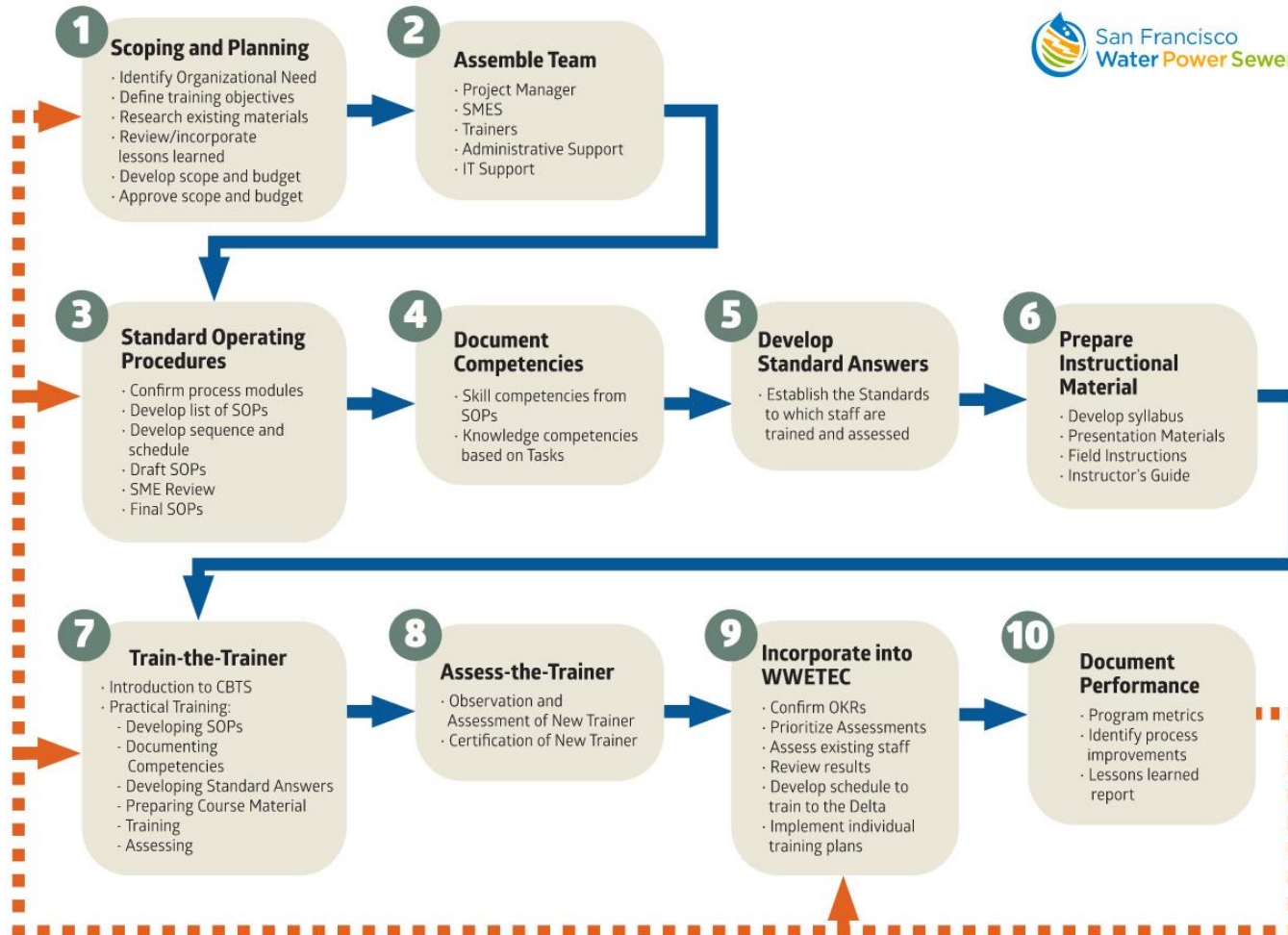


WWE Competency Based Training System (CBTS)

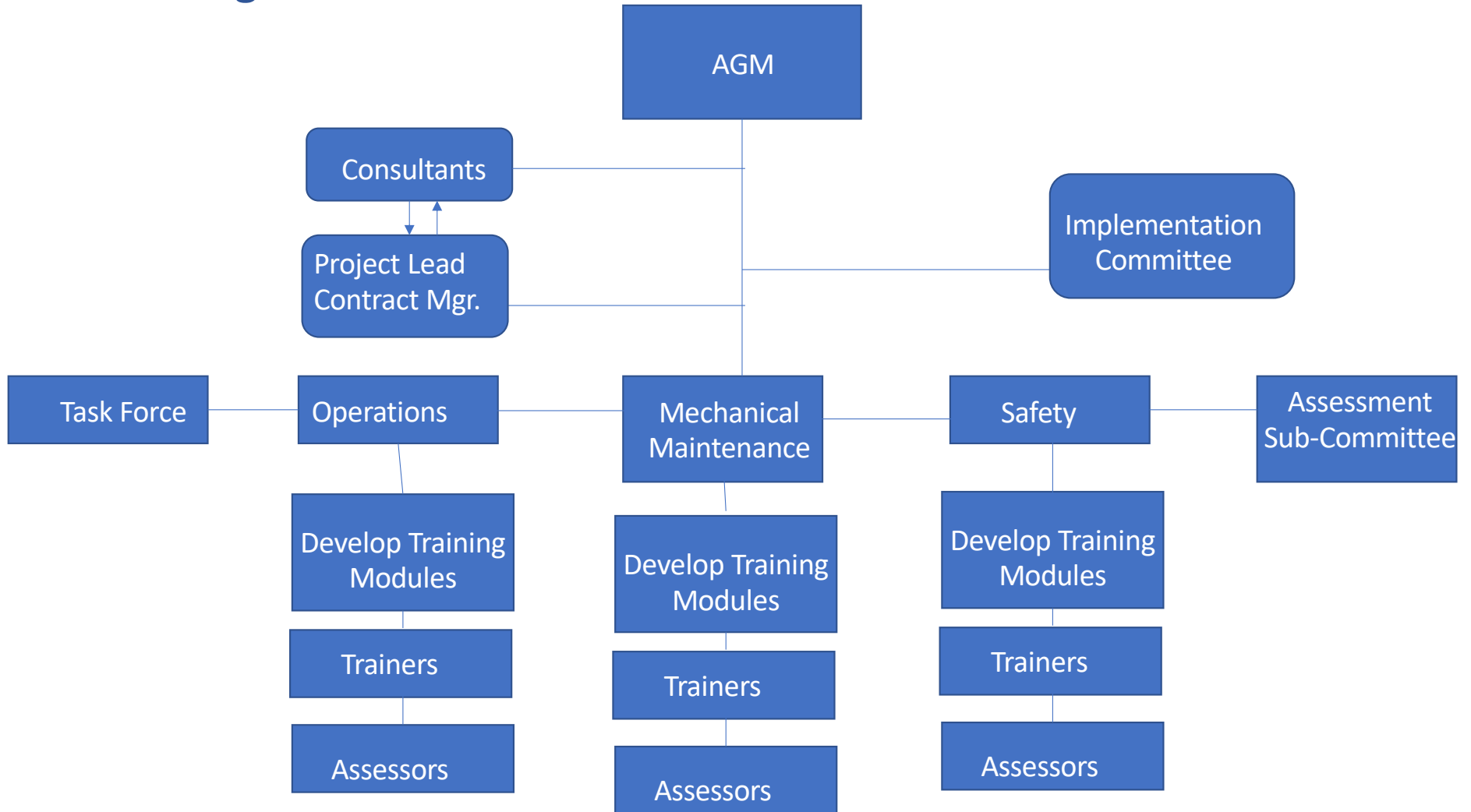
Catherine Curtis, CBTS Project Lead



SFPUC Wastewater Enterprise – Competency-Based Technical Training Standard



Pilot CBTS Organization Chart



What is Competency Based Training System (CBTS)?

- A system for training which has three components to the structure:
 - **Fundamentals** – Knowledge to understand the system or equipment basics.
 - **Systems** – knowledge of the systems you are required to operate in your area.
 - **Tasks** – knowledge of tasks you are required to perform in your job.
- We are focusing on **job/role competencies** – a compilation of the minimum knowledge and skills than an individual must know and demonstrate to ensure proper operation of equipment or systems.

Training Defined

Training occurs when instruction is given either:

- On the job
- In the classroom
- Or both

Accomplished in concert with / or followed by **successful demonstration of the acquired knowledge or skill**



Contents of a Training Modules

- Competencies and Standard Answers
 - UTAC Software and UTAC APP
- Standard Operating Procedures (SOP's)
 - Microsoft Office - Word
- Course Material
 - Presentation Material (PPT, Video, etc.)
 - Existing Infrastructure/Assets (plant, pump station, etc.)
 - Assessments – (Software – cloud based)
 - SharePoint, PPT, UTAC Software and App

Communication

Competency Based Training System (CBTS) Frequently Asked Questions (FAQ)

1) Who is part of the CBTS?

WWE Competency Based Training System – What it Means for You!

