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October 21, 2020
File: SR 2924232

VIA EMAIL

Mark Wickett
Lafarge Canada Inc.
95 Mississagi Lighthouse Rd
Meldrum Bay ON
P0P 1R0

Email: mark.wickett@lafargeholcim.com

Dear Mr. Wickett,

Re: Application for a Variance from Clause 1.3.1 & 5.6.1.10. of the Liquid Fuels Handling Code, Technical Standards & Safety Act R.S.O. 2000 for 95 Mississagi Lighthouse Rd, Meldrum Bay

Lafarge Holcim has requested two variances for its Meldrum Bay quarry:

1. To use a FloMAX FNBL-P fuelling nozzle to refuel its Caterpillar haul trucks and construction equipment. The FloMAX FNBL-P fuelling nozzle is not certified in accordance with the Underwriters Laboratories of Canada (CAN/ ULC) S-620:2016 standard.
2. Not to have an oil/water separator (OWS) on site at its bulk plant.

The Liquid Fuels Handling Code (LFHC) requires that:

1. 1.3.1 Equipment installed at a facility or on a highway tank shall be approved and installed in accordance with the requirements of this Code and the manufacturer's instructions and shall be appropriate for the service for which it is intended.
2. 5.6.1.10. All bulk plants shall be designed with an oil/water separator, acceptable to the Ministry of the Environment and Climate Change.

Reasons why the code requirements cannot be met:

1. FloMAX FNBL-P nozzle:

The existing fleet of mining equipment was manufactured by Caterpillar and equipped with 1.5-inch dry-break style connections suitable for use with FloMAX style nozzles. These tanks and fill systems are designed by Caterpillar so that the nozzle will stop automatically when the tank reaches its intended fill level. This is a standard fill system used by major construction/mining equipment manufacturers around the world. Fill connections for these tanks are located below the top of the tank at a safe and convenient height for the operator. There are no alternative fill locations or fill methods for these fuel tanks. The FloMAX nozzle has a flow rate of up to 150 GPM which is compatible with the 1.5-inch dry-break style connections on Lafarge's mining equipment, compared to a flow rate of approximately 60 GPM for conventional one-inch nozzles. For a large fleet of machines equipped with dry-break style connections, such as Lafarge's, productivity is increased by reducing time spent refueling equipment.

2. No oil/water separator (OWS):

The new fueling facility is equipped to 'bottom load' the mine's mobile refueling truck. Fuel from this vehicle is only dispensed into other mine-owned and-operated equipment to sustain operations. Mobile fueling represents a small fraction of the mine's operations but is the activity that has triggered the bulk plant's licensing requirement.

The new tank and pumphouse will be located on the blasted "bedrock" floor of the quarry, making the installation of an OWS system extremely costly due to the site preparation. The operation of a separator system within a mining environment is also problematic due to the amount of dirt and solids that would fall from trucks and then enter and congest the OWS system. Since water from the separator would need to be pumped out, an OWS system would not be functional during the winter operations when pumps and piping are frozen.

Equivalent Safety Methods:

