



October 27, 2020

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Eastman Chemical Company  
Heritage Thermal Services  
INVISTA S.à.r.l.  
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The Dow Chemical Company  
Veolia ES Technical Services, LLC

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Eli Lilly and Company  
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TestAmerica Laboratories, Inc.  
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**INDIVIDUAL MEMBERS**

Ronald E. Bastian, PE  
Ronald O. Kagel, PhD

**ACADEMIC MEMBERS**

(Includes faculty from:)

Clarkson University  
Colorado School of Mines  
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Louisiana State University  
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University of Dayton  
University of Kentucky  
University of Maryland  
University of Utah

Katherine Lemos, Ph.D  
Chairperson and CEO  
U.S. Chemical Safety and Hazard Investigation Board  
1750 Pennsylvania Avenue, NW, Suite 910  
Washington, DC 20006

Dear Dr. Lemos;

The Coalition for Responsible Waste Incineration (CRWI) is a trade association comprised of 28 members representing companies that own and operate hazardous waste combustors and companies that provide equipment and services to the hazardous waste combustion industry. CRWI members are subject to the newly effective Chemical Safety Board (CSB) reporting regulations in 40 CFR 1604. Our membership has questions on some of the reporting requirements and would like to solicit clarification from the Board. We have attempted to group the questions by subject matter and have proposed responses and justification, where appropriate. In addition, we have proposed a number of hypothetical situations to help understand the intent of the CSB reporting rule.

Thank you for the opportunity to submit these questions. Please provide us with a contact person within CSB and an estimated time for a response. Please let me know if you have any questions regarding the scenarios presented. We look forward to your response. You can contact me at (703-431-7343 or [mel@crwi.org](mailto:mel@crwi.org)).

Sincerely yours,

Melvin E. Keener, Ph.D.  
Executive Director

cc: CRWI members

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1. Please clarify that an accidental release must cause or result in the outcome that triggers reporting. Consider the following hypotheticals:
  - **SCENARIO 1:** Electrical failure at a substation causes a facility to shut down. The facility flares during the shutdown, releasing a regulated substance to the air. The repairs caused by the electrical failure cost >\$1MM. The release of the regulated substance to the air does not cause any independent impact (no fatality, injury or property damage).
    - **PROPOSED RESPONSE:** Not reportable. This event does not trigger reporting as the accidental release did not cause or result in a fatality, serious injury nor significant property damage.
  - **SCENARIO 2:** Compare Scenario 1 to an electrical failure that results in a release of a regulated substance, which causes an inhalation injury to an employee resulting in hospitalization.
    - **PROPOSED RESPONSE:** Reportable. This event triggers reporting as the release of the regulated substance resulted in a serious injury.
  - **SCENARIO 3:** There is a fire in a storage area (i.e., paper product warehouse) not caused by accidental release (e.g., caused by an electrical short). Products of combustion are released due to the fire, but there was no accidental release that triggered the event. There are no injuries or fatalities, but there is substantial property damage from the fire.
    - **PROPOSED RESPONSE:** Not reportable. The damage did not result from an accidental release.
  - **SCENARIO 4:** Compare Scenario 3 to the same fire in the storage area caused by an electrical short, but an emergency responder suffers a serious smoke inhalation injury from the fire.
    - **PROPOSED RESPONSE:** Reportable. The injury triggers reporting as the products of combustion from the fire were released to air and resulted in a serious injury.
2. Please confirm that there must be a release to ambient air to require reporting. Consider the following hypotheticals.
  - **SCENARIO 5:** Please confirm that an explosion that is contained wholly within a piece of equipment (e.g., explosion inside a boiler or other equipment.) is not a release to ambient air and is not, therefore, subject to reporting to CSB, even if it results in >\$1MM in damage to the internals of the equipment.
  - **SCENARIO 6:** Additionally confirm, if the same explosion above, internal to the equipment, ruptures the equipment, causing a release to air of NO<sub>x</sub> and carbon monoxide, but no injuries or damage resulted from the accidental release, that release is not reportable to the CSB.
  - **SCENARIO 7:** Alternatively confirm, if the explosion internal to the equipment ruptures the equipment and causes a serious injury to an employee in the vicinity due to the pressure wave and/or shrapnel from the explosion, the event would be reportable to CSB.

