NISSAN
MOTOR CORPORATION

Fault Tree Analysis (FTA)

Key Point(s):

- The Fault Tree Analysis (FTA) is technic for system analysis where unexpected events are analysed using a top down approach from a top Feared Customer Event potential safety or an Unwanted System Event to identify all possible root causes and combination of causes leading to these events
- All Feared Customer Events identified by Nissan in relation with the supplier's part must be taken into account.
- Nissan shall inform the supplier of the severity level for the event to be analysed (ASIL (Automotive Safety Integrity Level on ISO 26262) or grade quotation, FMEA (Failure Mode and Effects Analysis) severity etc.)

Minimum Content Requirement(s):

- The Fault Tree Analysis (FTA) document shall include:
  - Details of the top event or ultimate failure effect that was analysed.
  - A list of the risk factors (e.g., usages conditions, system limits, intersystem, implantation, specific climate constraint or environment, process impact etc.) and assumptions used in analysis.
  - A graphical representation (the fault tree), of all possible root causes of the top event including both single failure and combination of failure
  - List of single failure leading to the top event and list of critical component
  - All possible root causes related to early failure, systematic failure, random failure, process failures and wears out failure, and identified common modes.
  - ASIL decomposition if relevant
  - Recommendations for any countermeasures to be included in the product design or in process based on the results of the FTA analysis
- The supplier shall take into account the specific requirements of each sales country for vehicle regulations, and the feared customer events when conducting this analysis.
- The FTA has to be linked with the FMEA study

Output Document Description:

- Unless otherwise specific request from Nissan, the supplier shall use own document