1. In support of Lafarge Holcim's request, the company has submitted a report signed by Andrew Gendre, P.Eng., comparing the FloMAX nozzle to the CAN/ULC-S620, the standard for hose nozzle valves for flammable and combustible liquids. The report concludes that the FloMAX FNBL diesel fuel nozzle meets and exceeds the requirements and safety objectives listed in the CAN/ULC-S620:2016 standard.
2. Refueling of the mobile tanker can be performed safely without an oil/water separator because:
 - The fuel truck is operated by a dedicated, trained mine employee.
 - The truck will typically be refueled once per day to support production requirements only. This low frequency presents a much lower risk of spills than at retail facilities or other private fuel outlets which do not require an OWS.
 - During fueling, the operator remains within approximately two metres of the fuel connection and emergency stop device. This allows for an immediate response in the event of a concern. Even in the unlikely event of a component failure, operator response will be very rapid to avoid a significant spill.
 - Bulk tanker refueling will take place on a concrete pad to allow for the containment and capture of any minor spills or leaks. The area surrounding the concrete spill pad is bedrock capped with a layer of aggregate that has been densely compacted by the passage of Cat 777 haul trucks that weigh approximately 125,000 lbs when empty and nearly 300,000 lbs when loaded. Due the compaction levels, this material will resist liquid penetration and will reduce liquid absorption into the ground, in the unlikely event of a spill or leak.
 - The refueling connection is a double dry-break connection using a Dixon 5400 API coupling so that, upon disconnection, the contents from the truck and the fueling couplings are contained. It is a standard operating requirement that the operator place a containment pan under the fuel connection during the connection, fueling process, and disconnection of the truck. Any minor drips or spills during the connection process will be captured before reaching the spill apron.
 - Overfill prevention will include:
 - a Scully Intellitrol system which is interlocked to ensure that the vehicle cannot be inadvertently overfilled. This equipment is the same as and meets, the safety standards of fuel transfer equipment at major distribution terminals; and
 - a Titan Logix Finch II system installed on the mobile fuel truck to monitor the levels in both compartments and signal a high-level alarm for the operator to stop the truck fill process.

- The fuel facility is equipped with seven global emergency stop devices (situated at all fuelling locations) to immediately stop the flow of all fuel in the event of a leak or spill. During the tanker refueling process, the operator procedure requires that the driver remain in attendance at the fuel connection point, which is within approximately two metres of an emergency stop device. This proximity will help ensure that the equipment can be immediately shut down to prevent any significant spill during the tanker refueling process.
- The fuel facility is equipped with a readily accessible spill containment kit in the event of a leak or spill.

Please be advised that your variance application dated July 20, 2020 has been approved.

Please be advised that this variance will not take effect until 15 days from the date of posting the decision on the environmental registry. This decision of the Director is subject to a right of appeal, under the Environmental Bill of Rights, if such an appeal is filed within 15 days from date of posting. In the event an appeal is filed, this decision of the director may be subsequently stayed, disallowed or significantly altered. Notice of an appeal will be placed on the Environmental Bill of Rights registry.

This variance is allowed under the authority of subsection 36.(3)(c) of the *Technical Standards and Safety Act, 2000*, (the “Act”) and subject to such conditions as may be specified herein, being that:

- Non-conformity with the conditions specified shall thereby cause the allowed variance to become null and void;
- The applicant accepts full responsibility for any and all damages resulting from the use of the thing to which the variance applies. The applicant further accepts full responsibility for any impacts to the health and safety of any person in consequence of the allowance of the variance or of non-conformity with the conditions specified. The Technical Standards and Safety Authority accepts no responsibility for any such damages or impacts;
- In the event of any claims against the Technical Standards and Safety Authority arising from allowance of the variance or non-conformity with the conditions specified, the applicant agrees to indemnify the Technical Standards and Safety Authority and agrees to hold it harmless from such claims and attendant costs;
- The variance process is subject to public access under the TSSA Access and Privacy Code (available upon request). The fact that a variance has been granted and information about any public conditions, such as a requirement to post a sign, may be released on request. Subject to law and the TSSA Access and Privacy Code, proprietary information will not be subject to release;
- The applicant shall pay the fee associated with the review of the variance; and
- A copy of the variance letter shall always be kept readily available and permanently legible in the vicinity of the appliance/equipment.

This variance only relates to the Act and regulations made thereunder and does not exempt you from compliance with other applicable regulatory requirements. The installation be inspected as part of the pre-license inspection of the bulk plant to ensure compliance with the terms of the variance.

Should you have any questions or require further assistance, please contact Ann-Marie Barker at 416.734.3354, or by e-mail at abarker@tssa.org. When contacting TSSA regarding this file, please refer to the Service Request number provided above.

Yours truly,

John Marshall

John R. Marshall
Director, Fuels Safety Program

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