis - Completed
- Construction Phase – In progress
- Startup and Commissioning - In planning

### 3.0 Progress towards Compliance

The following is a summary of the various activities associated with complying with the Ammonia Effluent Limitations and Title 22 or Equivalent requirements. The summary provided here is the information required as part of the permit requirements.

### 3.1 Pilot Study Implementation

The goal of the Phase 2 Pilot Study was to further refine the design criteria for the BNR, filtration, and disinfection processes to optimize full-scale facilities. The Phase 2 pilot system was completed in December 2014. A final report was completed in December 2015.

The goal of Phase 3 Pilot Study is to further optimize the biological process and provide training to operators. This phase is not required to successfully commission the new facilities.

### 3.2 Design of Treatment Systems

Design consultants have been procured to provide pre-designs and final designs of various individual treatment systems and project features. Table 3 lists the major projects required to meet nutrient related (i.e., final ammonia and nitrate) limitations and Title 22 or Equivalent treatment requirements. Major design projects, as defined in the Partial Settlement Agreement, are those with a design contract in excess of \$1 million. Dates in bold are actual dates of accomplishment. Other dates are planned dates. Regional San has determined that construction completion will be designated as when nutrient reduction facilities and the Title 22 or Equivalent treatment facilities are commissioned respectively as systems. Additional project information is included in Appendix A.

**Table 3. Major EchoWater Projects**

Major Project	Design Contract Award	Construction Contract Award	Construction Completion
Biological Nutrient Removal	<b>22 Feb 2013</b>	23 Mar 2016	14 Jan 2021
Flow Equalization	<b>28 Aug 2013</b>	<b>25 Feb 2015</b>	11 Apr 2018
Primary Effluent Pumping Station	<b>23 Oct 2013</b>	<b>Combined with BNR</b>	-
RAS Pumping System	<b>13 Nov 2013</b>	27 Apr 2016	31 May 2019
Building Relocations	<b>25 Sep 2013</b>	<b>19 Mar 2015</b>	29 Feb 2016
Site Preparation	<b>11 Dec 2013</b>	<b>25 Feb 2015</b>	02 Sep 2016
Main Electrical Substation Expansion	<b>In House Design</b>	<b>20 Jan 2016</b>	30 Sep 2016
Disinfection Chemical Storage	<b>11 Dec 2013</b>	<b>22 Jul 2015</b>	23 Nov 2016
Nitrifying Sidestream Treatment	<b>26 Mar 2014</b>	<b>13 Jan 2016</b>	31 Oct 2018
Tertiary Treatment Facilities (formerly Filtration and Disinfection Contact Basin)	<b>27 May 2015</b>	20 Jun 2018	09 Nov 2022

### 3.3 Environmental Analysis

The CEQA process was initiated on August 22, 2012 and the Final Environmental Impact Report (EIR) was certified by the Regional San Board of Directors on September 24, 2014.

### 3.4 Construction Phase

Construction of treatment facilities was initiated in March 2015 for three of the major projects required for the ammonia and nitrate and Title 22 or Equivalent treatment facilities. A fourth project started construction in August 2015. Two projects were awarded in January 2016 and will start construction in March 2016. Two projects are out to bid and will open bids in February and March 2016.

### **3.5 Startup and Commissioning**

Startup and commissioning for each project will occur as major treatment processes are completed and existing processes are cut over as required. Additional time is required to start up and commission the new facilities to ensure stable process operation. Regional San is defining full compliance as completion of this phase of the last project (the Tertiary Treatment Facilities). This phase is anticipated to be completed by November 2022.

### **3.6 Regional San Project Acceptance**

This milestone of the project is a contractual step to formally close out the construction project and is subject to Regional San Board action. Treatment facilities will have already been commissioned and will be fully operational. This date is subject to the nearest Board meeting after all contractual issues have been resolved and is not the measure of full compliance.

### **3.7 Ammonia Pollution Prevention**

As stated in the November 2012 revised Ammonia PPP, domestic waste contributes the majority of ammonia in the treatment plant influent. Most of the ammonia found in domestic waste is derived from urea, which breaks down rapidly to ammonia in the wastewater conveyance system. Therefore, the primary source of ammonia to the sewer system is considered uncontrollable.

The measured average influent concentration was 38 milligrams per liter (mg/L) for the period July to December 2015, which is up from 35 mg/L reported in the last progress report. This increase is likely due to water conservation and ongoing drought conditions as treatment plant flows decreased and influent ammonia loads remained level.

Regional San continues to monitor industrial ammonia and total Kjeldahl nitrogen contributions from permitted users through its pretreatment program pollutant accounting activities. Industrial point sources remain a relatively insignificant source of ammonia. Also, no new point source discharges have been identified in the last year. Regional San will continue to monitor existing point source dischargers of ammonia and will screen potential new point source dischargers for the presence of ammonia in their discharge.

