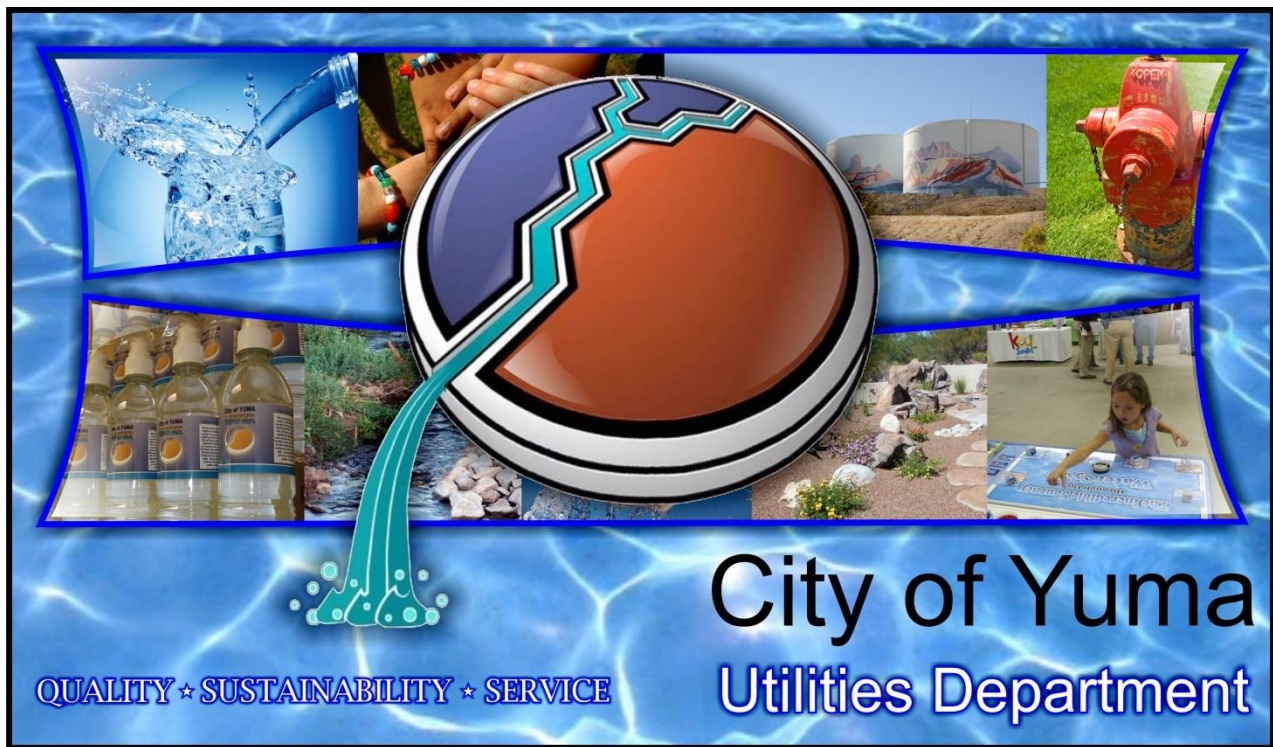



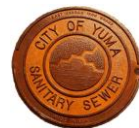
City of Yuma
Utilities Department

Treatment Facilities

Operator-In-Training Program



 **CITY OF**
Yuma
Utilities Department
155 W. 14th Street
Yuma, AZ 85364



December 2016

Introduction

City of Yuma operates four Class-4 water/wastewater treatment facilities; two are water treatment and two are wastewater treatment. Certification is required to ensure operators have received the education and training necessary to effectively operate the facilities to meet regulatory and discharge requirements. The number of certified operators expected to leave the workforce is projected to increase. This will create an immediate demand for careers in the water treatment industry. The expected shortage of certified operators required the City of Yuma to explore the feasibility of developing a program to provide the training necessary to adequately prepare those interested to fill the anticipated vacant positions.

Water Treatment Facilities

Yuma's drinking water is primarily surface water from the Colorado River, which is delivered to the treatment facilities via the areas canal systems. Our water is treated by two distinctive water treatment plants with different technologies. The Main Street Water Treatment Facility is a 40 MGD conventional surface water treatment plant that utilizes mixed media bed filters and chlorine gas disinfection. The Agua Viva Water Treatment Facility is a 29 MGD facility that uses GE membrane technology to treat surface water. Agua Viva also has an iron and manganese system (Pureflow) to treat ground water from a local well field.

