



THE ROLE OF INDUSTRIAL FOGGERS IN BIOLOGICAL DECONTAMINATION

*A Discussion about Options for Mitigating the Zika Virus &
an Upcoming Bioterrorism Operational Technology Demonstration*

Regional Response Team – Region 4
Gulfport, MS

The Need for Foggers:

Zika Virus Mitigation, and a *Bacillus anthracis* Field Study



Presentation Overview:

- Review an upcoming field research project involving foggers
- Tie this project to RRT planning for Zika virus mitigation
- Discuss existing fogger inventory

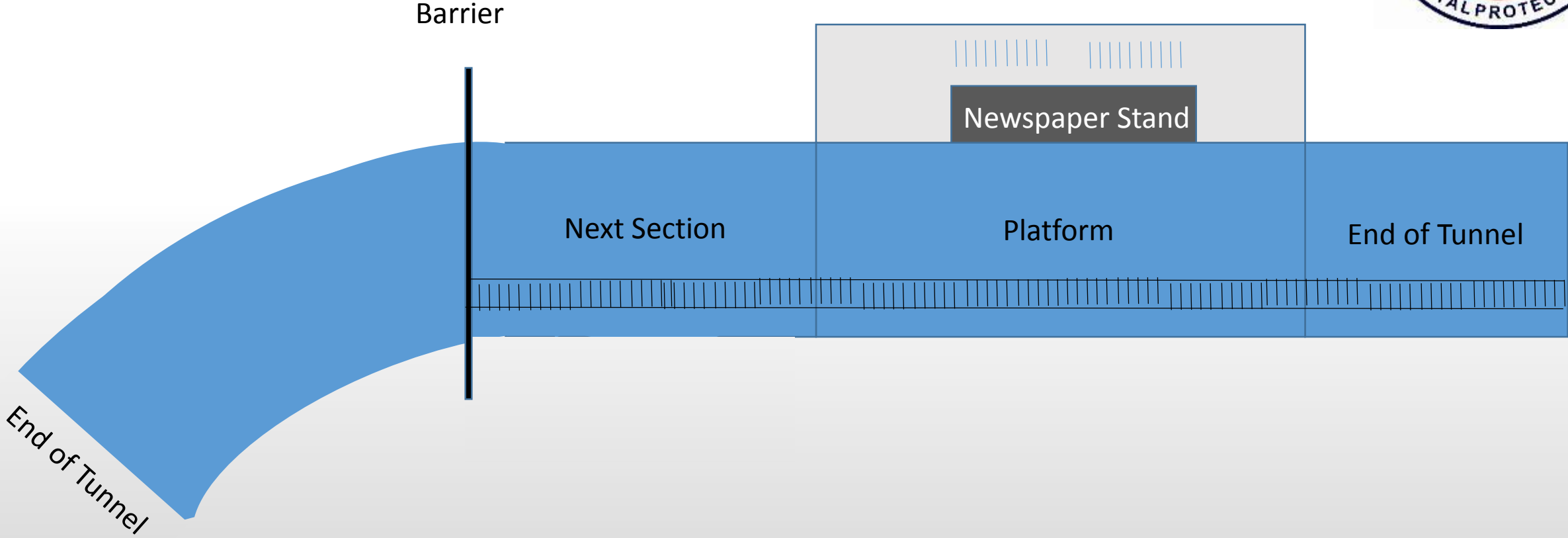


Research to Field Study



- Laboratory studies support using foggers for *Ba* decontamination
 - Foggers have been shown efficacious for spores in the laboratory
- Operational Technical Demonstration (OTD), Underground Transportation
 - Collaborating with an EPA Region 3 OSC and their contractors;
 - Operationalize 2 different decontamination techniques in subway environment;
 1. Fogging with oxidizing agent
 2. Liquid spaying with oxidizing agent
- Fort AP Hill, Bowling Green, Virginia
 - Asymmetric warfare infrastructures
 - Including a subway station, platform, tunnel, rail-cars, and track

Schematic of Tunnel and Platform All Below Grade



Entry & Stairs to Below-Grade Platform



Below-Grade Platform



Platform
162 ft long
23 ft wide
15 ft tall
V=56,000 CF

Track Section
162 ft long
16.5 ft wide
19 ft tall
V=51,000 CF

Looking Out to End of Tunnel



Next Section
365 ft long
22 ft wide
19 ft tall
V=153,000 CF

SketchUp Video of Subway Station



- MIT prepared an LL 3-D Model of For A.P. Hill subway station
- EPA imported the MIT model into SketchUp Software Program
- Electrical boxes, outlets, and sump pumps were added
- Video was constructed for decontamination worker site training/orientation



Fogger Specifications



- Produce a volume mean diameter droplet size distribution of 20-25 microns *while*
- Maintaining liquid flow at 20 oz./minute
- Produce air flow of at least 1350 cubic feet/min
- 15 gallon tank size
- Run on alternating current



Discussion:

The plan at Fort AP Hill is to operationalize the use of industrial foggers in bio-decontamination

Issues that could also impact the RRT

- Mosquito control foggers may play a roll in Zika virus mitigation
- Fogger are constructed as needed, which could cause response delays
 - Local governments' mosquito foggers may meet our bio-response criteria

Questions:

- Do mutual aid agreements allow access to local-government foggers?
- Are there inventory asset lists that include local-government foggers?
- Do the foggers in inventory meet the need for anthrax response?