

# The U.S. Protective Clothing Paradigm is Changing

Old Technologies vs. Current Technologies

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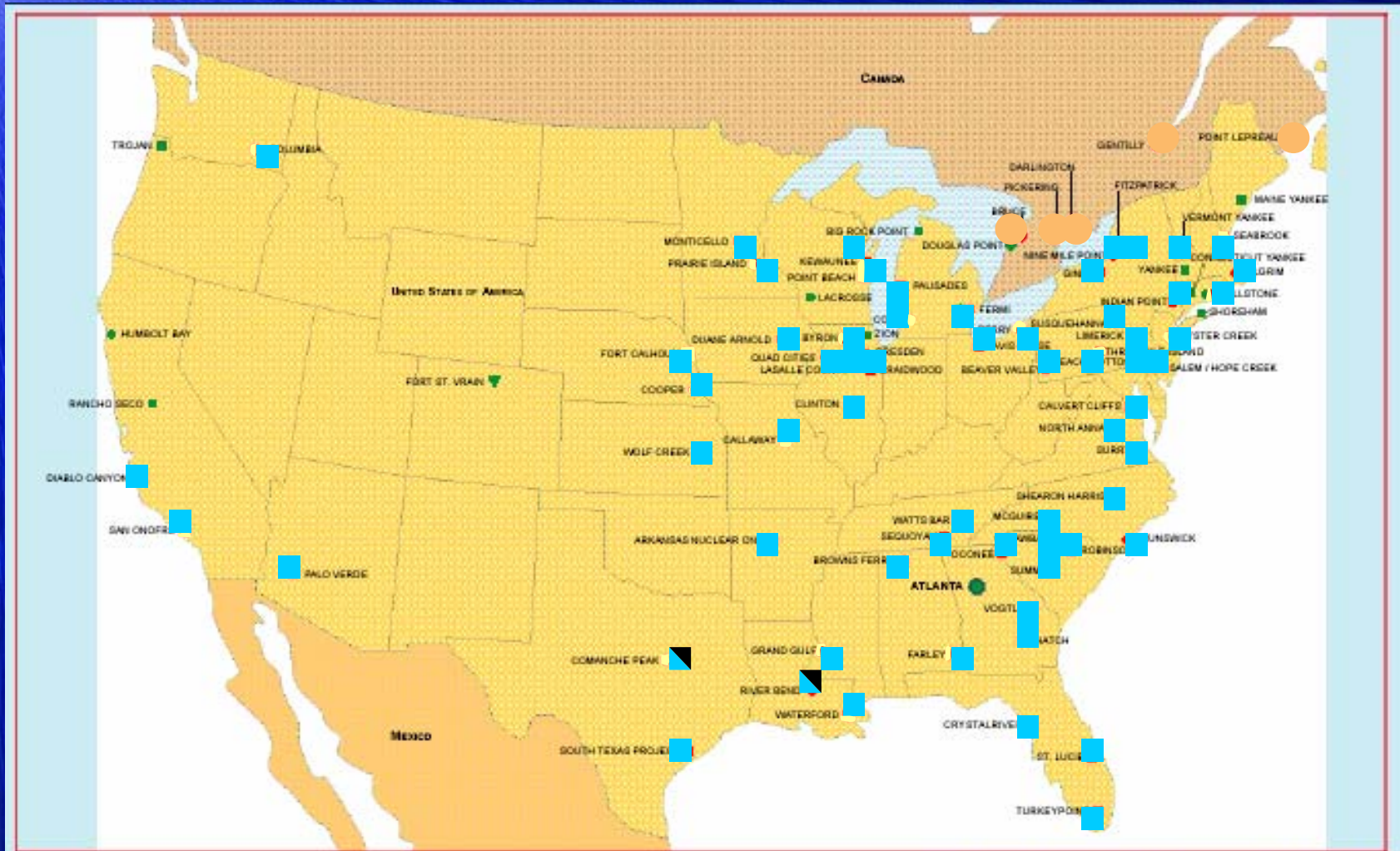
# Session Objectives

- Overview Recent Trends in PPE
- Brief Historical Perspective
- The “Value” Equation  
(Launderables vs. Single-Use)



Five Years Ago.... (Spring 2002)

