PRESS RELEASE

City of Muscatine &
Muscatine Power and Water
March 26, 2014

For more than 30 years, the City of Muscatine has used a combination of road rock salt, calcium chloride, sand, and bottom ash during snow and ice control operations. The rock salt is purchased through an Eastern Iowa consortium by the barge load (1,500 tons) and for the 2013/14 winter cost was $73.61 per ton (includes unloading, transporting and treating). We purchased 4,200 gallons of calcium chloride, at $3,150, which is applied to the salt prior to spreading in order to make the salt effective during very cold temperatures. We also maintain an inventory of sand at $5.00/ton throughout the year for use in sandbags, backfill, construction projects, and snow & ice operations. At the City's request, Muscatine Power and Water (MP&W) provides 1,000 tons of bottom ash, without cost, to the City. We received a supply of bottom ash from MP&W in 2012 and have not replenished the stockpile since that time.

Operationally, the City applies straight salt to our snow routes, parking lots, and the Central Business District (CBD) early in the winter season, while bottom ash and sand are used sparingly in alleys and icy intersections. As more snow and ice events occur we continue to use straight salt on the emergency snow routes and begin to use a 50/25/25 mix of salt-sand-bottom ash on the secondary streets. As the stockpiles become depleted, we apply the 50/25/25 product mix to all routes, parking lots and the CBD. In a typical year, we have 10-15 snow/ice events; during the 2013/14 season the City experienced 26 snow/ice events. On February 15, 2014, the 20th snow event of the season, the City began spreading the 50/25/25 product mix on all areas. During the 2013/2014 winter season, the City used 2,405 tons of salt, 212 tons of sand and 650 tons of bottom ash (650 tons of bottom ash is the equivalent of $48,000 worth of salt).

According to MP&W, the bottom ash material the City of Muscatine has been using on the roads comes from their Unit 8 boiler and is sometimes also referred to as "boiler slag". Iowa regulations allow bottom ash and other coal combustion by-products to be beneficially "recycled" for use in concrete, blended cement and structural fills/embankments, road base, mining applications, soil stabilization, blasting grit, roofing granules, cover at landfills, and for winter roadway traction. The City has been using MP&W's by-products for

over 30 years. The bottom ash is an economical method for the City to clear the roadways of snow/ice. All types of snow melting material offer advantages and disadvantages, and each material carry's their own environmental concerns. Environmental Stewardship is one of MP&W's Core Values. MP&W is environmentally responsible and would not allow the bottom ash to be used for this purpose if it was not a universally approved beneficial reuse of the product. As has been cited in various news reports, there are many universally approved beneficial reuses for coal combustion by-products that do not require special regulatory permits. MP&W has taken a voluntary and proactive approach since the late 1970's to find partners to reuse the by-products, instead of landfilling the by-products. Nearly 80% of MP&W's by-products are reused for beneficial purposes; the remainder is transferred to their coal-combustion residue landfill. Finding a beneficial reuse for the by-products helps keep the landfill from filling up unnecessarily and keeps expenses lower, which benefits all of MP&W's Electric Utility customer/owners and City residents.

Comprehensive testing is periodically performed on the MP&W by-products in accordance with IDNR's Beneficial Reuse Determination Regulations (IAC 567-108). Naturally occurring background concentrations of metals in Iowa soils measured by IDNR and the USGS are often higher than the concentrations measured found in the bottom ash. MP&W is committed to being a responsible neighbor and wouldn't put anything back into the community that exceeds allowable limits.

We understand and agree that bottom ash, like sand, is a messy product, but using bottom ash as a supplemental agent is an effective and economical method for the City to clear winter roadways. The bottom ash is a hard, light weight, black, angular material. It resists leaching. It absorbs sunlight and accelerates snow & ice melt, washes through the storm water system easily eliminating cleanup maintenance (as opposed to sand), and provides better surface traction due to its irregular spiked shape. Using bottom ash as a traction agent for road surfaces is allowed pursuant to IDNR regulations. MP&W also provides other nearby communities and townships with bottom ash to place on road surfaces as well.

City and MP&W crews have been handling and working with bottom ash for around 30 years. There has never been a report of illness, residual health effects, or a workers compensation claim due to extensive exposure to this material.
From April 7th - 18th, the City will initiate its annual aggressive street

sweeping program to collect all the winter debris that is in the gutters. This year, we coordinated scheduling with MP&W to conduct street sweeping prior to MP&W's spring hydrant flushing so that material on the street, which is mostly sand and bottom ash, will be recycled at the landfill and used as an approved cover material over solid waste, rather than be washed into the storm water system.

Urban run-off from city streets, parking lots, and driveways washes to Mad Creek or to the slough. This run-off carries any materials on these surfaces to the receiving waters of our community. The Water Pollution Control Plant (WPCP) has sampled Mad Creek and the slough for metals following a heavy snow melt to see if the bottom ash or other agents applied for ice were affecting our local waters with metals such as arsenic, barium, lead, and mercury. Since many of these metals are naturally in the soil and water, testing is done during dry and wet weather events. Initial testing of snow melt does not show any elevated levels of metals (except sodium, which is naturally occurring in soil and expected from road salt) in the stream or slough above normal dry weather sampling.

The WPCP will continue to monitor metal and bacterial levels in Mad Creek and the slough during dry and wet weather to see if any readings show metals, salts, or other materials from road applications are building up in our local waters. Our highly trained team of lab personnel and licensed operators are committed to using the City's precision lab equipment and EPA guided sampling methods to ensure our local water ways are safe.

Just as MP&W has noted its commitment to the environment, the City of Muscatine is also committed to a safe and healthy environment. While the EPA does not presently have a role in approving individual reuses of coal ash, the EPA does have plans in 2014 to develop a conceptual framework or plan for evaluating non-encapsulated uses of coal combustion residuals (like bottom ash used on roadways). If bottom ash is found by EPA to be an inappropriate use for roadways, the City will immediately cease using it as an agent for snow and ice control operations. Any changes will result in increased costs, but this is not the determining factor for usage. Alternatives to salt, sand, and bottom ash are expensive. Calcium chloride in solid form costs $340/ton; Magnesium Chloride in solid form costs $300/ton; Potassium Chloride is $240/ton; Urea is $280/ton; and Calcium Magnesium Acetate is $2,000/ton ($3 million per barge load). Our policy is to provide the best service to the citizens of Muscatine in a safe manner and at a reasonable cost.

Additional information about coal combustion by-products can be found at: www.coalashfacts.org or at http://www.epa.gov/wastes/conserve/imr/ccps/index.htm

Information on the Iowa Trace Element Soil Study: ftp://ftp.igsb.uiowa.edu/igspubs/pdf/ofr-2010-1.pdf

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