Chemical Response in Emergency Response Situations

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Information Sources

- SDS
- ERG’S
- Internet/cell phones
- Labels
- Placards
- Containers

Information Breakdown

- Incomplete/Incorrect Information
- Insufficient Training
- Lack of Communication
- Synergistic Effects

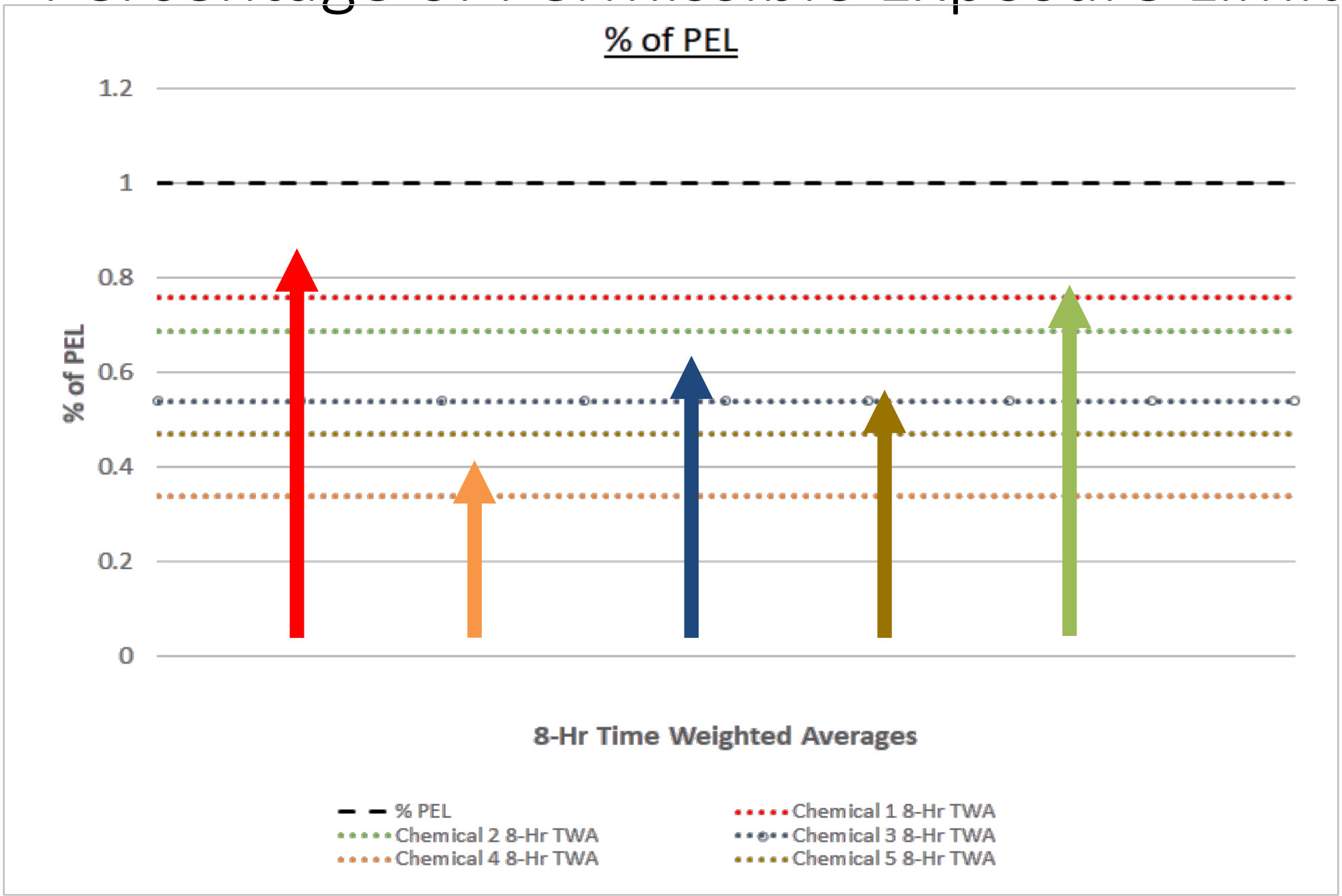
Case Study: Fly Ash

- Definition/Source
- Composition
  - Coal Type
  - Combustion Process

Fly Ash in Occupational Health

- Unique Hazards
  - Multiple Components
  - Variable Concentrations
- Storage
  - Capacity
  - Releases

