



APQP 3<sup>rd</sup> Edition and Control Plan 1<sup>st</sup> Edition:  
What You Need to Know to Be Ready

# Webinar Presenters

## Dave Mimms, AIAG



- Quality Professional with 30+ years automotive experience (Toyota, AIAG)
- AIAG Participant in APQP and Control Plan revision workgroup
- Dave supports various projects & workgroups as AIAG quality staff

## Jeremy Hazel, Plexus International



- Experienced Trainer and curriculum developer specializing in core tools implementation and utilization.
- Jeremy specializes in small team development and risk based-thinking implementation strategy

# Poll Time!

## Q1

What area are you currently in with your organization?

- Program management
- Supplier Quality
- Plant/ corporate quality
- Operations
- Manufacturing
- Other

## Q2

What is your tier within the automotive space

- OEM
- Tier 1
- Tier 2
- Sub tier below 2

# Why the Need for APQP and CP Update?

- It's about time! (1<sup>st</sup> Edition 1994; 2<sup>nd</sup> 2008 – minor changes)
- Industry changes in program management cycles/methods
- Technology changes (product and processes)
- Supply Chain expansion (“New to Auto”, cross-sector suppliers)
- Opportunity to harmonize CSRs and suggest “best practices” based on Lessons Learned from past programs
- Alignment to IATF 16949 (2015), leverage related AIAG publications
- Customer expectations evolving (consumer, regulatory, etc.)

# Why Separate Control Plan manual?

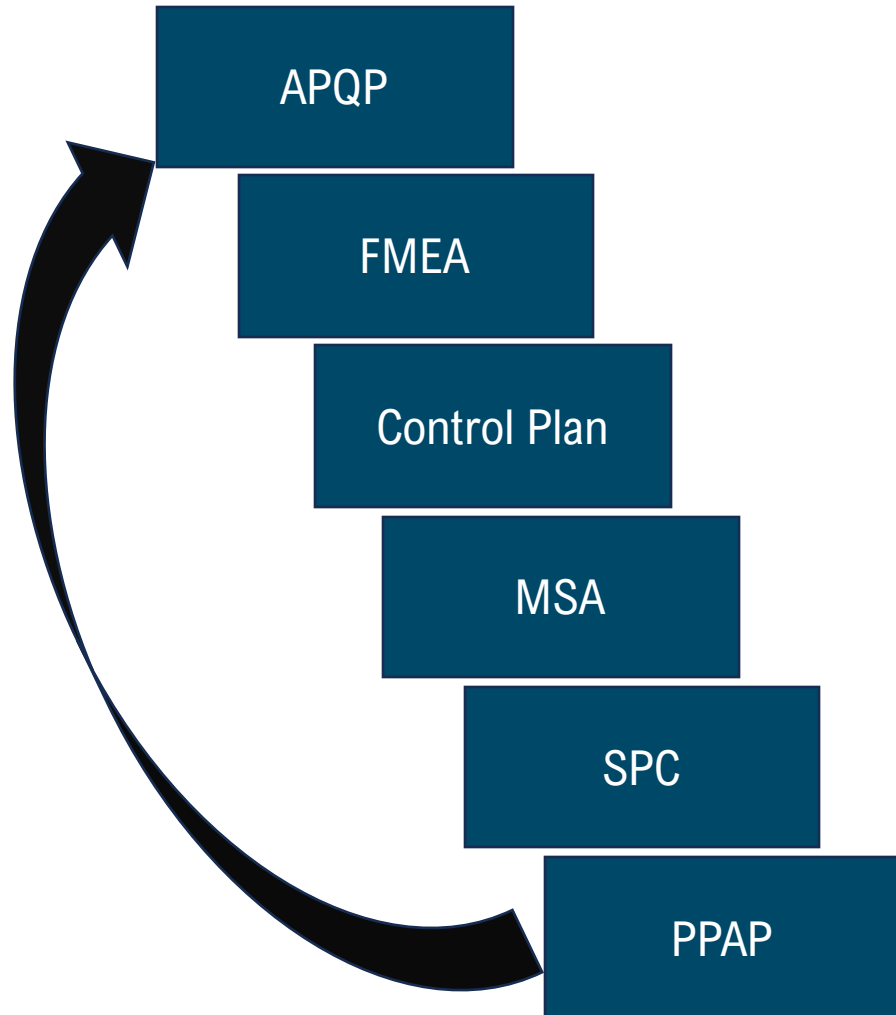
## Flexibility and Agility

- Anticipate more frequent updates than APQP as technologies evolve
- Flexibility to revise/upgrade based on Lessons Learned, Best Practices, and alignment to other standards and harmonized expectations

