

## ... a new drive can also be economical

### ***Complete drive renewal for an extraction tower as an alternative to retrofitting and overhaul***

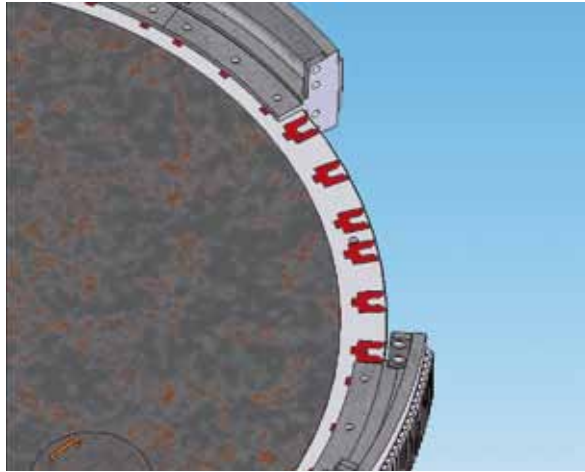
In connection with the extension of an extraction tower or relocation of an extraction plant, the economical aspects of drive reinforcement requirements always have to be checked. Depending on the starting situation and the scope of the tower extension, there are several possibilities for drive reinforcement.

In the case of smaller tower extensions or relocations of extraction plants, the available driving torque can be increased by modifying the transmission ratio in the "open bull-gear stage."

For larger tower extensions, additional drive units are often required in order to provide the necessary driving torque.

During relocation of an extraction tower, the extraction volume can be increased in a particularly cost-effective way; this is often performed at the same time by plant operators. But even without a volume increase, drive reinforcement is requested from time to time in order to obtain sufficient drive reserves for an overload operation. In some cases, the plants have already been running for a number of years, and an overhaul of the drive components is required prior to re-commissioning. In particular for the last open bull-gear stage, the question arises as to whether it makes sense to repair the existing worn pinions by expensive re-working to bring them up-to-date. Since new bearings have to be provided for the pinions in most cases after many years of operation, disassembly would generally be necessary in any case. Given this situation, it is recommended that new pinion shafts with a smaller number of teeth are installed in order to increase the total driving torque at the same time.

When additional drive units have to be installed for larger tower extensions, the existing drive units usually have to be overhauled. Due to their age, in many cases it is no longer possible to obtain identical drive units from serial production from the drive manufacturer. In this case, additional drive units can only be supplied if considerable reconstruction measures are taken for the drive system of the extraction tower. This is due to the distribution of the drive units. If the bull gear also shows signs of wear, a completely new drive unit is a reasonable alternative.



*Segmented  
bull gear*

Thanks to the sophisticated drive concept of BMA's extraction plants, the new generation drive units can easily be integrated into old extraction towers. The sizes of the new segmented bull gear are such that it is normally possible to assemble onto the existing borehole pattern with the aid of a spacer disc. The new drive units transmit a higher single torque, while their constructional dimensions are smaller than those of the old units. For this reason, the free places in the drive section are sufficient in most cases, and installation into the old tower drive structures can be carried out relatively easily.

*Reno Spoors*

#### ***Benefits***

- Favourable cost price
- Improved quality
- Segmented bull gear
- Modern safety concept
- Shorter delivery times, also for spare parts