Workforce Sustainability for the Future

Submitted by Catherine Curtis

The San Francisco Public Utilities Commission (SFPUC) Wastewater Enterprise (WWE) will be offering through our workforce development a new competency-based training system. This is a system for identified trade positions to be consistently trained and demonstrate acquired knowledge and skill

standardize training and ensure knowledge
the overall safety of the plant is in place. The
training modules, instruction for trainers and

ed of:

S SharePoint site

modules. This

WWE Competency Based Training System (CBTS)

Presentation to OSP Staff
Tom Jacobs, Catherine Curtis
CBTS Task Force
September 2021



Click Image Above for More WWE Training Resources

TRAINING SPOTLIGHT

COMPETENCY-BASED TRAINING SYSTEM (CBTS)

"We're looking forward to launching the Competency-Based Training System Program Pilot for Operations and Maintenance staff at Oceanside Wastewater Treatment Plant, achieving a key goal of our Strategic Business Plan. Thanks to the hard work from our Subject Matter Experts (SMEs), the Implementation Team, and our team of outside CBT experts, we've developed nearly 100 new SOP's and related training modules, and will begin conducting assessments and training for staff in early 2022."

- Greg Norby, Assistant General Manager

Train-the-Trainer Workshop

Train-the-Trainer is a week-long workshop that prepares staff to give assessments and deliver training on CBTS.

Delivered by CTS. Greg kicks off the workshop and we end it with a discussion about culture change.

Department	Number
Operations	6
Mechanical Maintenance	8
Instrumentation and Control Technician	5
Electrician	2
Collections: Sewer Service Worker	5
Safety	3
WWETEC	2

Train the Trainer Workshop

Learning Objectives
Learning and Development
Competency Based Training System
Standard Operating Procedures
SOP Development
Standard Answer Structure
UTAC Software
Training
Competency Assessment Practical
Sustainability

Train-the-Trainer Workshop



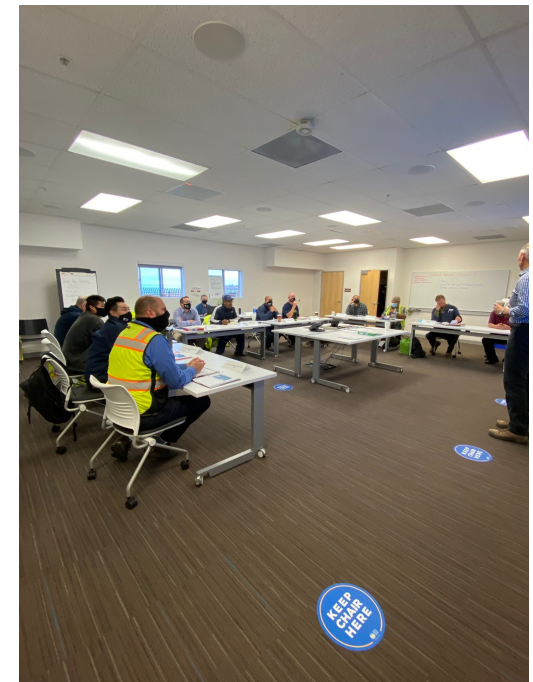
AGM Launching Train-the-Trainer Workshop



Field exercise – taking pictures for SOP development.



Tom Jacobs working with UTAC Software

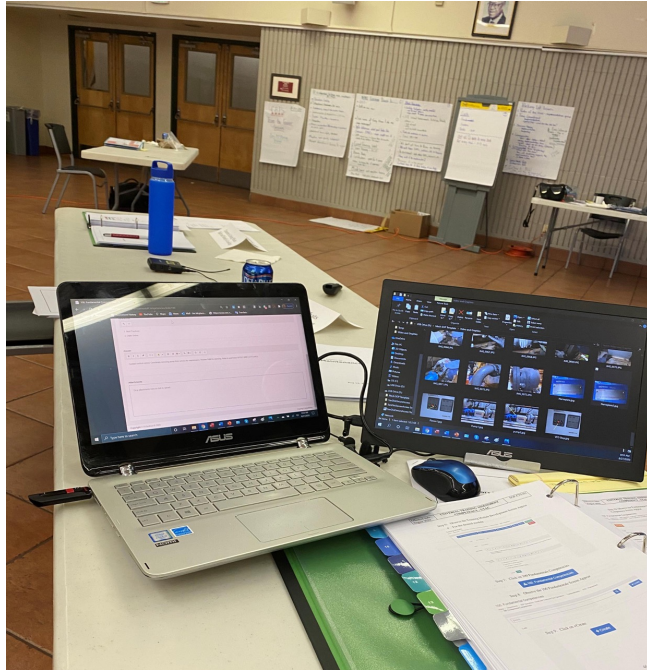


Leadership Engagement

Train-the-Trainer is a week-long workshop that prepares staff to deliver training and give assessments on CBTS. Over 30 staff attended 4 workshops.

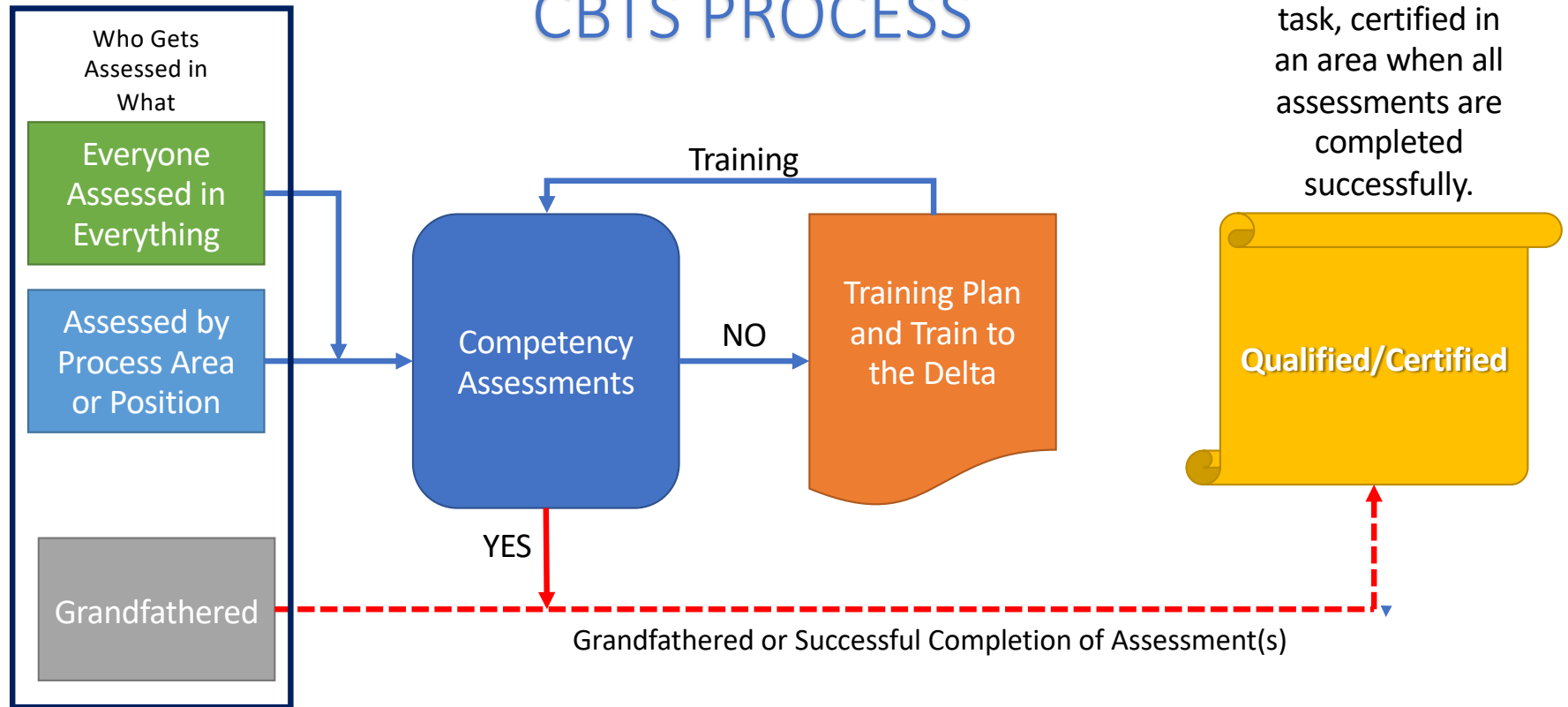
Developing SOPs





Learning UTAC - Universal Training Assessment Competency

CBTS PROCESS



Task Competency Questions



What are the steps to this procedure?



What is the purpose of this task?



What control/coordination is required?



What means of communication is used?



What safety precautions must be observed?

System Competencies

What models/types
are available?

Where is it located?

How does it
operate?

What maintenance is
done by Mechanics
to ensure proper
operation?

What is its capacity?

What are the
probable indications
in this component
fails?

Reports

SOP Report

Assessment Report

Monthly Report

Final Pilot Report

Guidance Manual

All contained on our SharePoint Site

Manual

COMPETENCY-BASED TRAINING SYSTEM (CBTS) PILOT MANUAL



COMPETENCY-BASED TRAINING SYSTEM
IMPLEMENTATION COMMITTEE
October 20, 2022



Digital Tools Needed for CBTS

Microsoft Suite – Word, Excel, PowerPoint, Outlook

SharePoint = Knowledge Management

UTAC – Specialized software (app and cloud-based) to conduct and track assessments in the field

Zoom and Teams Platforms

Cameras

Computers and I-Pads

Phones

Thumb drives

Distributed Control System (DCS)/SCADA Systems

Maximo

GIS

Intranet/Internet

Digital Skills Needed for CBTS

Ability to operate Word to create and edit SOPs

Ability to navigate between systems

Ability to upload and download documents

Ability to operate DCS/SCADA systems for operators

Ability to operate Maximo system for maintenance

Ability to use the Internet, Intranet and SharePoint

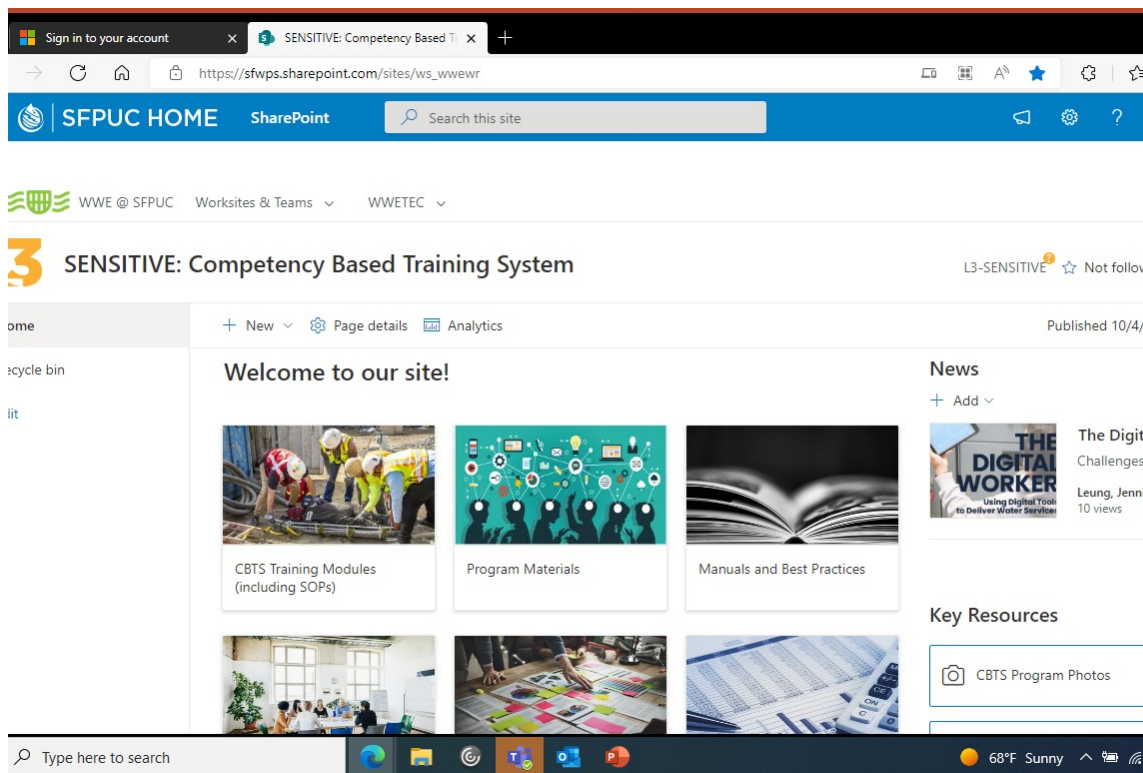
Ability to use UTAC software to conduct assessments

Ability to sync UTAC app with cloud-based software

Ability to use camera / i-phone to take pictures for SOPs

Ability to join online platforms for meetings and work sessions

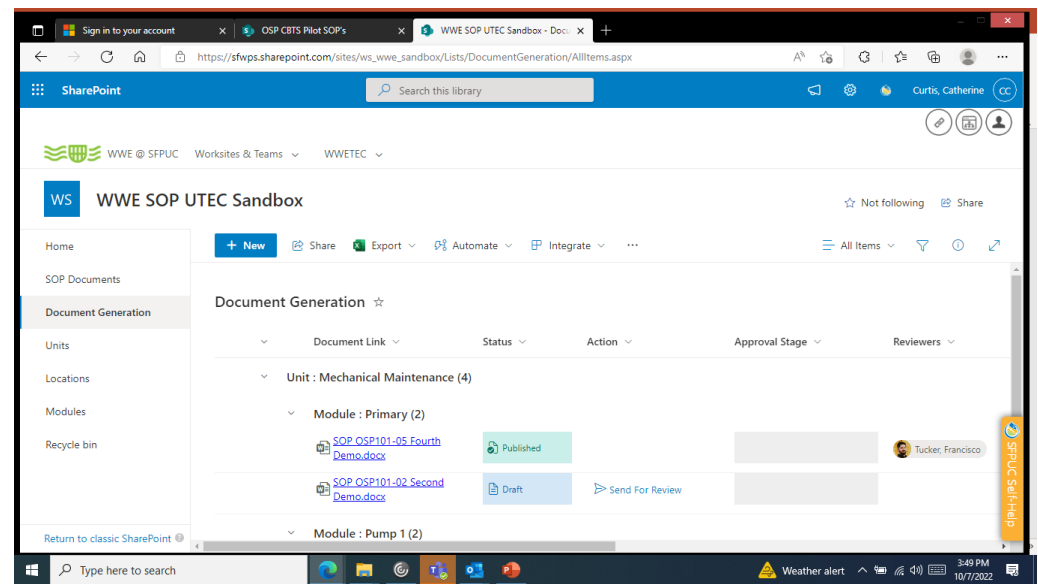
SENSITIVE: Competency Based Training System - Home (sharepoint.com)



Our homepage
for our
Competency
Based Training
System

ShareSquared Project

Developed to automate the process of beginning a document or editing a document and routing it to the SMEs to review and to the approver to approve the final document.



The logo for UTAC Software, featuring the text "UTAC Software" in white, centered over a dark blue background with a large, semi-transparent circle.

Specialized software to identify competencies, generate standard answers, track assessments, dashboards to get metrics.

Licensing Agreement

Work with our IT Staff, Cybersecurity – 79 points

Cloud based software and application

UTAC Screens

The screenshot displays a web application interface for 'Wastewater Enterprise (WWE)'. The browser's address bar shows the URL <https://sfpuwwe.ctsic-usa.com/SystemUsers>. The interface includes a top navigation bar with a search field and a 'Log out' button. A left sidebar contains a menu with options: Dashboard, Trainees, Departments, Shared Modules, Admin (selected), Locations, and Users. The main content area is titled 'System Users' and shows a list of users with their names and a 'Delete' button for each. The users listed are Rose Durian, Sam Anderson, Gabriel Azcarraga, Chelsea Battl, Johnathan Brownlee, and Tom Byron. A '+ Create' button is located at the top right of the user list. The bottom of the screen shows a Windows taskbar with the search bar, taskbar icons, and system tray information indicating 73°F, partly sunny, and the time 2:33 PM on 8/3/2023.

Name	Action
Rose Durian	Delete
Sam Anderson	Delete
Gabriel Azcarraga	Delete
Chelsea Battl	Delete
Johnathan Brownlee	Delete
Tom Byron	Delete

Dashboard



Citrix Workspace

Home

← ↻ 🏠 🔒 https://sfpuwwwe.ctsic-usa.com 🔊 ☆ 📄 📌 📁 🌐 👤 ⋮



 Search...

Log out



Catherine Curtis
ccurtis@swater.org

Dashboard

Trainees

Departments

Shared Modules

Admin

Dashboard

Home

Current progress for SFPUC

30 %

Locations

Oceanside Treatment Plant

1860/5402

34%

Griffith Yard

885/3386

26%

🔍

📌

📁

👤

🌐

📄

+

📄

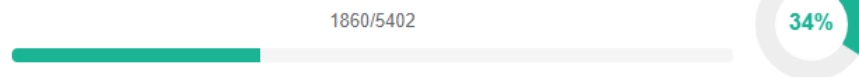
⚙️

Current progress for SFPUC

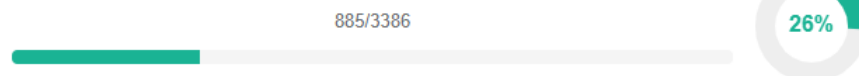


Locations

Oceanside Treatment Plant



Griffith Yard



Departments

https://stpuclwwe.ctsic-usa.com

Departments

Collection Systems

885/3386



Modules in
Development
5



Modules Approved
2



Electricians

75/94



Modules in
Development
1



Modules Approved
0



Oceanside Instrumentation and Controls

29/29



Modules in
Development
0



Modules Approved
1



Oceanside Treatment Plant Maintenance

825/3565



Modules in
Development
0



Modules Approved
4



Type here to search



Breaking news



1:52 PM
8/3/2023



Trainees Page

Wastewater Enterprise (WWE)

Search...

Log out

Trainees

Home / Trainees

Location...

