



PRODUCTION PROCESS REVIEW

Supplier: _____

Part Number(s): _____

SQE: _

Date: _____

** USE OPEN ISSUES LIST TO DOCUMENT ACTION ITEMS **

Process Observations

1. Is the product being manufactured at the production site using the production tooling, gaging, process, materials, operators, environment, and process settings? Yes No Comments _____
2. Are good housekeeping practices being followed? Is the work place properly configured? (Adequate lighting, space, etc.)? Yes No Comments _____

Quality Documents

3. Does the actual process flow agree with the process flow diagram? Yes No Comments _____
4. Are operator instructions/visual controls available and adhered to at each workstation?
Yes No Comments _____
5. Are work instructions available for the following?
(For additional detail, see optional 'Work Instruction' section)
 - Start/Stop: (Explains how to start up run and shutdown equipment safely) Yes No
 - Run: (Standardized method of performing work) Yes No
 - Setup/Changeover: (Requirements for set-up, changeover and start/end of shift) Yes No
 - Control & Gaging: (Control checks for 'important' product and process characteristics) Yes No
 - Comments _____
6. Is the production process control plan (or equivalent) easily accessible to operators? Yes No
Comments _____
7. Does production process control plan relate to the process flow diagram and PFMEA? (i.e. Is the process control plan numerically sequenced to the process flow diagram and PFMEA?) Yes No
Comments _____
8. Does the production process control plan agree with the actual process? (i.e. Is the control plan being followed?) Yes No Comments _____
9. Do production part checks and statistical monitoring take place and are they properly recorded as outlined on the process control plan? Yes No Comments _____
10. Is process capability data maintained and regularly updated as required for special characteristics?
Yes No Comments _____
 - Is it readily available? Yes No
 - Is it current? Yes No Comments _____
 - Is the process in control ($Ppk \geq 1.67$ Short Term, $Cpk \geq 1.33$ Long Term)? Yes No
11. Does the statistical data make sense (Reasonable control limits, normal variation, common cause vs. special cause)? Yes No Comments _____
12. Are measurement devices properly calibrated? Yes No Comments _____
13. Is the process control plan sufficient to effectively meet the design record requirements? (special characteristics, customer interface dimensions)? Yes No Comments _____
14. Are High RPN potential failure modes, as identified in the PFMEA, addressed through error-proofing equipment or documented in the control plan? Yes No Comments _____
15. Is there proper lot traceability/identification of all material? (in-process and final labeling, packaging, shipping) Yes No Comments _____

16. Can the parts run since the last good check be traced to the producing shift and operation to prevent reoccurrence? Yes No Comments _____

Gage Control/Error Proofing

17. Does a calibration control system for manual gages exist? Yes No Comments _____
18. For automatic inspection stations, does a verification / calibration plan exist? Yes No Comments _____
19. Is there evidence of compliance? Yes No Comments _____
20. Are gages labeled with calibration status? Yes No Comments _____
21. Are the required gages available at the point of use? Yes No Comments _____
22. Are they easy to use repetitively? Yes No Comments _____
23. Do gages have adequate repeatability and discrimination (Gage R & R)? Yes No Comments _____
24. Are variable gages used where necessary (i.e. special characteristics) for tracking common cause variation? Are attribute gages used where appropriate (i.e. 100% containment of special cause variation)? Yes No Comments _____
25. Is error-proofing employed and implemented according to the PFMEA and process control plan? Yes No Comments _____
26. Does the machine logic prevent non-conforming parts from reaching subsequent operations (is it effective)? Yes No Comments _____
27. Are error proofing devices checked periodically for proper function? Yes No Comments _____
28. Are Error Proof verification masters included? Yes No Comments _____
29. Are the error proofing devices re-verified following P.M., etc. and is the frequency of error proof verification identified in the work instruction? Yes No Comments _____

Handling of Reject/Suspect Material

30. Does the process control plan contain a reaction plan for nonconformances? Yes No Comments _____
31. Does the reaction plan have containment and corrective actions? Yes No Comments _____
32. When a part out of spec/control limits is identified as a result of the Control Plan, Pre-Control or SPC, is this condition properly managed within the organization (Action Plans, Assigned Responsibility, Progress Monitoring, and Containment)? Yes No Comments _____
33. Do problems, including out of spec./control limits, quickly get communicated to people that can help? Yes No Comments _____
34. Does information, including out of spec./out of control conditions, get passed across shifts? Yes No Comments _____
35. Does the support system respond to the operator? Yes No Comments _____
36. Are controls in place to isolate incoming material until it has been approved? Yes No Comments _____
37. Are all non-conforming products (in-process and finished) properly quarantined and/or scrapped? Yes No Comments _____
38. Is the suspect / scrap data recorded? Yes No Comments _____
39. Is there evidence that the data is used? Yes No Comments _____
40. Is it likely that a suspect / scrap part will be reintroduced into the normal process flow? Yes No Comments _____
41. Are suspect / scrap containers available at each operation? Yes No Comments _____
42. Is the use of these containers defined in the operator work instructions? Yes No Comments _____
43. Are the containers properly sized and identified for visual control (color coded, etc.)? Yes No Comments _____
44. Does the supplier proactively revert to their Early Production Containment Plan should problems arise? Yes No Comments _____

Work Instructions (Optional Detail)

45. Work Instruction - Start/Stop

(Explains how to start-up, run, and shutdown equipment safely)

- If Start/Stop procedure is not followed correctly, is there a negative impact on product quality?
Yes No Comments _____
 - Do they exist? Yes No Comments _____
 - Do they have the correct content? Yes No Comments _____
 - Does it tell how to do a 'cold' start-up? Yes No Comments _____
 - Does it tell how to shut equipment down? Yes No Comments _____

46. Work Instruction - Run

(Standardized method of performing work)

- Do they exist? Yes No Comments _____
- Are they posted in front of the operator? Yes No Comments _____
- For automatic stations, are they posted appropriately? Yes No Comments _____
- Do they have correct content? Yes No Comments _____
- Are they short, simple, and easily understandable? Yes No Comments _____

47. Work Instruction - Setup/Changeover

(Requirements for set-up, changeover, and start/end of shift)

- Do they exist? Yes No Comments _____
- Are they readily available? Yes No Comments _____
- Does everyone who needs them know where to find them? Yes No Comments _____
- Do they have the correct content? Yes No Comments _____
- Are they short, simple, and easily understandable? Yes No Comments _____
- Do they identify who is authorized to do what? Yes No Comments _____
- Is setup inspection/verification method identified? Yes No Comments _____
- Is proper disposal of set-up parts defined? Yes No Comments _____
- Do instructions insure correct feeder parts are being assembled? Yes No
Comments _____

48. Work Instruction - Control & Gaging

(Control checks for 'important' product and process characteristics)

- Does it exist for both product and process? Yes No Comments _____
- Is it posted in front of the operator? Yes No Comments _____
- For automatic stations, is it posted appropriately? Yes No Comments _____
- Are all required checks included? Yes No Comments _____
- Are frequencies appropriate for process capability levels? Yes No Comments _____
- Are they short, simple, and easily understandable? Yes No Comments _____
- Are responsibilities for checks clearly defined? Yes No Comments _____
- For automatic stations, do they tell operator/jobsetter what to do with part(s) in station when auto sequence is interrupted and how to restart? Yes No Comments _____
- Is proper disposal of suspect/scrap parts defined for attended and unattended stations?
Yes No Comments _____
- Are Error Proof verification checks included? Yes No Comments _____

Training (Optional)

49. Is a training plan written and training materials available? Yes No Comments _____
50. Are operators, jobsetters, etc. familiar with the training plan? Yes No
Comments _____
51. Is the training formalized? Yes No Comments _____
52. Does the training have suitable content? Yes No Comments _____
53. Does the plan address transfers, absences, etc.? Yes No Comments _____
54. Does the plan address the need for additional training due to product / process changes or improvements? Yes No Comments _____
55. Does the plan recognize the need for retraining if a trained operator has not run a job in a long time? Yes No Comments _____

Additional Comments/Recommendations

Overall Subjective Ranking: Red Yellow Green

Follow-Up Date: _____ None Required

PRODUCTION PROCESS REVIEW
RESULTS SUMMARY

SUPPLIER: _____

DATE OF PROCESS REVIEW: _____

S.Q.E. : _____ **OTHERS** _____

STATUS (Mark 'X')*: RED _____ YELLOW _____ GREEN _____

PROCESS RESULTS:

ENGINEERING ISSUES:

SYSTEMIC CONCERNS:

PRODUCTION PROCESS REVIEW

Suggested guidelines for Red, Yellow, & Green rankings

RED

(Institute Controlled Shipping)

- Special characteristics not being monitored for statistical control.
- Substantial number of nonconformances to the process review which are deterrents to an effective quality system.
- Any non-compliance to the following questions that would probably result in a non-conformance being shipped to Southco or Southco's customers. (Questions 1,8,10,18,19,26,31,36,40 are major quality process requirements)
- Any noncompliance subject to the judgment and experience of the S.Q.E., which would result in a major failure of the quality system and/or non-conforming product being shipped to Southco or Southco's customers.

YELLOW

(Corrective action plans required within 30 days)

- Special characteristics monitored but no reaction to out of control conditions or, control limits not established for Special characteristics.
- Work instructions are not linked to the control plan. Items on the control plan should have specific links to specific instructions of the controlling characteristics.
- A number of nonconformances to the process review that are not likely to result in Southco or one of its' customers receiving nonconforming product, but improvements within the quality system are recognized.

GREEN

(Process in control, action plans as required)

- Special characteristics are being effectively monitored and controlled.
- Minor noncompliance in part of the suppliers quality system.
- Confidence by the S.Q.E. that the supplier will not ship known nonconformances to Southco or its' customer.