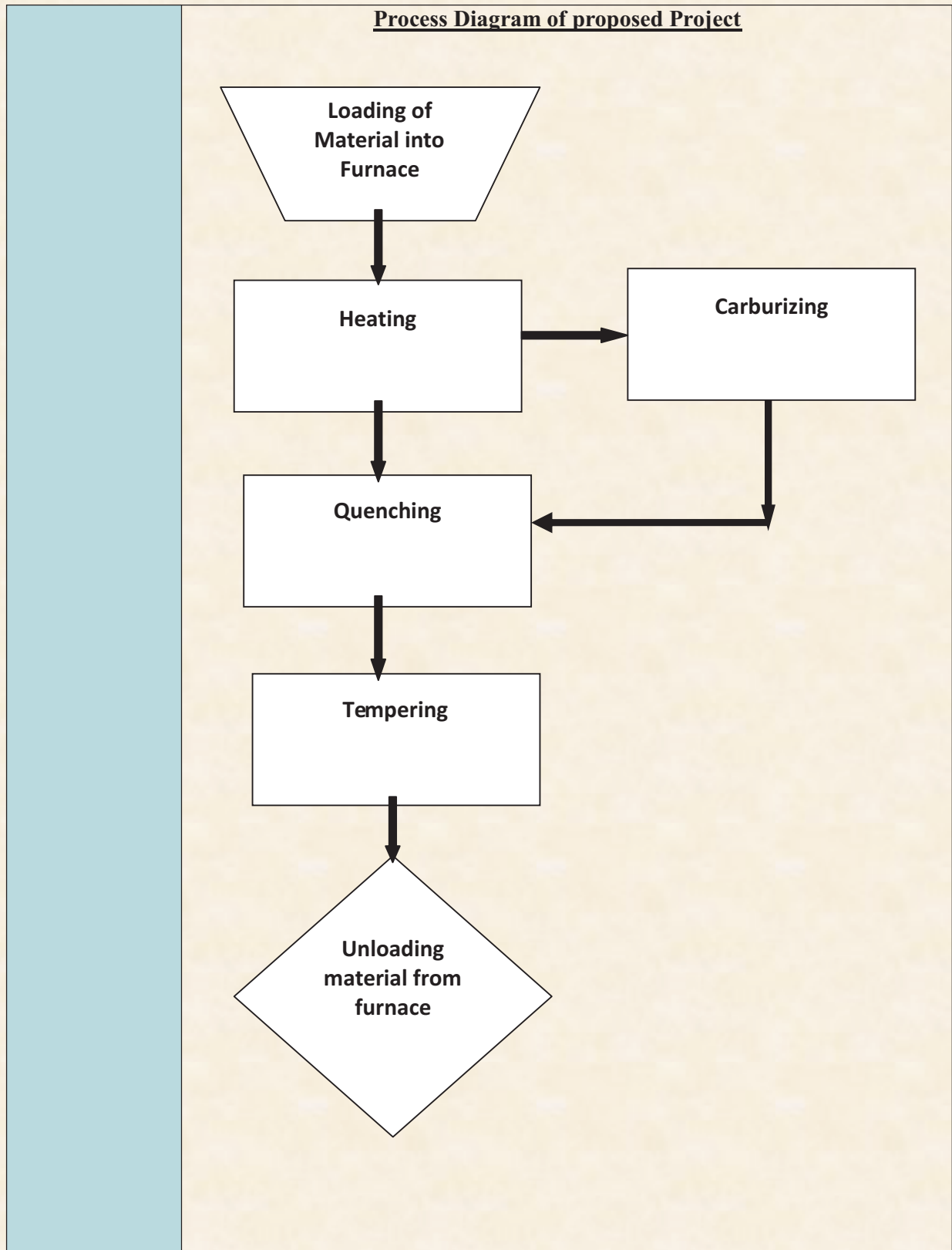


<b>Intervening Technology/ Technique</b>	<b>Oil replaced with Nitrogen in Gas Quenching Process.</b>
<b>About the Industry</b>	M/s. R. K. Feed equipments located at GIDC, Halol. It is a Design Engineering company dedicated to serve Pelleting Industry; be it animal feed pellet viz., cattle feed, poultry feed, fish feed, aqua feed, wood pellet, bio-mass pellet, saw dust pellet etc. our main products are Dies, Press Roll shell, hammer mill beaters and other spares. These equipments are used in the various pellet mill plants.
	<p><b><u>Before</u></b></p> <p>Quenching was an accelerated method of bringing a metal back to room temperature, from very high temperature (1000°-1150° C) through which the material was cooled causing significant change in the micro structure. Quenching can be performed with oil, fresh water, salt water and special purpose polymers.</p> <p><b><u>After</u></b></p> <ul style="list-style-type: none"> <li>• In the vacuum heat treatment furnace, oil is replaced by nitrogen (Gas Quenching) for quenching which is available in the atmospheric air and is considering as the greenest technology available.</li> <li>• Gas Quenching is an environmentally friendly quenching medium, and it produces cleaner products, eliminating the need for washing the parts after quenching and disposal of liquid quenching fluids. In addition, gas Quenching provides more uniform cooling and less distortion compared to liquid quenching, thus reducing post quenching machining. Safety and environmental considerations make gas quenching an attractive alternative to liquid quenching. The advantages of gas quenching includes cleaner product, minimum distortion, and elimination of environmental problems associated with liquid quenching.</li> </ul>





	Project cost: INR 57230000/- (one time investment)	
<b>Benefits</b>	<b>Before CP</b>	<b>After CP</b>
<i><b>Economical</b></i>	<ul style="list-style-type: none"> <li>● Transportation cost</li> <li>● Service tax</li> <li>● Cost of running for the furnace is high.</li> </ul>	<ul style="list-style-type: none"> <li>● 10% of the total saving as there is no transportation cost.</li> <li>● 12.36% saving from service tax.</li> <li>● Cost of running the furnace has decreased up to 35-40%. 60-65% savings on the new heat treatment.</li> </ul>
<i><b>Environmental</b></i>	<ul style="list-style-type: none"> <li>● Oil used for the quenching process which produces more CO<sub>2</sub>.</li> <li>● Conventional oil was used in process.</li> </ul>	<ul style="list-style-type: none"> <li>● Oil is not use for the quenching process therefore no CO<sub>2</sub> emission takes place.</li> <li>● Oil is replaced against nitrogen; it will result into less consumption, less pollution and green environment.</li> </ul>

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