Further, Regional San has continued the implementation of interim operational changes, namely the cessation of solids storage basin (SSB) flushing since May 2009, which has resulted in reductions in effluent ammonia discharged to the river by approximately 10 percent. Regional San is committed to continuing those interim operational changes as long as feasible, pending any process concerns that may develop due to algal blooms, odor generation or struvite accumulation. Short-term sporadic flushing may be implemented during winter to mitigate any process concerns noted above or to reduce the potential of any wet weather induced slug loads from the SSBs

## 4.0 Schedule

Regional San has been making progress and is on schedule to meet the compliance dates for ammonia and nitrate and Title 22 or Equivalent permit requirements. Designs have been completed or are under way for all of the projects required to construct the necessary treatment facilities. The current schedule indicates that full system commissioning of the nutrient reduction facilities is on schedule to be accomplished before May 2021. The design consultant contract for the Title 22 or Equivalent treatment facilities was awarded on May 27, 2015 and preliminary design is underway. Regional San staff continues to identify and evaluate means by which compliance can be accelerated without unacceptable risks or costs.

A detailed Program schedule (updated in October 2015) is included in Appendix B showing the major projects as well as other projects and work efforts required to comply with the final effluent limitations for ammonia and nitrate limitations and for Title 22 or Equivalent requirements. The high level schedule shown in Table 3 reflects more recent updates to key project milestones.

## Appendices

- A. Status of Ammonia and Nitrate Reduction and Title 22 or Equivalent Projects
- B. Workplan Schedule for Compliance



## Appendix A

# Status of Ammonia and Nitrate Reduction and Title 22 or Equivalent Projects

# Status of Ammonia and Nitrate Reduction and Title 22 or Equivalent Projects

## Biological Nutrient Removal

Design work has been completed and the project advertised for bids on October 28, 2015. Construction is scheduled to start in April 2016. The project is on schedule to meet this milestone.

## Flow Equalization

A construction contract was awarded on February 25, 2015 and construction has been initiated. Construction is scheduled to be completed by April 2018. The project is on schedule to meet this date.

## Primary Effluent Pumping Station

Design work has been completed. Construction of this project has been combined with the Biological Nutrient Removal project and future updates will be included with the Biological Nutrient Removal project.

## RAS Pumping System

Design work has been completed and the project advertised for bids on January 13, 2016. Construction is expected to begin in June 2016. The project is on schedule to meet this milestone.

## Building Relocations

A construction contract was awarded on March 19, 2015 and construction is underway. The project is scheduled to be completed by February 29, 2016 and is on schedule to meet this date.

## Site Preparation

A construction contract was awarded on February 25, 2015 and construction is underway. The project is scheduled to be completed by September 15, 2016 and is on schedule to meet this date.

## Main Electrical Substation Expansion

A construction contract was awarded in January 2016. Construction is expected to begin in March 2016. The project is on schedule to meet this milestone.

## Disinfection Chemical Storage

A construction contract was awarded on July 22, 2015. The project is expected to be completed by November 23, 2016. The project is on schedule to meet this milestone.

## Nitrifying Sidestream Treatment

The contract was awarded on January 13, 2016 and construction is expected to begin in February 2016. The project is on schedule to meet these milestone.

## Tertiary Treatment Facilities

The Filtration and Filter Influent Pumping Station and the Disinfection Contact Basin projects have been combined into a single project called the Tertiary Treatment Facilities. A design contract was awarded on May 27, 2015 and preliminary design is underway. A draft preliminary design report is scheduled to be completed by February 2016. The project is on schedule to meet this milestone.

## Filtration and Filter Influent Pump Station

This project has been combined with the Disinfection Contact Basin project and is now called the Tertiary Treatment Facilities project (see above).

## Disinfection Contact Basin

This project has been combined with the Filtration and Filter Influent Pumping Station project and is now called the Tertiary Treatment Facilities project (see above).

## Appendix B

### Workplan Schedule for Compliance

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float	2012												2013												2014												2015												2016												2017												2018												2019												2020												2021												2022												2023											
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■ Actual Level of Effort   
 ■ Critical Remaining Work   
◆ Gates  
■ Actual Work   
▬ Summary



Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float	2012				2013				2014				2015				2016				2017				2018				2019				2020				2021				2022				2023															
							Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4																
	<b>SM-Site Preparation Closeout</b>	360	360	10-Apr-15	15-Sep-16	1531																																																												
	<b>Misc Site Buildings (MSB)</b>	442	298	08-Apr-15 A	13-Jan-17	1573																																																												
	Misc Site Buildings Design	101	0	08-Apr-15 A	20-Aug-15 A																																																													
	Misc Site Buildings Bid & Award	117	60	07-Aug-15 A	01-Feb-16	1811																																																												
	Misc Site Buildings Construction	228	228	01-Feb-16	15-Dec-16	1669																																																												
	Misc Site Buildings Commissioning	20	20	18-Nov-16	15-Dec-16	1128																																																												
	Misc Site Buildings Closeout	21	21	15-Dec-16	13-Jan-17	1128																																																												
	<b>Fiber Optic Network Replacement (FOR)</b>	436	72	10-Jun-14 A	09-Feb-16	77																																																												
	Fiber Optic Network Replacement Design	194	0	10-Jun-14 A	30-Jan-15 A																																																													
	Fiber Optic Network Replacement Bid & Award	73	0	11-Feb-15 A	20-May-15 A																																																													
	Fiber Optic Network Replacement Construction	139	29	20-May-15 A	10-Dec-15	82																																																												
	Fiber Optic Network Replacement Commissioning	69	41	07-Oct-15 A	04-Feb-16	77																																																												
	Fiber Optic Network Replacement Closeout	3	3	04-Feb-16	09-Feb-16	77																																																												
	<b>Flow Equalization (FEQ)</b>	1500	770	16-Apr-12 A	11-Apr-18	1265																																																												
	Flow Equalization Planning	395	0	16-Apr-12 A	23-Oct-13 A																																																													
	Flow Equalization Design	418	0	28-Aug-13 A	26-Feb-16 A																																																													
	Flow Equalization Contractor Prequalification Process	165	0	23-Apr-14 A	09-Dec-14 A																																																													
	Flow Equalization Bid and Award	162	0	09-Dec-14 A	03-Nov-15 A																																																													
	Flow Equalization Construction	770	770	11-Mar-15 A	11-Apr-18	1265																																																												
	Flow Equalization Commissioning	479	479	11-Mar-16	09-Feb-18	1306																																																												
	Flow Equalization Closeout	41	41	09-Feb-18	11-Apr-18	769																																																												
	<b>ESB-D Rehabilitation</b>	1193	862	25-Jul-14 A	19-Feb-19	1101																																																												
	ESB-D Rehabilitation Planning	623	292	25-Jul-14 A	13-Dec-16	979																																																												
	ESB-D Rehabilitation Design	392	392	14-Dec-16	14-Jun-18	979																																																												
	ESB-D Rehabilitation Bid and Award	87	87	15-Jun-18	15-Oct-18	979																																																												
	ESB-D Rehabilitation Construction	662	662	03-Aug-16	15-Feb-19	1103																																																												
	ESB-D Rehabilitation Commissioning	5	5	11-Feb-19	19-Feb-19	949																																																												
	<b>BNR (w PEPS Construction)</b>	2189	1281	16-Mar-12 A	16-Dec-20	597																																																												
	BNR Planning	294	0	16-Mar-12 A	03-May-13 A																																																													
	BNR Design	844	111	24-Jan-13 A	07-Apr-16	3																																																												
	BNR/PEPS Bid and Award	155	111	26-Oct-15	07-Apr-16	71																																																												
	BNR/PEPS Construction	1281	1281	22-Oct-15	15-Dec-20	597																																																												
	BNR/PEPS Commissioning	420	420	10-Apr-19	15-Dec-20	597																																																												
	BNR/PEPS Acceptance & Closeout	0	0	15-Dec-20	16-Dec-20	496																																																												
	<b>Primary Effluent Pump Station (PEPS) (Plan &amp; Design Only)</b>	984	106	14-May-12 A	07-Apr-16	1765																																																												
	Primary Effluent PS Planning	413	0	14-May-12 A	16-Dec-13 A																																																													
	Prim Effluent PS Design	609	106	24-Oct-13 A	07-Apr-16	1765																																																												
	Prim Effluent PS Bid and Award	115	111	27-Oct-15 A	07-Apr-16	27																																																												
	<b>Return Activated Sludge Pump Station (RAS)</b>	1753	879	14-May-12 A	15-May-19	992																																																												
	RAS PS Planning	447	0	14-May-12 A	31-Jan-14 A																																																													
	RAS PS Design	669	158	15-Nov-13 A	08-Jun-16	1805																																																												
	RAS PS Bid and Award	149	149	02-Nov-15	08-Jun-16	1722																																																												
	RAS PS Construction	869	869	02-Nov-15	01-May-19	1002																																																												
	RAS PS Commissioning	893	893	02-Nov-15	03-Apr-19	1070																																																												
	RAS PS Closeout	30	30	03-Apr-19	15-May-19	910																																																												
	<b>Filter Influent Pump Station (FIPS) (Planning Only)</b>	821	17	28-Sep-12 A	24-Nov-15	1946																																																												
	Filt Influent Pump Station Planning	821	17	28-Sep-12 A	24-Nov-15	1946																																																												
	<b>Tertiary Treatment Facilities (TTF) (Filtration, FIPS, DCB)</b>	2630	1761	21-May-12 A	30-Nov-22	110																																																												
	Tertiary Treatment Facilities Planning (TTF)	862	0	21-May-12 A	09-Jul-15 A																																																													
	Tertiary Treatment Facilities (TTF) Design	764	654	27-May-15 A	20-Jun-18	1217																																																												
	Tertiary Treatment Facilities (TTF) Bid and Award	129	129	10-Jan-18	16-Jul-18	0																																																												
	Tertiary Treatment Facilities (TTF) Construction	953	953	16-Jul-18	09-Mar-22	0																																																												
	Tertiary Treatment Facilities (TTF) Commissioning	175	175	10-Mar-22	09-Nov-22	0																																																												

