

MANAGING CHANGE

Quality & Industrial Performance version 3

“Going From Reactive to Proactive”



Introduction

■ **PURPOSE:**

- Have a system to manage all plant process changes.
 - Planned Changes
 - Unplanned Changes (Emergency)
- Establish a common Trial Run process with standardized communication, readiness reviews and quality reviews.
- Define minimum requirements for bypassing existing production processes.
- Implement a controlled banking process

■ **SCOPE:**

- Changes that may affect the final product.
- Machines and systems that have been approved by the Customer.
- Manual and automated stations within the plant.
- Controlled through a Document Control Process.

■ **RESPONSIBILITY:**

- Ownership
 - ✓ Operations Manager
 - ✓ Manufacturing/Engineering Manager
 - ✓ Quality Manager

Benefits

- Improves notification and awareness throughout the organization regarding actions taken which may create out-of-control conditions.
- Assigns responsibility and process for communicating and conducting production trial runs.
- Improves quality of banked parts.
- Proactively defines and approves process methods / controls for by-passing and returning to an existing production process.
- Assures a systematic approach for all changes to customer approved processes.

Managing change, what are we searching for?

Item	Requirement	#Criteria	Criteria requirement
MC1	All product, process or source changes are monitored and controlled.	MC11	Management of changes (Product, Process, tier n and IT Systems) are defined and applied for both planned and emergency changes .
		MC12	A change form is utilized to document all changes and controlled through a Document Control Process (e.g. tracking log sheet, revision numbering system, approval process, etc.).
		MC13	According customer specification, changes are reviewed and approved by customer.
		MC14	All changes are managed like a project; responsibilities and milestones are defined, planning, activities and the deliverables are established in agreement with the customer.
		MC15	"Managing changes" organisation (see MC14) stays in place until qualification of product / process.

Criteria of Requirement


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Next Requirement 

Change process

All suppliers shall have a procedure for Plant Process Changes:

- All changes need to be reviewed and approved by customer.
- Changes should be documented utilizing a plant process change form (reference Powertrain PPCR example).
- All process change forms shall be controlled through a Document Control Process.
- The procedure shall cover both Planned and Emergency changes (Typically temporary modification to process/standard work due to unplanned situations, such as downtime, stock-out, authorized customer rework, schedule fluctuations, etc.).
- Monthly notification to customer /SQD about change planned in next month to get approval prior to change kick-off. (EWO & BTAB are exempted)

Change process (Continued)

The purpose of the Plant Process Change Request (PPCR) is to:

- Maintain a record of all changes that may impact the final product.
- Track system changes that may have a negative impact on the process, but not necessarily on the final product quality.
- Ensures all key stakeholders are made aware of change requirements and have input to control out of standard conditions.
- Allows a complete risk assessment. It takes into account the impacts in terms of costs, technical, performance, quality, timing, capacity.

PPCR's are required for any hardware or software changes that may affect the following:

- Final Piece Cost or Quality
- Machine / System Reliability
- Job Instructions / Working or Gage Instruction / Control Plan / PFMEA / Process Flow Chart..
- Training Material
- Maintenance Procedures



Change process (Continued)

- **Examples of some requests for changes that require PPCR's might include:**
 - Modifications to Calibration Procedures
 - Operating Instructions
 - Machine Setup Targets
 - Process Control Plan changes
 - Approved EWO's
 - Sources changes

Change process (Continued)

Plant Process Change Request Form

(EXAMPLE)

