



2015 RREC



Industrial Hygiene & Safety Engineering in Environmental Management

A New EHS Process

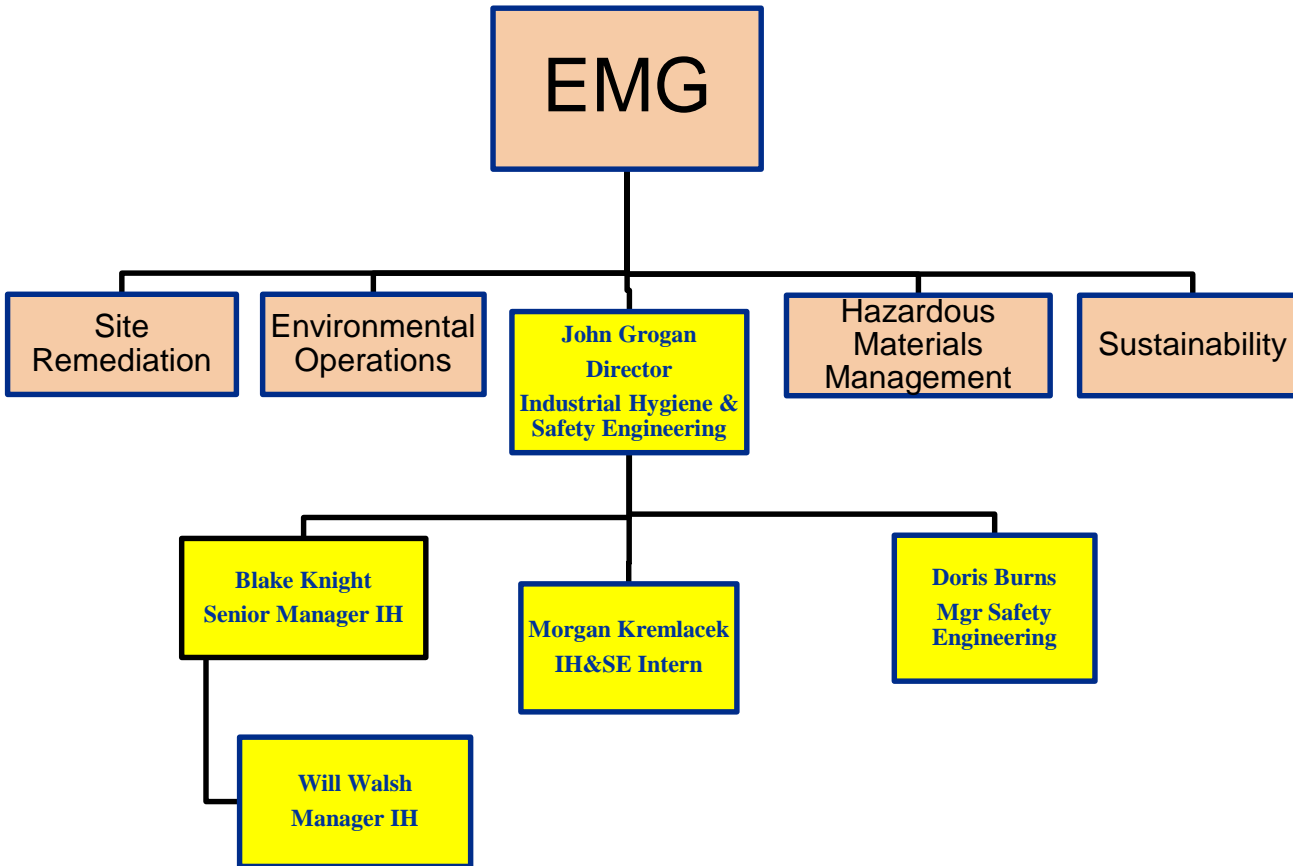
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Dir. Industrial Hygiene and
Safety Engineering



IH&SE Staff

Industrial hygiene, safety engineering, and environmental science professionals.





