

Relative Timing of APQP Phases

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Fundamentals of APQP

INTRODUCTION
Overview of APQP

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The timing of the 5 Phases are relative.

- Phase 5 (Feedback and Corrective Action) can feed back into a Planning Phase for the improvement project.

The five phases of APQP are sequential but not in a formal linear manner. For example, work on Phase 3 can be started while Phase 2 is being completed. As data is collected, Phase 5, Feedback and Corrective Action, often leads to new improvement projects.

Phase 2 Inputs

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PHASE 2
Product Design

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- Phase 1 Outputs are the Inputs for Phase 2.
- The inputs form the basis of an investigation into the feasibility and practicality of the design ... the compilation of the Outputs of Phase 2.

Phase 2 Inputs: Product Design & Development	
From Phase 1 Outputs	Design Goals
	Reliability & Quality Goals
	Preliminary Bill of Material
	Preliminary Process Flowchart
	Preliminary Listing of Special Product & Process Characteristics
	Product Assurance Plan
	Management Support
	Reprinted from Advanced Product and Quality Planning (APQP) and Control Plan, Reference Manual, Second Edition, July 2005 Manual with permission of Chrysler Group LLC, Ford and GM Supplier Quality Requirements Task Force.

See Phase 2 Outputs

Each phase in the APQP process after the initial phase begins with a set of inputs which actually are the outputs from the previous phase. So the inputs for Phase 2 are the outputs of Phase 1. Upon completion of Phase 2, there will be a set of outputs including engineering drawing and specifications, input material specifications, testing requirements and a prototype build. These outputs then become the inputs for Phase 3, Process Design and Development.

PHASE 3 OUTPUTS | 3 of 11 - Process Flowchart

Identifying Non-Value Adding Aspects

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PHASE 3
Process Design & Development

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The Seven Wastes	Explanations (from a Manufacturing Viewpoint)
1. Overproduction	Producing more than is needed, faster than is needed or before it is needed.
2. Transporting	Any material movement that does not directly support immediate production.
3. Inventory	Any supply in excess of process or demand requirements.
4. Waiting	Idle time that occurs when co-dependent events are not synchronized.
5. Processing	Redundant effort (production or communication) which adds no value to a product or service.
6. Motion	Any movement of people which does not contribute added value to the product or service.
7. Quality	Any repair or rework of a product or service conducted to fulfill customer requirements.

Non-value-adding activities are classified as waste. The seven waste categories are an effective way of studying value streams to tackle and eliminate non-value-adding activities. An unimproved value stream most likely has steps that create no value and can be eliminated fairly easily. Value stream maps help identify components that don't add-value yet are necessary for the currently configured process. Envisioning a future state that removes non-value-adding steps from the value stream becomes the objective.