## Continuous Improvement

- Ford, General Motors and Stellantis collaboration to list frequent weak points and how to address
  - ✓ Harmonized CSRs
  - ✓ Clear Requirements related to top opportunities for improvement
  - ✓ Increased guidance on process to develop and manage Control Plans

# The core tools hierarchal structure



## Alignment with the current model

- The breakout of the control plan is consistent with the way we have been teaching the core tools for years
- The measurement studies required for PPAP are driven by the control plan
- The control plan remains the operational expression of the FMEA

# Changes to APQP

## **Program Management**

- Risk Assessment and Mitigation
- Gated Management expectation and guidance
- KPIs related to APQP process

## **Sourcing**

- Increase focus on Sourcing stage, just as important as “readiness”
- Checklist to assess & mitigate risk during Sourcing
- Gated Management includes sub-tiers

## **Clarification/Detail**

- Change Management during APQP
- Capacity Planning using OEE
- Traceability
- Error-Proofing and Mistake-Proofing

# At a Glance: APQP Sourcing (section 0.5)

## 0.5 Sourcing

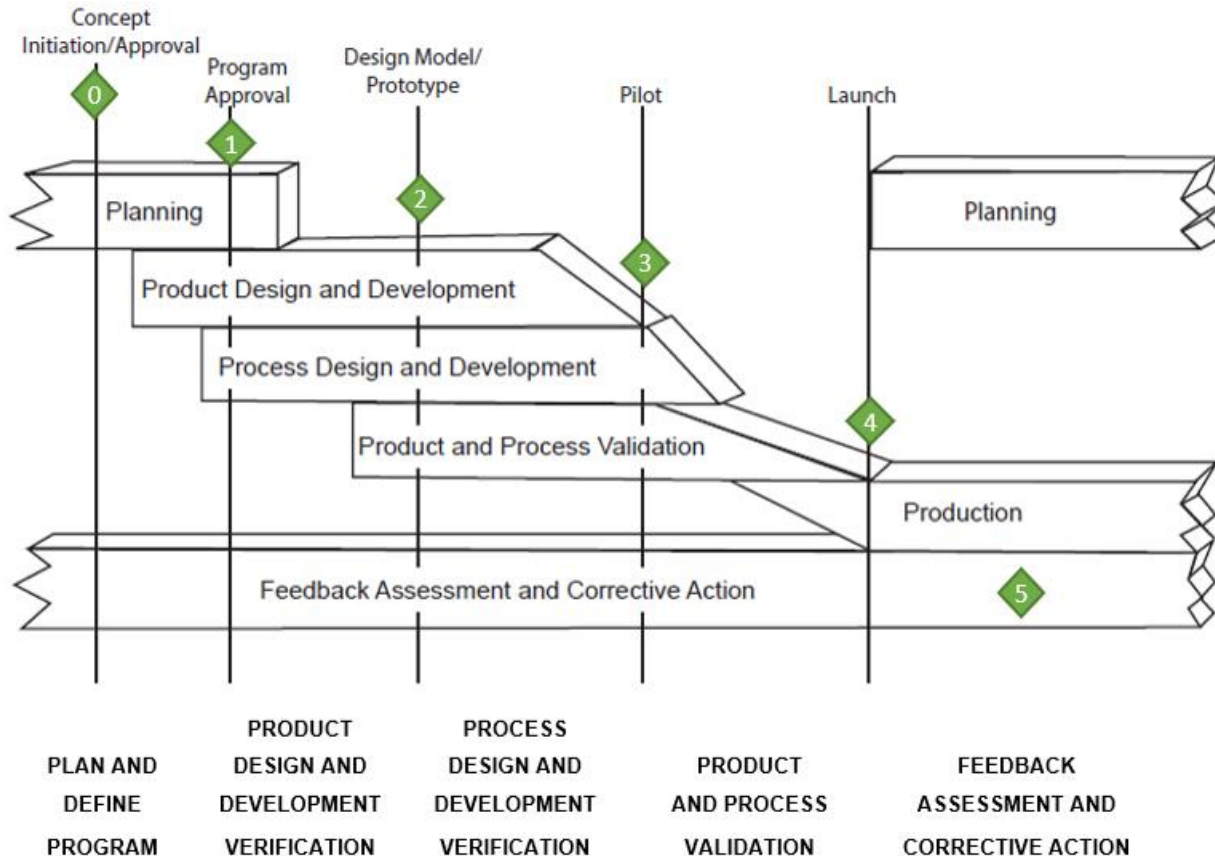
- New AND Existing suppliers (sub-tier) require thorough vetting to ensure design and manufacturing capability
- Sourcing checklist should be completed to confirm supplier suitability (based on CQI-19 Sub-Tier Supplier Management Process)
- Scope for Sourcing ends with acceptable vetting results. All other APQP activities cascade to sub-tier.