Industrial Hygiene

- Anticipation, Recognition, Evaluation, and Control of Occupational Health Hazards
- Art and Science
- Employees and Citizens
- Risk Analysis in the workplace and community

IH&SE Safety Resource Manual Programs



- Hazardous Materials in UPRR Workplaces
- Hearing Conservation
- PPE
- HazCom (GHS)
- Lead In Construction
- Respiratory Protection
- OSHA & FRA Inspection Response
- Radiation – Ionizing & Non-Ionizing
- Pandemic Planning
- RF Telecom Program
- Fire Protection Policy
- Tunnel Safety Policy
- LockOut Tagout
- Confined Space
- Electrical Safety
- Forklift Safety
- Fall Protection
- Fire Safety
- Overhead Crane
- Wildfire & Flood Response
- Laser Safety
- Heat Stress Prevention

IH&SE Analytes & Activities



- Diesel Emissions
- Radiation – IEEE Standards
- Welding Fumes
- Frac Sand & Locomotive Sand
- Organics
- Herbicides
- Isocyanates
- Lead in Construction
- Tunnel Egress Systems
- Creosote
- EEBA Design
- Workstation Ergonomics
- Locomotive Seat Design
- Safety Product Approvals
- Mold Program Speciation
- Silica Ballast Unload & Asbestos Evals
- Yard Dust and Organics Evaluations
- Noise - TWA and Octave Band Analysis
- OSHA Employee Training
- IH & Safety Web Site
- Emergency Response Planning
- Litigation Support
- LNG Locomotive R&D
- UP/Community Projects
- Whole Body Vibration
- FMEA Analysis
- Safety Audits
- SDS Reviews

