KYDEX, LLC Inventory Accuracy Project Recap Summary

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The objective, as stated by KYDEX, LLC, of this project was to improve the accuracy of the inventory system from 30% to 75%. After conducting site visits and analyzing the scrap inventory data and the movement of scrap material, a list of improvement targets was created. These targets were the outside scrap storage area, inaccuracies in the estimation of scrap volume, and the data entry process.

The outside storage layout was redesigned using Systematic Layout Planning with product type, color, and total scrap volume as selection criteria. While this layout does increase the expected distance a forklift will travel per year from 576,138 to 848,515 feet, the increased distance will be offset by being able to quickly locate the desired scrap material. The new layout is organized based on product formulation and color, with the higher volume materials closer to the entrance to granulation area. The Dark and Light mix lots remain in their current locations as they need more space and their current location is the only appropriate space available. Tarps are a possible addition to the outside storage area. They would protect the scrap from the weather to maximize the amount of material that can be reused. One tarp for each scrap lot should be purchased. Each 8’ x 12’ tarp will cost $10.00 with a total cost of $450.00. Taking into account its purchase price, each tarp can save $46.50, giving a total savings of $2,092.50 over the tarps’ lifetime. Reflective stickers on the signs which designate the location for product scrap can increase visibility in low light conditions. A box of 25 stickers will cost $13.00 with an estimated total cost of $260.00 for 20 boxes.

Currently, there is minimal traceability of inventory when material is being moved from locations within KYDEX, LLC. A data sheet is filled out on the manufacturing line which includes the type of material and the amount of each defect type. This information remains at the end of the line and material is not able to be tracked from that point forward. The lack of traceability causes discrepancies between the actual location of material and what is recorded in the Ross ERP (Enterprise Resource Planning) system. A new Material Tracking sheet was created to more accurately track the flow of scrap material. This sheet allows the forklift driver to document what he is moving, how much there is, and where it is going. The sheet can be filled out without complicated cognitive work because it is based on observation of the labeled material that is being transported and will improve the traceability of scrap inventory.

When scrap material is separated from good product it is stacked on a pallet. The amount of material lost to scrap is estimated based on the average weight per sheet. This causes inaccurate weights of available scrap material to be entered into the ERP system. Our recommendation to fix this problem is to implement a floor scale at the end of each production line and forklift scales for each of the three forklifts used to move material. Implementing one scale at the end of each of the production lines will contribute to accurately determining the weights of all material that is being designated as scrap. Five floor scales at $1,695.00 per scale and three forklift scales at $2,150.00 per scale, totaling $14,925.00, will need to be purchased to sufficiently utilize this recommendation and maximize accuracy.