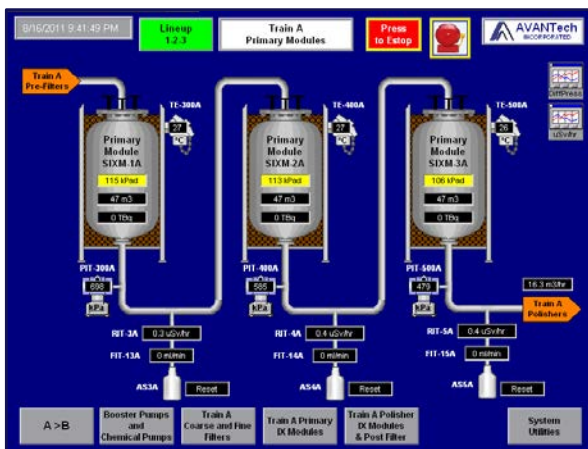


# Utilizing the Strengths of Two Cultures to Make a World of Difference

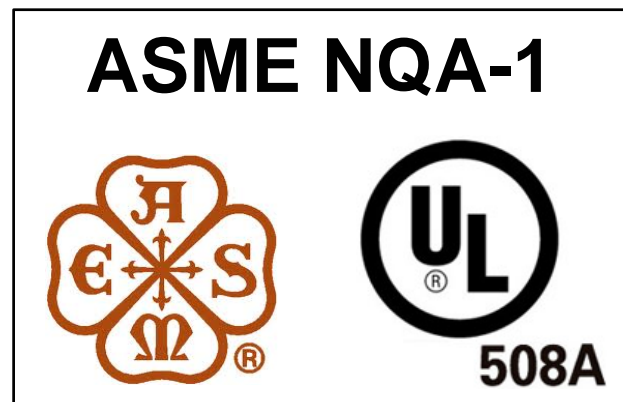
James L. Braun: [jbraun@avantechinc.com](mailto:jbraun@avantechinc.com)

43<sup>rd</sup> Waste Management Conference ▪ WM2017

## Process Design & Automation



## Standards & Certifications



## Manufacturing Excellence





# AVANTech Experience – Emergency Response

## ■ The Emergency

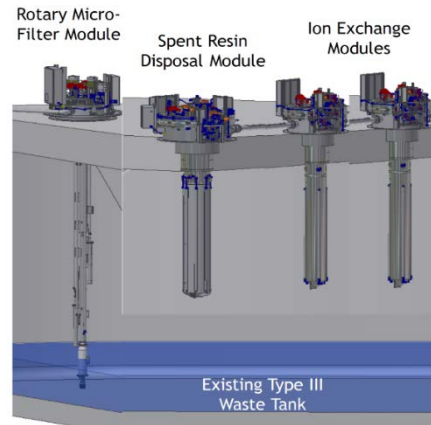
- ✓ Cesium Removal
- ✓ Dose Curie Reduction
- ✓ High Salinity Environment
- ✓ Safety
  - ALARA
  - Thermal
  - H2 Gas
- ✓ 12-Week Completion

## ■ The Team

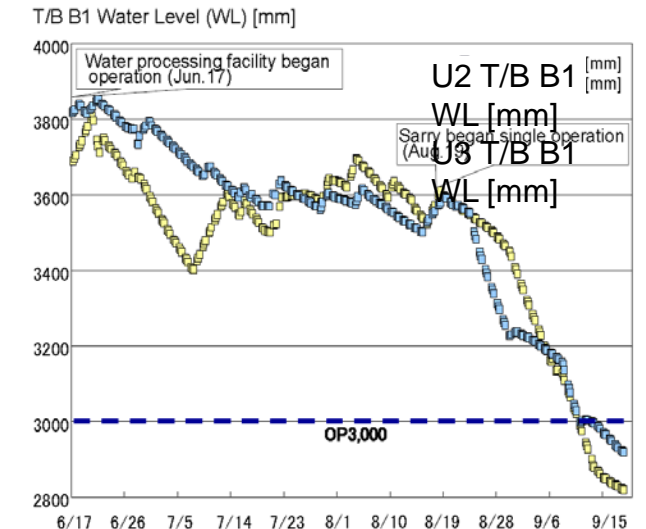
- ✓ TEPCO
- ✓ Toshiba
- ✓ AVANTech

## ■ The Technology

- ✓ Crystalline Silicotitanate (CST)
- ✓ High Salinity Environment
- ✓ Safety
  - ALARA
  - Thermal
  - H2 Gas
- ✓ 12-Week Completion



**SARRY**



**The Result**

## Utilizing the Strengths of Two Cultures to Make a World of Difference



# AVANTech Experience – Emergency Response

- Technology was the Key to Success
  - ✓ Create Value
  - ✓ Commitment to Long Term Success
- Seek to Understand and not to be Understood
  - ✓ Think Long Term Partnership and not Quick Sale
  - ✓ Ask Good Questions and Focus on Understanding
- Patience and Communication
  - ✓ What you say and what is heard are two different things
  - ✓ Write Down the specifics and ask for confirmation
  - ✓ Follow-up
  - ✓ If you can conceive and believe, you can achieve