+ Create

Name	Progress
Roberto Alas	
Nick Alford	
Sam Anderson	
Ronald Armstrong	
Gabriel Azcaraga	

When you click on the trainee's page, you get a list of trainees with the level of progress they are making on assigned modules.

When you click on a trainee, you get their record of all the modules they have been assigned, the history and percentage of completion.

OSTP Stationary Engineer - Treatment Plant Operator

Oceanside Treatment Plant Stationary Engineer - Plant Operator

Oceanside Treatment Plant Operations, Oceanside Treatment Plant

46 Competencies Completed

32 Competencies Remaining

59%

Edit

Assessments	History
SAF101 - Ventis Pro5 Multi Gas Monitor	29/29
100. Fundamental Competencies	20/20
200. System Competencies	3/3
300. Task Competencies	6/6
SAF102 - HECP Lockout Tagout	17/17
100. Fundamental Competencies	12/12
200. System Competencies	3/3
300. Task Competencies	2/2
OSTP Operations102 - Pre-Treatment	0/32
100. Fundamental Competencies	0/8
200. System Competencies	0/15
300. Task Competencies	0/9

Departments Page

**Wastewater Enterprise (WWE)**

**Catherine Curtis**
ccurtis@sfgwater.org

Dashboard

Trainees

Departments

Shared Modules

Admin

Search...

Log out

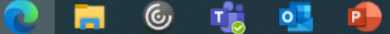
Departments

Home / Departments

+ Create

Name	Modules in Development	Modules Approved	Competencies Completed	
CS - Collection Systems	5	2	885/3386	Positions Delete
OSTP Electrician - Electricians	1	0	75/94	Positions Delete
OSTP I&C - Oceanside Instrumentation and Controls	0	1	29/29	Positions Delete
OSTP Maintenance - Oceanside Treatment Plant Maintenance	0	4	825/3565	Positions

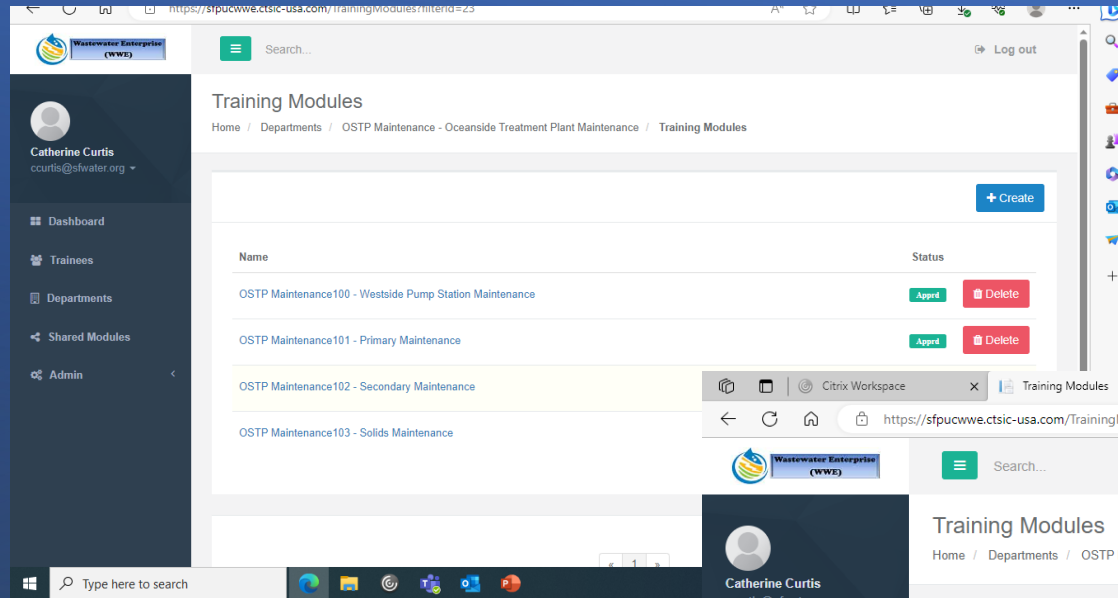
Type here to search



66°F Mostly sunny

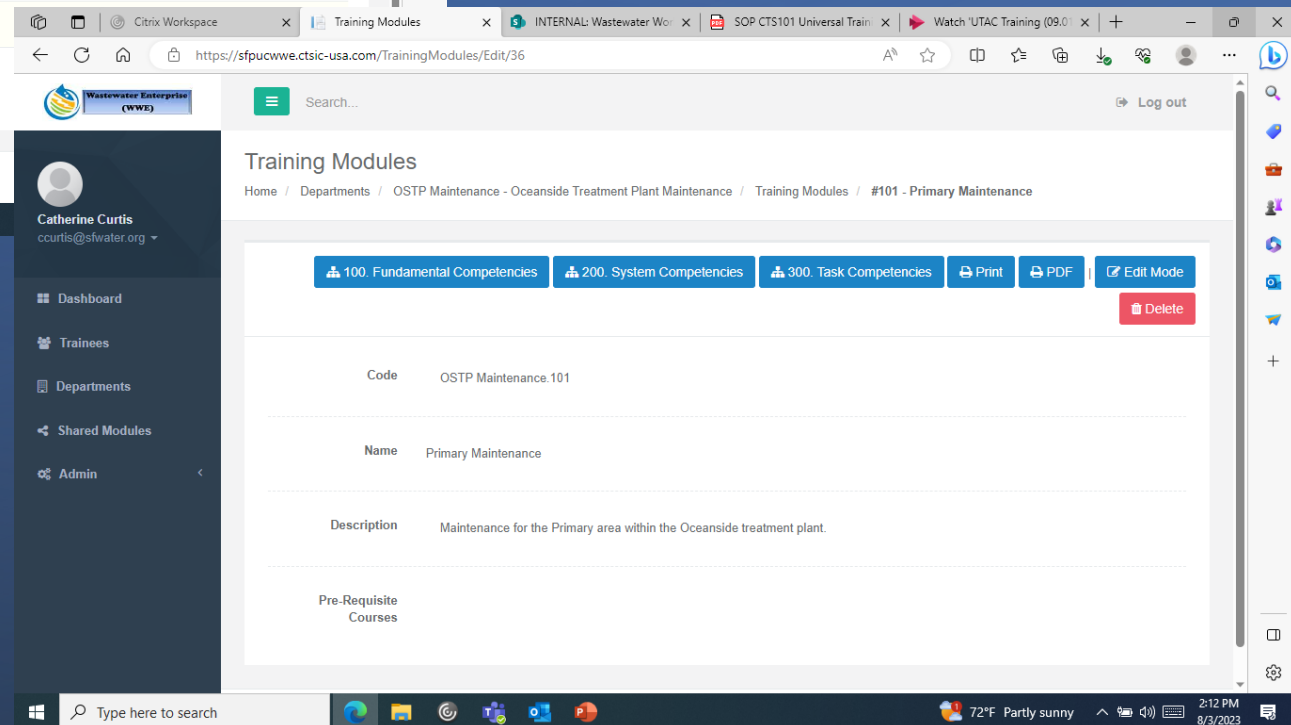
10:59 AM 8/3/2023

Training Modules



Click on a training module in maintenance on the first screen

takes you to a screen where you can define the competencies and create standard answers that are used in the assessment.



Training Modules

Home / Departments / SEP Operations - Southeast Treatment Plant Operations / Training Modules / #100 - Pretreatment

100. Fundamental Competencies

200. System Competencies

300. Task Competencies

Print

PDF

Approve

Delete

Code

SEP Operations

100

a) What are the steps of this procedure?

Answer

B *I* U  13 ▼ **A** ▼        

Refer to and follow SFPUC WVE SOP OPO102-5 Gate and Valve Actuator Operation SOP.