Percentage of Permissible Exposure Limit



Formula

- Formula:
  - C=Concentration
  - L=Limit
  - $C_1/L_1+C_2/L_2+C_n/L_n$=Combined Limit
- Combined Limit>1 means PPE is required.
- Limitations
  - Target Organs
  - Health Effects
  - State of Matter

Formula Examples

- C_1 (Mercury)
  - Concentration=.076 mg/m^3
  - Limit=.1 mg/m^3
- C_2(Copper)
  - Concentration= .69 mg/m^3
  - Limit=1 mg/m^3

Formula Walkthrough

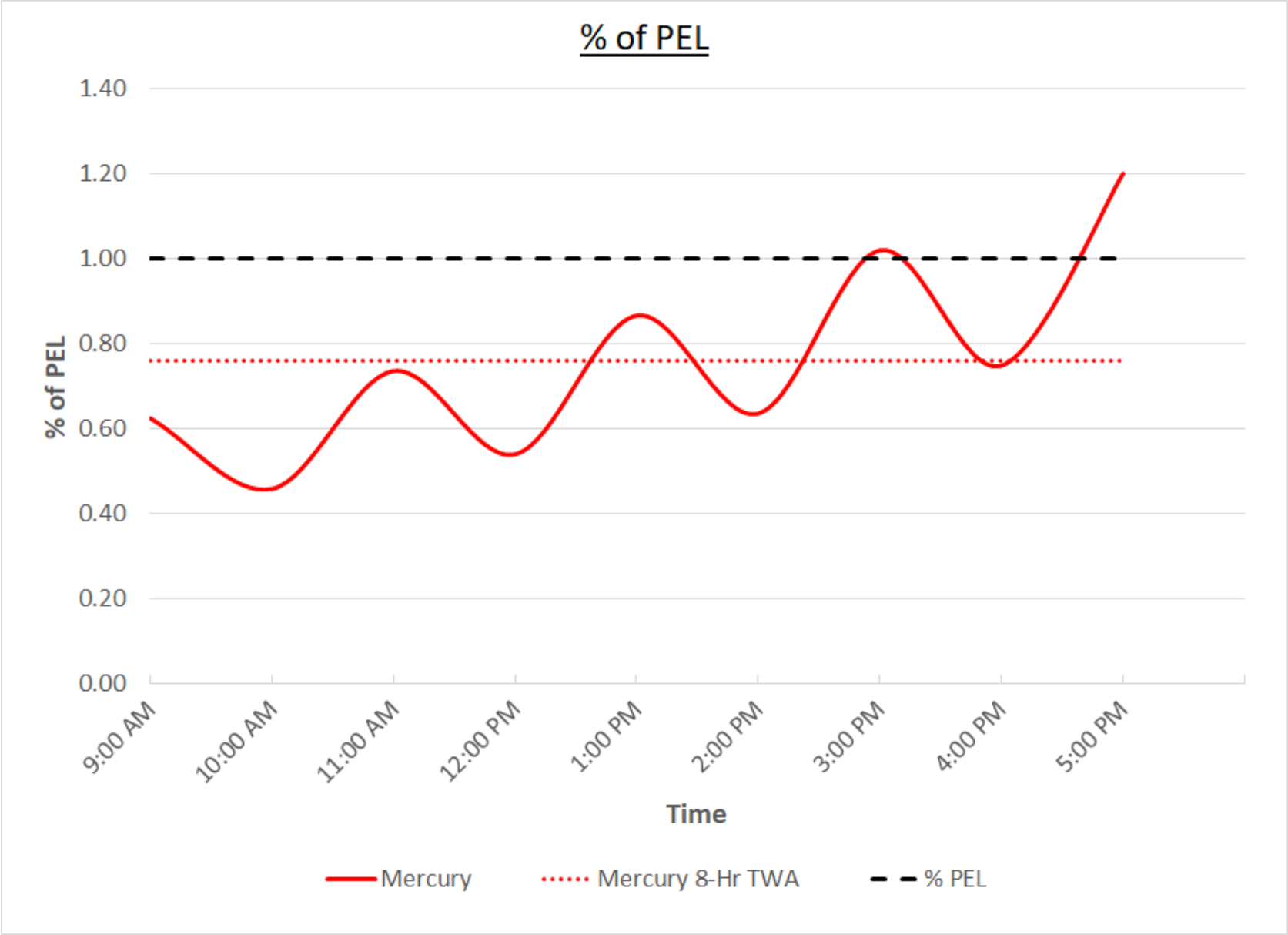
$C_1/L_1+C_2/L_2$=Combined TWA %

.076/.1+.69/1=Combined TWA %

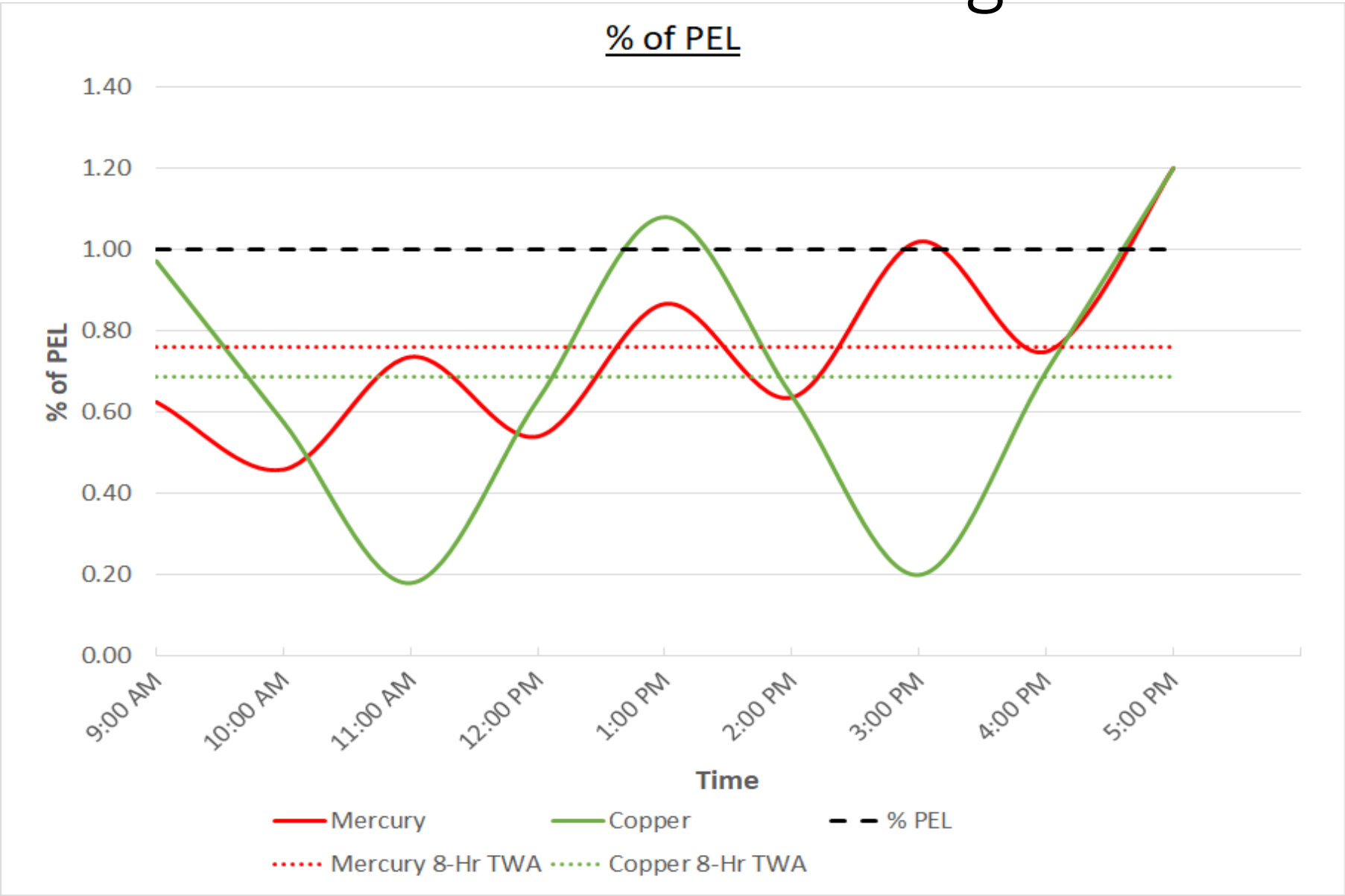
