Lubrication Engineers supports Bulgarian cement plant

A Bulgarian cement plant with two KHD kilns and eight Polysius mills wanted to improve gear protection and reduce open gear lubricant consumption.

Lubrication Engineers Hellas, which, since 2006, has been appointed by Lubrication Engineers International as the sole company responsible for the Bulgarian market, recommended that the maintenance managers and engineers use Pyroshield® Syn XHvy Open Gear Lubricant (9011) for the open gear systems. This was recommended to improve gear protection, reduce operating temperatures, minimise wear and reduce lubricant consumption.

Pyroshield Syn Hvy and XHvy Open Gear Lubricants are heavy duty synthetic fluids designed to provide outstanding protection for high-load, heavy-shock applications, such as large shrouded open gears used in the cement industry.

Pyroshield Syn Open Gear Lubricants are non-asphaltic and environmentally friendly, containing no heavy metals. Each lubricant features a synergistic mix of Almasol®, LE's exclusive wear-reducing additive, and a unique combination of extreme pressure additives.

Performance results

In November 2007, the first conversion was arranged for the first kiln.

Overall the initial results of the conversion were very positive:

- Lubricant consumption was reduced by 65%.
- Pinion temperatures showed an average reduction in excess of 15%.

Based on numerous conversions carried out worldwide, these were normal and expected results for Pyroshield Syn XHvy Open Gear Lubricant.

They prove the enormous load carrying ability of the product, as well as its ability to reduce friction. When reducing friction, the operating temperature is also reduced, as well as wear being minimised.

On the other hand, the ability of the lubricant to carry enormous loads, and its tackiness (which helps it to stay in place), allow the consumption to be considerably reduced.

After these first positive results, further conversions were decided, two of which took place in April 2008.

With the lubricant quantities recommended by Lubrication Engineers, Pyroshield 9011 XH was clearly a justified expense as:

- Kiln no. 5 was consuming more than 3 kg per day with the previous lubricant; it is now consuming only 0.79 kg per day.
  - This represents a reduction of 73.60% in lubricant consumption.
  - It also represents an annual reduction of 662.40 kg of waste disposal (for 300 days of operation).
- Kiln no. 4 was consuming more than 3 kg per day with the previous lubricant; it now consumes only 0.79 kg per day.
  - This represents a reduction of 73.60% in lubricant consumption.
  - It also represents an annual saving of 662.40 kg of waste disposal (for 300 days of operation).
- Raw mill no. 4 was consuming 200 kg per month (or 6.67 kg per day); it now consumes 0.86 kg of lubricant daily.
  - This represents a huge 87.05% reduction in lubricant consumption.
  - It also represents a saving of 1741.80 kg of annual waste disposal.

Total estimated savings per year were initially calculated at up to: €86 904.

All the above estimations should be considered as the "immediately visible" saving, as the most important benefits of using Pyroshield are:

- Lower operating temperatures.
- Lower vibrations.
- Reduced energy consumption.
- Increased gear and pinion protection (longer life).
- Clean environment.
- Perfect visibility of all gears during operation due to the transparency of Pyroshield on the gears.

Based on these superior performance results and significant savings, the engineers converted all of their open gear systems to Pyroshield Syn XHvy Open Gear Lubricant.

LE wishes to thank the company's engineers, as well as the maintenance and financial departments, for their confidence and trust in Lubrication Engineers Hellas, its products and services.

Kiln no. 4.

Pyroshield® Syn XHvy 9011 quarter drum.