SEP Maintenance100.200.1 - Centrifugal Grit Pumps



08/16/2020



Save

Cancel

Incompletion Reason

None

Remarks

None

Training

Material

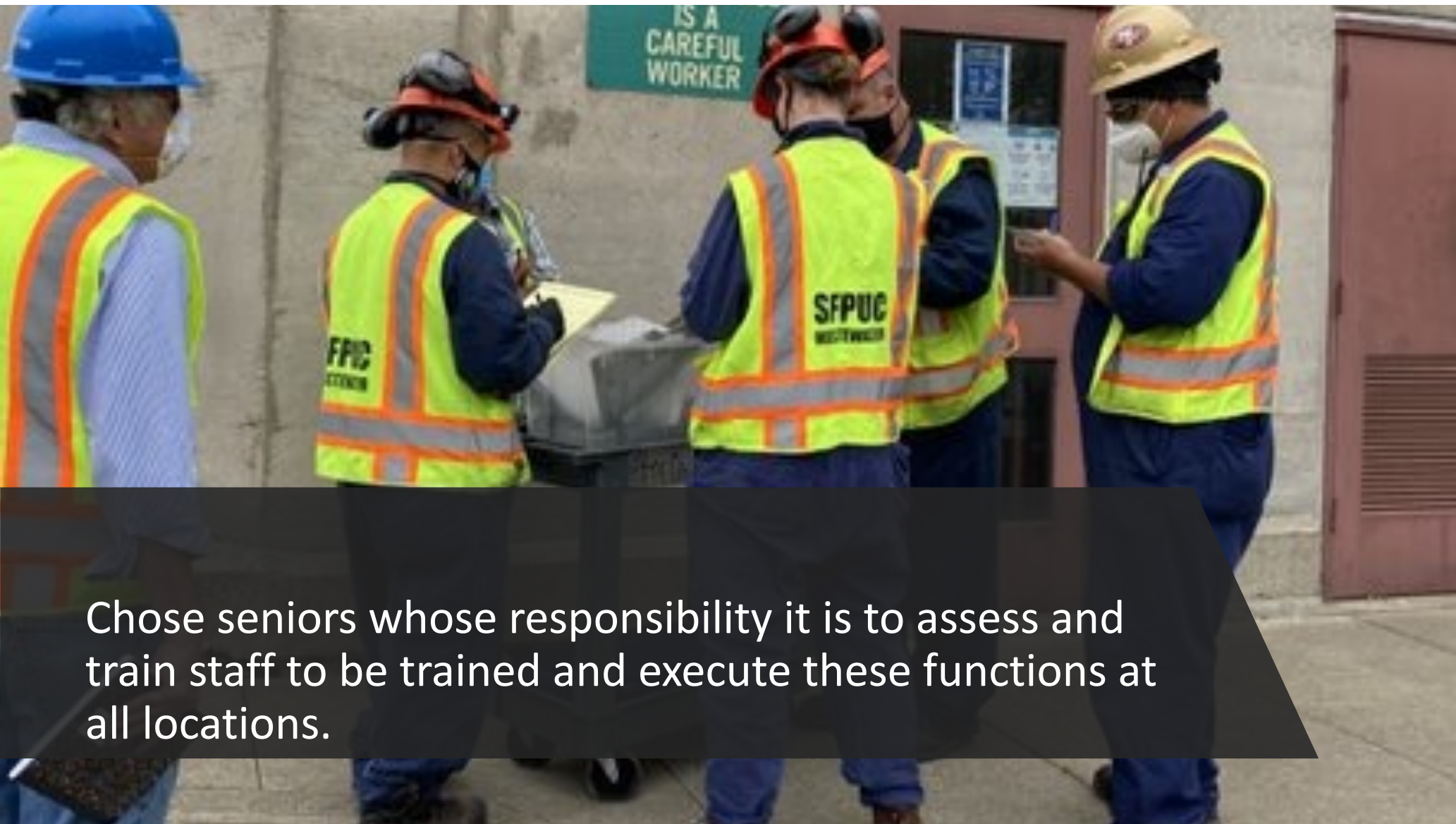
Environment

KSA



There are more lessons learned than can put in this PowerPoint. There is a lessons learned matrix in the CBTS Manual.

The key highest learnings from the pilot include:



Chose seniors whose responsibility it is to assess and train staff to be trained and execute these functions at all locations.

Make sure everyone gets trained on safety first.





RESOURCES

Make sure you have resources, the right equipment, space, and commitment of staff time to implement this program properly.

- Staff coverage and changing schedules was an issue in rolling out training and assessments and delayed the process considerably
- A designated space for people doing assessments, training and document development is important which we never gained during the pilot.

Culture Change – change is hard, and resistance is high. Have a change management plan to move this forward.

CHANGE

loading...

Effective Attitude Conflict People Behavior Goals
Influence Fortitude Setbacks Engaged
Resources Obstacles Customers Maturity
Progress Dynamics Achievement Self-Control
Listen **Culture Change** Employees Management
Momentum Commitment Organization Culture-Change
Performance Leadership **Ownership**
Challenge Morale Discipline Team-Building Accept
Motivation Understand Feelings Strategies
Time Feedback Milestones Frustration
Rewards Beliefs

Products from the Pilot



**Training Modules in
Operations and
Mechanical Maintenance**

SOPs

Standard Answers

PPT Classroom Training



**UTAC Software (App and
Cloud Based)**



**Share Squared
Automated review and
approval process**



**People trained and
assessed on job duties**

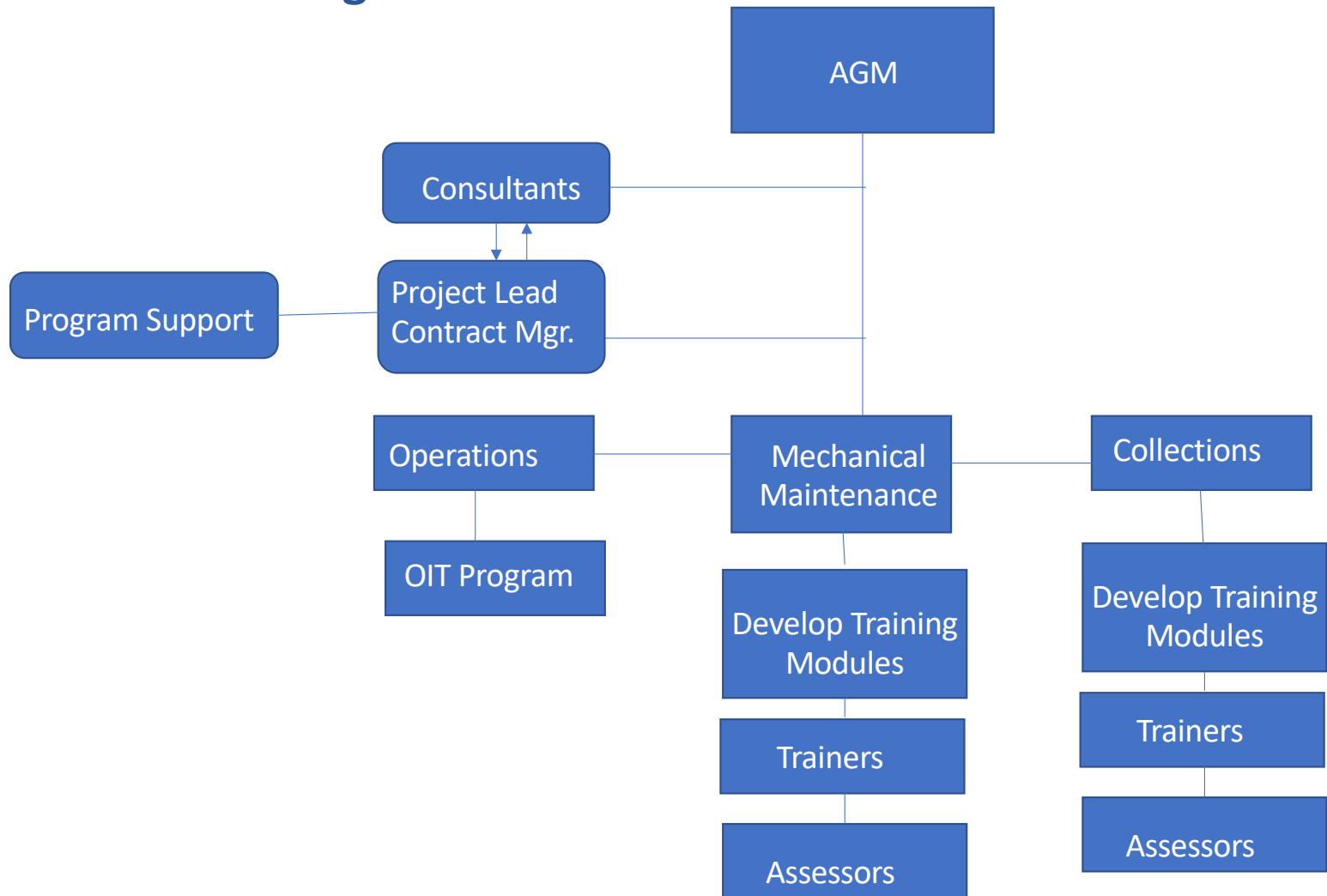


**A system for developing,
implementing, and
evaluating competency-
based training.**



Making CBTS Our Own

SFPUC CBTS Organization Chart



CBTS Roles and Responsibilities Guide

Competency Based Training System Roles and Responsibilities

2023 – Submitted by Catherine Curtis

Introduction

Competency Based Training System (CBTS) is an effective and sustainable training system that provides a structure and process for delivering consistent training, conducting assessments to ensure learning took place, and tracking metrics. The purpose of the system is to provide training and subsequent assessment to standards that qualify employees to conduct the routine day-to-day operations of the Enterprise. The Competency Based Training System is Structured On-The-Job (S-OJT) training. It emphasizes one-on-one contact between experienced and novice employees as the primary means of conveying training content. Competencies are behaviors that encompass the knowledge, skills, and attributes required for successful performance. A competency can be a general statement, such as communication or application development or, a specific task to accomplish. Competency has three different meanings (Development Dimensions International (DDI), 1994):

