Contamination Control Campaign Workshop
Literature and Research Database

Interactive Research/Literature Database

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Literature and Sources

- Variety of publications address different aspects of contamination control
  - Short articles (e.g., trade publications)
  - Academic publications
  - Government and industry reports

- Sources
  - Online
  - Existing general databases (PubMed, Google Scholar)
  - For fee publications

Literature Database Questions

- LIT1 – Have you previously conducted an online literature search related to contamination or other fire service safety and health issues?
- LIT2 – Were your previous searches effective/helpful?
- New – What methods or sources did you use?

Example 1 – Academic Article

- Key study that provided updated results of increased incidence of specific cancers associated with firefighting
- 10 pages
- Freely distributed online

Daniels et al. Key Findings
Example 2 – Research Report
• Project final report produced at conclusion of comprehensive study of firefighter smoke particulate study
  – Key findings associated with firefighter contamination
• 390 pages (incl. 132 pages of appendices)
• Free online report

Fabian et al. Glove Contamination

Example 3 – Government Report
• Special report on research undertaken to highlight specific safety and health concern by NIOSH
  – Showed elevated firefighter exposures to benzene/PAHs
• 90 pages
• Specific fire service recommendations
• Available online through CDC/NIOSH

Fent et al. Key Takeaway
• RECOMMENDATION: Study the effect of turnout hood designs and materials on dermal exposure and absorption of combustion products. The neck was the only skin site where we measured elevated levels of PAHs that were statistically significant (for round 1) and was also a possible site for dermal absorption of aromatic hydrocarbons (e.g., benzene). Providing better protection to the neck could reduce dermal absorption of combustion products.

Example 4 – Unpublished Research
• IAFF study originally intended to support proposal effort
  – Visually showed contamination pathways through turnout gear
• Provided as PowerPoint slides

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RTI Study Visualization

Example 5 – On Line Research

Kier et al. Methodology

Example – Trade Publication

Literature Database Questions

- **LIT3** – Do you think there is value in having an online literature and research database that focuses specifically on fire service contamination issues?
- **LIT4** – Which groups or potential users do you think the literature and research database should be designed for?
- **LIT5** – Do you think the database should be limited to research papers and formal reports?

Captured Literature Database

- Publications, reports, and articles specific to contamination control
- To be formatted as separate database allowing
  - Specific searches
  - Synopsized content
  - Categorization
  - Some level of review for inclusion
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Literature and Research Database

**Contamination Control Campaign**

<table>
<thead>
<tr>
<th>Category</th>
<th>Taxonomy Tagging</th>
<th>Notes</th>
<th>Published Abstract</th>
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**Exploration**

- Multiple words can mean the same thing
- The same word can mean multiple things
- But...
  - The same word can mean multiple things
  - Fire, Smoke, Code (noun/verb); Range (cooking / wildland)
  - Multiple words can mean the same thing
  - Wildfire, Wild-fire, wild-land fire, brush fire → Wildland fire incident

**Taxonomy and Tagging**

Taxonomy: Way to categorize things, with Broader/Narrower “Is-A” or “Has-A” relationships.

- Animals
  - Mammals
  - Deer
  - Non-typical trophy whitetail buck

**Broadly, why do we need taxonomy and tagging?**

- Shared meaning creates the ability to act purposefully towards a shared goal.
- Communication involves both sending & receiving messages.
  - The same word can mean multiple things
  - Fire, Smoke, Code (noun/verb); Range (cooking / wildland)
  - Multiple words can mean the same thing
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**What will Taxonomy Do?**

- Will help improve internal site searches (nfpa.org)
- Pulls out more accurate relevant keywords (i.e. fire based, contamination based)

**Notes**

Firefighters are exposed to various chemicals and hazardous materials in their daily work, which may affect their health and well-being. This exposure is often related to their occupation and the nature of the incidents they respond to. The study aims to investigate the long-term effects of exposure to various chemicals and hazardous materials on firefighters' health. The research utilizes retrospective and prospective methods, including data collection from various sources, such as medical records, fire department records, and interviews with firefighters. The findings highlight the importance of monitoring and managing exposure to hazardous materials to prevent health risks and improve overall well-being.
Database Maintenance

- The eventual goal is to have this database maintained and updated by the NFPA library
- New sources going in (monthly? quarterly? yearly?)
- Possible approaches for vetting literature or reports to be included

Literature Database Questions

- **LIT6** – What fields do you think need to be added to database to make it useful to you
- **LIT7** – If abstracts are written differently between publications, do you believe that an abbreviated version should be created for consistency among listed documents?
- **LIT8** – Does the fact that some full articles may require purchase affect the usefulness of the database?

- **LIT9** – Should the database have a feature that allows people to contribute to the database or recommend documents to add to the database?
- **LIT10** – Should a tutorial be provided for conducting a search?
- **LIT11** – Should the tutorial be available on the website and if so in what form?