## 0.5.1 High Risk Supplier Evaluation

- Organization must have a method to identify “high risk” suppliers
- Criteria to define high risk include:
  - New supplier to Organization
  - New location or site
  - New technology
  - History of poor quality
  - Supplied components have Safety or Regulatory requirements
  - No certification to ISO 9001 or IATF 16949



# At a Glance: APQP Gated Management (App B)



## New Gated Management Section

- Suggested documentation checklists for each “gate” review
- Aligned to typical Program milestones
- Supports expectation for “gate review” in 1.14 Leadership Support
- Includes review of Supplier (sub-tier) APQP activity, not just Organization’s

# Managerial vs technical aspects

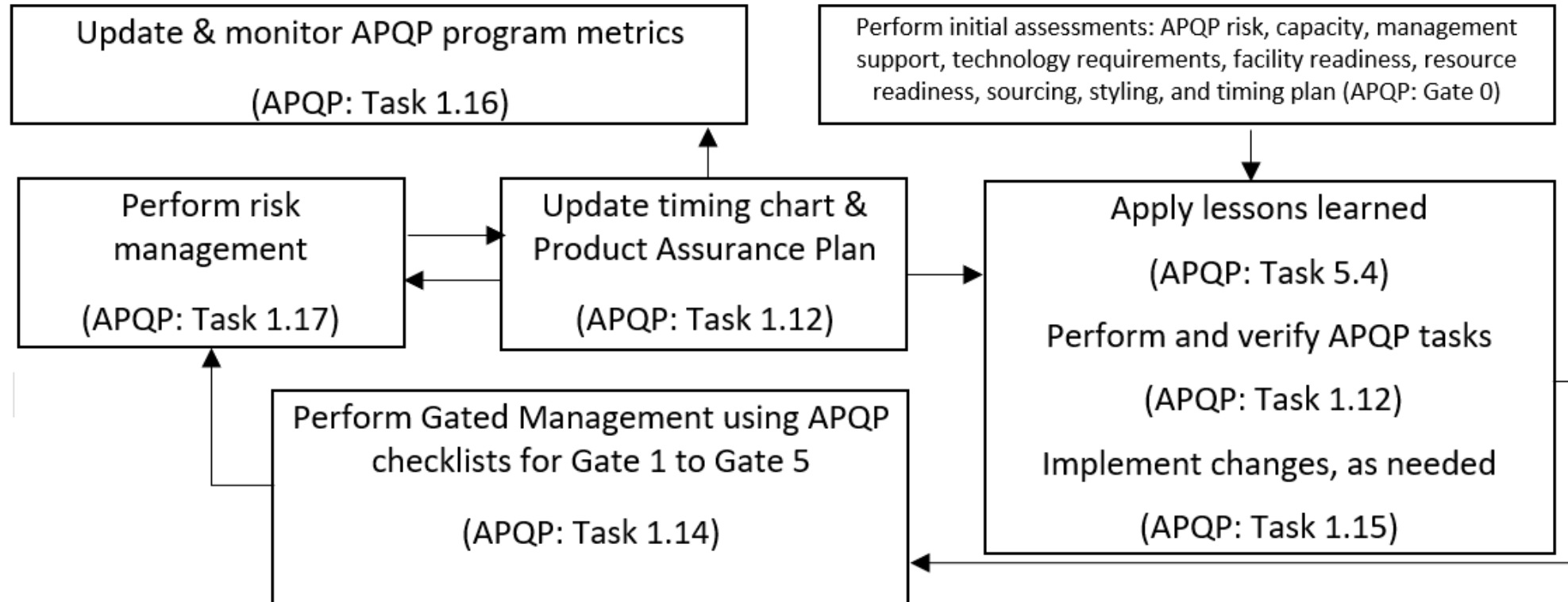
## Technical

- An increase in number of tasks
- Change in the graphic to extend product development

