

**VandenBerghe, Alissa (Consultant)**

**From:** Diemert, Lois (Consultant)  
**Sent:** Wednesday, April 22, 2009 4:38 PM  
**To:** Thomas, Karen; Clark, Gordon T. (Consultant); Allen, Archie; 'Art Bendelius (bendelius@pbworld.com)'; 'Chris Hawkins'; Conner, Bill (Consultant); Everett, Randy (Consultant); 'Gary English (gary.english@seattle.gov)'; 'Geoffrey Getchman (geoffrey.getchman@seattle.gov)'; 'Kareem Grace (grace@pbworld.com)'; Bandy, Mark; Phelps, Don (Consultant); 'Russ Byrd (russ.byrd@seattle.gov)'; 'Wendi Walsh (walshwe@pbworld.com)'; 'clark@pbworld.com'; 'Bob Melvin (melvin@pbworld.com)'; Williamson, Alec; Renshaw, Mark; 'Arthur Bendelius (abendelius@agconsultantsinc.com)'; Lentz, Tom; 'Kenneth Tipler (kenneth.tipler@seattle.gov)'  
**Cc:** Conte, Rick (Consultant); Vanantwerp, J Scott; Lentz, Tom; 'Everett, Randolph <FHWA>'  
**Subject:** RE: SR99 Tunnel Fire Life Safety Meeting Agenda for 4/23

**Follow Up Flag:** Follow up  
**Flag Status:** Red

I'm resending the agenda as I made a correction to it.

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**From:** Thomas, Karen  
**Sent:** Wednesday, April 22, 2009 2:28 PM  
**To:** Clark, Gordon T. (Consultant); Allen, Archie; 'Art Bendelius ([bendelius@pbworld.com](mailto:bendelius@pbworld.com))'; 'Chris Hawkins'; Conner, Bill (Consultant); Everett, Randy (Consultant); 'Gary English ([gary.english@seattle.gov](mailto:gary.english@seattle.gov))'; 'Geoffrey Getchman ([geoffrey.getchman@seattle.gov](mailto:geoffrey.getchman@seattle.gov))'; 'Kareem Grace ([grace@pbworld.com](mailto:grace@pbworld.com))'; Bandy, Mark; Phelps, Don (Consultant); 'Russ Byrd ([russ.byrd@seattle.gov](mailto:russ.byrd@seattle.gov))'; Wendi Walsh ([walshwe@pbworld.com](mailto:walshwe@pbworld.com)); [clark@pbworld.com](mailto:clark@pbworld.com); Bob Melvin ([melvin@pbworld.com](mailto:melvin@pbworld.com)); Williamson, Alec; Renshaw, Mark; Diemert, Lois (Consultant); Arthur Bendelius ([abendelius@agconsultantsinc.com](mailto:abendelius@agconsultantsinc.com)); Lentz, Tom; Kenneth Tipler ([kenneth.tipler@seattle.gov](mailto:kenneth.tipler@seattle.gov))  
**Cc:** Conte, Rick (Consultant); Vanantwerp, J Scott; Lentz, Tom; Fridman, Rita (Consultant); 'Everett, Randolph <FHWA>'  
**Subject:** SR99 Tunnel Fire Life Safety Meeting Agenda for 4/23

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## **Bored Tunnel Fire Life Safety Meeting**

**Date:** April 23, 2009  
**Time:** 1:00 PM – 2:30 PM  
**Location:** 23<sup>rd</sup> Floor Large Conf Rm  
**Lead:** Don Phelps

**Attendees:** Allen, Archie; Bendelius, Art; Hawkins, Chris; Clark, Gordon T.; Conner, Bill; Everett, Randy; English, Gary; Getchman, Geoffrey; Grace, Kareem; Bandy, Mark; Phelps, Don; Byrd, Russ; Walsh, Wendi; Melvin, Bob; Williamson, Alec; Renshaw, Mark; Diemert, Lois; Lentz, Tom; Tipler, Kenneth; Conte, Rick; Vanantwerp, J Scott

**Purpose:** Review of current tunnel geometry, tunnel systems design criteria, systems space proofing, and current design update

