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October 14, 2005

**"The Employer"**

The Chief Compliance Officer is writing in response to the employer's letter dated July 28, 2005 (received on September 14, 2005) informing the Chief Compliance Officer that, due to changes beyond the employer's control by the petroleum industry, the employer is no longer able to fully comply with the provisions of subsection 89 of the New Brunswick Mining Regulations 96-105 in terms of closed cup flashpoint.

The employer supported the employer's request with a letter from the current supplier of diesel products, which outlines the reasons behind the refiners lowering the diesel flashpoint specifications. The employer stated that the current product Low Sulphur Diesel (LSD) to CAN/CGSB3.517 calls for a minimum flashpoint of 40 degrees Celsius. This compares to the previously available product that met CAN/CGSB3.16 and a flashpoint of 54 degrees Celsius. The employer states that the supplier provided the employer with flashpoint data from their LSD production process. Analysis of this data using statistical tools showed the flashpoint in summer exceeded the 52 degree Celsius requirement in 99% of batches. During the winter months 12% of samples failed to meet the 52 degree Celsius regulation, though the value exceeded 48 degrees Celsius with a 99% confidence. This seasonal variation is market driven and due to more of the lighter oil fractions remaining in the diesel during winter when gasoline demand is lower.

The employer states that the employer has been in consultation with the supplier's technical representatives to discuss the impact and risk associated with the lowered flashpoint of their product. The employer has included a copy of the letter from the National Account Manager for the supplier outlining the outcome of the discussions. In terms of risk, the conclusion was reached that, due to the ventilated conditions in which the mining equipment operates, it is unlikely that diesel fumes would accumulate in sufficient quantities to be within the flammable range limits of general air.

The employer's JHSC has also included a letter supporting this request for deviation.

In response to the employer's request, the following information (in addition to the information the employer provided) was considered in making the Chief Compliance Officer's decision.

1. The results of an inter-jurisdictional scan of prescribed flash point limits for the use and storage of diesel fuel in an underground mine;
2. The maximum recorded ambient temperatures in areas where diesel fuel is used and stored in the employer's underground facility;
3. The minimum flash point of diesel fuel provided by the employer's supplier.

According to the information gathered during the inter-jurisdictional scan (and confirmed by a 2002 review of Regulations to control diesel emissions in Canada Mines conducted by CANMET), a number of different Standards requiring flash points ranging from a minimum of 40° C to a minimum of 52° C are found in underground mining legislation across Canada. The most common standards cited in Regulation across Canada includes:

1. CAN/CGSB-3.16-M-86/M88 (Regular-minimum flash point 40° C)  
(Special-Minimum Flash Point 52° C)
2. CAN/CGSB-3.16-99, (Special-LS-minimum flash point 52° C)
3. CAN/CGSB-3.517-93, (A-LS minimum flash point 40° C)
4. CAN/CGSB-3.517-2000 (A-LS and B-LS- minimum flash point 40° C)

In addition, some jurisdictions have provisions that restrict the use of diesel fuel that meet Standards with a minimum flash point of 40° C provided that the ambient temperature in an underground mine does not exceed 30° C. Should the ambient temperature exceed 30° C then employers are required to use diesel fuel that meet the Standards which require a minimum flash point of 52° C.

The Chief Compliance Officer's understanding of this requirement is that, to minimize fires and explosions due to the use and storage of diesel fuel in an underground mine, at no time should there be less than 10° C difference between the ambient temperature in the mine and the flash point of the fuel.

Furthermore, some US OSH legislation for underground mining operations also allows the use of diesel fuels with a minimum flash point of 100° F (38° C).

A recent telephone conversation with the National Account Manager for the supplier confirmed the information the employer provided in the employer's letter, and added that while the CGSB Standard (CAN/CGSB-3.517) allows for a minimum flash point of 40° C, the flash point of diesel fuel produced and sold during the winter months would not be below 48° C.

Finally, according to recent tests, the employer is of the opinion that the ambient temperature in the employer's underground facility will not exceed 30° C during the period of September 1-April 30. In fact ambient temperature tests conducted by the employer indicates that ambient temperatures in both storage sites and operating areas range from a low of 13° C to a high of 28.5° C.

## Conclusion

Based on the fact that:

1. High flash point diesel fuel (flash point greater than 52° C) is available during the months of May-August;
2. The lowest flash point value of diesel fuel supplied to the employer during the winter months will not be below 48° C;
3. The ambient temperature in the employer's underground facility is not likely to exceed 30° C during the winter months;
4. There is likely to be an ongoing difficulty in obtaining high flash point diesel fuel at certain times of the year;

A deviation from Section 89 of Regulation 96-105 is granted with the following conditions:

1. The employer will use higher flash point diesel fuel (greater than 52° C) during the season where this product is available;
2. The employer will monitor the flash point of the fuel provided by the supplier and report to the Health and Safety Officer and the JHSC if the flash point of the fuel supplied is below 48° C;

3. During the winter months (September–April) where only lower flash point diesel fuel is available, the employer will monitor periodically (and record) the ambient temperatures in areas of the employer's premises where diesel fuel is used and stored for those areas which have recorded ambient temperatures greater than 25 ° C in recent tests;
4. During the winter months, should the ambient temperature exceed 30 ° C where diesel fuel is used or stored, the employer will be required to report this event to the Health and Safety Officer and the JHSC and either take measures to lower the temperature below 30 ° C or suspend operations until the ambient temperature in that area naturally drops below 30 ° C before resuming operations.

Finally, based on the fact that the periodic supply of high flash point diesel fuel will continue to be an ongoing problem, the Chief Compliance Officer will add to the WHSCC list of proposed legislation changes this issue for consideration by the Technical Committee when this committee is reconvened for discussions on proposed changes to Regulation 96-105.

By copy of this letter, the Chief Compliance Officer has advised WHSCC and the JHSC of the decision.

Regards,

Chief Compliance Officer