Value Stream Mapping Workshop Facilitation

1.0 Objective & Quality Standard

The objective of this procedure is to facilitate a structured Value Stream Mapping (VSM) workshop that produces a current-state map, a future-state map, and an actionable improvement plan. The quality standard requires that the current-state map accurately reflects actual process times (cycle time, changeover time, uptime) and inventory levels measured on the shop floor, not estimated. The future-state map must target a minimum 25% reduction in total lead time and a 15% reduction in non-value-added activities. All maps must be drawn on A1 paper using standardized VSM icons and include a data box for each process step with verified metrics.

2.0 Required Tools & Gauges

- A1 flip chart paper or large whiteboard (minimum 24x36 inches)
- Set of fine-tip markers in at least 5 colors (black, red, blue, green, orange)
- Post-it notes (various sizes: 3x3, 4x6, 3x5)
- Stopwatch or timer for timed observations
- Clipboard and observation sheets for data collection
- Digital camera or smartphone for capturing current-state photos
- VSM icon legend sheet (printed and laminated)
- Calculator for summing lead times and value-added ratios
- Masking tape for posting maps on walls
- Laser pointer for presentations

3.0 Safety & Material Handling

- Ensure the workshop room has adequate ventilation and lighting for extended sessions.
- Provide ergonomic seating and standing desk options for participants to prevent fatigue.
- Keep walkways clear of bags, cables, and flip chart stands to prevent tripping hazards.
- When walking the shop floor for data collection, wear required PPE (safety glasses, steel-toed boots, high-vis vest) and follow all plant safety rules.
- Handle markers and other small items carefully to avoid spills or staining of surfaces.

4.0 Step-by-Step Procedure

1. Pre-workshop: Define the product family or value stream scope. Select one product family that represents at least 80% of the production volume. Confirm with the production manager.

2. Pre-workshop: Gather initial data: customer demand (takt time), shift patterns, and available working time per shift. Calculate takt time using formula: Available Time / Customer Demand.

3. Pre-workshop: Recruit cross-functional participants: at least one operator, one maintenance technician, one quality inspector, one production supervisor, one supply chain planner, and one continuous improvement lead. Limit group size to 8-12 people.

4. Workshop opening: Review the workshop agenda, objectives, and ground rules. Explain the VSM icons and symbols using the legend sheet. Emphasize that data must be collected from direct observation, not estimates.

5. Current-state mapping: Walk the entire value stream from receiving to shipping. At each process step, record cycle time (C/T), changeover time (C/O), uptime (Uptime %), number of operators, and work-in-process (WIP) inventory. Use the stopwatch to time at least 5 cycles per step and record the average.

6. Current-state mapping: Draw the current-state map on A1 paper. Use Post-it notes for process boxes, inventory triangles, and data boxes. Connect steps with arrows. Add information flows (e.g., production schedules, kanban signals) with dashed lines. Include a timeline at the bottom showing value-added time (VA) and non-value-added time (NVA).

7. Current-state analysis: Calculate total lead time (sum of all inventory days) and total value-added time (sum of all cycle times). Compute the value-added ratio: (Total VA Time / Total Lead Time) x 100%. Identify and label all forms of waste (overproduction, waiting, transportation, overprocessing, inventory, motion, defects) with red markers.

8. Future-state mapping: Brainstorm improvement ideas to eliminate waste. Focus on reducing inventory, combining steps, implementing pull systems, and reducing changeover times. Use the 7 wastes checklist and the takt time as a pacing guide.

9. Future-state mapping: Draw the future-state map on a new sheet of A1 paper. Include target metrics for each process step (e.g., reduced C/O, increased uptime, lower WIP). Ensure the future-state lead time is at least 25% shorter than the current-state lead time.

10. Action plan creation: For each gap between current and future state, create a kaizen burst (a small lightning bolt icon) and assign an owner, a due date, and a measurable target. List all kaizen bursts on a separate action plan sheet.

11. Review and validation: Present both maps to the workshop sponsor (e.g., plant manager). Validate that the future-state map is achievable within 6 months. Obtain sign-off on the action plan.

12. Workshop close: Digitize the maps by taking high-resolution photos. Upload the photos and the action plan to the ShopDocs QA module. Schedule a 30-day follow-up review to track progress on kaizen bursts.

5.0 Verification & Defect Reporting

1. Verify that the current-state map includes data from at least 5 timed cycles per process step. If any step has fewer than 5 samples, flag the map as incomplete and schedule a re-observation session.

2. Verify that the value-added ratio calculation is correct. If the ratio exceeds 10% for a typical discrete manufacturing process, re-check the data for overestimation of value-added time.

3. If the future-state map does not achieve a minimum 25% reduction in total lead time, reject the map and facilitate a second brainstorming session to identify additional waste reduction opportunities.

4. If any kaizen burst on the action plan lacks an owner or due date, red-tag the action plan and return it to the workshop facilitator for completion before final approval.

5. Log all workshop outputs (maps, action plan, photos) in the ShopDocs QA module. If any participant reports dissatisfaction with the workshop process, document the feedback and initiate a root cause analysis to improve future facilitation.