

**Category:** Value Analysis/Value Engineering (VA/VE) & Cost Reduction

**Example:** Project to eliminate process steps and associated labor

**Situation:** Rear lighting for automotive lamps; primarily trucks



**Problem:** Lamp bodies went through multiple pack-unpack-operation steps as they flowed through the plant; this created non-value add labor and inventory – plus scrap losses, potential inventory damage, etc.

**Action:**

1. Identified many non-value add steps in rear lamp body manufacture
2. Originated idea of molding-in metallic flake pigments to duplicate reflectivity function
3. Developed cost model that showed potential labor savings
4. Performed DOE on flake size, concentration, and mixtures of sizes
5. Used hand-held reflectometer on plaques; chose best three recipes for trials in live parts as plaque reflectivity values showed promise
6. Revisited cost model still viable but tenuous

**Result:**

1. Molded parts failed photometric requirements
2. Used DOE results to predict material recipes that might meet performance standards based on lab results on real parts
3. Further refined cost model based on recipe DOE predictions and Theory of Constraints “Truly-Variable-Cost” model
4. Decision made to terminate project based on refined cost model