■ Remaining Level of Effort    ■ Remaining Work    ◆ Milestone  
■ Actual Level of Effort    ■ Critical Remaining Work    ◆ Gates  
■ Actual Work    ▬ Summary





Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float	2012												2013												2014												2015												2016												2017												2018												2019												2020												2021												2022												2023											
							Q1				Q2				Q3				Q4				Q1				Q2				Q3				Q4				Q1				Q2				Q3				Q4				Q1				Q2				Q3				Q4				Q1				Q2				Q3				Q4																																																																			
							Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4																																																																																												
<b>Tertiary Treatment Facilities (TTF) Closeout</b>							▼ Tertiary Treatm																																																																																																																																															
<b>Effluent Disinfection - Ph1 Chemical Storage (DCS)</b>							▼ Effluent Disinfection - Ph1 Chemical Storage (DCS)																																																																																																																																															
Disinfection Planning - Ph1 Chemical Storage							▼ Disinfection Planning - Ph1 Chemical Storage																																																																																																																																															
Disinfection Design - Ph1 Chemical Storage							▼ Disinfection Design - Ph1 Chemical Storage																																																																																																																																															
Disinfection Bid and Award - Ph1 Chemical Storage							▼ Disinfection Bid and Award - Ph1 Chemical Storage																																																																																																																																															
Disinfection Chemical Storage - DS3 Construction Schedule_with Area 9							▼ Disinfection Chemical Storage - DS3 Construction Schedule_with Area 9																																																																																																																																															
Disinfection Commissioning - Ph1 Chemical Storage							▼ Disinfection Commissioning - Ph1 Chemical Storage																																																																																																																																															
Disinfection Closeout - Ph1 Chemical Storage							▼ Disinfection Closeout - Ph1 Chemical Storage																																																																																																																																															
<b>Nitrifying Sidestream Treatment (NST)</b>							▼ Nitrifying Sidestream Treatment (NST)																																																																																																																																															
Nitrifying Sidestream Planning							▼ Nitrifying Sidestream Planning																																																																																																																																															
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Nitrifying Sidestream Commissioning							▼ Nitrifying Sidestream Commissioning																																																																																																																																															
Nitrifying Sidestream Closeout							▼ Nitrifying Sidestream Closeout																																																																																																																																															
<b>Reliability Centered Design Analysis (RCD)</b>							▼ Reliability Cente																																																																																																																																															
RCD Project Initiation							▼ RCD Project Initiation																																																																																																																																															
RCD Project Definition and Planning							▼ RCD Project Definition and Planning																																																																																																																																															
RCD Consultant Selection							▼ RCD Consultant Selection																																																																																																																																															
RCD Project Plan Development							▼ RCD Project Plan Development																																																																																																																																															
RCD Project Support							▼ RCD Project Su																																																																																																																																															
<b>Plant Computer Control System (PCCS)</b>							▼ Plant Computer																																																																																																																																															
PCCS Project Management							▼ PCCS Project Management																																																																																																																																															
PCCS Programming Standards & Guidelines							▼ PCCS Programming Standards & Guidelines																																																																																																																																															
PCCS Training for Programmers							▼ PCCS Training for Programmers																																																																																																																																															
PCCS Design Review							▼ PCCS Design Review																																																																																																																																															
PCCS Project Meetings							▼ PCCS Project M																																																																																																																																															
PCCS Programming							▼ PCCS Programming																																																																																																																																															
PCCS Bench Test Programs							▼ PCCS Bench Test Programs																																																																																																																																															
PCCS Field Test Programs							▼ PCCS Field Test Program																																																																																																																																															
PCCS Training & Documentation							▼ PCCS Training & Documenta																																																																																																																																															
<b>Program Float</b>							▼ Program																																																																																																																																															
Discharge Permit Compliance Ammonia (5/11/21)							▼ Discharge Permit Compliance Ammonia (5/11/21)																																																																																																																																															
Discharge Permit Compliance Title 22 Equiv (5/11/23)							▼ Discharg																																																																																																																																															

■ Remaining Level of Effort   
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 ■ Critical Remaining Work   
 ◆ Gates  
■ Actual Work   
 ▼ Summary