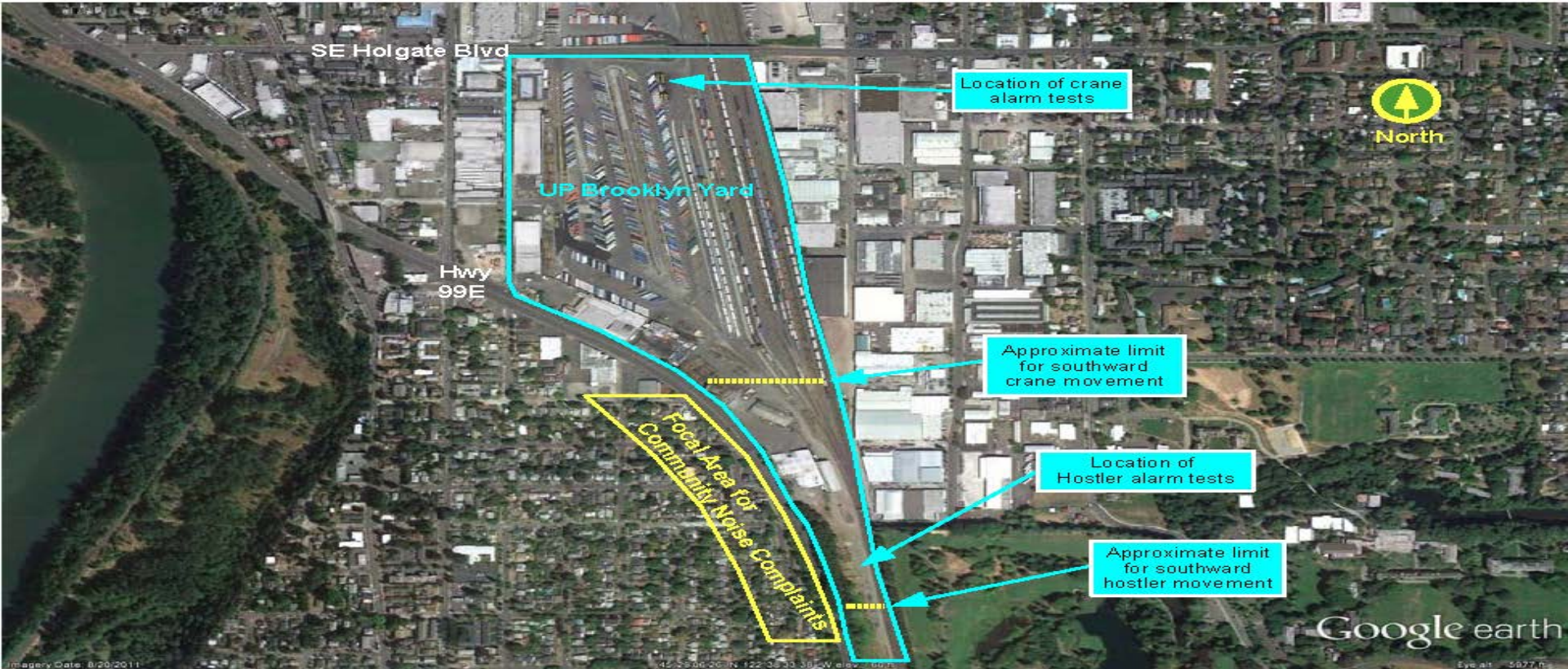


Community Noise Projects

- SSPaul Yard Expansion
- UP Public Relations Support
- Community FRA Noise Education



Brooklyn Yard Intermodal Community Noise and Yard Safety Project



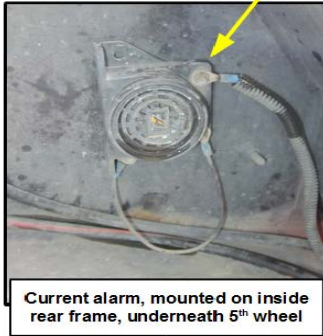


Brooklyn Yard Intermodal Original Tonal Alarms Hostlers & Cranes

Capacity® hostler,
Side view, 5th wheel down

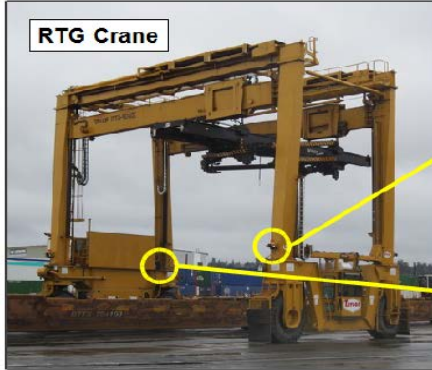


Capacity® hostler,
Rear view, 5th wheel up



Current alarm, mounted on inside rear frame, underneath 5th wheel

RTG Crane



Movement alarm, one each leg, 10' height



Startup / proximity alarm



Additional startup / proximity alarms on cab



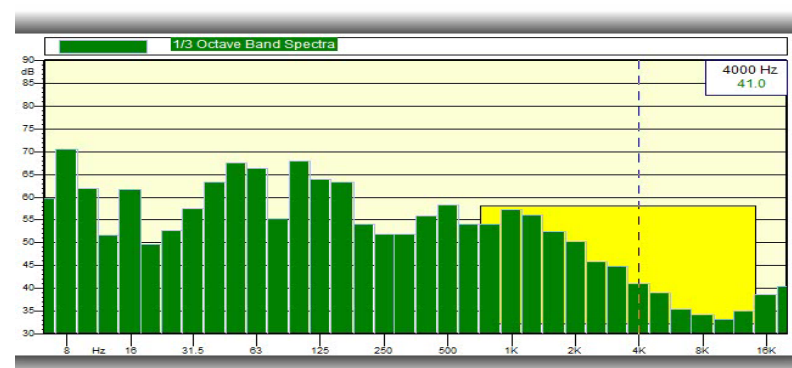
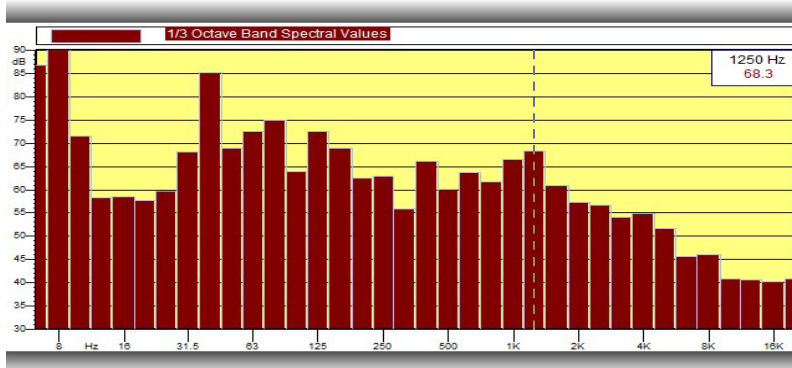
Brooklyn Yard Intermodal

