Lean Deployment Observations

## LEAN DEPLOYMENT OBSERVATIONS

### Visual Factory

**NON-LEAN**
- No notification/information boards (Andon)
- No/little evidence of Lean Metrics used
- Variation in work performance
- Standard procedures not being followed
- Dirty, cluttered, messy work areas
- Messy bathrooms
- Materials piled everywhere
- Unmarked gauges & tools
- No min/max levels at line side
- Empty shadow boards, tools missing, disorganized
- Oil dry on floor, pig socks used, overflowing pans, puddles of fluid on floor

**LEAN**
- Use notification/information boards
- Demonstrate use of key Lean Metrics
- Standardized Work form prominently displayed/ workers knowledgeable
- Workers do the job the same way every time
- Sparkling clean machines, tools, work areas & bathrooms
- Designated area for full/empty containers
- Marked gauges & key equipment
- Min/max levels clearly marked
- Shadow boards for tools that are used & maintained
- Shiny clean floors; painted

### Evidence of Teams

**NON-LEAN**
- No production data visible (or outdated)
- Lack of conference rooms for teams to use
- Suggestion campaign old, suggestion box not active, little implementation of suggestions accepted
- No problem solving involvement at operator level
- 8D/5P done in quality level
- Team not actively involved in standardized work activity or work flow

**LEAN**
- Team data prominently displayed
- Quality data, production real-time data, problem solving evidence, training depth chart
- Available team meeting areas
- Teams implemented many of their own suggestions
- Proof of problem solving activities in many places in plant (fishbone diagrams filled out & displayed, PDCA cycle being followed, 5 Why’s)
- Aggressive Team Standardized Work input

### Changeover

**NON-LEAN**
- Usually done by one person
- No tracking of changeover time
- Most work done when machine is down
- Lack of standardized methods - no specific work task/procedures identified

**LEAN**
- Changeover done by team
- Clear internal/external task identification
- Changeover chart tracks times, improvements, goals & ideas
- Use of changeover cart, visual organization used, standard method

### Pull Systems

**NON-LEAN**
- High level of inventory on lines & in plant - shipping & receiving
- Material waiting & stacked at line side
- Delivery time of materials unregulated
- Centralized schedules without Takt times
- Products "pushed" to next area

**LEAN**
- Low level of inventory on line & in plant
- Real kanban system in use
- Material delivered frequently to line side
- Use of small supermarket areas
- Localized/customer demand with Takt times
## Lean Deployment Observations

### Do You See?

#### Returnable Containers/Dunnage

**Non-Lean**
- Cardboard Containers
- Wooden Pallets
- Large number of parts/containers

**Lean**
- Reusable containers (plastic, metal) recycled between company & suppliers
- Small number of parts/containers

#### Layout & Good Material Flow

**Non-Lean**
- Insufficient, poorly-spaced docks
- Cluttered staging areas
- Warehouse/storage poorly placed for continuous flow
- Designated scrap areas that are full
- 8D/5P done in quality level
- Long conveyors, full of WIP

**Lean**
- Point of use shipping & receiving docks
- Visually clear and simple staging areas
- Well-placed small market area
- Little scrap/use of mistake-proofing
- Short conveyors, min/max levels marked

#### Lean Process Flow

**Non-Lean**
- Assembly running much faster than customer requirements
- Large buffers/production push product
- Large off-line repair bays

**Lean**
- Assembly tied to customer requirements
- Small buffers used sparingly to de-couple major processes
- Production pulled from prior operation

#### Cell Design

**Non-Lean**
- Inefficient assembly configurations
- Assembly long way from point of use
- Storage of completed materials (more than 1 day’s supply)

**Lean**
- U-Shaped cell/no wasted motion
- Cells adjacent to point of use
- Sub-assembly and raw materials storage of 4 hours to support production

#### Machine Stability

**Non-Lean**
- Little visible evidence of preventive maintenance process
- Frequent breakdowns & no tracking
- No overall equipment effectiveness data
- No study/analysis into major losses

**Lean**
- Maintenance scheduled, posted & carried out
- Breakdowns fixed quickly & prevented
- OEE at 85% or better (posted & tracked by teams)