APQP Internal Assessment Checklist

Customer: Audit Type: APQP Internal Assessment APQP Phase / Support Process: **Design and Development Phase** Checklist: Page 1 of 3	Audit Date: Auditor: Project / Platform: Department: Area:					
Author: Quality-One	Date Created:					
Requirement	1	2	3	4	5	Notes
1. Are system and/or component level Project Teams formed? **Deliverables may include: Team roles and responsibilities, organizational charts, etc.**				*X*		*Project teams are led be engineering personnel and are expanding at this time. Initially only a few, team size is increasing- introduction of formal process beneficial.*
2. Is adequate training or skill available to team members for this phase? **Deliverables may include: skill assessments, training plans.** **Skills and Training may include: Product Development Systems, Reliability, Assembly Variation Analysis, Block Diagrams, Quality Function Deployment (QFD), Benchmarking, Design of Experiments (DOE), Failure Mode Analysis (FMA), Pugh Concept, Design for Manufacturing and Assembly (DFMA), Flow Charting, Design Verification Planning and Reporting, Serviceability, Supplier Feasibility Assessment, Error /Mistake Proofing, Design Failure Mode and Effects Analysis (DFMEA), Process Failure Mode Effects Analysis (PFMEA) Finite Element Analysis (FEA), Geometric Dimensioning and Tolerancing (GD&T), Statistical Process Control (SPC), Process Capability Analysis, Process Mapping, Fault Tree Analysis (FTA), Control Plans, etc.**		*X*				*No formal plan for risk mitigation therefore no training defined. Personnel are familiar with and have demonstrated capability with key tools like DFMEA.*
3. Is Reliability Growth instituted at this phase and is it measured by design review activities through the product development cycle?		*X*				*Reliability growth not formal, but responsibility assigned to capable personnel. No measure of growth that affects risk planning and mitigation.*
4. Are Design FMEA's generated for system, and component level designs and do they reflect all Special Characteristics (product and process) derived from product level Design FMEA? Are Special Characteristics Lists utilized? Are Actions followed up and are Process FMEA's updated to reflect actions taken?		*X*				*D FMEA effort was good, Formal linkage to QFD as input is not clear and DVP&R and DFA/M or Special Characteristics developed as a result of the activity. Evidence exists that indicated linked thinking is ad hoc but present.*
5. Is a Mistake Proofing Strategy (Poke Yoke) utilized from FMEA output for Design and Process?			*X*			*DFA and Error proofing is used as evidenced by the assembly (green) fixtures. Not part of a plan.*
6. What Team makeup exists for DFMEA development?					*X*	*Good team make up for DFMEA activity*
7. Are surrogate problem solving results used in DFMEA development?				*X*		*Past failures considered in D FMEA development*
8. Is Warranty Data used for Failure Modes and Effects on DFMEA's?				*X*		*Competitor data and information gleaned from outside sources considered in D FMEA development*

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9. Have Designs been optimized using Design for Manufacturing and Assembly (DFMA)?						
10. Are Design Verification Plans established and do they reflect Design FMEA outputs for product level, system, and component level designs as appropriate?						
11. Have Design reviews been held at appropriate stages of all levels of designs? Is there a formal design review process with design items identified (check sheet)? Are serviceability items included? Are records maintained? Are APQP Design Deliverables part of the design review process?						
12. Are Prototype Control Plans utilized and do they reflect Special Characteristics derived from Design FMEA's?						
13. Are tolerance studies and analyses / Design for six sigma conformance: ○ Performed at intersections of mating components prior to design sign-off? ○ Part of management design reviews / sign-offs? ○ Based on manufacturing variability data?						
14. Is GD&T developed based on customer need and process capability (loss function, six sigma planning, etc.)?						
15. Do Engineering Drawings reflect Special Characteristics driven from Design FMEA's and GD&T requirements? Are they confirmed on Process FMEA's?						
16. Are changes to Engineering Drawings and Specifications: ○ Promptly communicated and properly documented to all affected areas? ○ Are Design FMEA's utilized to determine change impacts?						
17. Do Engineering, Material and Performance specifications: ○ Include sample size, frequency, and acceptance criteria ○ Contain Special Characteristics relating to physical properties, performance, environmental, handling, and storage of Materials?						

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18. Are new equipment, tooling, facility, gaging, test equipment requirements: o Identified from Design FMEA's? o Included in the Project Plan?						
19. Is the Manufacturing Process Sequence finalized? **Deliverable may include: Process Flow, and/or Plant Scroll reflecting layout of the plant facility and illustrations of station-by-station overall flow.**						
20. Are Process Descriptions available that include written description of the assembly process and instructions by workstations?						
21. Are Potential Process Failure Modes identified with the use of Process FMEA's at the product level, system, and component level designs? Are high-risk failure modes identified by station and are lists available?						
22. Are recommended Significant and Critical Characteristics from DFMEA failure modes on appropriate process steps?						
23. Are Prototype Builds conducted that include: o Components that have completed and passed all Design Verification Testing? o Components that were made from production intent processes? o Information on actions required to improve designs from builds						
24. Is Product level, System and/or Component Design Verification Testing conducted that includes: o Test results that include Pass / Fail criteria? o Identification of any test Failures on Design FMEA's?						
25. Have Test, Diagnostic, and Service Procedures been finalized?						

Auditor Additional Notes: