

Zipf, Richard K. (Karl) (CDC/NIOSH/PRL)

From: Baer, Melvin R [mrbaer@sandia.gov]
Sent: Thursday, February 01, 2007 7:07 PM
To: Zipf, Richard K. (Karl) (CDC/NIOSH/PRL)
Subject: RE: Review of "Explosion Pressure Design Criteria for Seals in U.S. Coal Mines"
Attachments: SealReportText1.doc



SealReportText1.doc (275 KB)

Karl,

I have attached my comments and editing of the report associated with the combustion modeling. For the most part, my editing is minor with the exception of correcting the detonation overpressure equation. When one uses the correct relationship the isentropic index for the detonation products is 1.28 (instead of 1.1) - this value is very consistent with CHEETAH results (1.26) and will give consistent pressure ratio. This correction has only a minor effect on reflected pressures. I did a little word smiting of the combustion section - I change the word "static" to "quasi-static" since that wording is more acceptable to explosives folks.

I hope this review is what you are looking for. By in large, I have no problem with the content and a good engineering approach has been set out. I added a reference (Dorofeev, et al.) that may help to justify why DDT and detonation needs further study.

Let me know if anything further is needed.

Regards,

Mel Baer

-----Original Message-----

From: Zipf, Richard K. (Karl) (CDC/NIOSH/PRL) [mailto:rbz3@cdc.gov]
Sent: Wednesday, January 31, 2007 12:42 PM
To: Allen Kuhl; Baer, Melvin R; Preece, Dale S; Arguello Jr, Jose G
Cc: Brune, Jurgen F. (CDC/NIOSH/PRL); msapko5@comcast.net
Subject: Review of "Explosion Pressure Design Criteria for Seals in U.S. Coal Mines"

Allan, Mel, Dale, Lupe,

Attached are 4 files with our report.

- 1) Outline
- 2) Text
- 3) Tables
- 4) Figures

Your time looking for major blunders is greatly appreciated. Is there a serious error in our report that could become a major embarrassment?

If possible, please insert comments directly into the document.

Looking forward to hearing back from you soon, Best regards, Karl

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