<b>I</b>	<b>Opening</b>	Don Phelps
<b>II</b>	<b>Review of Current Tunnel Geometry</b>	Gordon Clark
<b>III</b>	<b>Tunnel Systems Design Criteria</b>	Chris Hawkins
<b>IV</b>	<b>Systems Space Proofing</b>	Rich Matrisian
<b>V</b>	<b>Current Design Update:</b>	
	<b>Lighting</b>	Kareem Grace
	<b>Power Supply</b>	Kareem Grace
	<b>Drainage</b>	Rich Matrisian
	<b>Tunnel Ventilation</b>	Chris Hawkins
	<b>Fire Suppression</b>	Chris Hawkins
	<b>Tunnel Dampers</b>	Chris Hawkins

**VI Issues To Be Resolved (Significant unresolved FLS issues compiled from last meeting)**

- How to do variable message signs (VMS) and other signage factor in SR 99 Bored Tunnel traffic control and emergency evacuation.
- Consider making the tunnel roadway's right shoulder a consistent width and narrow up left shoulder for emergency vehicles.
- Working space is needed for maintenance and equipment; this may be more of a construction issue. Space planning is needed.
- Two-way communication is needed between agencies but interoperability is a problem to be addressed.
- How to get SR 99 Bored Tunnel connected to WSDOT's fiber optic system will be an issue.
- Can maintenance be performed without taking the tunnel out of commission? WSDOT needs to be able to take a system down and still operate the tunnel. This suggests the need for redundant system and equipment.
- There is a possibility for a need to provide Seattle City Light (SCL) with space to put in transmission lines. It was noted that a vault fire can be very tenacious to fight; it's another fire to fight. As a limited access facility, WSDOT may choose to not go there.
- Emergency generator sizing – the generator capacity will be driven by how the tunnel is operated during a city-wide power outage. Traffic could be banned or permitted to use in restricted mode, such as not trucks.
- Construction Phase: Need a tunnel fire rescue plan/ emergency response plan specifically for the tunnel conditions while it is being constructed.
- Consider requirements for reinforcing the tunnel structure against terrorist events.

Action Item: Russ Byrd is drafting requirements regarding UL listings for proprietary or central system and will send information to Mark Bandy.

Thanks!

*Karen Thomas*

Admin Assistant III

WSDOT - AWV&SRP

206.267.6844

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**From:** Diemert, Lois (Consultant) **On Behalf Of** Clark, Gordon T. (Consultant)  
**Sent:** Wednesday, February 25, 2009 4:07 PM  
**To:** Allen, Archie; 'Art Bendelius ([bendelius@pbworld.com](mailto:bendelius@pbworld.com))'; 'Chris Hawkins'; Clark, Gordon T. (Consultant); Conner, Bill (Consultant); Everett, Randy (Consultant); 'Gary English ([gary.english@seattle.gov](mailto:gary.english@seattle.gov))'; 'Geoffrey Getchman ([geoffrey.getchman@seattle.gov](mailto:geoffrey.getchman@seattle.gov))'; 'Kareem Grace ([grace@pbworld.com](mailto:grace@pbworld.com))'; Bandy, Mark; Phelps, Don (Consultant); 'Russ Byrd ([russ.byrd@seattle.gov](mailto:russ.byrd@seattle.gov))'; Wendi Walsh ([walshwe@pbworld.com](mailto:walshwe@pbworld.com)); [clark@pbworld.com](mailto:clark@pbworld.com); Bob Melvin ([melvin@pbworld.com](mailto:melvin@pbworld.com)); Williamson, Alec; Renshaw, Mark; Diemert, Lois (Consultant); Arthur Bendelius ([abendelius@agconsultantsinc.com](mailto:abendelius@agconsultantsinc.com)); Lentz, Tom; Kenneth Tipler ([kenneth.tipler@seattle.gov](mailto:kenneth.tipler@seattle.gov))  
**Cc:** Conte, Rick (Consultant); Vanantwerp, J Scott; Lentz, Tom; Fridman, Rita (Consultant); 'Everett, Randolph <FHWA>'  
**Subject:** Fire Life Safety Meeting for SR 99 Tunnel  
**When:** Thursday, April 23, 2009 1:00 PM-2:30 PM (GMT-08:00) Pacific Time (US & Canada).  
**Where:** Alaskan Way Viaduct Program Offices, 999 Third Ave, Suite 2300, Seattle, WA 98104, in 23 Large

This meeting will be a shorter meeting than usual.