Rev. Date: 10/5/07		PLANT PROCESS CHANGE REQUEST		PPCR NO. []
		(ALL SHADED AREAS MUST BE COMPLETED)		CONTACT: EXT. 5-6391
SECTION 1: BACKGROUND INFORMATION		EMERGENCY PPCR? YES <input type="checkbox"/> NO <input type="checkbox"/> IF "YES", GIVE COPY TO QUALITY		
PART NAME(S) IMPACTED		Manufacturing Process Bypassed? YES <input type="checkbox"/> NO <input type="checkbox"/> IF "YES", COMPLETE Manufacturing Process Backup Worksheet (in S-ECOFORMS)		
MODEL YEAR AND APPLICATION		PART #(S) IMPACTED		
DATE INITIATED		MFG. DEPT(S) IMPACTED OPERATION / STATION #		
(IF EMERGENCY, TIME ALSO REQUIRED)		PLANNED CHANGE DATE		
OPPORTUNITY / PROBLEM STATEMENT:				
DESCRIPTION OF CHANGE/EMERGENCY REACTION PLAN:				
WHAT IS THE AIM OF THIS CHANGE? WHY SHOULD WE WORK ON THIS NOW?				
EXPLAIN THE METHOD BY WHICH PROPER OPERATION WILL BE VERIFIED:				
INITIATOR NAME		INITIATING DEPARTMENT		
CHANGE LEADER NAME (if different than Initiator)		AREA MGR. SIGN. (EMER. ONLY)		
SECTION 2: DETERMINE IF CHANGE REQUIRES PDT/CIT-LEVEL OR PPAF REVIEW AND APPROVAL				
CHECK ANY OF THE FOLLOWING THAT MAY BE APPLICABLE:				
<input type="checkbox"/> CM, P A NEW PART OR PRODUCT (i.e. A SPECIFIC PART, MATERIAL OR COLOR NOT PREVIOUSLY SUPPLIED TO THE SPECIFIC CUSTOMER).				
<input type="checkbox"/> CM, P PRODUCT MODIFIED BY AN ENGINEERING CHANGE TO DESIGN RECORDS, SPECIFICATIONS OR MATERIALS.				
<input type="checkbox"/> CM, P USE OF ANOTHER OPTIONAL CONSTRUCTION OR MATERIAL THAN WAS USED IN THE PREVIOUSLY APPROVED PART.				
<input type="checkbox"/> CM, P PRODUCTION FOLLOWING ANY CHANGE IN PROCESS OR METHOD OF MANUFACTURE WHERE, IN THE JUDGEMENT OF TECHNICAL EXPERTS, THE POTENTIAL EXISTS TO IMPACT PRODUCT INTEGRITY (e.g. MATERIAL PROPERTIES, SURFACE FINISH ... ETC.).				
<input type="checkbox"/> P PRODUCTION FOLLOWING ANY CHANGE IN PROCESS OR METHOD OF MANUFACTURE.				
<input type="checkbox"/> P CORRECTION OF A DISCREPANCY ON A PREVIOUSLY SUBMITTED PART.				
<input type="checkbox"/> P PRODUCTION FROM TOOLING AND EQUIPMENT TRANSFERRED TO A DIFFERENT PLANT LOCATION OR FROM AN ADDITIONAL PLANT LOCATION.				
<input type="checkbox"/> P PRODUCTION FOLLOWING REFURBISHMENT OR REARRANGEMENT OF EXISTING TOOLING OR EQUIPMENT.				
<input type="checkbox"/> P CHANGE IN SOURCE FOR SUBCONTRACTED PARTS, MATERIALS, DUNNAGE OR SERVICES (e.g. HEAT-TREATING, PLATING, PAINTING, ETC.)				
<input type="checkbox"/> P PRODUCT RE-RELEASED AFTER TOOLING HAS BEEN INACTIVE FOR VOLUME PRODUCTION FOR TWELVE MONTHS OR MORE.				
<input type="checkbox"/> P FOLLOWING A CUSTOMER REQUEST TO SUSPEND SHIPMENT DUE TO A SUPPLIER QUALITY CONCERN.				
<input type="checkbox"/> P PRODUCTION FROM NEW OR MODIFIED TOOLS (EXCEPT PERISHABLE TOOLS), DIES, MOLDS, PATTERNS ... ETC., INCLUDING ADDITIONAL OR REPLACEMENT TOOLING.				
<input type="checkbox"/> NO ITEMS APPLICABLE <input type="checkbox"/> CHANGE ALREADY PDT/CIT APPROVED				
IF YOU CHECKED ANY "CM" ITEM(S): 1) DO NOT CONTINUE TO SECTION 3 UNTIL FURTHER NOTIFIED BY YOUR PDT/CIT LEADER. 2) FORWARD THIS SHEET TO THE MANUFACTURING ENGINEERING CLERK.				
IF YOU CHECKED ONLY "P" ITEM(S): CONTINUE TO SECTION 3. COMPLETE PPAF SECTION (MANDATORY).				
IF YOU CHECKED NO ITEMS: CONTINUE TO SECTION 3. COMPLETE PPAF SECTION AS APPLICABLE.				
CORRESPONDING GMPT CMP TRACKING NUMBER []				