## Managerial or Governance

- Increased number of gates
- More up-front planning
- Higher focus on lessons learned
- More focus on risk-based thinking

# The governance framework



# Control Plan Manual Overview

Evolved from “how to fill in the form” in APQP/CP 2<sup>nd</sup> edition to:

- Chapter 0 Introduction
  - Clarify linkage to APQP processes; emphasize “Living Document”
- Chapter 1 Requirements and Guidelines
  - Clear requirements for key topics (common weak points, harmonized CSRs)
- Chapter 2 How to Develop Control Plan
  - Expanded guidance with emphasis on process approach
- Chapter 3 Control Plan Stages
  - Importance of each stage, harmonized CSRs for Safe Launch
- Chapter 4 Effective Use of Control Plans
  - Maximize Control Plan effectiveness in context of holistic QMS

# Control Plan Key Content/Changes

## Characteristics Management

- Special Characteristics identification and classification
- Pass-Through Characteristics identification and management

## Address Common Weaknesses

- Error-proofing confirmation
- Volume-based sampling frequency (ensure containment)
- Reaction Plan documentation (action & responsible)

## Clarified Expectations

- Directed Supply information gathering activity
- Safe Launch, including “exit criteria”

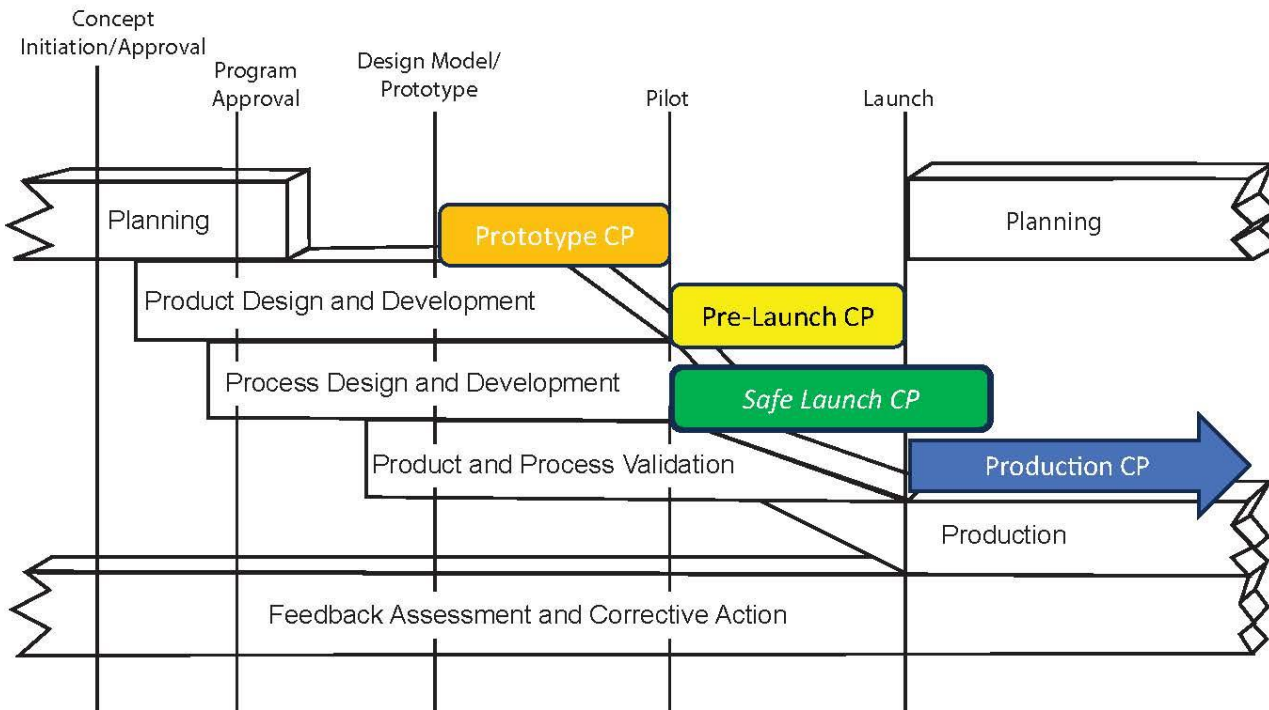
# At a Glance: Control Plan Chapter 1

## Requirements and Guidelines for 12 topics based on past problems

### Key examples:

- Special Characteristics
  - Allow use of “correlation matrix” (correlate organization symbols to customer's)
  - Customer may also designate "key" or "critical" characteristics for special handling
- Pass-Through Characteristics
  - Organization must have a process to identify and ensure adequate control of PTC throughout supply chain, and must communicate control methods to customer
  - Recommended CQI-19 PTC Matrix to communicate control methods to customer
- Directed Supply
  - Organization must get necessary information from Supplier to develop Organization's control plan unless otherwise specified by mutually signed agreement (MPA, etc.)

# At a Glance: Control Plan Chapter 3



Typical application of Safe Launch Control Plan

## Control Plan Stages

- Addition of “Safe Launch” requirements
  - Typical Application (figure 3.1)
  - Pre-Launch: Customer may require during Pilot Stage and continued into launch; how to document
  - Production: Start of Production WILL include Safe Launch
  - Must establish judgment criteria to exit Safe Launch - typically 90 days no problems to customer and no problems identified by Safe Launch  
additional/enhanced controls/containment

# At a Glance: Control Plan Chapter 4

## **Considerations for using QMS elements to maximize effectiveness**

Key concept, why it's important, what to do, and how to do it for:

- Reverse PFMEA
- Using Software to Develop and Manage Control Plan
- Layered Process Audit as Control Plan Verification
- Control Plans in Highly Automated Processes
