

MC Quality Activity; Function; Systems Review

- **Routine** conformance detection; focus on control
 - Review by manufacturing area
 - Review by QA or plant function
- **Non-routine** coordination and integration
 - Cross-functional
 - Identified by QA function
- **Interaction** with and support of central initiatives

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QA Cigarette Manufacturing Facility Organizational Structure

100% independent
80% activity - MC QA



• Flavor testing
• DIET/Primary physical testing
X Analytical support

• Incoming materials testing
• Floor complaints
• Drying materials improvement
• Rework/Holdwork
• DSC coordination
X Analytical support

• Phys. cig.
• Prod.
X Analytical support

• Int. maint.
• Operation
• Prod.
• Anal. Chemist

• S. & D. support
• Experimental Design and Analysis

X Analytical Support

• New Processes
• Materials Testing
• Project Coordination
• Reporting
• New
• Prod. analysis for Each Area

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Primary Processing Controls

- Expanding reliance on Programmable Logic Control and Distributed Control Logic
- Bar coding of strip tobacco at receipt
- Blend Security programmed safeguards and validation
- Trend Link software to compile the PLC and DCS data for operator trending and analysis
- Exception Reporting - by blend, silo, shift, daily
- Panel Documentation - reporting at the operator panel and archival of results

*Very automated,
drives type of role
QA plays - see next page*

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Primary Processing On-Line Corrective Activities

- Separators; Destoner and PL
- String doffers
- Metal detection and magnets
- Optical detection
 - Currently only Line 1 Bright and ET
- ET cyclones
- Silo blending (preventive)

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Role of QA - Primary

- Perform physical testing for equipment calibration
- Check adherence to specified conditions
- Measure process performance
- Incoming and prepared flavor testing
- Evaluation of process/product change
- Quality incident investigation

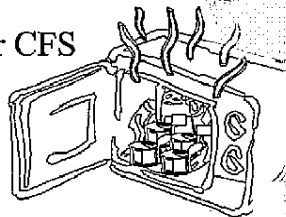
make decision on hold & release work
** This is more true in m/p*
than primary
→ Issue: Should have same role in
release decision as in m/p

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QA in Primary Routine Testing

- Moisture meter calibrations
- Mohr OV and temperature GMP tests
- P&S cooling zone OV
- Sieves, Sieve OV
- ET Sieves, OV, and CV
- 24 hour Pack OV
- Paper count and charcoal count for CFS

** Factory QA should be in the loop of currently*
beetle kill testing done
by R&D



→ Could benefit from
automated sieve-testing
(Needs to be invented)
would help w/ labor use

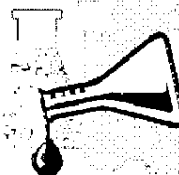
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QA Flavor Materials and Triacetin

- Bulk truck validations
- Quality checks for all incoming bulk components *glycerine, alcohol, dry*
- Sensory inspections, wet and dry components *odor, appearance,*
- Finished flavors and spray quality checks
- Menthol - wipe tests and pack tests
- PZ



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QA in Primary - Specials

- Operation pilot trials and test coordination
- Identify, assist with opportunities for improvement
- Inter- and intra- plant comparisons
- Equipment qualification
- New material qualifications



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FACTORY SUPPORT AREA

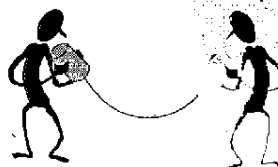
QA Incoming Materials - Routine

- Adhesives-viscosity, solids, pH, color, sensory, etc.
 - 100% inspection on each MC and SS shipment
 - Luminometer - weekly on MC reservoirs and tanks
microbial activity chk
 - Luminometer - holidays and shutdowns throughout MC, reservoirs & tanks
- Materials Audits - catch 10% of incoming defects ; No more incoming inspections done - Just These audits
- * ● Coordination of quarterly suppliers (22) meetings
review of rejected materials * This is a different trip than the central govt. purchasing quarterly mtgs.
- Weekly review and trending meeting with Purchasing, Mfg., and QSE
→ Value-added?

