Pipeline and Hazardous Materials Safety Administration

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Associate Administrator
ORIGINATED CARLOADS OF CRUDE OIL
ON U.S. CLASS I RAILROADS

Source: AAR, FRA
Hazmat Transportation

Rail Derailments with Release

UN Numbers: UN1267, UN3494, UN3475 and UN1170
Source: Hazmat Intelligence Portal (HIP)
## Major Crude Oil/Ethanol Derailments

<table>
<thead>
<tr>
<th>Incident</th>
<th>Date</th>
<th>Material</th>
<th># Cars derailed</th>
<th>Speed at derailment</th>
<th>Product Loss (Gallons)</th>
<th>Likely Cause of Derailment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vandergrift, PA</td>
<td>02/14</td>
<td>Crude Oil (unit)</td>
<td>21</td>
<td>31</td>
<td>10,000</td>
<td>TBD</td>
</tr>
<tr>
<td>New Augusta, MS</td>
<td>01/14</td>
<td>Crude Oil (unit)</td>
<td>13</td>
<td>45</td>
<td>90,000</td>
<td>Broken Rail</td>
</tr>
<tr>
<td>Plaster Rock, NB (Canada)</td>
<td>01/14</td>
<td>Crude Oil &amp; LPG</td>
<td>19</td>
<td>47</td>
<td>30,000</td>
<td>Broken Rail/Wheel</td>
</tr>
<tr>
<td>Vandergrift, PA</td>
<td>12/13</td>
<td>Crude Oil (unit)</td>
<td>20</td>
<td>42</td>
<td>476,436</td>
<td>Collision/Fouled train with Broken axle</td>
</tr>
<tr>
<td>Aliceville, AL</td>
<td>11/13</td>
<td>Crude Oil (unit)</td>
<td>26</td>
<td>38</td>
<td>630,000</td>
<td>Broken Rail (Bridge)*</td>
</tr>
<tr>
<td>Gainford, AB (Canada)</td>
<td>10/13</td>
<td>Crude Oil and LPG</td>
<td>13</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>Lac-Megantic, QE (Canada)</td>
<td>7/6/13</td>
<td>Crude Oil (unit)</td>
<td>63</td>
<td>60-70</td>
<td>1,580,000</td>
<td>Securement/Attendance</td>
</tr>
<tr>
<td>Plevna, MT</td>
<td>8/12</td>
<td>Ethanol</td>
<td>17</td>
<td>25</td>
<td>245,336</td>
<td>Track Buckling</td>
</tr>
<tr>
<td>Columbus, OH</td>
<td>7/12</td>
<td>Ethanol</td>
<td>3</td>
<td>23</td>
<td>53,347</td>
<td>Broken Rail*</td>
</tr>
<tr>
<td>Tiskilwa, IL</td>
<td>10/11</td>
<td>Ethanol</td>
<td>10</td>
<td>34</td>
<td>143,534</td>
<td>Broken Rail*</td>
</tr>
<tr>
<td>Arcadia, OH</td>
<td>2/11</td>
<td>Ethanol (unit)</td>
<td>31</td>
<td>46</td>
<td>834,840</td>
<td>Rail Defect</td>
</tr>
<tr>
<td>Rockford, IL</td>
<td>6/09</td>
<td>Ethanol</td>
<td>19</td>
<td>34</td>
<td>232,963</td>
<td>Washout</td>
</tr>
<tr>
<td>Painesville, OH</td>
<td>10/07</td>
<td>Ethanol</td>
<td>6</td>
<td>48</td>
<td>76,153</td>
<td>Broken Joint Bar</td>
</tr>
<tr>
<td>New Brighton, PA</td>
<td>10/6</td>
<td>Ethanol (unit)</td>
<td>23</td>
<td>37</td>
<td>485,278</td>
<td>Internal Rail Flaw (Bridge)</td>
</tr>
</tbody>
</table>

*Preliminary identification of likely cause. Final determination of accident cause has not been made by NTSB.*
Responding to Crude Oil Incidents

- Operation Safe Delivery
  - An aggressive and comprehensive approach to address risks, prevent derailments and reduce consequences of flammable liquids by rail.
  - Product testing and analysis
  - Inspections and enforcement
  - Public outreach
  - Partnerships
  - Rulemaking

Emphasis on prevention and mitigation
PHMSA Regulatory Action
Rail Safety

• **September 2013**: PHMSA publishes ANPRM (78 FR 54849) seeking public comments on 8 petitions and 4 NTSB Recommendations:
  • (1) enhance standards for DOT Specification 111 tank cars used to transport PG I and II flammable liquids;
  • (2) explore the feasibility of additional operational requirements to enhance the safe transportation of PG I and II flammable liquids;
  • (3) afford FRA greater discretion to authorize movement of non-conforming tank cars;
  • (4) correct regulations that allow an unsafe condition associated with pressure relief valves (PRV) on rail cars transporting carbon dioxide, refrigerated liquid;
  • (5) revise outdated regulations applicable to the repair and maintenance of DOT Specification 110, DOT Specification 106, and ICC 27 tank car tanks (ton tanks); and
  • (6) except rupture discs from removal if the inspection itself would damage, change, or alter the intended operation of the device.

• **December 2013**: Comment period ends after 60 days + 30-day extension
  • Over **150,000** signatory to 135 comments received.
Non-Regulatory Actions

• August 2013:
  • (FRA) **Emergency Order** securement
  • (PHMSA and FRA) **Safety Advisory** additional actions

• November 2013:
  • (PHMSA and FRA) **Safety Advisory** characterization, classification, and selection of a packing group for Class 3 (flammable liquid) materials

• January 2014:
  • (PHMSA) **Safety Alert** Bakken crude may be more flammable than traditional heavy crude oil
  • (Secretary of Transportation) “Call-to-Action” - engage all stakeholders
Non-Regulatory Actions – Call to Action

• Railroads committed to:
  – Speed restrictions
  – Braking enhancements
  – Make more frequent rail and mechanical inspections;
  – Install wayside defective bearing detection equipment;
  – Provide resources to enhance emergency response capabilities and community awareness along crude oil routes; and
  – Use the Rail Corridor Risk Management System.

• The American Petroleum Institute (API) agreed to:
  – Develop a comprehensive standard for testing, classification, loading and unloading of crude oil based on the best available science and data;
  – Share information and expertise;
  – Participate in any effort to improve tank car design; and
  – Work with the railroads to enhance emergency response training.
Non-Regulatory Actions

- **February 2014**: (Secretary of Transportation) **Emergency Order**- requiring shippers to properly analyze and classify crude oil

- **March 2014**: (Secretary of Transportation) **Amended Emergency Order** clarifying testing requirements, packing groups, and reclassification
Thank You

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