- Using Family/Foundation Control Plans and FMEAs
- Control of Storage and Handling Related Risks
- Abnormality Management related to Control Plans



# Poll Time Part Deux!

## Q3

Given what you saw in the presentation how ready do you feel you are for the new version and the subsequent deadline to adopt it

- Very ready
- Somewhat ready
- We have a lot of work to do

## Q4

When it comes to utilization how will you be using the new APQP and Control plan

- We will be adopting it for our own organization as an existing automotive supplier
- We will be driving through our supply chain
- We will be implementing it for the first time as an automotive supplier

# Enabling Rapid Electrification of Industry

## Framework Flexibility

- Quicker cycles of development
- Sequence and duration of actions may be flexible (consult customer)

## New Suppliers to Auto

- Customers will still expect APQP and CP execution

## New Technology

- Sector Specific guidance proposals can be made (process agreed)

### *Consistent Intention/Purpose*

APQP manual: “The intent of APQP is to proactively assess and mitigate risk factors impacting product launch.”

CP manual: “The goal of a Control Plan is to facilitate communication with everyone involved to assure that all required controls are completed on time and in full, every time.”

# Fast Feedback Team – *accelerated development*

- Suppliers/OEMs Consulted

*Diverse demographics & opinions*

- Bosch
- Freudenberg-NOK
- Geely
- GKN
- Honda
- Rivian
- Magna
- Nexteer
- NXP Semiconductors
- Paccar
- Shape Corporation
- Panasonic Battery Solutions

- Key Contributions

*Suggestions, best practices, concerns*

- APQP

- ✓ Gated Management guidance
- ✓ Traceability expectations
- ✓ Checklist expansion (best practices)

- Control Plan

- ✓ Special Characteristics classifications
- ✓ Pass-Through Characteristics assurance
- ✓ Reaction Plan details
- ✓ Directed Supply relationships

# Implementation Timing Targets

## Ford

- 6 months after publication

## General Motors

- 6 months after publication

## Stellantis

- 6 months after publication

***All will ACCEPT immediately after publication***

(Nothing new is contrary to current, positively enhanced new content is OK)

# What Should You Do to Be Ready?

## Learn the Content

- Get the new documents as soon as possible
- Utilize AIAG eLearning and training resources

## Gaps? More Training?

- Assess gaps between current practices and the new APQP and Control Plan manual
- Knowledge and expertise gaps may require additional training

## Implement & Reflect

- Pilot project with limited scope
- Reflect from your viewpoint *and that of your customer*
- Document and Implement Lessons Learned

# AIAG Training Resources

- APQP and Control Plan transitioning
- Control Plan- Understanding and Implementing
- APQP overview
- APQP Control Plan and PPAP- Understanding and Implementing
- PPAP- How to review and improve the effectiveness of PPAP

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