Broadband vs. Tonal Alarms on Hostlers (30', directly behind hostler)



Tonal Alarm

Broadband Alarm



HostlerTonal.mp4



HostlerBroadBand.mp4



Brooklyn Yard Intermodal Broadband Alarm Safety Training

SAFETY:

- Trucker Training
- Push Button
Broadband Alarm
Sound Box
- Yard Employee Training



Bridge Maintenance



Environmental:
Asbestos Coatings

Safety: Fall Protection



Health: Welding on
Painted Surfaces

El Paso Ballpark



Anticipate, Recognize,
Evaluate, and Control



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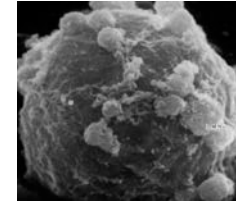
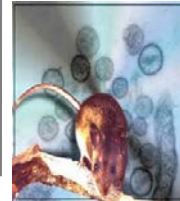
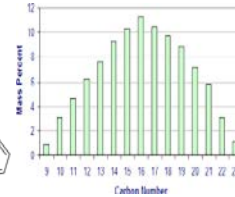
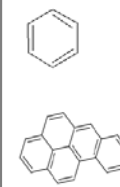
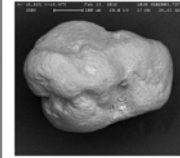
IMG_0411CourthouseImplosion.MOV

Soil Disturbance Risk Mitigation Process



Goal: Develop Easy to Use Occupational Health Risk Mitigation Process Before Soil Disturbance Activities Begin:

- **Inorganics**
 - Lead, asbestos, silica
 - Consider Particle Size & Morphology
 - Develop Soil Action Levels
- **Organics**
 - Volatile and semi-volatile organics
 - Benzene, gasoline, PCB's, creosote, PNA's
 - Use Best Practice Process
- **Pathogens**
 - Hanta Virus – existing policy
 - Valley Fever – Soil Spore exposure risk
 - Develop Process for high dust activities

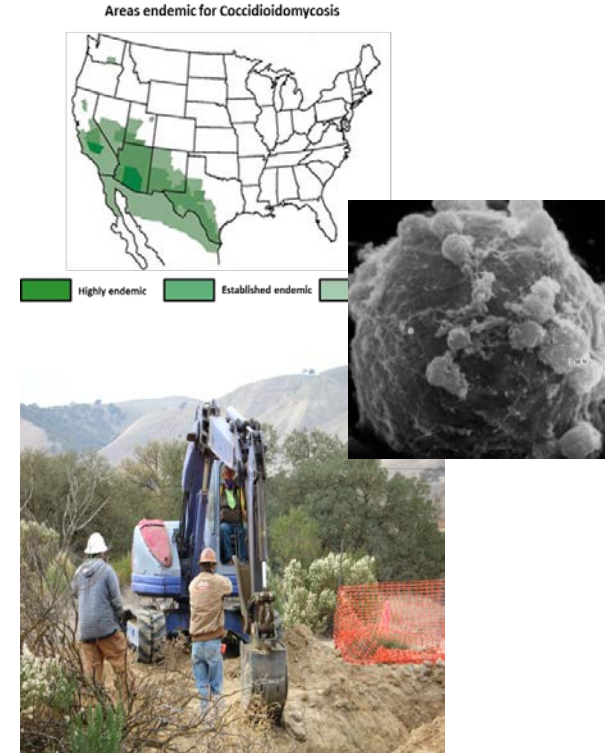


Soil Disturbance – Valley Fever Scenario



Future Valley Fever Risk Mitigation Process

- The Best Way to Reduce Valley Fever Risk is to Avoid Dust Inhalation – Education
- Exposure Risk in SouthWest
- Difficult to Test spores
- CalOSHA Guidance
- Vet with Health Services, IH&SE, Engineering
- Develop Process for high dust activities
- Consider Cab Filter Design



Conclusion

- IH&SE team new to EMG
- We support EHS Projects
- Small high tech team evaluates and addresses chemical and physical risks systemwide
- Anticipation, Recognition, Evaluation, and Control of Occupational Health Hazards is key
- Contact Your IH & SE Teams for EHS Projects
- Questions?

