Eisenmann fluidized bed incinerator:
reliable, eco-friendly sludge treatment that cuts
disposal costs

Böblingen/Munich (Germany), May 5, 2014 – Eisenmann has designed
a dewatering and thermal neutralization system for biosludge and oil
sludge for Kinef, a major refinery near St. Petersburg. The multi-stage
recycling facility, leveraging a fluidized bed incinerator, has operated
without interruption since March 2014. The first stable system of its
kind anywhere in Russia, it serves as a model for the entire global
petrochemical industry. Kinef presented Eisenmann with an award in
recognition of the solution’s reliable and eco-friendly process design
and outstanding project management.

The recycling facility – designed by Eisenmann and constructed in
conjunction with other system manufacturers – is part of a new, 500 million
euro oil-cracking plant. Eisenmann, whose share of the contract was worth
about 21 million euros, supervised the project at every stage, up to and
including commissioning. The method used to remove, recover and treat
refinery waste is innovative, efficient and eco-friendly. Most important of all,
it offers a sustainable solution to the waste-disposal problems of large-
scale petrochemical operations. The unwanted byproducts no longer need
to be stored in vast oil and sludge pools – a practice that poses significant
environmental hazards.

In principle, the sustainable disposal method developed by Eisenmann
consists of three process steps. The first involves separating biosludge or
oil sludge into three phases. The bound water is then extracted from the
sludge and returned to the refinery’s water cycle without endangering the
environment. At the same time, valuable, highly pure oil components are
recovered and returned to the refinery for processing. In the second step of
the integrated disposal method, the remaining solids undergo an
environmentally-friendly thermal neutralization process. Following the third
and final step – highly efficient flue gas purification – the gases released into the atmosphere comply with both Russian and EU emissions standards.

“Our disposal solution, with its virtually closed system of waste recirculation and recycling, sets new environmental and technology standards industry-wide,” reports Michael Hannig, Head of Sales for custom plants within Eisenmann’s Environmental Technology business unit. “It also allows operators to demonstrate their commitment to environmental protection and the conservation of natural resources,” he adds. Applications are not limited to oil refineries and petroleum product processing. The extremely versatile fluidized bed incinerator is equally suitable for treating biomass or sewage sludge. Its robust process design requires no moving parts and delivers outstanding operational reliability. The method enables the extraction and recycling of valuable materials, and eliminates the substantial costs associated with storing the waste and of mitigating its environmental impact. As a result, the solution delivers a very rapid return on investment.
Eisenmann is a leading global industrial solutions provider for surface finishing, material flow automation, environmental engineering and thermal process technology. The company develops and builds custom manufacturing, assembly and logistics plants that are highly flexible, energy- and resource-efficient. The family-run enterprise is headquartered in southern Germany and has been advising customers across the globe for over 60 years. Today, Eisenmann has a workforce of approximately 3,800 worldwide, with subsidiaries in Europe, the Americas and the BRIC countries. In 2012, Eisenmann generated annual revenues of 640 million Euros, with total sales revenues of 789 million Euros according to German commercial code.

Images
Refinery.jpg
The new oil-cracking plant in Saint Petersburg, owned by Kinef, a major Russian oil refining company.

Fluidized_Bed_Incinerator.jpg
The multi-stage recycling facility, based on a fluidized bed incinerator, is the first reliable system of its kind anywhere in Russia. In fact, it serves as a model for the entire global petrochemical industry.

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