.76+.69=Combined TWA %

1.45=Combined TWA %

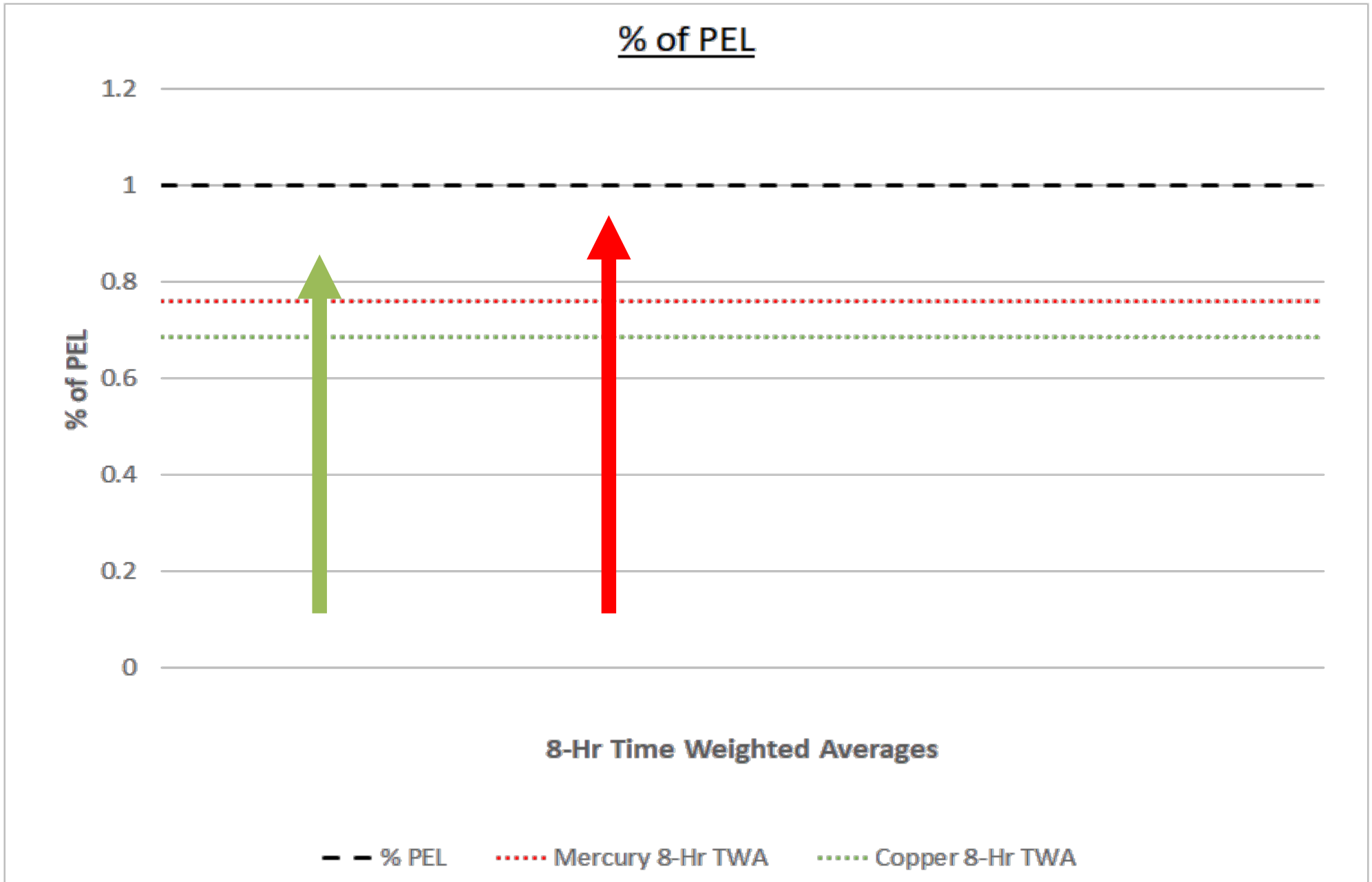
Daily Observed Concentration of Mercury and 8 Hour TWA Percentages



Daily Observed Concentration of Mercury and Copper and 8 Hour TWA Percentages



TWA's for Mercury and Copper



TVA Kington Coal Ash spill