

# Refinery Improves Operation of Critical Turbine Pumps with Vibrating Fork Technology

## RESULTS

- Reduced the risk of damage to turbine pumps
- Decreased the risk of unit downtime
- Reduced safety risk



## APPLICATION

Low level monitoring of lube oil reservoir for turbine driven pumps

## CUSTOMER

Refinery located in North America

## CHALLENGE

This refinery was having problems with its turbine driven pumps. At times during operation, the pump bearings were running hot and damage was being caused to the primary and secondary pump seals.

The problem was caused by a low supply of available oil in the lube oil system reservoir. There was no level switch or other level monitoring of this oil reservoir that could alert the operators when the lube oil level became too low.

This resulted in several negative business impacts to this refinery. First, it increased the risk of capital damage to their expensive turbine pumps. Secondly, it increased the risk of unit downtime due to possible failure of the pumps. Lastly, personnel safety risks were higher due to frequent field inspections of the lube oil level in the reservoir.

## SOLUTION

The customer solved this problem by installing a Rosemount 2120 Level Switch in the lube oil reservoir of the turbine pumps. The Rosemount 2120 activates an alarm if the oil level in the reservoir becomes too low and needs replenishment. There is a heartbeat LED mounted on the top of the device, which provided this customer with an easy way to check the status and health of the Rosemount 2120 without pulling the device out of the process.

*The monitoring of lube oil reservoir level greatly reduced the risk of emergency repairs and possible replacement of expensive turbine pumps.*



Rosemount 2120 Vibrating Fork Liquid Level Switch

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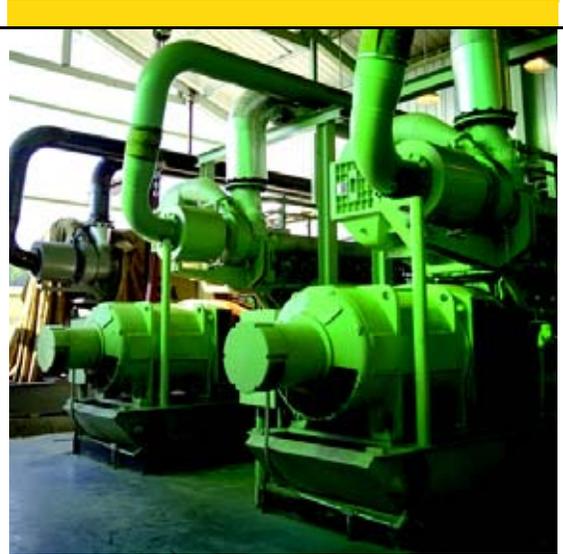
## REFINING

Installation of this lube oil level detection switch had several positive business impacts for this operation. It substantially decreased the risk of damage to their expensive turbine pumps, which could cause emergency repairs or replacement, resulting in unit downtime. Personnel safety risks were also reduced by decreasing their exposure to the process.

### RESOURCES

#### Rosemount 2120

<http://www.emersonprocess.com/rosemount/products/level/m2120.html>



*Typical turbine driven pumps with a dedicated lube oil system*

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