WHY ARE SO MANY CLARIFIERS NEEDING TO BE REHABBED?

• 1. SHODDY WORKMANSHIP DURING THE CONSTRUCTION PHASE
• 2. COMPLETED DURING INCLEMENT WEATHER
• 3. RUSHED DURING CONSTRUCTION
• 4. NO COATING INSPECTION DURING CONSTRUCTION OR REHAB PHASE
• 5. NO WRITTEN RECORDS OF WHEN IT WAS DONE, WHAT WAS USED, WEATHER
1. MMSD – JONES ISLAND AND SOUTH SHORE WWTP HAD 50 CLARIFIERS THAT WERE BLASTED AND COATED A FEW YEARS BACK AND THE NEW COATINGS STARTED TO FAIL IN LESS THAN 1 YEAR – IT WAS A NIGHTMARE FOR EVERYONE INVOLVED. (REPAIR COST $50,000 + PER CLARIFIER)

2. DUCK ISLAND WWTP, TEWKSBURY, MA HAD 16 BRAND NEW CLARIFIERS BUILT THAT WERE BLASTED AND COATED AND SHIPPED TO THE SITE. THE COATINGS STARTED TO FAIL BEFORE THEY WERE EVEN ERECTED. (REPAIR COST WERE OVER $150,000 PER CLARIFIER.)

3. WHY, WHO IS TO BLAME? THE PROVERBIAL FINGER POINTING BEGINS

4. WHO IS GONNA PAY FOR THIS MESS?
HOW LONG SHOULD A NEW COATING JOB LAST ON A CLARIFIER?

• 1. IT DEPENDS ON THE COATING SELECTION
• 2. IT DEPENDS ON CONTRACTOR DOING THE WORK
• 3. IT DEPENDS ON THE WEATHER
• 4. IT DEPENDS ON IF THERE IS COATING INSPECTION
• 5. IF THE CLARIFIER GETS BLASTED AND COATED CORRECTLY
• 6. LIFE EXPECTANCY SHOULD BE 15 TO 20 YEARS
TWO METHODS FOR BLASTING AND COATING OF CLARIFIERS

• 1. CLARIFIER COMPONENTS CAN BE DISASSEMBLED AND SHIPPED TO A SHOP FOR BLASTING AND COATING FACILITY AND THEN REASSEMBLED AFTER COMPLETION.

• 2. CLARIFIERS CAN BE BLASTED AND COATED IN PLACE.

• 3. WHICH METHOD IS BEST FOR MY SITUATION?
DO THE DRIVES AND MOTORS NEED TO BE REHABBED?

• 1. IF SO, THEN I WOULD SUGGEST THAT THE ENTIRE CLARIFIER SHOULD BE DISASSEMBLED AND SHIPPED TO A FACILITY WITH A CONTROLLED ENVIRONMENT.

• 2. SELECT A GOOD RELIABLE MECHANICAL CONTRACTOR THAT HAS A LOT OF EXPERIENCE IN REHABBING DRIVES AND MOTORS.

• 3. COATING INSPECTION IS AN IMPORTANT PART OF THE PROJECT THAT SHOULD NOT BE NEGLECTED.
A GOOD COATING SPECIFICATION

• 1. ABRASIVE BLAST CLEAN TO SSPC SP-10 NEAR WHITE METAL BLAST
• 2. PRIMER: APPLY EPOXY PRIMER @ 6.0 – 8.0 MILS DFT
• 3. STRIPE: APPLY EPOXY STRIPE COAT TO THE SHARP EDGES AND WELDS
• 3. INTERMEDIATE COAT: APPLY EPOXY COATING @ 6.0 TO 8.0 MILS DFT
• 4. FINISH COAT: APPLY EPOXY FINISH COAT @ 6.0 TO 8.0 MILS DFT (IMMERSION)
• 5. BRIDGE FINISH COAT: APPLY POLYURETHANE @ 2.0 TO 3.0 MILS DFT (NON-IMMERSION)
• 6. TOTAL: 18.0 TO 24.0 MILS DFT
BLASTING AND COATING A CLARIFIER IN PLACE

• 1. THE DRIVE BEARINGS AND MOTORS MUST BE PROTECTED
• 2. HIRE A GOOD ENGINEER
• 3. HAVE A GOOD SPECIFICATION
• 4. HIRE A GOOD CONTRACTOR
• 5. HIRE A GOOD COATING INSPECTOR
• 6. HAVE A 1 YEAR WARRANTY PERIOD (REPAIR COST IS ON THE CONTRACTOR)
CHALLENGES

• 1. WEATHER DEPENDENT
• 2. FINDING A GOOD PAINTING CONTRACTOR
• 3. LOTS OF HARD TO REACH PLACES
• 4. INSPECTION IS PARAMOUNT
• 5. USE AN INSPECTOR’S MIRROR FOR A THOROUGH INSPECTION
• 6. GETTING THE CONTRACTOR TO DO A GOOD JOB
INSPECTION CRITERIA

• 1. SSPC SP-10 NEAR WHITE METAL BLAST
• 2. DEPTH OF PROFILE
• 3. AMBIENT CONDITIONS
• 4. DRY FILM THICKNESS TESTING FOR ALL COATS
• 5. HOLIDAY TESTING
50.4% HLD
DP 60.6 Wb 67.2°F
CONCLUSION

• 1. GET HELP
• 2. HAVE A GOOD COATING SPECIFICATION
• 3. HIRE A GOOD ENGINEER IF NEEDED
• 4. HIRE A GOOD CONTRACTOR
• 5. HIRE A GOOD INSPECTOR
• 6 PRAY FOR GOOD WEATHER
BURNING QUESTIONS