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QA Incoming Materials: Non-Routine

- Resolution of floor complaints *(40-60 per week) 11/00*
SB AMK
 - Extremely varied problems
 - Root cause identification
 - Emphasis on material resupply
 - Consolidation and isolation of defective materials
 - COMMUNICATION
- New/modified material qualifications



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CIG. MANF.

Plug Making Conformance Detection

- Mulfi combiners - registration control
- KDF Sodimats (offline inspec. dev. for operator use)
 - Circumference, weight, resistance to draw
- SPC Standards
- QA Visuals on mulfis & DAPTCs
- Purchased plug acceptance inspection
- New/PM'd machine qualifications

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Cigarette Manufacturing

- Maker detectors
 - Rod spots, flags, fold - Protos 100 only
 - Weight control, metal detection
 - Air leaks, missing filter, void ends
- Maker testing
 - Dense end/ ProScan
- SPC implementation - Bay 4 complete, Bay 2 standards
- Time rejection for dry processing adhesive
- Numerous detectors for packaging defects

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QA in Cig-Man Inspectors (*~60*)

- Assigned 2 per bay plus dedicated samplers
- Samples for analyticals and subjectives *collected*
- Physical testing
 - Circumference, weight, weight classifier
 - Dilution, Borgwaldt, sieves
 - Pack Seal



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QA in Cig-Man TOPS Team Technicians (*on-floor auditing salaried auditors*)

- Materials evaluations
- Systems auditing: Changeover reviews
- New brand/new machinery qualifications
- Japan - special attention (*accelera. audits*)
- Special requests
- Filtec (missing pack or carton) detector verifications
- Accusort (bar coding) detector verifications
(right brand)



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QA in Cig/Man Factory Audit Quality Index

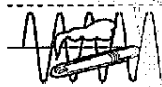
- 1500 packs per day
- Special request testing and auditing
- Weekly report of FAQI data
- Monthly reporting of TQM data



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QA in Cig/Man; Overall Quality Indicators/Improvement

- Monthly TQM and physical test reporting
- Smoking panel subjective test scheduling
 - Materials evaluation committee
 - External test requests
 - Correlation with Central
- Consumer complaint tracking
- Make/Pack quality update reporting
- Pure improvement/SIT team support



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FACTORY SUPPORT

DSC Logistics

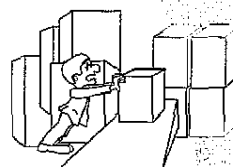
- Hold work hot line beeper
- Quarantine, audit trails, and tracking
 - Physical verification of brand on hold, time frame, case codes
- Authorization for return of work to South Warehouse *where it is inspected*
- Pre-sort for inspection



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Hold Work Operations *(for M/C only)*

- Segregation of defective product
- Dispositions; resolution; processing of burial work
- Assistance with bulk or cut filler holds
- Data tracking for continuous improvement efforts
- ATF reporting



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Slitter Operations

- Final disposition of defective product
- Slit MC hold suitable for ripper shorts
- Slit overrun, damaged, or aged product
- Ripper shorts or sheet plants
- Representative on CRC



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QA Process Assurance

- Coordinate materials evaluation systems
- Coordinate and evaluate facility sanitation and GMP programs
- Pest control program performance tracking
- Preventive studies/implementation; *audit internal*
- Procedures for control of radioactive materials
- Coordinate/Perform instrument calibration and PMs
 - Filtec scanners
 - Weight control detection
 - QA lab equipment

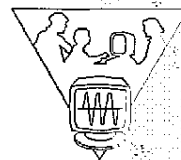
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TQI

Statistical Services

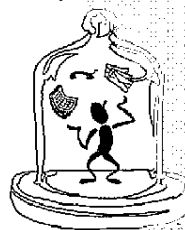
- Data analysis services
- New TQM development and maintenance
- Plant TQMs maintenance and monthly reporting
- Coordination of QA TQM tracking
- SPC - data tabulation, input, and retrieval



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Future?

- FDA/MIP
- Quality systems
- Automation/Technology; systems verification
- Cost cutting
biggest cost in QA is for people (today)



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