Update of 2018 Structural Component Approval for Refuge Alternatives

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September 19, 2017
Refuge Alternatives for Underground Coal Mines; Final Rule

- Effective Date March 2, 2009
- Establishes requirements for refuge alternatives
- Includes testing, performance, and documentation requirements for approval
- Implements Section 13 of the MINER Act of 2006
Approved Refuge Alternative Components

- **Breathable Air** – approved in 2013
- **Air Monitoring** – approved in 2013
- **Harmful Gas Removal** – approved in 2013
- **Structural** – allowance for state approval expires after 12/31/2018
  - Applies to Pre-Fabricated Refuge Alternatives
  - Includes Steel Structure and Inflatable, if applicable
Structural Tests and Design Requirements

- For MSHA part 7 approval consideration, applicants must
  - Conduct 8 tests and provide results
    - Apparent Temperature, Over-pressure, Rip & tear, Flash Fire, Gases & Odor, Deployment, Repair, and Stretcher
  - Submit design documents addressing 13 requirements
    - Space/Volume, Isolation, Preshift, Unauthorized entry, Pressurization, Human waste, Exterior gas measurement, Durability, Transport, Two way communication, Flame Resistance, Maintenance accessibility, Loss of pressure
Mine Operator Responsibilities

- Pre-fabricated refuge alternatives in service after December 31, 2018 must have MSHA part 7 approvals for structural components as well as breathable air, harmful gas removal and air monitoring components.
- Pre-fabricated refuge alternative structures with only State approvals will no longer be accepted.
- Emergency Response Plans (ERPs) may need to be updated to reflect the refuge alternative structural component approval.
- Mine operators must provide training on the refuge alternative in the approved ERP.
Scheduling and Coordination

- Mine operators are encouraged to contact the manufacturers who supply refuge alternatives to their mines if they have further questions or need additional information.
Approval Update

- MSHA has issued four Structural Component approvals that cover the following refuge alternative models:


<table>
<thead>
<tr>
<th>MSHA Approval Number</th>
<th>Manufacturer</th>
<th>Model Number</th>
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<tbody>
<tr>
<td>07-LCA170001</td>
<td>Strata Safety Products</td>
<td>FAB Model S-M2624 and S-M2630</td>
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<tr>
<td>07-LCA170002</td>
<td>Strata Safety Products</td>
<td>FAB Model S-M3636, S-MC3635, S-M3630</td>
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<td>07-LCA170003</td>
<td>Strata Safety Products</td>
<td>FAB Model S-M1618</td>
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<td>07-LCA170004</td>
<td>Strata Safety Products</td>
<td>FAB Model S-M1020 and S-M1016</td>
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QUESTIONS?