



ENCAPSULATOR
TECHNOLOGY

INCIDENT INFORMER

When in Doubt, Call in the Experts for Emergency Response

Hazard Control Technologies, Inc. (HCT)

After a bituminous coal hot spot developed within the hopper of a dust collector, a large Southeastern power plant attempted extinguishment by discharging their CO₂ fixed suppression system. The CO₂ was ineffective, failing to penetrate or cool the smoldering material. A second attempt was made using a Class A firefighting foam, but suppression efforts were suspended, due to the amount of steam being generated, creating concerns it may dislodge explosive dust from the bags. At this point, management made the decision to ask for assistance.

They contacted a sister plant that uses PRB sub-bituminous coal and had been through HCT's *Coal Handling Hazard Awareness Training*. The sister plant recommended they call HCT.

Hazard Control Technologies was contacted on August 2, 2012 for advice to extinguish the coal. Instead of making suggestions over the phone, where miscommunications could be dangerous, it was recommended HCT be brought in to provide Emergency Incident Management Services. Under this program, the HCT Incident Response Specialist provides hands-on technical expertise to see that the coal hazard is safely mitigated.

HCT arrived on the scene the morning of August 4 and met with management to assess the known facts and develop a step by step procedure, delegating specific responsibilities to the people involved. With all people in agreement on a plan, efforts began to safely address the smoldering material.

To Reduce the Risk of Injuries:

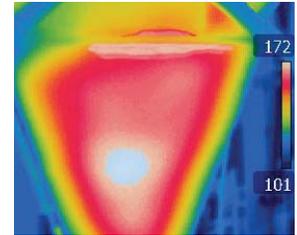
- Assess and Identify Incident Hazards
- Eliminate Secondary Dust Hazard
- Eliminate Primary Dust Hazard
- Eliminate Flash Fuel Hazard
- Eliminate Hot Spot Hazard



After assessing the hazard externally with a thermal imaging camera, the next step was to eliminate the secondary dust explosion hazards by washing down the surrounding area and associated equipment. Wash down will prevent any secondary flash fires or explosions. To be as safe as possible, the dust collector hatch was opened from a distance using a rope and pulley. An internal thermal



The severity of the hot spot is not apparent without thermal imaging



Thermal imaging camera identifies and locates the burning coal in the collector

assessment revealed a hot spot much larger than originally believed and dust conditions warranted a remote attack.

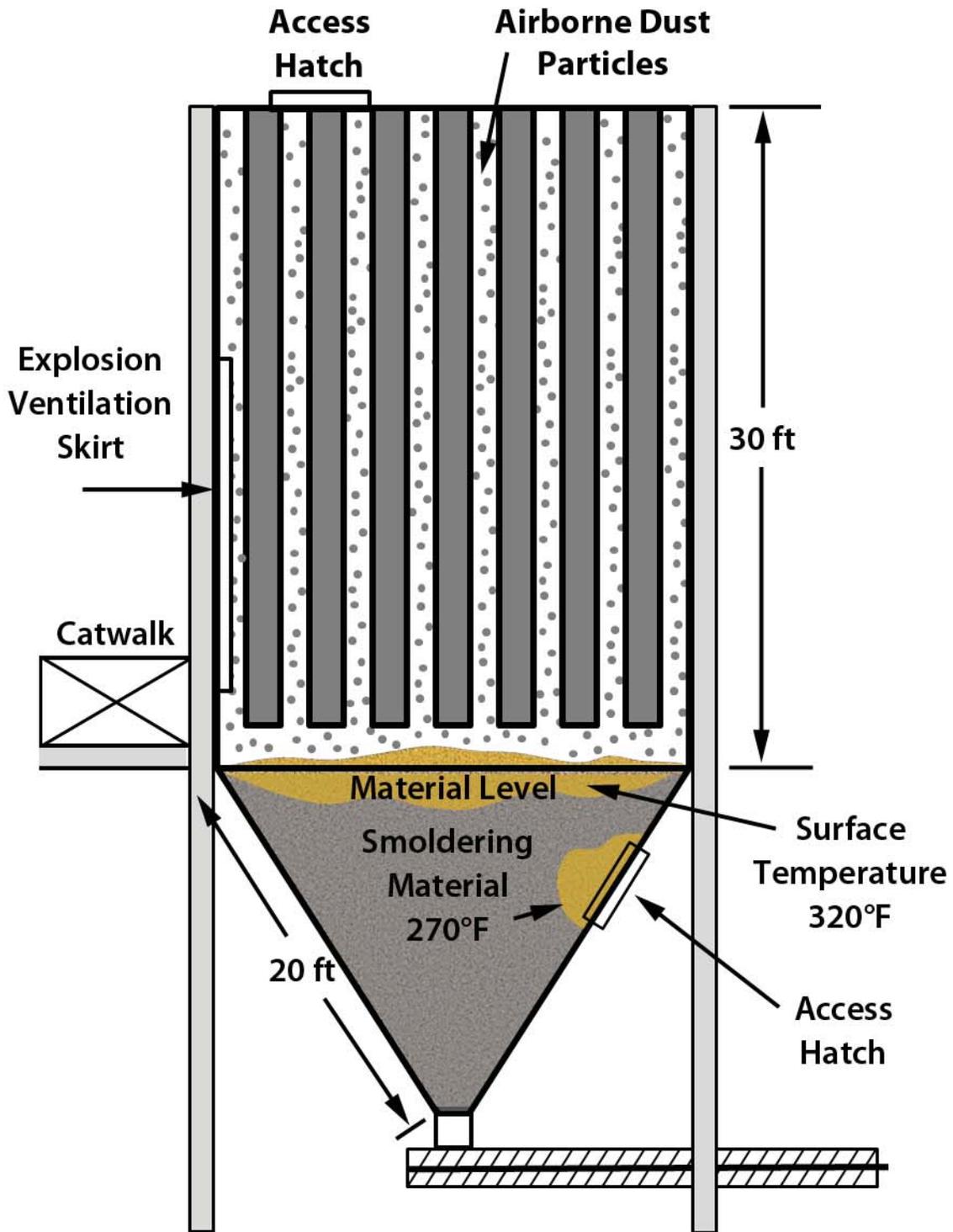
A Piercing Rod with a Rotating Misting Head was inserted and secured to the structure. The line was charged in advance, to minimize the discharge of pressured air. The Rotating Misting Head discharged 1% F-500 Encapsulator Agent for ten minutes from a safe distance. F-500 EA is well recognized in the power industry for its unique ability to penetrate deep into coal, rapidly cool and be applied safely without flare-ups, that can dislodge dust and cause explosions.

After this internal wash down was performed, a thermal assessment confirmed the smoldering material was successfully penetrated and cooled. The Rotating Misting Head was again used for a second ten minutes to ensure thorough saturation of the material. Thermal imaging confirmed complete cooling of the entire structure and the clean out process was initiated.

Complete training on handling PRB coal fires and a copy of the PRB Coal Users' Group *Recommended Practice - Coal Bunker, Hopper and Silo Fire Protection Guidelines* can be obtained by contacting Hazard Control Technologies.



Piercing Rod System with Rotating Misting Head (close-up inset)



Dust Collector Fire



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