Rev. Date: 10/5/07		PLANT PROCESS CHANGE REQUEST		PPCR NO. []
SECTION 3: DETERMINE WHICH FUNCTIONAL GROUPS NEED TO RESPOND TO THIS CHANGE				
CHECK ANY ITEMS THAT MAY BE APPLICABLE / IMPACTED:				
SAFETY:		CONTACT:		RESPONSE DUE DATE: []
<input type="checkbox"/> GUARDING		<input type="checkbox"/> OTHER		<input type="checkbox"/> WORK-FIT INSTRUCTIONS
<input type="checkbox"/> MANUFACTURING:		CONTACT:		<input type="checkbox"/> SIGNATURE:
<input type="checkbox"/> MAINTENANCE		<input type="checkbox"/> MANUFACTURING INSTRUCTIONS		<input type="checkbox"/> PRODUCTION MONITORING
<input type="checkbox"/> MANUFACTURING ENGINEERING:		CONTACT:		<input type="checkbox"/> SIGNATURE:
<input type="checkbox"/> PROCESS ROUTING		<input type="checkbox"/> PROCESS PARAMETERS		<input type="checkbox"/> GAGE (DRAWING, PLAN)
<input type="checkbox"/> TOOLING AND DRAWINGS		<input type="checkbox"/> PFMEA		<input type="checkbox"/> CIMM (DRAWING, FIXTURES)
<input type="checkbox"/> PROCESS CONTROL PLAN		<input type="checkbox"/> MACHINE DRAWINGS (MECHELECT)		<input type="checkbox"/> FLOAT SHEETS
<input type="checkbox"/> ERROR PROOFING		<input type="checkbox"/> GAGE CHECK SHEET		<input type="checkbox"/> PROCESS FLOW DIAGRAM
<input type="checkbox"/> ELECTRICAL CONTROLS		<input type="checkbox"/> SOFTWARE		<input type="checkbox"/> WASHER PARAMETERS/CHEMICALS
<input type="checkbox"/> RELOCATION/REARRANGEMENTS		<input type="checkbox"/> INSTALLATION/REMOVAL		<input type="checkbox"/> COOLANTS/FILTRATION
ENVIRONMENTAL ENGINEERING: FOR QUESTIONS ON ASSESSING ENVIRONMENTAL IMPACT, CONTACT ENVIRONMENTAL ENGINEER.				
IS THERE AN ENVIRONMENTAL IMPACT?		CONTACT:		SIGNATURE:
YES <input type="checkbox"/> NO <input type="checkbox"/>				
TRAINING:		CONTACT:		SIGNATURE:
<input type="checkbox"/> WORK REFERENCE STATION		<input type="checkbox"/> SYSTEM LEVEL JOB AIDS		<input type="checkbox"/> CHECKLISTS
<input type="checkbox"/> INTEGRATED TASK PROCEDURES		<input type="checkbox"/> TASK/STATION LEVEL JOB AIDS		<input type="checkbox"/> OTHER
<input type="checkbox"/> OEM / SUPPLIER		<input type="checkbox"/> TRAINING MODULES		
PRODUCTION CONTROL & LOGISTICS:		CONTACT:		SIGNATURE:
<input type="checkbox"/> BREAK-POINT REQUIRED		<input type="checkbox"/> MATERIAL PULL SYSTEM		<input type="checkbox"/> SUPPLIER DUNNAGE
<input type="checkbox"/> DELIVERY ROUTES		<input type="checkbox"/> ADDRESS SYSTEM		<input type="checkbox"/> SUPPLIER PACKAGING
<input type="checkbox"/> MATERIAL PARTS LIST				
ISAS:		CONTACT:		SIGNATURE:
IS THERE AN IMPACT ON ISAS?		YES <input type="checkbox"/> NO <input type="checkbox"/>		
QUALITY / RELIABILITY:				
<input type="checkbox"/> GAGES (EQUIPMENT, PROGRAMS)		CONTACT:		SIGNATURE:
<input type="checkbox"/> CMM'S (EQUIPMENT, PROGRAMS)		CONTACT:		SIGNATURE:
<input type="checkbox"/> MATERIAL SPECIFICATIONS		CONTACT:		SIGNATURE:
<input type="checkbox"/> STATISTICAL VERIFICATION		CONTACT:		SIGNATURE:
<input type="checkbox"/> QUALITY SYSTEM		CONTACT:		SIGNATURE:
PPAF (PRELIMINARY REVIEW):		CONTACT:		SIGNATURE:
<input type="checkbox"/> CUSTOMER'S EASE OF ASSEMBLY		<input type="checkbox"/> CUSTOMER'S AUDITS/TESTS		<input type="checkbox"/> CUSTOMER'S PROCESS OR TOOLING
<input type="checkbox"/> ERROR PROOFING AUDIT		<input type="checkbox"/> DUNNAGE/PACKAGING		<input type="checkbox"/> CONTROL PLAN (INSP. METH./FREQ.)
IMPORTANT: 1. THIS SECTION REQUIRES SIGN-OFF IF ANY OF THE ABOVE ITEMS OR IF ANY OF THE "P" ITEMS FROM SECTION 2 APPLY. 2. AFTER CONTACTING THE SOA, FORWARD THIS FORM AND A PPAF WARRANT TO THE SOA, AS APPLICABLE. 3. THE SOA IS TO SIGN THIS SECTION AS APPROVAL OF ALL REVIEWED PRE-IMPLEMENTATION PLANS FOR FULFILLING PPAF REQTS.				
ADVISE PRODUCTION OF IMPENDING CHANGE? YES <input type="checkbox"/> NO <input type="checkbox"/> CONTACT: []				
SECTION 3 REVIEW FOR APPROVAL THIS AREA IS FOR USE BY CHANGE LEADER'S SUPERVISOR ONLY				
APPROVED BY: PRINT NAME []		SIGNATURE []		DATE []
(LEADER'S GENERAL SUPERVISOR OR SUPERINTENDENT)				
SECTION 4: OTHER INSTRUCTIONS / COMMENTS				
SECTION 5A: TO IMPLEMENT				
PPAF WARRANT APPROVED (IF APPLIC.) <input type="checkbox"/>				
APPROVED BY: PRINT NAME []		SIGNATURE []		DATE []
(LEADER'S GENERAL SUPERVISOR OR SUPERINTENDENT)				
THIS AREA IS FOR CUSTOMER (MANUFACTURING) USE ONLY				
APPROVED BY: PRINT NAME []		SIGNATURE []		DATE []
(MANUFACTURING GENERAL SUPERVISOR OR SUPERINTENDENT)				
POST-IMPLEMENTATION				
ACTUAL IMPLEMENTATION DATE []		SIGNATURE BY CHANGE LEADER []		
		BREAKPOINT (IF APPLIC.) []		(USE ENIG 2 OR DATE)
SECTION 5B: FINAL APPROVAL				
THIS AREA IS FOR USE BY CHANGE LEADER'S SUPERVISOR ONLY				
APPROVED BY: PRINT NAME []		SIGNATURE []		DATE []
(LEADER'S GENERAL SUPERVISOR OR SUPERINTENDENT)				
THIS AREA IS FOR CUSTOMER (MANUFACTURING) USE ONLY				
APPROVED BY: PRINT NAME []		SIGNATURE []		DATE []
(MANUFACTURING GENERAL SUPERVISOR OR SUPERINTENDENT)				



Change process (Continued)

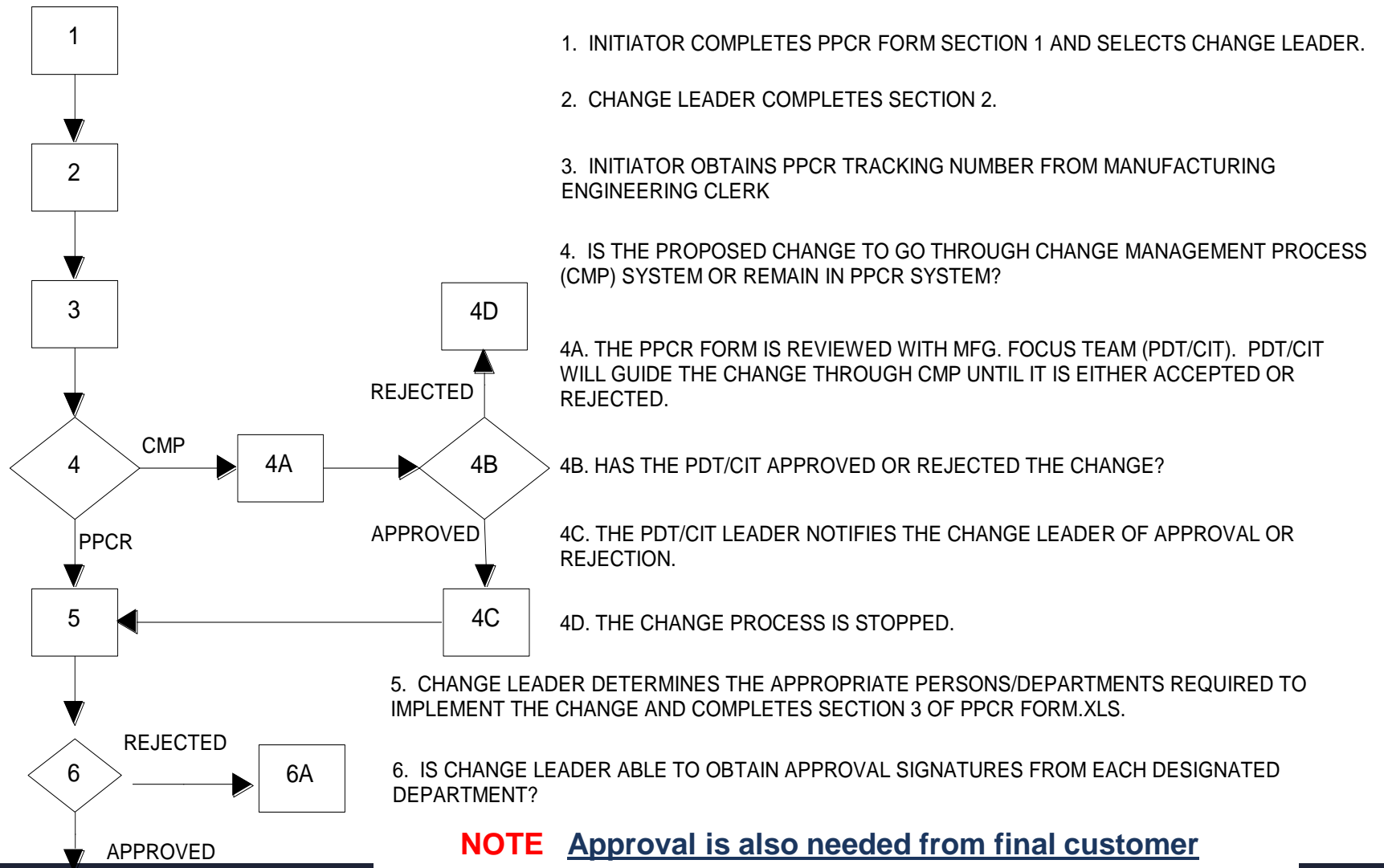
Suggested Guidelines for the Change Management Process:

- Anyone can initiate a PPCR.
- A Document Control Process tracks all open and closed PPCR's.
- A process is defined to assign a Change Leader to each PPCR.
- Define type of change, what systems it impacts and secure plan.
- Determine which functional groups are involved with the change.
- Define milestones and the deliverables (including product/process validation plan).
- Prior to implementation, management and Customer shall sign off on change.
- After implementation, the Change Leader shall sign and date the post-implementation section and document the breakpoint. The Customer approval, when applicable, is required - See Customer Notification and Submission Requirements at PPAP Manual.
- After all open issues are resolved / closed, management shall sign the final approval section.



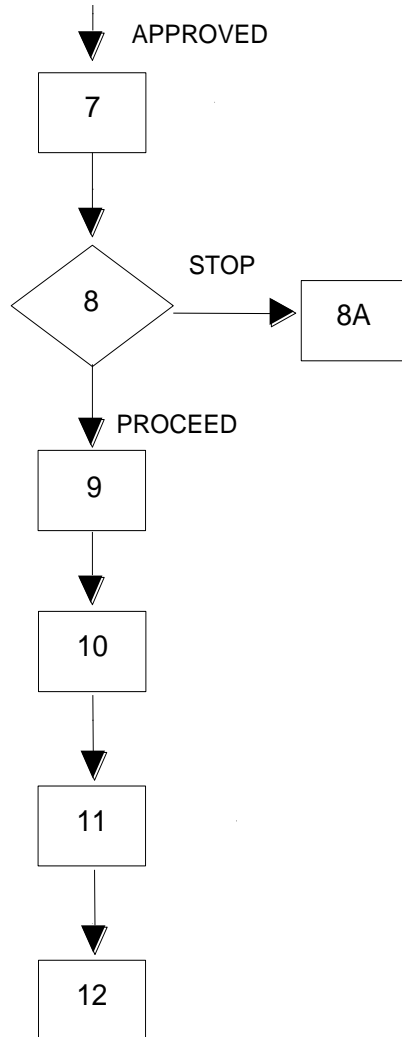
MANAGING CHANGE

PPCR Process Flow



MANAGING CHANGE

PPCR Process Flow (Continued)



6A. IF ANY SIGNATURE CANNOT BE OBTAINED, THE CHANGE PROCESS STOPS. ALL OTHER DEPARTMENTS CONTACTED IN SECTION 3 OF PPCR FORM.XLS MUST BE NOTIFIED OF THE REJECT.

7. CHANGE LEADER REVIEWS PENDING PROCESS CHANGE WITH HIS/HER GENERAL SUPERVISOR OR SUPERINTENDENT (SEE SECTION 3 OF PPCR FORM.XLS).

8. DOES THE CHANGE LEADER ACQUIRE WRITTEN DIRECTION TO PROCEED WITH CHANGE (OTHER INSTRUCTIONS, SECTION 4 PPCRLOG.XLS) FROM HIS/HER GENERAL SUPERVISOR OR SUPERINTENDENT, ALONG WITH SIGNATURE (SIGNATURE BLOCK, SECTION 5A OF PPCR FORM)?

8A. IF DIRECTED TO NOT PROCEED, STOP. NOTIFY ALL CONCERNED PARTIES (SECTION 3 OF PPCR FORM.XLS) WITH REASON FOR CHANGE REJECTION.

9. CHANGE LEADER, ALONG WITH THE PARTIES NAMED IN SECTION 3 OF PPCR FORM.XLS, IMPLEMENTS PROCESS CHANGE

10. CHANGE LEADER RECORDS THE DATE THE PROCESS CHANGE WAS IMPLEMENTED ON THE PPCR FORM (PPCR FORM.XLS) AND ON THE PPCR LOG SHEET (PPCRLOG.XLS, SEE SECTION 5B).

11. CHANGE LEADER ATTACHES APPLICABLE WORK SHEETS AND FORWARDS COMPLETED PPCR FORM TO GENERAL SUPERVISOR OR SUPERINTENDENT FOR FINAL APPROVAL. SECTION 5B (PPCRLOG.XLS)

12. CHANGE LEADER GIVES ORIGINAL COPY OF FINAL APPROVED PPCR TO MFG ENGINEERING CLERK.



Auditor hints

- Check documentation via example: a design change and a process change:
- organization (project team) & milestones,
- evidence of customer approvals,
- planning and evidence of reviews,
- tool to ensure traceability of modifications.
- Evolution of data system such as MRP system, storage management software, EDI server must be consider as major changes.



Risk analysis, what are we searching for?

Item	Requirement	#Criteria	Criteria requirement
MC2	A risks analysis is applied for any product/process change.	MC21	For any product/process/source change, a feasibility analysis is carried out. The study takes into account the impacts in terms of costs, technical, performance, quality, timing, capacity, storage and long term storage.
		MC22	A risk analysis of changes is performed with a methodology.
		MC23	Break point is defined when change becomes irreversible, it is communicated to customer.
		MC24	Based on risk analysis planning and implementation of the change are carried out, a product and process validation plan is defined.
		MC25	According to risk analysis, a securing approach is put in work in the launch phase of the modification (e.g.: mixing of old and new design).

Criteria of Requirement

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Prev. Requirement

Next Requirement

Banking Process

- All suppliers shall develop a procedure for the identification, protection and retrieval of parts when stored for extended periods of time. Some examples where this might be required are:
 - Business transfers (BTAB Tool moves)
 - Engineering changes
 - Tool refurbishments
 - Planned shutdowns
- Organizational responsibility for the banking process:
 - Material Manager: Process Implementation, execution and material traceability
 - Operations Manager: Proper protective packaging and storage
 - Quality Manager: Quality Control process

Banking Process (Continued)

Banking Process Guidelines

- At planning phase, banking strategy should take into account:
 - process capacity
 - customer need
 - lead time of change and safety margin.
- Safety stock levels should be approved by customer prior to banking activities.
- All banked material shall be placed in approved racking or dunnage designed for the specific material.
- Storage racks shall have clear tagging (date, lot #, etc.) on multiple sides.
- FIFO process shall be followed. **First change level shall be exhausted before next change level.**



Banking Process (Continued)

Banking Process Guidelines (Continued)

- Location of the stored material shall be free of water leaks, oil leaks, and any other environmentally damaging properties (humidity, temperature, etc.) that may promote nonconformance to the product. (e.g. rust, *contamination*, mold, distortion).
- All material banked will be protected. For example - seal in vapor corrosion inhibiting (VCI) packaging materials.
- Stock level shall be managed in real time at phases of build up and implementation of change. In case of deviation, corrective action shall be put in place and customer should be alerted.
- Weekly LPA shall be performed to ensure the process is followed.
- All LPA issues shall be documented and corrective actions implemented.
- Quality requirements shall be established and followed for all banked material prior to internal usage or shipment.



Banking Process (Continued)

Lessons Learned / Best Practices

- Never use wood dividers when storing finished product in a bank. Wood can add moisture or it can negatively react with certain metals to cause permanent damage, such as rust.
- It is recommended to manually apply rust preventative solution on components manufactured with iron prior to placement into the VCI bags. This is most essential when the final product is stored in a high humidity, high temperature environment.
- Part washers should use anti-corrosion chemicals.
- Protection against heat, humidity, thermal cycling.
- Extended travel delivery should be accounted for when protecting the material.



Auditor hints

During audit:

- Is there a specific procedure.
- Examine situation of bottleneck operations, equipment associated risk of capacity.

Look for :

- Example of modification.
- Banking planning and follow-up.
- Evidence of reviews.
- Follow up of stock level.
- Long term storage specific measures including packaging.
- FIFO respect.



Auditor hints

Check one of last of modification and verify:

- A feasibility analysis including lead time analysis
- Formalized impact evaluation & risk management
- PFMEA and DFMEA (if applicable)
- Action in place to cover risk identified



Product Trial Run, what are we searching for?

Item	Requirement	#Criteria	Criteria requirement
MC3	A Production Trial Run (PTR) process is implemented.	MC31	A standardized communication procedure and form is in place in order to control and monitor all Production Trial Runs. It permits to document each step of the process and to record all approvals and results.
		MC32	Traceability of trial run batch is ensured.
		MC33	A review is documented to release product for PTR shipment .

Criteria of Requirement

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Prev. Requirement

Next Requirement

Production Trial Run (PTR) process

Suppliers shall establish and utilize a defined PTR process that provides the following elements to ensure successful PTR execution:

- Standardized Communication and Documentation
- Build Readiness Reviews
- Quality Reviews before and after the change
- Containment and traceability of all PTR parts

Key elements of an Effective PTR Process:

- A PTR is a limited , controlled and contained production tryout used to evaluate a change prior to full production implementation.
- The PTR confirms the manufacturability of a change within the normal production environment.
- The PTR is not a substitute or extension of the product validation process.
- A written procedure and flow chart shall define the PTR process and requirements.



Production Trial Run (PTR) process (Continued)

- A Communication Form shall be used to document each step of the process and to record all approvals and results .

Suggested Sections of the Production Trial Run Communication Form:

- Change Leader PTR Request and Information
- PTR Core Team PTR Decision and Approval to Run PTR
- Customer Contacts
- Customer / Internal PTR Requirement Decision
- PTR Readiness Approval
- Internal PTR Valve Review and Approval
- Customer Evaluation of PTR

MANAGING CHANGE

Production Trial Run Form

Top half of form

CHANGE LEADER	GMPT GQP-026d	
	Production Trial Run Communication Form Rev 9-16-05	
	① Change Leader: <input type="text"/>	Ph #: <input type="text"/> Fax: <input type="text"/> Date Initiated: (this form) <input type="text"/>
	Mfg. Site PTR Coord: <input type="text"/>	Ph #: <input type="text"/> Fax: <input type="text"/> GMPT Plant: <input type="text"/>
Part Name: <input type="text"/>		Part #: <input type="text"/>
CR, SPCR, or PPCR# <input type="text"/>		EWO/PAA# (if req'd) <input type="text"/> Is change irreversible? <input type="checkbox"/> YES <input type="checkbox"/> NO
Model / RPO / Applic / Model Yr <input type="text"/>		
Special Instructions (e.g. 1. Operations / processes which need careful observation, 2. Is change irreversible? Risk mitigation plan developed and approved? [back-up or prototype tooling, inventory banking, ETR, etc. required?] - GSC must approve recovery Change Description: <input style="width: 100%; height: 40px;" type="text"/>		
Chg Leader sends to Plant PTR Coord.; PTR Coord. communicates to Plant (Mfg, ME, QS, GSC, SQ)		
PTR CORE TEAM	① Decision to run PTR - Reference GQP-026f for both Internal PTR and Customer Notification Decision Criteria	
	PTR Core Team (Mfg/ME/QS/GSC) <input type="checkbox"/> YES <input type="checkbox"/> NO	
	Is an Internal PTR required? <input type="checkbox"/> YES <input type="checkbox"/> NO	
	If an Internal PTR is required, does the Customer need to be informed? <input type="checkbox"/> YES <input type="checkbox"/> NO	
Comments: <input style="width: 100%;" type="text"/>		
Quality Systems Mgr / designate (w/input from PTR Core Team Date: <input type="text"/>		
Print Name: <input type="text"/> Signature: <input type="text"/>		
PLANT QUAL SYS	② Customer Contact Quality Systems Manager / designate	
	If Lead Plant Concept is being used circle the Lead Customer Plant below: <input type="text"/>	
	Customers to be notified: <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	
Plant Quality Systems communicates to: Customer Plt PTR Coordinator .** if required (ref GQP-026f)		

(EXAMPLE)

Bottom half of form

CUSTOMER PTR COORD**	③ Customer PTR required? YES <input type="checkbox"/> NO <input type="checkbox"/>		Customer Plant: * <input type="text"/>	Customer PTR Coord. or designate <input type="text"/>			
	Customer PTR required? <input type="checkbox"/>		Name <input type="text"/>				
	note: contact change leader if you have technical questions						
	Requesting:		Customer PPA # (if applicable) <input type="text"/>				
		Part Number	Quantity	Part Number	Quantity	Part Number	Quantity
		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Customer PTR Coord.** completes/sends to Plant PTR Coord.; PTR Coord. communicates to Chg Leader, Plant (Mfg, ME, Q							
PTR COOR.	④ PTR Readiness						
	PTR # (if applicable) <input type="text"/>		PTR Quantity <input type="text"/>		Anticipated Mat'l Available Date: <input type="text"/>		
	[Build Readiness Review] Ready to Build? <input type="checkbox"/> YES <input type="checkbox"/> NO		If Yes, Anticipated GMPT PTR Build Date: <input type="text"/>				
	PTR Coord. / designate <input type="text"/>		Print Name <input type="text"/>		Signature <input type="text"/>		
PTR Coordinator communicates to: Chg Leader, Plant (Mfg, ME, QS, GSC), Customer Plt PTR Coord. (if external PTR req							
PLANT QUAL SYS	⑤ Internal PTR Valve Review		Build Date and Qty: <input type="text"/>	Successful: <input type="checkbox"/> YES <input type="checkbox"/> NO			
	Comments: <input style="width: 100%;" type="text"/>						
	Quality Sys Mgr / designate <input type="text"/>		Print Name <input type="text"/>		Signature <input type="text"/>		
	Ship Date: <input type="text"/>		PTR Part Identification: <input type="text"/>				
PTR Coordinator communicates to: Chg Leader, Plant (Mfg, ME, QS, GSC) and Customer Plt PTR Coord. (if external PTR req							
CUSTOMER PTR COORD*	⑥ Customer Plant PTR Evaluation *		PTR Success: <input type="checkbox"/> YES <input type="checkbox"/> NO		YES, Except as Noted Below: <input type="checkbox"/> YES <input type="checkbox"/> NO		
	PTR Date & <input type="text"/>						
	Comments <input style="width: 100%;" type="text"/>						
	Customer Plt Approval: <input type="text"/>		Plant <input type="text"/>		Signature <input type="text"/>		
Fax completed form to PTR Coordinator, PTR Coordinator communicates to: PMT, Plant (Mfg, ME, QS, GSC), SQ, Chg Ldr, Sup							
* Powertrain Customer Plant Evaluation (for PTRs internal to Powertrain) ** or SQA (for PTRs internal to Powertrain)							



Auditor hints

Look for:

- Example of a trial run
- Trial run validation criteria & results (records)



Efficiency, what are we searching for?

Item	Requirement	#Criteria	Criteria requirement
MCE	Indicators are defined and tracked to ensure that changes have no any negative impact to customer.	MCE1	Number of issues generated by a change.
		MCE2	Tracking of PPAP due dates.
		MCE3	Change implemented by due date (milestone follow up).
		MCE4	Unexpected cost of modification.
		MCE5	No impact on service rate.

Criteria of Requirement

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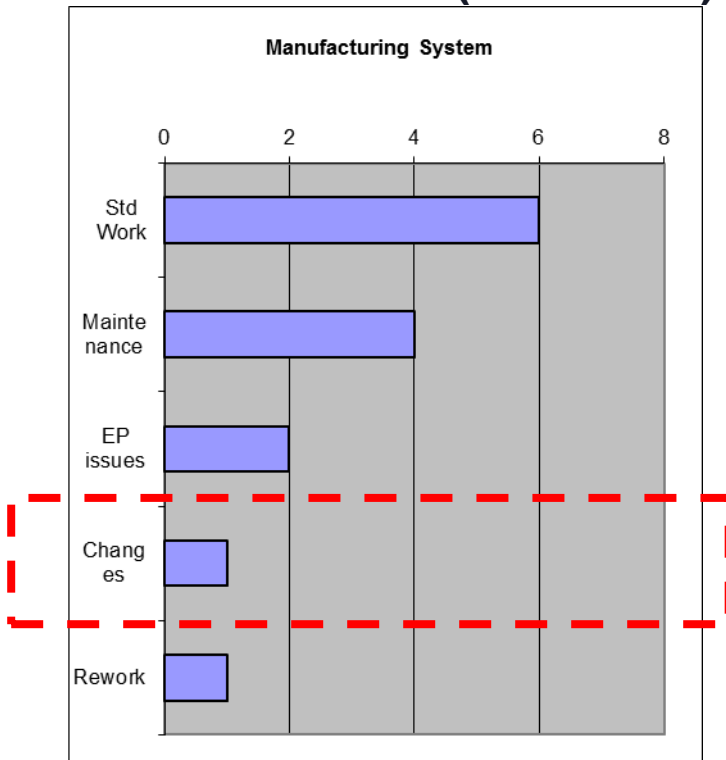
Prev. Requirement

What goes wrong?

