**AXCELIS™ HIGH ENERGY HE3 SOURCE PM BOX AND CHAMBER TRAINING GUIDE**

**THE PROBLEM:**

(+) 1 YR DEPOSITION BUILDUP

**OLD PROCEDURE:**

**WET CLEAN METHOD:**
- Wipe with hydrogen peroxide (H₂O₂)
- Scrub with 3M ScotchBrite®
- Wipe with DI water
- Wipe with IPA

**SAFETY HAZARDS:**
- Must wear breathing apparatus due to toxic fumes released when using H₂O₂
- Dangerous risk of fire when using H₂O₂ around flammable solvents
- Dangerous risk of fire when scrubbing phosphorus with H₂O₂
- Constant smoke and fire risk when scrubbing phosdep with ScotchBrite® and H₂O₂

**EQUIPMENT PROBLEMS:**
- Not able to clean source region in a cost effective manner
- Extensive outgassing caused by the use of H₂O₂, ScotchBrite® And the inability to thoroughly remove processed induced residue from source region
- Risk of ScotchBrite® related arcing, sodium and metal contamination.
FOAMTEC INTERNATIONAL NEW PROCEDURE:

SET UP:
- Stage the necessary Foamtec International products
  - 280 Grit Diamond ScrubDISK®
  - 280 Grit Diamond ScrubPAD
  - UltraSOLV® Sponge
  - ErgoWRENCH®
  - ErgoSCRUB®
  - Small container of DI water
- Place container of DI water inside of plastic bag to prevent spills
- Dampen UltraSOLV® Sponge And Diamond ScrubPAD in container of DI water
  - Squeeze as much moisture out of the sponge and ScrubPAD when ready to use

THE UltraSOLV® CHAMBER CLEANING TECHNIQUE:

STEP 1:
- Wipe out the source area with UltraSOLV® Sponge

STEP 2:
- Scrub small section of source with Diamond ScrubPAD

STEP 3:
- Wipe the scrubbed area with UltraSOLV® Sponge
THE ULTRASOLV® CHAMBER CLEANING TECHNIQUE (CONT’D):

**STEP 4:**
- Use ergonomic handles (especially ErgoWRENCH™) in order to remove deposition that has built up over numerous PM cycles (legacy of deposition)

**ScrubPAD/ScrubDISK® Unloading Procedure**

**STEP 1:**
- ScrubPAD loaded with deposition

**STEP 2:**
- Pull ScrubPAD across UltraSOLV® Sponge

**STEP 3:**
- Unloaded ScrubPAD
THE SOLUTION:

Contamination on final polyester wiper

PM COMPLETED IN 1 HOUR

Reduced consumables count reduces cost & hazmat

Contamination left in the source region removed by MiraWIPE®. Particles equal arcing!

- NO H₂O₂
- SOURCE CHAMBER CLEANED BACK TO BARE METAL
- MORE DEPOSITS/PARTICLES WIPED AWAY FROM CHAMBER
- REDUCTION OF SODIUM & METAL CONTAMINANTS

CONCLUSION

UltraSOLV® CHAMBER CLEANING TECHNIQUE IS ABLE TO IMPROVE PM PROCEDURES AS FOLLOWS:

- SOURCE REGION CAN BE CLEANED TO BARE METAL WITH REDUCED LABOR AND EQUIPMENT DOWNTIME.
- H₂O₂ AND SCOTCHBRITE ARE ELIMINATED REDUCING HEALTH, SAFETY, SODIUM, METALS, & PARTICLE RISKS.
- OUTGASSING IS REDUCED BY MORE COMPLETELY REMOVING DEPOSITS FROM THE CHAMBER AND COMPONENTS.

UltraSOLV® CHAMBER CLEANING TECHNIQUE IS ABLE TO ELIMINATE SAFETY HAZARDS

- ABLE TO ELIMINATE THE BREATHING HAZARDS CAUSED BY USING H₂O₂
- ABLE TO ELIMINATE THE RISK OF FIRE BY USING H₂O₂