Wastewater Treatment Facilities

The City of Yuma has two operational wastewater treatment facilities; the Figueroa Ave Water Pollution Control Facility (WPCF) and the Desert Dunes Water Reclamation Facility (WRF). The Figueroa Ave WPCF was constructed in 1970 and is a 12 MGD conventional activated sludge facility with anaerobic digestions and sodium hypochlorite disinfection. The effluent from the Figueroa Ave WPCF is discharged into the Colorado River via authorization of a State of Arizona AZPDES Permit. The Desert Dunes WRF was constructed in 2005 and is a 3.3 MGD extended aeration system with aerobic digestion and UV disinfection. Effluent from the Desert Dunes facility meets Class A+ reuse standards requirements and is discharged into one of three percolation beds by authorization of a State of Arizona Aquafer Protection Permit.

Operator-In-Training Program Overview

The City of Yuma Operator-In-Training (OIT) Program was developed as an applied training program to supplement on the job experiences. Practical knowledge gained through coursework is put to immediate use during the Trainee Operator work assignments

and activities. The experience received during the training program is invaluable as the Trainee Operator confirm the lessons received during the course of their studies. The OIT Program includes a rotation through various treatment processes of the water/wastewater treatment facilities to gain a better understanding of the responsibilities, skills, and knowledge necessary to operate and maintain the treatment facilities.

Treatment plant operators are required to perform complex duties to ensure the water/wastewater is adequately treated to meet required standards. These responsibilities are dependent on each other, as an adjustment in one treatment area can severely impact the operation of others and the overall treatment process. The City of Yuma OIT Program has been developed to provide Trainee Operators with the education necessary to perform these difficult tasks. The attached OIT Program Training Matrix outlines a 24 month training program. The training matrix is a roadmap for trainees, which will ensure that they are studying relevant material and progressing with their education. It is expected that a Trainee Operator advances through the Training Matrix program as proposed with little modifications in order to verify that they are on target to meet the requirements of the OIT Program. If alternate training is desired, the training matrix may be adjusted with written approval from the Division Manager.

Commitment of Agreement

Trainee Operators within the OIT Program are required to be accountable for their progression through the attached training matrix. Trainee Operators are responsible for communicating with their immediate supervisors and tracking their progression through the program by using the attached Signatory Completion List. Trainee Operators will be provided ample time, on the job, to complete self-study assignments. A typical trainee workday is an 8-hour shift, 6-hours will be operator work assignments and 2-hours will be allocated for self-study and professional development.

The physical duties of a treatment plant operator require persons to regularly walk throughout the plant, climb ladders, stoop, crouch, and crawl to complete required tasks. Trainee Operators within the OIT Program are expected to lift and/or move up to 75 pounds and to stand for long periods. Operator's mental duties require significant oral and written communication skills, the ability to read and interpret data and information, to analyze problems and develop solutions, and to operate computers. Operators are also expected to respectfully interact with other employees, organizations, and the general public.

Mentors

All treatment facility staff will be committed to mentoring Trainee Operators. Specifically, the Operations Supervisor for the facility which the Trainee Operator is assigned will be available to offer instruction and answer any questions that may develop during training. The Operations Supervisor and the Superintendent will be responsible to ensure the Trainee Operator makes suitable progression through the training matrix and confirms milestones by initialing the appropriate section within the Signatory Completion List.

Training Expenses

The City of Yuma Utilities Department will provide for all the training, travel, and class fees within the scope of the attached training matrix. The Department will also pay for the first ADEQ Exam associated fees, including travel if needed. If a Trainee Operator is unsuccessful in obtaining the ADEQ License on his/her first attempt any future cost associated with obtaining an ADEQ License are to be the responsibility of the Trainee Operator, and the reimbursement protocols within the Utilities Department ADEQ Testing Reimbursement Standard Operating Procedure will apply.

