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5.2 Manufacturing Process Design

Activity Purpose:

- Design a manufacturing process to achieve all Nissan targets.

Notes:

- The supplier shall provide a means to verify quality characteristics specified on the document such as Control Plan, and Work Instruction.
- The supplier shall develop, utilize, and maintain the required inspection related tools such as checking fixtures, gages, or other inspection/test equipment. The confirmation frequency for these items shall be listed on the documents.
- Frequencies should be set according to the duration of the test, the importance of the test and the way in which this characteristic is determined and controlled. (Refer to the Supplier Test Plan and Report on “6.1 Design Verification and Product / Process Validation”)
- The inspection standard shall consider and include inspection related criteria as indicated on PFEMA studies, etc., and the identified frequency of inspection must be developed from process capability studies and results.
- Sampling frequencies shall be specific to the inspection item being defined. (Three time per shift etc.)
- In order to achieve targets, the supplier shall incorporate poka-yoke (error-proofing) devices in their manufacturing process. The purpose of these error proofing devices is either:
  - Do not make non-conforming part (e.g. prevent operational error)
  - Do not pass non-conforming part (e.g. detect operational error)

<table>
<tr><th>Phase</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th></tr>
<tr><td rowspan="2">Activity Content</td><td rowspan="2"></td><td colspan="2">● Study and create the process flow.
● Define the physical location of all facilities and material locations.</td><td colspan="2">● Develop work instructions for all operations based on the content of the Control Plan
● Train all operators based on the work instructions</td></tr>
<tr><td>● Define the control methods associated with prototype parts.
● Commence initial study of control methods associated with pre-production parts.</td><td>● Define the manufacturing control methods and related operations associated with pre-production parts.</td><td>● Review the process flow based on the result of off-tool trials.
● Define the manufacturing control methods associated with production parts.
● Review the manufacturing control methods based on the result of off-tool trials.</td><td>● Apply the change management activity before any change.</td></tr>
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Output Document		● Control Plan ● Process Flow Chart ● Floor Plan Layout	
			● Work Instruction

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