Onsite Support

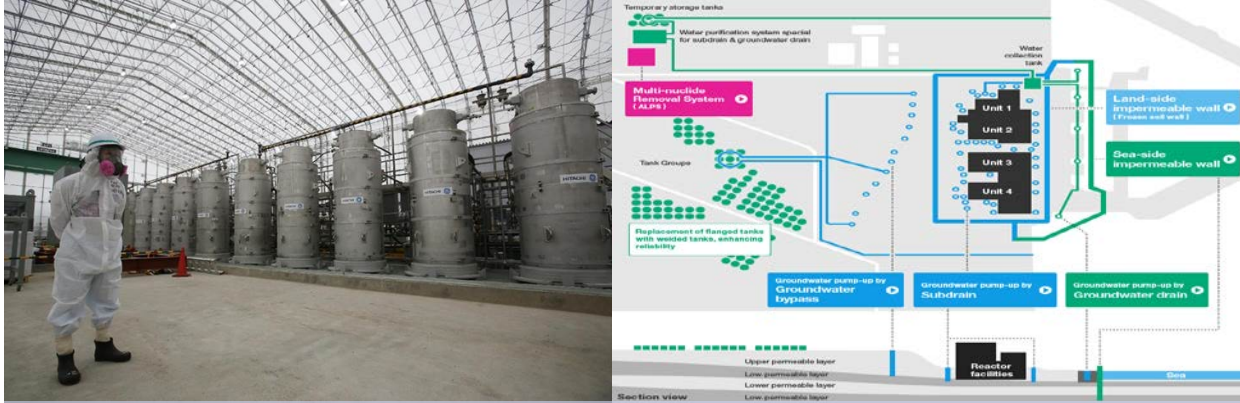
**The Results have been Remarkable Considering the Circumstances**





# AVANTech Experience: Equipment & Services

## The Team: HGNE & AVANTech



High Performance ALPS – Brine Treatment

- Configuration
  - ✓ Series of 4 filters & 20 ion exchangers
  - ✓ Dual train 25 m<sup>3</sup>/h (110 gpm) per train
- Multinuclide removal
- Effluent to Storage



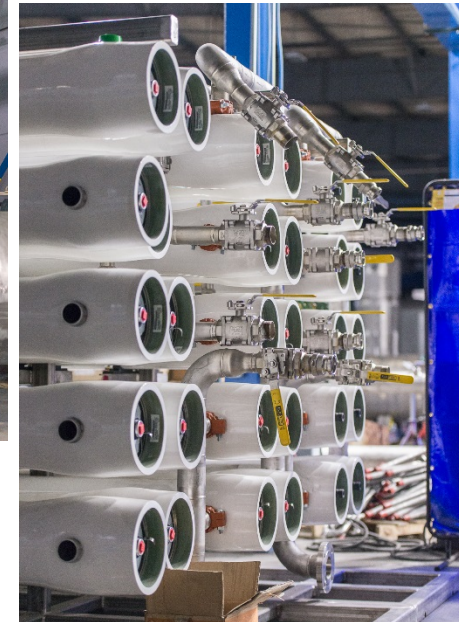
Subdrain – Groundwater Treatment

- Configuration
  - ✓ Series of 4 filters & 5 ion exchangers
  - ✓ Dual train 50 m<sup>3</sup>/h (220 gpm) per train
- Targeted radionuclides
  - ✓ Sr, Cs, Sb, Activated Metals
- Effluent
  - ✓ Monitored and discharged to ocean



# AVANTech Experience – Equipment Supply

- No Technical Detail is too Small!
  - ✓ CMTR Documentation – 8 or 3?
  - ✓ Coating the serration of a flange
- Consistency and Conformity are Absolute
  - ✓ Uniformity in implementation
  - ✓ Quality process communicated
  - ✓ Count every spare part, take pictures, and detail each bill of material
- Design Documentation is not Final
- Decision-Making Can Be Challenging
  - ✓ Optimization is for the next project
  - ✓ Design documentation and approval is critical



**Technical Support**

**AVANTech is a Better Company Because of our Experience**



# AVANTech Experience – General Lessons Learned

## ■ Basics:

- ✓ Be represented
- ✓ Be respectful
- ✓ Be patient

## ■ Japanese word and indications for “No”:

- ✓ It may be difficult
- ✓ Nodding of the head – confirming they understand
- ✓ Silence

## ■ Meetings Are:

- ✓ Not to make decisions
- ✓ To disseminate information
- ✓ To initiate and promote consensus building

## ■ Communication is driven by:

- ✓ Avoiding confrontation
- ✓ Maintaining harmony