

CEU Evaluation Request (7 hours water)

Class: **Trident Products User Group and Technology Workshop**

Relevancy: Water

Date: Various dates

Instructors: Adrian Williams, Richard Ross, Eric Lawrence, and Dave Lucey, WesTech, Inc

Location: Various Locations

DAY 1-PACKAGE PLANT Oregon Association of Water Utilities

Program-Morning

0.375 CEU's

8:00-8:30 Welcome/Intro

8:30-9:15 Trident Anatomy-This presentation covers a brief history, discusses the configuration of the components and process as well as discusses the application guidelines of the package plant. It details the features of adsorption clarification, mixed media filtration as well various enhancements made to the product since its introduction in the late 1970's.

9:15-10:00 Trident Optimization-This section describes the importance of keeping process instrumentation operating properly to optimize the clarifier and filter. Minimizing waste and increasing net production will be discussed.

10:00-10:15 Break

10:15-11:00 Expansion Upgrade Options-Many plants provided in the 70's, 80's and 90's are in need of replacement parts, repair and or upgrade. Our aftermarket team can pull the original bills of material, provide various upgrade and repair options as well as provide valuable experience and lessons-learned from past upgrades.

11:00-12:00 Maintenance -This presentation is broken into three parts:

- 1) Understanding what controls the unit, 2) How to maintain it properly and 3) Service. It covers much of the instrumentation and controls provided to operate a package plant. It also discusses the preventive maintenance schedule to help provide optimum operation, reduced waste, less downtime, and reduced operation costs. The final topic being a discussion of WesTech's Services offered to many of our customers.

12:00-1:00 Lunch provided.

Hands-on Session-Afternoon

0.325 CEU's

1:00-4:30 with a break at 2:45-3:00

During this part of the training, we will look at the following items:

Witness a Filter Backwash- During the backwash; what are the things to look for as far as good water and air distribution, media level and things to watch out for. During the backwash, waste samples collected will be used to develop a backwash wash-out curve. This helps determine effectiveness of backwash cycle.

Witness a Clarifier Flush- During the clarifier flush, look for good air distribution and bubbling. During the flush, waste samples collected will be used to develop a clarifier wash-out curve. This helps determine the effectiveness of a flush cycle.

Filter Core Sample & AC Media Check- Do a core filter media core sample. Discuss how the adsorption clarifier (AC) media depth is checked

Determine the Package Plant Solids Removal Performance- Measure coagulated turbidity below the clarifier, measure inter-stage turbidity (between AC and Filter), and determine the performance of the package plant.

Jar Testing-Conduct jar tests using site water and various coagulant doses and see the impact on floc development Describe enhanced coagulation, comparing different types of chemicals, simulating the AC clarifier. Importance of jar testing before going to full scale. Possible areas for error, what can go wrong in your test?