TEXAS STATE
INGRAM SCHOOL OF ENGINEERING

I1.03 – Model for Product Introduction Across Global Manufacturing Sites

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Signify

Project Background

- Signify, formerly known as Philips Lighting, is a company that has revolutionized the innovation of the global lighting industry.
- Signify has recently announced a realignment to their North American manufacturing operations. This restructuring will involve a gradual production shift from the company's San Marcos manufacturing operations to its other various global sites within the Americas.

Project Statement

- The absence of clear guidelines impedes efficient assembly and a consistent process for indoor lighting including exit emergency signs and BAC (Built in America). This increases downtime, safety hazards, inefficiencies in the process. Our focus will be on developing robust work instructions to address these challenges.

Project Constraints

- Production Scheduling
- Variable Iterations for Products
- Time
- Human Factors
- Supply Chain and Material

Objectives

- Compile verified Bill of Materials(Including different option iterations)
- Update Assembly Schematics
- List steps of Testing Procedures and CTQs
- Packaging and labeling instructions
- Work instructions(accounting line balancing and best practices)
- Video and pictures of assembly process
- Pictures and dimensions for specialty tooling/equipment

Problem Solving Methodology

Define:
- Identified high volume products highly impacted by lack of standard work instructions.
- Focus on key issues contributing towards "Muda". Rank standard work elements per VOC.

Measure:
- Current state of assembly process (Downtime occurrences) linked to standard work.
- Expected assembly time for product vs actual time.

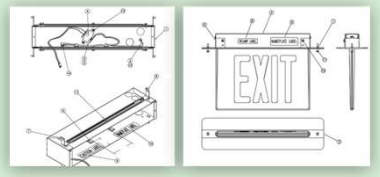
Analyze:
- What are the best methods for each assembly process step?
- Is current state efficient? (Time studies, MOST analysis, One piece flow efficiency).

Improve:
- Eliminate NVA work from process. Work instructions yield balanced workstations.
- Create specialty tools or jigs to facilitate work. (Human factors and Ergonomics).

Control:
- Compare assembly process times (before and after).
- Work instructions simplified for understanding? (Assembly operator feedback).

Current State vs Proposed Improvements

Current state instructions contribute towards "Muda":
- Unbalance work tasks at assembly line.
- Quality and testing procedures not clearly defined.
-Missing or wrong BOM elements.

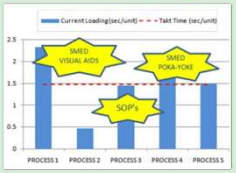


Initial Design improvements:
- Work instructions account for balancing of line and OPF.
- Defined CTQs and testing procedures.
-BOM elements verified. All steps have material call-out sections.

Data analysis and validation

Data to be analyzed includes:
- Current "delta" between engineering working standards and MOST data acquired.
- Assembly operators and engineering support will be consulted about best know assembly practices.
- Overall impact of non-standard work towards overall line efficiency.

Validation of improvements:
- Work instructions and procedures meet engineering working standards.
- Engineering management approval of CTQs and best assembly practices.
- Assembly process steps are balanced throughout workstations and operators.
- Work instructions follow One-Piece Flow methodology.
- Documentation provides ease of understanding and minimizes learning curves.



Human Factors

- Reduce confusion and mental workload
- Utilize visuals and color-coding for key aspects in working standards
- Identify repetitious tasks that may lead to fatigue and strain on operators
- LEAN and ergonomic implementation for assembly process and specialty tooling

Project Schedule

Team Members

Left to Right: Megan Woods, Rodolfo Olivares-Tamayo, Sarah Chowdhury, Katie Smith, Jorge Narvaez

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