Attachment A

Operator-In-Training Water Treatment Training Matrix and Signatory List

Operator-In-Training Training Matrix – Water

Module	Month	Safety Classes	Professional Development	Travel	Correspondence Classes	Certification Test
1	1	HAZCOM	Operations Math	AZ Water (or TriState)	Water Treatment Plant Operation – Volume 1	ADEQ Grade 1 Exam (Week 24)
	2					
	3					
	4	Confined Space	Operator Logs and Recordkeeping			
	5					
	6	Lockout Tagout	Pumps			
	7					
	8					
2	9	Process Safety Management Plan	Coagulation and Flocculation		Water Treatment Plant Operation – Volume 2	
	10					
	11					
	12	Respirator Protection	MS Excel – Basics (Fred Pryor)			
	13					
	14	HAZWOPER	Disinfection			
	15					
	16					
3	17	Forklift Safety	Filtration / Membrane Process	TriState (or AZ Water)	Water Treatment AWWA Water System Operator	ADEQ Grade 2 Exam (Week 80)
	18					
	19					
	20	ICS-100	MS Word – Basics (Fred Pryor)			
	21					
	22	ICS-200	Laboratory Procedures			
	23	IS-700				
	24					

Operator-In-Training Signatory Completion List (Water)

Safety Classes

1. HAZCOM..... Employee Intl: _____ Supervisor Intl: _____
2. Confined Spaces..... Employee Intl: _____ Supervisor Intl: _____
3. Lockout Tagout..... Employee Intl: _____ Supervisor Intl: _____
4. Process Safety Management Employee Intl: _____ Supervisor Intl: _____
5. Respirator Protection..... Employee Intl: _____ Supervisor Intl: _____
6. HAZWOPER..... Employee Intl: _____ Supervisor Intl: _____
7. Forklift Safety..... Employee Intl: _____ Supervisor Intl: _____
8. ICS-100..... Employee Intl: _____ Supervisor Intl: _____
9. ICS-200..... Employee Intl: _____ Supervisor Intl: _____
10. IS-700..... Employee Intl: _____ Supervisor Intl: _____
11. (other) _____ Employee Intl: _____ Supervisor Intl: _____
12. (other) _____ Employee Intl: _____ Supervisor Intl: _____

Professional Development

1. Operations Math Employee Intl: _____ Supervisor Intl: _____
2. Operations Logs and Recordkeeping..... Employee Intl: _____ Supervisor Intl: _____
3. Pumps Employee Intl: _____ Supervisor Intl: _____
4. Coagulation and Flocculation Employee Intl: _____ Supervisor Intl: _____
5. MS Excel – Basics (Fred Pryor)..... Employee Intl: _____ Supervisor Intl: _____
6. Disinfection Employee Intl: _____ Supervisor Intl: _____
7. Filtration and Membranes..... Employee Intl: _____ Supervisor Intl: _____
8. MS Word – Basics (Fred Pryor)..... Employee Intl: _____ Supervisor Intl: _____
9. Laboratory Procedures..... Employee Intl: _____ Supervisor Intl: _____
10. (other) _____ Employee Intl: _____ Supervisor Intl: _____
11. (other) _____ Employee Intl: _____ Supervisor Intl: _____

Correspondence Courses

1. Water Treatment Plant Operation – Volume 1..... Date Completed: _____
2. Water Treatment Plant Operation – Volume 2..... Date Completed: _____
3. Water Treatment AWWA Water System Operator..... Date Completed: _____
4. (other) _____ Employee Intl: _____ Supervisor Intl: _____
5. (other) _____ Employee Intl: _____ Supervisor Intl: _____

Travel

1. AZ Water..... Employee Intl: _____ Supervisor Intl: _____
2. TriState..... Employee Intl: _____ Supervisor Intl: _____
3. (other) _____ Employee Intl: _____ Supervisor Intl: _____

Examination

1. ADEQ Grade 1..... Exam Employee Intl: _____ Supervisor Intl: _____
2. ADEQ Grade 2..... Exam Employee Intl: _____ Supervisor Intl: _____

Superintendents Review

1. Module One Requirements Met Employee Intl: _____ Superintendent Intl: _____
2. Module Two Requirements Met..... Employee Intl: _____ Superintendent Intl: _____
3. Module Three Requirements Met Employee Intl: _____ Superintendent Intl: _____