## Commercial Nuclear Plant PPE User Types



Single-Use



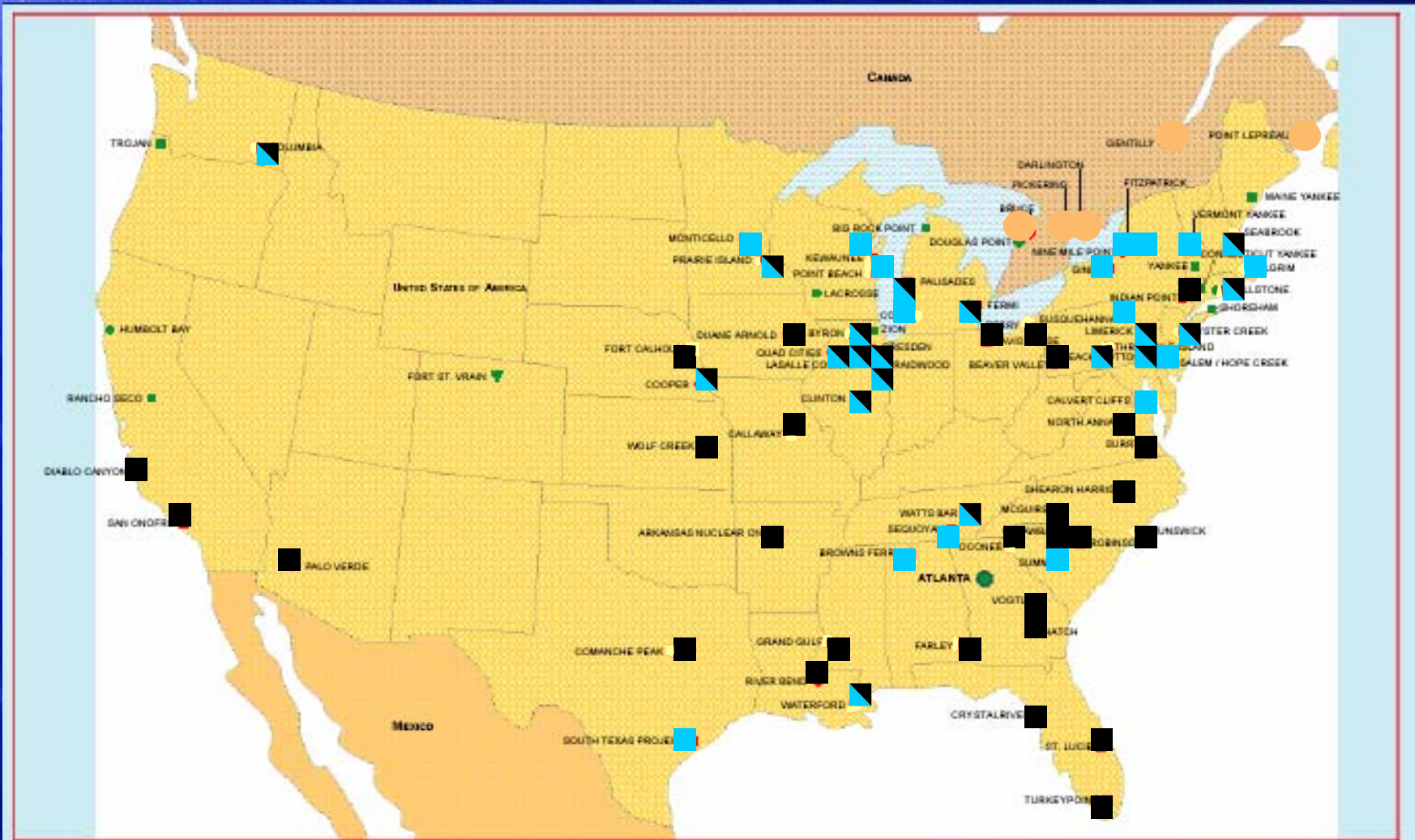
Launderables





# Today....(Spring 2007)

## Commercial Nuclear Plant PPE User Types



Single-Use



Launderables





# Historical Perspective

- In 1980, We Monitored Personnel for Contamination with Hand-Held Friskers
- In 1980, Most Nuclear Facilities used Launderables to Minimize Waste
- In 1980, We Monitored Launderable PPE prior to Re-Use with “Dose Rate” Meters



# Fast Forward to 2007...

- Personnel Contamination Monitoring Technology has Improved Dramatically since 1980.
- Laundry Monitoring Technology has Significant Limitations Just as it Did Many Years Ago
- Today's Single-use Clothing Technologies Minimize Waste
- Today, Providing Workers with Protective Clothing Used Over and Over Many Times is NOT a Popular Approach Among Hazardous Materials Industries. For many reasons..



# What is Driving this Change in PPE Preferences?

- Improvements in Radiation Detection Technology
- Improvements in Worker Comfort, Efficiency and Reduced Heat Stress
- Convenience and Simplification of Logistics



# Benefits: Single-Use vs. Launderables

- Single-Use garments are much lighter, more comfortable to the worker and easier to handle
- Single-Use garments today are much stronger than older versions
- Contamination barrier properties are comparable between the two types
- Workers get a New, Clean garment each entry into a work area
- Personnel Contamination Event (PCE) Reductions across the industry are significant with Single-use garments
- Single-Use Garments greatly simplify Logistics



# Value: Single-Use vs. Launderable

$$\text{“Value”} = \frac{\text{Cost}}{\text{Benefit}}$$

- ‘Tangible’ Costs : Comparable, 25% - 30% either way (plus or minus)
- Other Single-Use PPE Benefits Far Outweigh Launderables, i.e., Worker Comfort, PCE Reduction, Convenience and Logistics



# Closing

- In 1980, we put used clothing on our workers, and due to limitations in instrumentation, we didn't know that a high percentage of our workers were actually being contaminated by the very clothing intended to protect them.
- In 2007, we are getting smarter.