INTRODUCTION

Mill was using a competitor’s bearing in their hot mill back up roll position. The chock housings were showing wear in the load zone from standard repeated use. Due to wear, the mill would have to incur the expense of a full chock rebuild. NSK was asked to design/re-engineer a large bore bearing with a larger outer diameter to accommodate a modified chock housing, keeping all other basic dimensions the same. The option of increasing the housing bore dimension was chosen by the mill in order to avoid a complete rebuild of the housing.

THE KEY FACTS

› Application: Back Up Roll (Country: USA)
› End-product: steel
› Number of machines: 4
› Status: Chock housings were showing wear from repeated use
› Problem: Mill would have to incur the expense of a full chock rebuild
› Objective: Avoid complete rebuild of housing

VALUE PROPOSALS

› NSK was asked to re-engineer a custom size back up roll bearing with a larger OD.
› New design would accommodate a modified housing rather than using the existing bearing size, requiring a full chock rebuild.
› By enlarging the bore size and making the chock housing larger, the mill was able to save most of the cost of a full chock rebuild.

COST SAVINGS : $ 421,400

Application : Back Up Roll

Solution : NSK 4 Row Tapered Roller Bearing

SUCCESS STORY : STEEL AND METAL WORKS

ASSET IMPROVEMENT PROGRAM
PRODUCT FEATURES

› 4 row tapers cover operating conditions such as high speed or low speed, heavy loads, vibration and impact, high temperatures, scale and water infiltration.

› They often increase reliability and longer operating life by preventing downtime and excessive maintenance cost.

COST SAVINGS BREAKDOWN

<table>
<thead>
<tr>
<th>BEFORE</th>
<th>COST</th>
<th>NSK SOLUTION</th>
<th>COST</th>
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</thead>
<tbody>
<tr>
<td>Bearing re-engineer</td>
<td>$421,400</td>
<td>NSK re-engineered bearings saving expense of new chocks</td>
<td>$0</td>
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<tr>
<td>Mill wanted to avoid expense of total chock rebuild 4 assemblies x $105,350</td>
<td>$421,400</td>
<td>Total</td>
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<td>Total</td>
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<tr>
<td>Total Cost Saving</td>
<td>$421,400</td>
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