Attachment B

Operator-In-Training Wastewater Treatment Training Matrix and Signatory List

Operator-In-Training Training Matrix – Wastewater

Module	Month	Safety Classes	Professional Development	Travel	Correspondence Classes	Certification Test
1	1	HAZCOM	Operations Math	AZ Water (or TriState)	Operation of Wastewater Treatment Plants – Volume 1	ADEQ Grade 1 Exam (Week 24)
	2					
	3					
	4	Confined Space	Operator Logs and Recordkeeping		RoyCEU.Com Class (Optional once Volume 1 completed above)	
	5					
	6	Lockout Tagout	Pumps			
	7					
	8					
2	9	Respirator Protection	Activated Sludge		Operation of Wastewater Treatment Plants – Volume 2	
	10					
	11					
	12	HAZWOPER	MS Excel – Basics (Fred Pryor)		RoyCEU.Com Class (Optional once Volume 2 completed above)	
	13					
	14	Forklift Safety	Disinfection			
	15					
	16					
16						
3	17	ICS-100	Digestion and Solids Handling	TriState (or AZ Water)	Advanced Waste Treatment	ADEQ Grade 2 Exam (Week 80)
	18					
	19					
	20	ICS-200	MS Word – Basics (Fred Pryor)		RoyCEU.Com Class (Optional once Advanced Waste Treatment completed above)	
	21					
	22	IS-700	Laboratory Procedures			
	23					
	24					

Operator-In-Training Signatory Completion List (Wastewater)

Safety Classes

1. HAZCOM..... Employee Intl: _____ Supervisor Intl: _____
2. Confined Spaces..... Employee Intl: _____ Supervisor Intl: _____
3. Lockout Tagout..... Employee Intl: _____ Supervisor Intl: _____
4. Respirator Protection..... Employee Intl: _____ Supervisor Intl: _____
5. HAZWOPER..... Employee Intl: _____ Supervisor Intl: _____
6. Forklift Safety Employee Intl: _____ Supervisor Intl: _____
7. ICS-100..... Employee Intl: _____ Supervisor Intl: _____
8. ICS-200..... Employee Intl: _____ Supervisor Intl: _____
9. IS-700..... Employee Intl: _____ Supervisor Intl: _____
10. (other) _____ Employee Intl: _____ Supervisor Intl: _____
11. (other) _____ Employee Intl: _____ Supervisor Intl: _____

Professional Development

1. Operations Math Employee Intl: _____ Supervisor Intl: _____
2. Operations Logs and Recordkeeping..... Employee Intl: _____ Supervisor Intl: _____
3. Pumps Employee Intl: _____ Supervisor Intl: _____
4. Activated Sludge Employee Intl: _____ Supervisor Intl: _____
5. MS Excel – Basics (Fred Pryor)..... Employee Intl: _____ Supervisor Intl: _____
6. Disinfection Employee Intl: _____ Supervisor Intl: _____
7. Digestion and Solids Handling Employee Intl: _____ Supervisor Intl: _____
8. MS Word – Basics (Fred Pryor)..... Employee Intl: _____ Supervisor Intl: _____
9. Laboratory Procedures..... Employee Intl: _____ Supervisor Intl: _____
10. (other) _____ Employee Intl: _____ Supervisor Intl: _____
11. (other) _____ Employee Intl: _____ Supervisor Intl: _____

Correspondence Courses

1. Operation of Wastewater Treatment Plants – Volume 1 Date Completed: _____
2. Operation of Wastewater Treatment Plants – Volume 2..... Date Completed: _____
3. Advanced Waste Treatment..... Date Completed: _____
4. (other) _____ Employee Intl: _____ Supervisor Intl: _____
5. (other) _____ Employee Intl: _____ Supervisor Intl: _____

Travel

1. AZ Water..... Employee Intl: _____ Supervisor Intl: _____
2. TriState..... Employee Intl: _____ Supervisor Intl: _____
3. (other) _____ Employee Intl: _____ Supervisor Intl: _____

Examination

3. ADEQ Grade 1..... Exam Employee Intl: _____ Supervisor Intl: _____
1. ADEQ Grade 2..... Exam Employee Intl: _____ Supervisor Intl: _____

Superintendents Review

1. Module One Requirements Met Employee Intl: _____ Superintendent Intl: _____
2. Module Two Requirements Met..... Employee Intl: _____ Superintendent Intl: _____
3. Module Three Requirements Met Employee Intl: _____ Superintendent Intl: _____