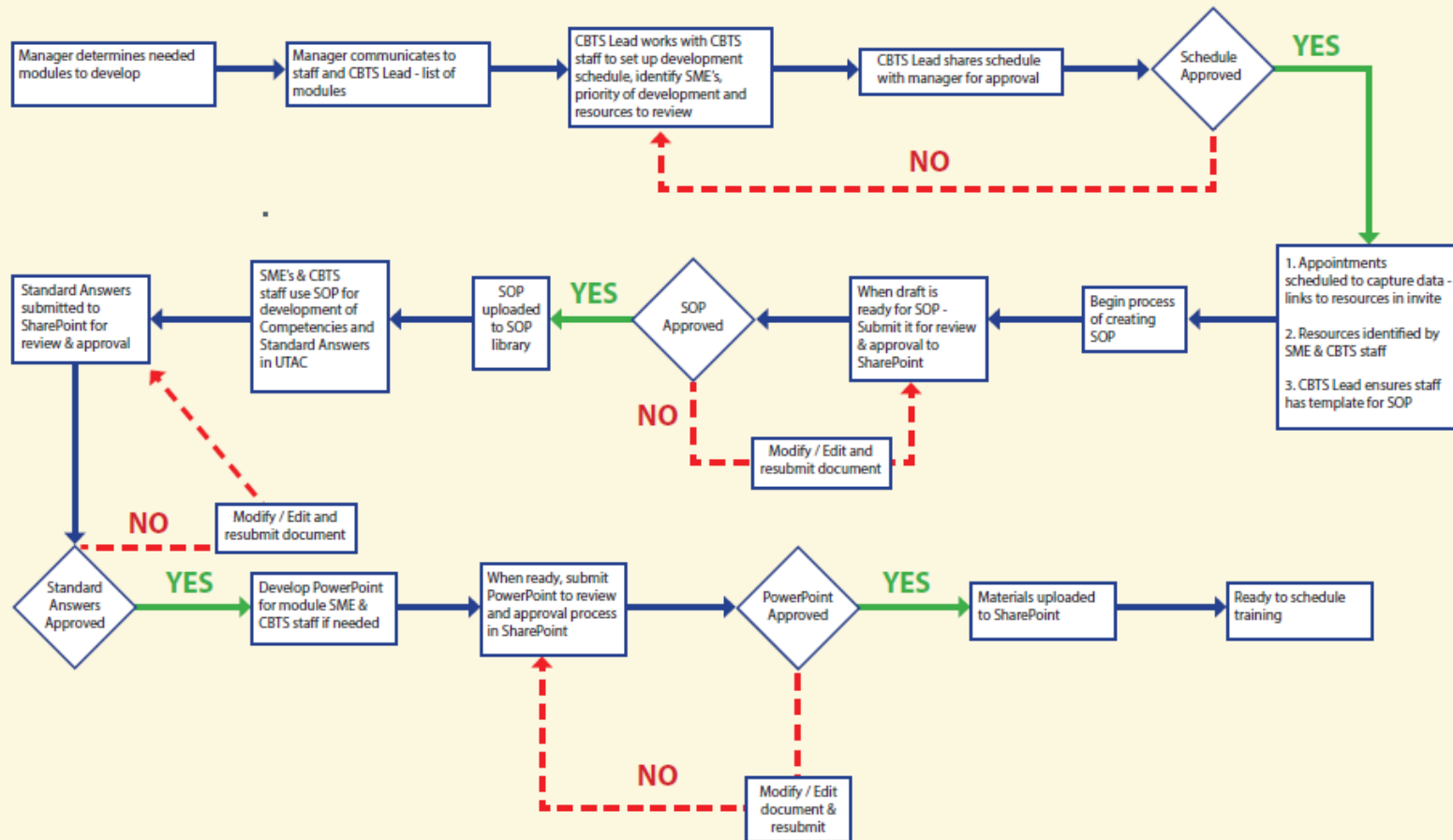
- Organizational Competencies
- Job/Role Competencies
- Personal Competencies

The CBTS is centered around Job/Role competencies.

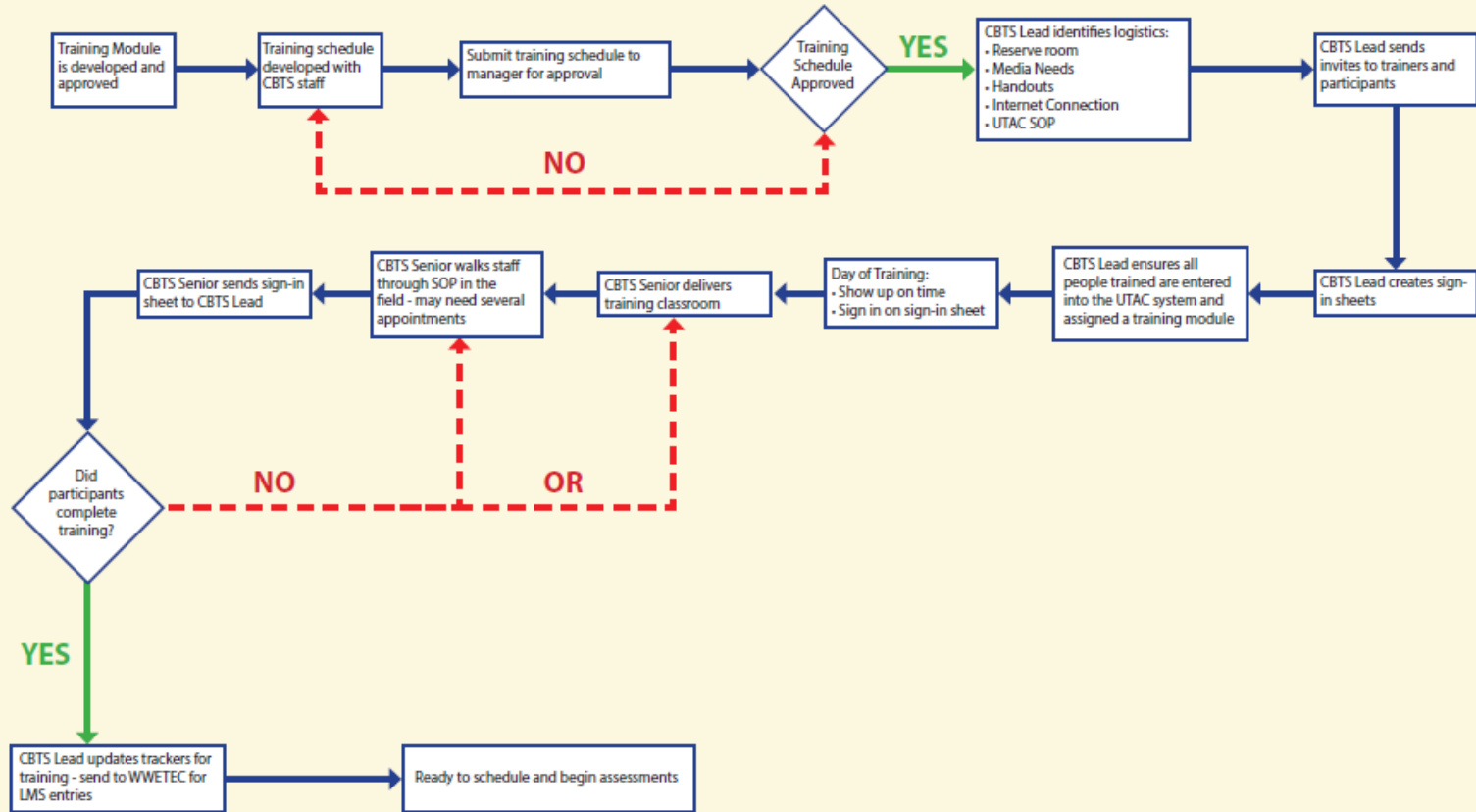
Roles and Responsibilities

Description of Roles and Responsibilities		
Role	Defined	Responsibility for CBTS
Training Developers	The developer works with SMEs to create training modules, including SOPs, PPTs, and SAs. Typically, seniors and/or supervisors of a group perform this role, depending on the content. WWETEC Instructional Designers may also be able to assist in this role.	1. Attend Train the Trainer Workshop. 2. Works with a SME to develop training modules. 3. Identifies resources (documents, as-builts, O+M Manuals, Videos, Images, etc.) related to the module(s) being developed. 4. May have several sessions for one module. 5. Edits final products for accuracy of content.
Trainers	The trainer gives classroom instruction on the modules and walks the staff through the SOPs of a module in the field to deliver on-the-job training. Then, the trainer will ascertain if they are ready for assessment. Typically, seniors and/or supervisors of a group perform this role or another specialist (e.g. Safety Officer).	1. Attend Train the Trainer Workshop. 2. Conducts training for all SOPs in the field. 3. Delivers training for modules in the classroom. 4. Ascertains when people are ready for their assessment after being trained. 5. Schedules assessment session.
Assessors	Assessors conduct the employee assessments and	1. Attend Train the Trainer Workshop.