Metrics

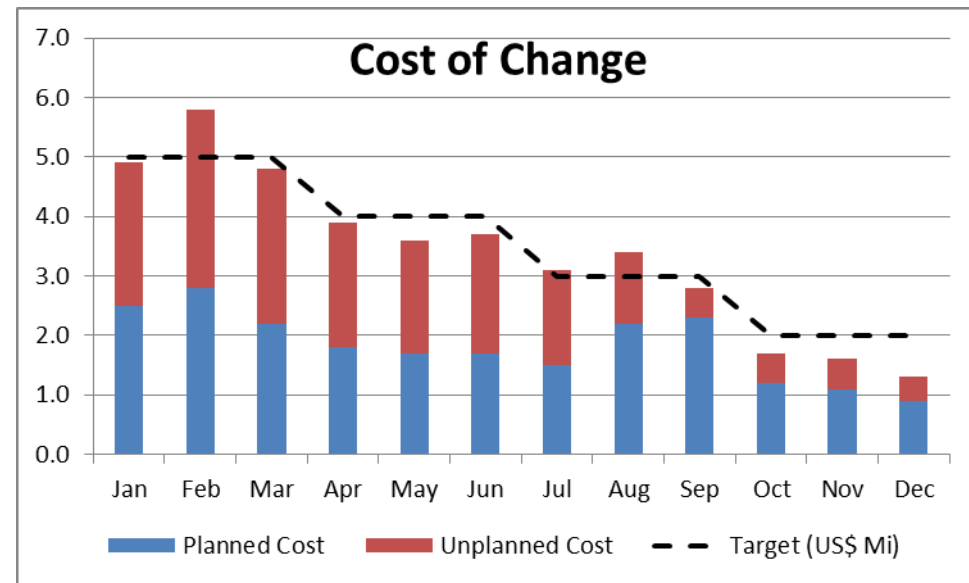
Issues Generated by Change

(EXAMPLE)



Cost of Change

(EXAMPLE)



Metrics

Tracking of PPAP due date – related to changes Implementation Management - milestones

(EXAMPLE)

PPCR Management

PPCR Number	Customer	Program	PartNo	PartDescription	Change Description	Start Date	Owner	PPCR Completed	PPCR Approval date	PPAP Submitted	PPAP date	Expiring Date	Status
001/13	A	PM7	62061304	STRUT ASM-FRT SUSP	Tier II changed	9-Jan	Paul	Yes	12-Jan	Yes	25-Jan	30-Jun	Closed
002/13	B	XYZ9	72065451	COLUMN ASM-STRG	Heat treatment equipment changed	27-Feb	Mike	Yes	1-Mar	Yes	1-Apr	30-May	Expired
003/13	C	D1XZ	72065452	COLUMN ASM-STRG	Heat treatment equipment changed	27-Feb	Mike	Yes	1-Mar	Yes	1-Apr	30-May	Expired
004/13	A	TM7	62065453	STRUT ASM-FRT SUSP	Bypass process - Torque machine	13-May	Maurice	Yes	15-May	Yes	10-Jun	30-Jul	On Track
005/13	A	PM7	62046700	ABSORBER ASM-RR SHK	Welding Machine changed	17-Jul	Norbert	Yes	20-Jul	Yes	30-Jul	30-Sep	On Track
006/13	A	PM4	62026260	ABSORBER ASM-RR SHK	Welding Machine changed	17-Jul	Norbert	Yes	20-Jul	Yes	30-Jul	30-Sep	On Track
007/13	C	D1XZ	72026262	SHAFT ASM-FRT STAB	Machining process changed - back up	10-Aug	Mike	Yes	15-Aug	Yes	17-Aug	30-Oct	On Track
008/13	D	Gamma	32081677	SENSOR ASM-RR WHL SPD	Tier II changed	20-Nov	Paul	Yes	23-Nov	Yes	30-Nov	15-Dec	On Track

- Closed** Back to original approved process
- Expired** PPAP (saleable) is expired
- On Track** Change is implemented and expiring date is on track



MANAGING CHANGE

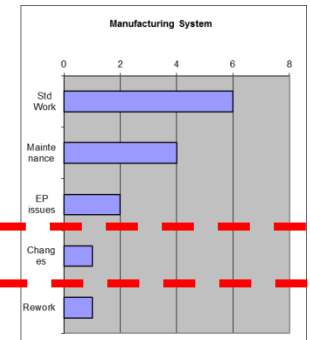
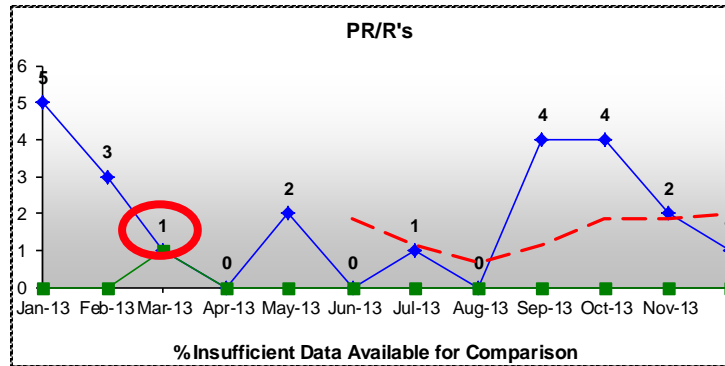
Metrics

Service Rate impacted by

RANK	SUPPLIER				SERVICE
Service	Name	Location	Mfg. Duns	Lead Region	GSC Rating
					6 Mo.
82.5	ABC Company	Detroit	999888777	GMNA	3

(EXAMPLE)

6 - Panel Report: ABC Company - SC



Auditor hints

- Prior to audit check that any customer complaint issued due to:
 - unauthorized change,
 - by-pass process.
- PPAP issues/delays due to changes.
- total changes for per month - monitored and tracked.



What goes wrong ?

- Production transfer without customer approval
- Part failures due to unauthorized, non validated changes to raw material or material suppliers
- Missing or late customer notification about process changes
- Tier supplier's changes are not managed including PPAP
- Not efficient safety stock – banking process
- Modification of all tools/cavities in same time -> failed customer approval -> no OK parts available
- Missing internal and customer Production Trial Run (PTR)
- Bypass processes are not identified or part of PFMEA & Control Plan
- There is no Standardized Work for Bypass process