3. Please clarify when liquid releases should be reported, as discussed in the following hypotheticals.
  - **SCENARIO 8:** If a liquid is spilled/drains to the ground and is then contacted by a worker (i.e., stepped in), which results in an injury (i.e., thermal or chemical burn) requiring hospitalization, would the event be reportable to CSB?
    - **PROPOSED RESPONSE:** No. There was no release to ambient air that resulted in the injury. The injury was caused by pooled liquid on the ground.
  - **SCENARIO 9:** If a liquid was released from equipment under pressure, resulting in a spray or mist and the spray or mist contacted a worker resulting in an injury or illness requiring hospitalization, would the event be reportable to CSB?
    - **PROPOSED RESPONSE:** Yes. The spray/mist was a release to ambient air. Contact with the spray/mist resulted in the hospitalization.
  
4. Please clarify whether relatively inert substances (e.g., water and air) would be considered extremely hazardous substances.
  - **SCENARIO 10:** Release of high temperature steam or steam condensate causes burns to an individual which results in in-patient hospitalization.
    - **PROPOSED RESPONSE:** Not reportable. Inert substances such as water, air, carbon dioxide, and carbon monoxide would not be considered extremely hazardous substances regardless of the outcome. Steam, water, and air are not substances contemplated by the Clean Air Act to be investigated by CSB. The incident could be investigated by OSHA if investigation is deemed necessary.
  - **SCENARIO 11:** High-pressure air is being used to clean equipment. The cleaning wand malfunctions and an individual sustains a serious cut from the high-pressure air on their arm or leg requiring in-patient hospitalization.
    - **PROPOSED RESPONSE:** Not reportable. Air is not an extremely hazardous substance within the context of the use of that term in 42 USC 7412(r) and as such, this incident is not a chemical accident under the authority of the CSB to investigate, but more properly a workplace injury for OSHA to investigate.
  - **SCENARIO 12:** Please clarify whether a leak on raw water supply line which forces a facility to shut down and results in >\$1MM of business interruption would be reportable to CSB.
    - **PROPOSED RESPONSE:** Not reportable. This is not an accidental release to ambient air of an extremely hazardous substance. Liquid water at ambient conditions is not an extremely hazardous substance, as contemplated by 42 USC 7412(r)(6). The business interruption question does not need to be addressed.
  - **SCENARIO 13:** Please clarify whether a leak on wastewater line, within permit limits (i.e. NRC RQ reporting exemption), which forces a facility to shut down and results in >\$1MM of business interruption would be reportable to CSB.
    - **PROPOSED RESPONSE:** Not reportable. This is not a release to ambient air of an extremely hazardous substance. Water at ambient conditions is not

- an extremely hazardous substance, as contemplated by 42 USC 7412(r)(6).  
The business interruption question does not need to be addressed.
- **SCENARIO 14:** Please clarify whether combustible dust is an extremely hazardous substance. (Note: not all combustible dust has a CAS number (e.g., wood dust).
    - **PROPOSED RESPONSE:** Reportable. Combustible dust explosions have been investigated by the CSB previously (e.g., Imperial Sugar incident). Absence or presence of a CAS number is not determinative of whether it is an extremely hazardous substance.
5. With respect to your response to comments in the preamble that property damage should include business interruption losses, please clarify whether that applies to actual losses only or potential losses (i.e., actual lost sales or daily lost revenue as opposed to product that is not made, and thus not sold, during an ensuing outage). Consider the following hypotheticals, assuming no injury or fatality, and the only possible trigger for CSB reporting is \$1MM in property damage.
- **SCENARIO 15:** Accidental release and resultant small fire damages a pump critical to a manufacturing process. Replacement costs for the materials and installation are <\$100,000. However, it takes 5 days to receive and install the new pump. The unit production is valued at \$250,000 per day. As such, potential business interruption would be \$1,250,000 during the five days the unit remained down waiting on installation of the new pump.
    - **PROPOSED RESPONSE:** Not reportable. This small fire is not the type of incident to which CSB would deploy investigators. Potential “business interruption” should not be included in the assessment of onsite property damage.
  - **SCENARIO 16:** Accidental release with no apparent equipment damage from the release. The release is not an immediate danger to workers or the public, but the unit is shutdown in an abundance of caution in order to inspect internal equipment. Business interruption is estimated to be \$1,500,000.
    - **PROPOSED RESPONSE:** Not reportable. The decision to bring the unit down is a conservative decision. Including this business interruption would create a perverse incentive for a company not to bring the equipment down to inspect internally. Further, this release is not the type of incident to which CSB would deploy investigators. Potential “business interruption” should not be included in the assessment of property damage.
6. Please clarify that the property damage must result from the accidental release.
- **SCENARIO 17:** An explosion occurs internal to a dryer system. There is a small release of products of combustion through joints/flanges in the dryer system. All property damage is internal to the dryer and not as a result of the accidental release. The damage to the dryer system exceeds \$1MM.