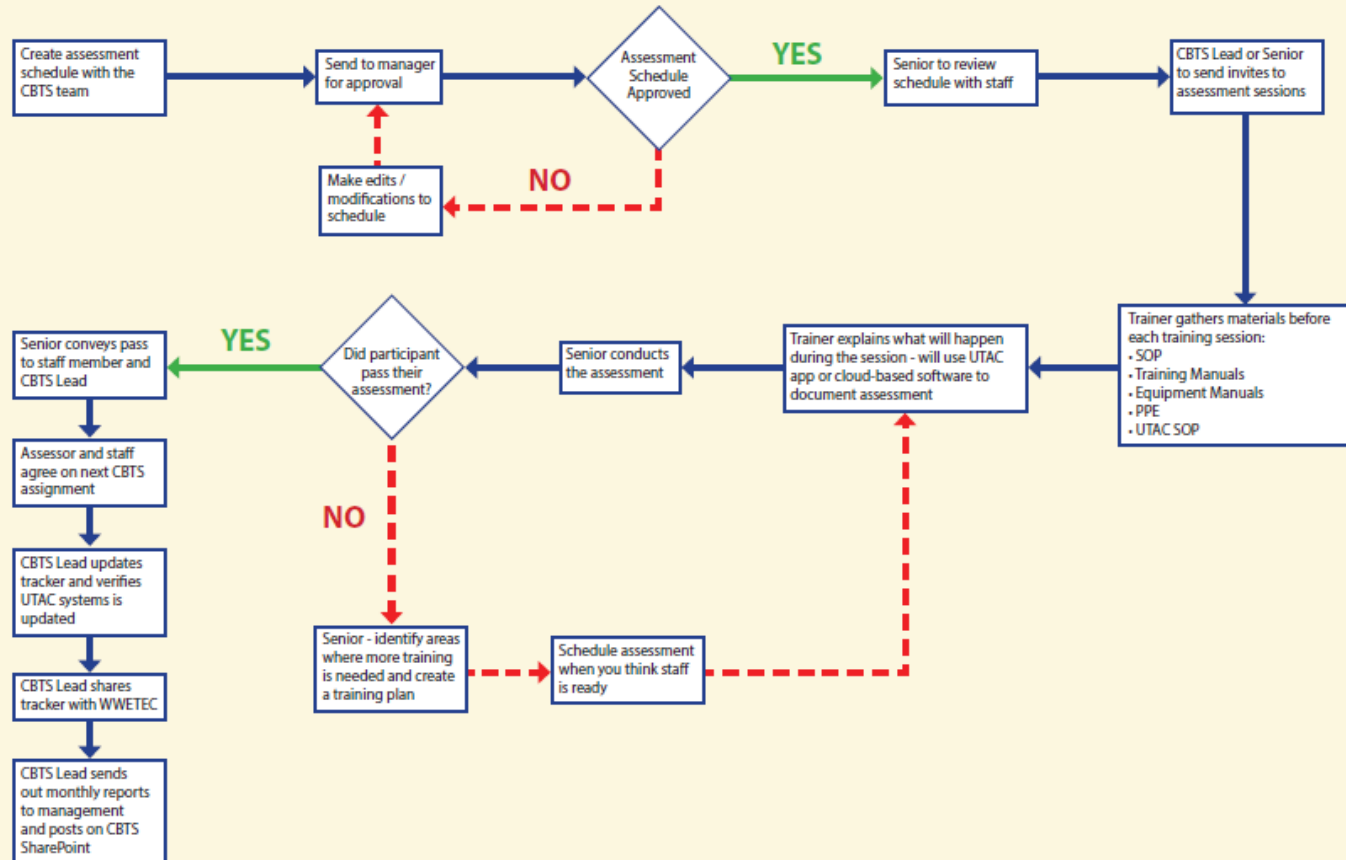
FLOW CHART - DEVELOP MODULES



FLOW CHART - CBTS TRAINING



FLOW CHART - CBTS ASSESSMENTS





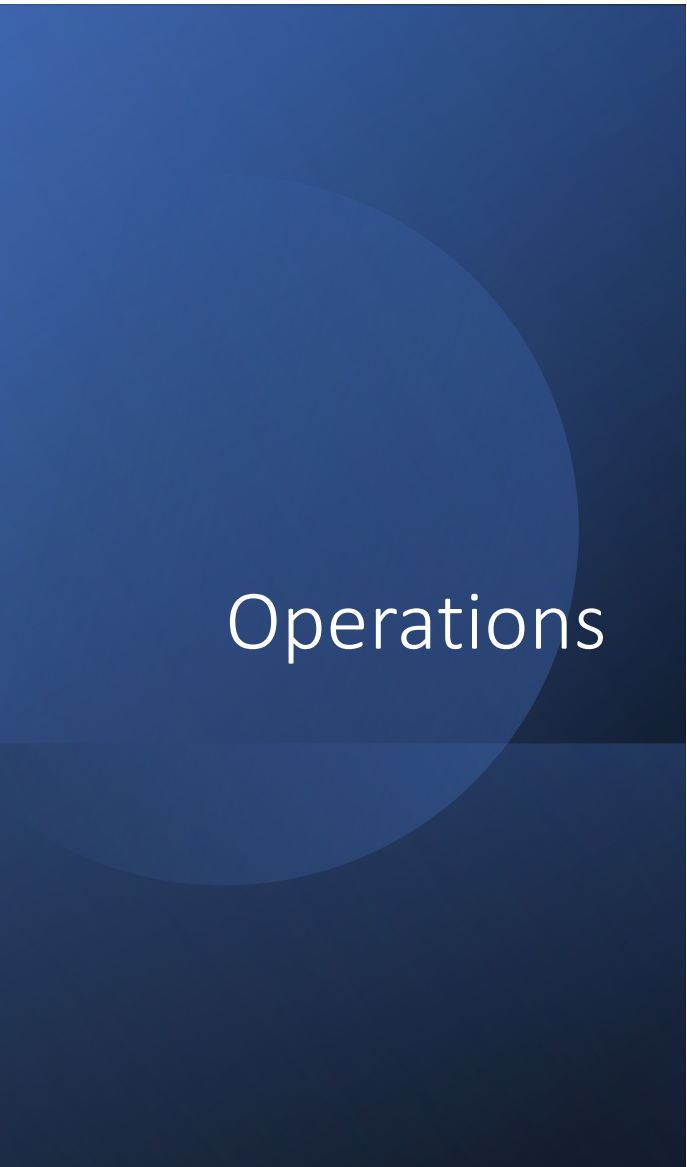
Mechanical Maintenance

- Mechanical Maintenance
 - Currently developing Modules at OSP for Pre-Treatment with our staff
 - OSP Bar Screen
 - Pista Units for grit removal
 - Inlet gates for bar screens
 - Outlet gates for bar screens
 - Conveyors
 - Grit Pumps
 - Grit Classifiers
 - Scum Pump
 - After development, seniors will train and assess staff
 - Seniors are responsible for the development, training and assessments.
 - Once this is complete, we will bring CBTS for mechanical maintenance to SEP – estimated September 2024
 - We will deliver a Train the Trainer course developed by our staff to begin the implementation

The logo for CBTS Collections is displayed on a dark blue background. It features the text "CBTS" in a large, white, sans-serif font, with "Collections" in a slightly smaller, white, sans-serif font directly below it. The text is positioned to the right of a large, light blue circular graphic that overlaps the background.

CBTS Collections

- Have delivered CBTS Train the Trainer Workshop, SharePoint Webinar, and UTAC Workshop to Collections Staff
- Currently engaged in a task order to complete four modules for Collections
 - Recycler Module
 - Service Truck
 - CCTV with push camera
 - Roll over Truck
- Sewer Service Supervisors develop modules, train and assess staff
- Monthly meetings, monthly reports, tracking reports all available on SharePoint



Operations

All Operations modules are designed to assess competencies – minimum knowledge and skills that an individual must know to perform duties.

- These modules will be used when someone who has not done a task for a while needs a refresher.
- Operator-In-Training (OIT) Program on the job training component.

QR Code to our CBTS SharePoint Site

L3 SENSITIVE: Competency Based Training System

L3-SENSITIVE ☆ Not following Share

Published 5/31/2023 Edit

Home + New Page details Analytics

Recycle bin Edit

Welcome to our site!

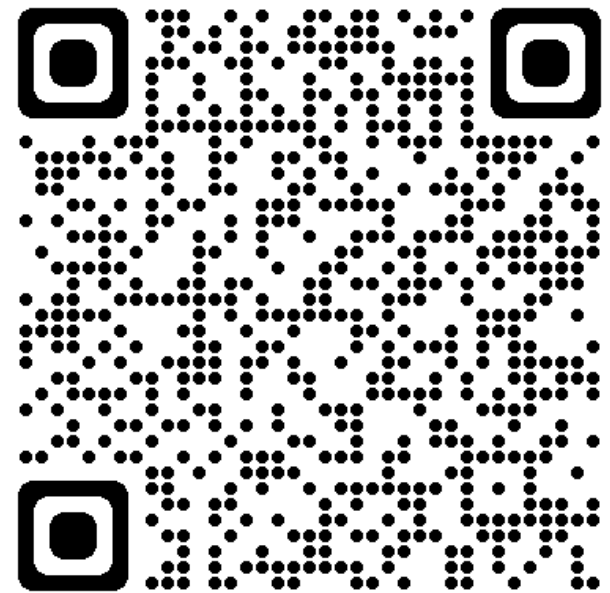
Review → **Approved** (updated)
→ **Rejected** → **Approved** (updated)
→ **Rejected** → **Approved** (updated)

Submit a Standard Operating Procedures (SOP) for Approval

CBTS Training Modules (including SOPs)

