



Project News

Life Time Extension of Coal Silos at Hamburger Energiewerke

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Purmerend, Netherlands –

Following the Life Time Extension (LTE) Program of Hamburger Energiewerke, ESI has started a renovation campaign for the two coal silos that will keep them fit for duty for another decade. The two 50.000 m³ coal silos were commissioned in 1996 and in 1998 as an innovative alternative for open stockpiles in the densely populated area of Hamburg. Now, more than 25 years later, we are preparing the silos for their final role as coal storage units until 2030. The possibility of a new life as biomass silos is currently under investigation.

As a long term partner for Hamburger Energiewerke, ESI have acquired in depth knowledge on the performance of the silos by keeping track of maintenance data and insight in their SAP system. Over the years, ESI conducted surveys that proved to be valuable in saving costs and preventing break downs. Maarten Appelman, Service Manager ESI explains: “In order to manage the agreed service life of mission critical spare parts, we documented the data of ongoing surveys and inspections. This is how we could trace screw conveyors from a local supplier that fell short in lifetime. By offering an alternative with much higher wear-resistance, the service life time significantly increased. The database is now a solid foundation for developing the renovation planning to support the LTE Program.”

Renovation Program until 2030

For the period from 2020 to 2030, ESI has developed a complete plan to ensure optimal performance of the silo mechanisms. Maarten: “The plan includes revisions, replacements, repairs, and so on, including costs, suppliers and planning per year. The plan was finalized in 2021, enabling them to allocate budget and time per project. One major revision we recently performed was the repair of cracks in the frame of the uncoalers due to metal fatigue after many years. The uncoalers induce a massive power in the stored mass in order to create the necessary core flow for the extraction of coal. The repair was an unprecedented procedure, where we literally cut out the worn out pieces from the frame and replaced them seamlessly with new steel that is guaranteed to withstand the heavy vibrations! To move the heavy uncoaler parts, we had to reinforce the floor in the basement of the silo. The same procedure is planned for the other silo this year.”

From LTE to a sustainable Future

With the LTE Program under way, Hamburger Energiewerke is simultaneously investigating the transition to more sustainable fuel types, such as biomass, in order to produce the required power. ESI is supporting the energy company to make the change with feasibility studies for a redesign of the existing coal silos. Technically, they can be perfectly adjusted to handle other non-free flowing bulk materials than coal. We’re looking forward to developing a new application and prepare the silos for another life in a more sustainable future.