- **PROPOSED RESPONSE:** Not reportable. The damage occurred due to the internal explosion. The property damage did not result from the accidental release to ambient air.
  - **SCENARIO 18:** A malfunction occurs due to equipment failure that results in flaring. The only release to ambient air is through the flare. The release (flaring) is not an immediate danger to workers or the public (i.e., no offsite impact), but the unit is shutdown in an abundance of caution in order to make repairs and to end the flaring event. Business interruption is estimated to be \$1,500,000.
    - **PROPOSED RESPONSE:** Not reportable. This release from the flare did not result in any physical damage nor business interruption. Further, this is not the type of incident to which CSB would deploy investigators, but rather an event where safety systems functioned properly as designed. Potential “business interruption” due to shutting down the unit should not be included in the assessment of property damage.
7. Please clarify what a facility should do if, at eight hours, it does not appear that the event triggered the reporting criterion, but additional information is learned after eight hours that would trigger reporting. The preamble indicates an updated report can be submitted. However, in this case, no initial report was submitted. Consider the following hypotheticals.
- **SCENARIO 19.a:** A source has a release that caused an estimated \$50,000 in equipment damage but at the time of the release it is determined that business interruption will be well under \$1,000,000, as the repairs should be able to be made quickly. The next business day (more than 8 hours from the release) it is determined that the repairs will require additional time to complete and, as a result, business interruption will be greater than \$1,000,000. Would the source be required to report the release upon learning business interruption  $\geq$ \$1,000,000, even though this is after the 8-hour deadline?
    - **PROPOSED RESPONSE:** Yes. The facility should make the initial report as soon as possible, but no later than 8 hours after becoming aware of triggering the reporting criteria. The initial report should explain why the report could not be made within 8 hours of the event. This would make the reporting requirements consistent with OSHA’s reporting rule to report within the same timeframe, once you have knowledge of the triggering event (See <https://www.osha.gov/laws-regs/regulations/standardnumber/1904/1904.39>).
  - **SCENARIO 19.b:** Would the source be subject to enforcement for failure to report within the 8-hour deadline?
    - **PROPOSED RESPONSE:** No. Assuming the source reported timely based on knowledge of the triggering event and the original assessment of property damage was reasonable, CSB would not refer this “late” report for enforcement. The source should include an explanation for the lateness of the report in their submission to CSB.
  - **SCENARIO 19.c:** Alternatively, what if the total costs of the damage is determined to be just over \$1MM after all repairs are completed 10 days later, due to unanticipated expediting charges. Is the facility required to “revisit” the

initial estimates and report late if the final costs are higher than originally estimated?

- **PROPOSED RESPONSE:** No. The intent is for the facility to make an initial reasonable estimate at the time of the event.
- **SCENARIO 20.a:** A source has a release that causes an injury to a worker. The worker is taken to an emergency room, is treated and released. The next day, the worker's condition has gotten worse and he/she returns to the emergency room and is admitted to the hospital. Would the source be required to report the release upon learning of an injury with hospitalization, even though this is after the 8-hour deadline?
  - **PROPOSED RESPONSE:** Yes. Same answer as under 19.a.
- **SCENARIO 20.b:** Would the source be subject to enforcement for failure to report within the 8-hour deadline even though the triggering event did not occur until after the 8-hour deadline?
  - **PROPOSED RESPONSE:** No. Assuming the source reported timely based on knowledge of the triggering event, CSB would not refer this "late" report for enforcement. The source should include an explanation as to the lateness of the report in their submission to CSB.