



# Drop Object Impact Testing on X-mas Tree to Improve its Structural Integrity

The client is a leading full stream Oil & Gas company based out of USA

**80%**  
damage protection from the frequently falling bodies

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## CHALLENGE

- Increased maintenance cost due to frequent damage on the X-Mas tree from falling objects
- Frequent breakdowns with damaged X-mas tree leading to hazardous environment

## SOLUTION

- Various factors were examined to determine minimum clearance between the top plate and the sensitive components below it to determine the critical locations
- Multiple concepts were generated for top plates and FEA analysis was done on the concept designs
- Top plate was fabricated using the analysis report generated

## RESULTS

- Enhanced lifetime of the Xmas tree structure, because of the new top plate
- 80% damage protection from the frequently falling bodies