

# ENCLOSURE G

AB79-COMM-10-7

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**Subject:** Supplemental Comments on MSHA's Refuge Alternative RFI--RIN 1219-AB79

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**From:** Green, Edward [mailto:EGreen@crowell.com]  
**Sent:** Thursday, April 02, 2015 5:29 PM  
**To:** McConnell, Sheila A - MSHA  
**Cc:** zzMSHA-Standards - Comments to Fed Reg Group  
**Subject:** Supplemental Comments on MSHA's Refuge Alternative RFI--RIN 1219-AB79  
**Importance:** High

**RE: RIN 1219-AB79**

Hello Ms. McConnell. Further to the comments I filed earlier today with regard to MSHA's Request for Information on Refuge Alternatives, please consider this email and its attachments as supplemental comments for Murray Energy Corporation (and its trade association, the Bituminous Coal Operators' Association), BHP Billiton San Juan Coal Company, and Interwest Mining Company (the "Companies"). Please note especially the September 30, 2018 end dates in the schedules set forth in the attachment for NIOSH's research priorities for heat and humidity and safe air systems. The Companies believe these deadlines strongly support the request of the Companies that MSHA now extend the December 31, 2018 deadline in 30 C.F.R. §75.1506(a)(3).

Sincerely,

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*AB79-COMM-10-7*

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**From:** Fike, Amber (CDC/NIOSH/OMSHR) [mailto:aff3@cdc.gov]  
**Sent:** Thursday, April 02, 2015 4:55 PM  
**To:** Fike, Amber (CDC/NIOSH/OMSHR)  
**Subject:** Additional Updates on NIOSH/OMSHR Refuge Alternatives Research Priorities, Task Lists, and BIP Chamber

Additional Updates from NIOSH/OMSHR:

- ✓ Refuge Alternatives research priorities and task lists have been compiled, as per the Refuge Alternatives Partnership – MS Word document attached.
- ✓ NIOSH/OMSHR researchers and technicians have completed the construction of the Built-in-Place (BIP) Chamber within the Bruceston Experimental Mine (BEM) – photo attached.

# Refuge Alternative Research Priorities

## Priorities for Heat and Humidity

- Should include in modeling and testing: \*
  - Active cooling
  - Effects of SCSRs
  - Effect of higher ambient temperature
  - Impact of apparent temperature standard
- Develop standard testing protocol for RA evaluations to allow evaluations to be compared \*
- Develop standardized method for measuring/determining mine ambient temperature (where in mine is it measured? With ventilation/power?)\*
- Consider the reasonableness of:
  - Heat load per barrel person
  - Threshold and method of calculating 95 AT \*

Research Area	Task Description	End Date
Mobile RA Heat & Humidity	In-mine heat & humidity testing for metal RA	9/1/2015
BIP RA Heat & Humidity	In-mine heat & humidity testing for BIP RA	9/30/2015
Mobile RA Heat & Humidity	Demonstration of occupancy derating for tent-type RA	12/31/2015
RA Heat & Humidity	Determine temperature and %RH that cause core temperature to rise using simulation	3/31/2016
Mobile RA Heat & Humidity	Demonstration of occupancy derating for metal RA	6/1/2016
RA Heat & Humidity	Determine appropriate metabolic heat input for RAs considering miner size and activity level	9/30/2016
RA Heat & Humidity	Reexamine occupancy derating with updated heat input and temperature/%RH limits	9/30/2017
RA Heat & Humidity	Evaluate heat mitigation strategies for RAs	9/30/2018

## Priorities for Compressed Air Line

- Post-disaster survivability/utility of compressed air lines \*
- Need to think holistically – use boreholes, compressed air lines, BIP, mobile, etc. \*\*

## Priorities for Safe Air System

- Concerns of physical/legal access on the surface (case by case, airlift unit to borehole? How do you ensure air access? Legal access from property owner? Drill after the event – with compressed air cylinders?) \*

Research Area	Task Description	End Date
BIP RA Air Supply	Determine proper relief valve setup for proper air supply operation	9/1/2015
BIP RA Air Supply	Determine if CO2 scrubbing systems are necessary for BIP RAs	5/31/2016
BIP RA Air Supply	Determine ability of air supply to meet 12.5 CFM/person	9/1/2015
BIP RA Air Supply	Determine appropriate relief valve characteristics for BIP RAs	5/31/2016
BIP RA Air Supply	Develop guidelines for BIP RA air supplies	6/1/2017
BIP RA Air Supply	Demonstrate use of borehole air supplies for BIP RAs	9/30/2018
BIP RA Air Supply	Demonstrate use of protected compressed air lines for BIP RAs	9/30/2018

## Cryogenic Air Supply

- All items brought up during cryogenic air supply discussions are being addressed through BCS Life Support LLC research and NIOSH contracts

## MSHA Refuge Alternative Request For Information

- Both Reg Richards and Steve Gigliotti stated at the partnership meeting that MSHA encourages interested parties to submit comments in response to the Refuge Alternative Request For Information (RFI) that is set to close on April 2, 2014.
- Responses to the RFI do not need to be limited to the questions asked if a commenter would like to address other issues related to refuge alternatives.

<http://www.msha.gov/REGSRFL.asp>



AB79-COMM-10-7