Key Resources

- CBTS Program Photos
- WWETEC Instructional Materials
- Instrumentation and Control



SENSITIVE: Competency Based Training S

- Home
- Recycle bin
- Edit

[Return to classic SharePoint](#)

+ New Upload

Documents > Competency Stanc

Name	Modified
Sub Assessment Committee Minute. n Meetings Minutes	November 16, 2022
Operations	November 16, 2022
Mechanical Maintenance	.2
Implementation Committee	November 1, 2022
Collection System	October



L3-SENSITIVE Not following Share

All Documents

Documents > Competency Standard Program Documents > Team Minutes > Collection System

Name ▾

Quarterly Plan - Reports

CTS Monthly Status Report

CSD Meeting Minutes

Charter

UPDATED Sewer Operations Employee List_10-18-22.pdf

CBTS Roles and Responsibilities 07.03.23.docx

10 CBTS Collections Meeting 6-6-23.docx

09 CBTS Collections Meeting 4.16.23.docx

08 CBTS Collections Meeting 4.16.23.docx

07 CBTS Collections Meeting 3.20.23.docx

06 CBTS Collections Meeting 2.14.23.docx

05 CBTS Collections Meeting 1.17.23.docx

Collection System Documents

- CSD Meetings
- Meetings are numbered and stored
- Meeting Minutes are available to all staff



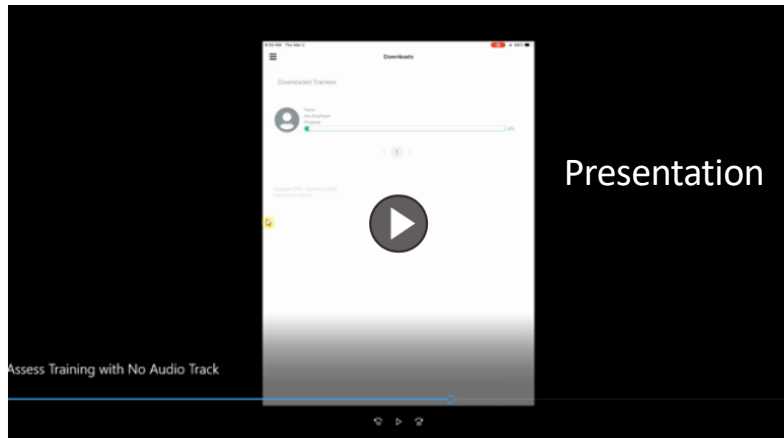
10th Collections CBT Implementation Meeting

Date: 6/6/23 **Facilitator:** Catherine Curtis
Time: 9-10 am **Location:** Zoom
Note Taker: Catherine Curtis

Distribution and Attendee List (X = present)

	Charlene Limos	x	Catherine Curtis - CBTS Lead
x	Daniel Whitlock - Collections Ops. and Maintenance Manager	x	Dave Silvestri - Supervisor
	Patrick Mullen - Supervisor	x	Daniel Pray - Supervisor
	Jose Lomas-Galvez - Journeyman	x	Froilan Tabangcura-New Supervisor

Meeting Objective: To discuss how best to develop the Competency Based Training



Inside each training you will find Presentation, Transcript and editing guide.

Details

UTAC Assessment App Training (3.10.23)

Published on 3/29/2023 by **Smock, Kristian C**  Company 10  0 

00:00:05 - 01 - Introduction / Agenda
00:01:02 - 02 - Downloading & Logging into the App / Airplane Mode
00:03:00 - 03 - Downloading Employee & Conducting Assessment
00:06:04 - 04 - Staff Training - Technical Difficulties & App Data Error
00:22:45 - 05 - Quick Recap with Q&A

DOWNLOAD THE UTAC SOP HERE: https://sfwps.sharepoint.com/sites/ws_ww/sop/Forms/AllItems.aspx?id=%2Fsites%2Fws%5Ffww%2Fsop%2FCBTS%2FSOP%20CTS101%20Universal%20Training%20Assessment%20Competency%20UTAC%2Epdf&parent=%2Fsites%2Fws%5Ffww%2Fsop%2FCBTS

[See less](#)

 Share  Add to watchlist  Like ...  View settings 

Editing Guide and SOP

Transcript

00:05	Today's meeting is about uploading the new
00:08	Utech app and going through the process,
00:12	and Jim will show us the changes and
00:15	what we need to pay attention to.
00:18	OK, so. If they have the apps
00:21	on their phone right now,
00:23	they should delete them, right?
00:25	Yeah, if they haven't, you know

Monthly Status Report



50 California Street Suite 1500
San Francisco, CA 94111
650-283-9122
www.ctsic-usa.com

July 4, 2023

From: James Mcpherson, CTS Chief Learning Officer

To: Daniel Whitlock

Catherine Curtis

Cc: Jim Martinez, CTS Chief Executive Officer

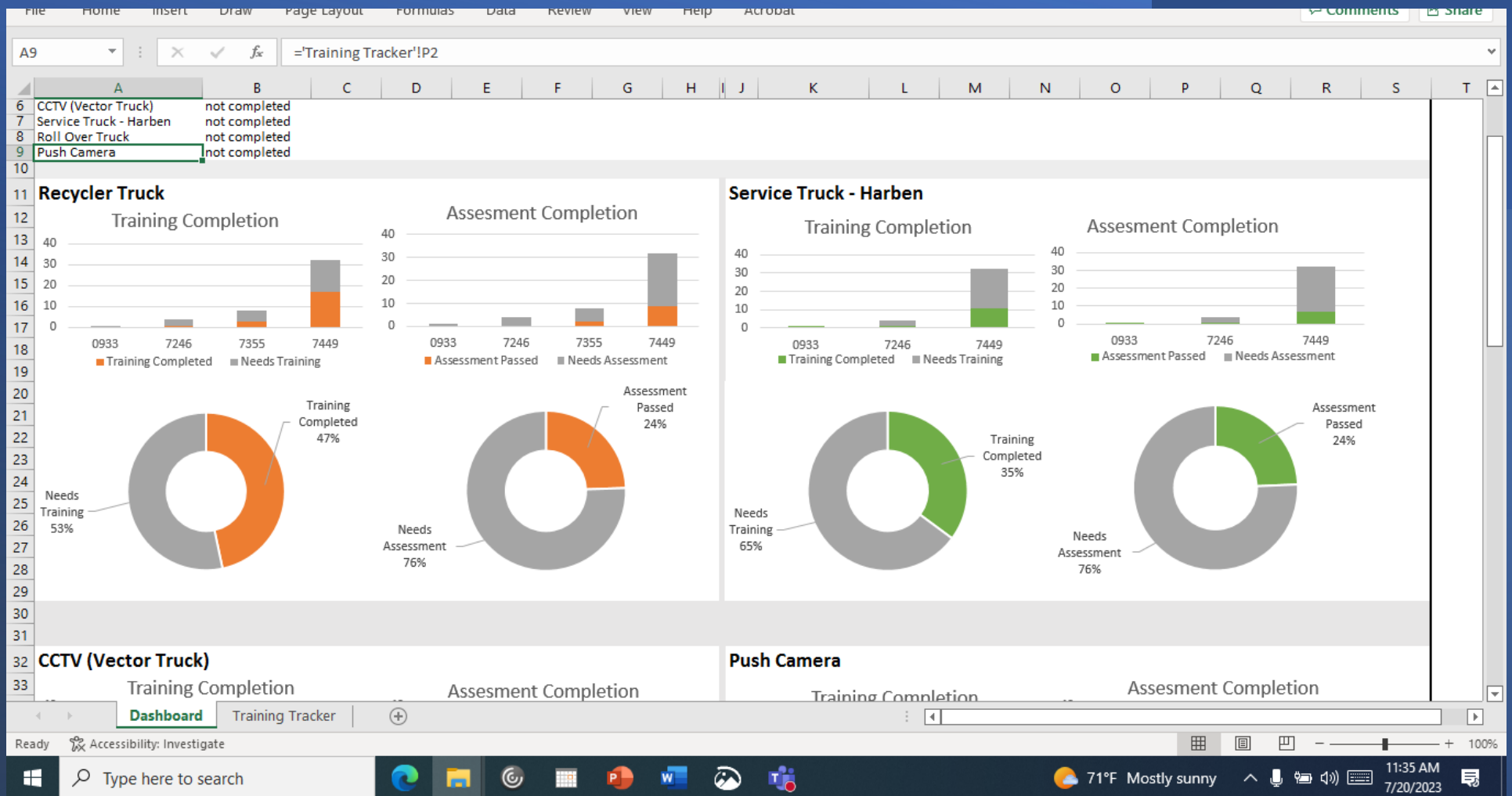
Derrick Wong

Subject: SFPUC WWE Competency Based Training System for Collections Status Report 10
for the period May 27 – June 30, 2023.

1. Submitted per agreement with WWE management in support of contract
#PRO.0054.A (1000013566) New Task Order 18, as revised, for the Competency
Based Training System Development

Invertebrate

Thy. Esau



Catherine Curtis
CBTS Project Lead
Workforce Reliability
SFPUC, WWE
ccurtis@sfwater.org

