

Winnebago

CASE
SUMMARY

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WINNEBAGO INDUSTRIES

Forest City, Iowa
Winnebago County

Intern: Jeff Kloster
Major: Mathematics and Mechanical Engineering
School: Iowa State University and Central College



The Company

Winnebago Industries, founded in 1958, is headquartered in Forest City, Iowa, with satellite locations in Charles City, Hampton, and Lorimar, Iowa. Winnebago is the leading manufacturer of recreational vehicles in the United States. The company was incorporated in the late 1960's and is publicly traded on the New York Stock Exchange.

Project Background

Winnebago Industries Inc. is committed to continued excellence, leadership and stewardship in protecting the environment. Environmental protection is a primary responsibility of all employees as well as managers and supervisors. In keeping with this policy our objective as a company is to reduce waste and operate with minimal adverse impact on the air, water and land by pursuing excellence in environmental control. The Environmental Guidelines include the following points:

- ◆ Environmental protection is a line responsibility and an important measure of employee performance. Every employee is responsible for environmental protection in the same manner he or she is for safety.
- ◆ Minimizing or eliminating the generation of waste has been and continues to be a prime consideration in research, process design and plant operations; and is viewed by management like safety, yield, quality and loss prevention.
- ◆ Reuse and recycling of materials has been and will continue to be given first consideration prior to classification and disposal of waste.

The projects assigned for the summer of 2002 were the direct result of research conducted by the 2001 Pollution Prevention Intern Micah Schreur. Micah had identified several potential projects within the sawmill. His suggestions were revised by Wayne Venzke and other interested parties. The following were the official objectives for the 2002 P2 Intern:

1. Conduct an audit of the type, and amounts, of wood waste that are being generated.
2. Collect waste wood samples.
3. Provide a cost justification study on implementing a wood grinding operation.
4. Conduct a root cause analysis on re-work.
5. Analyze efficiency of dust collection system and provide courses of action.



Other Projects:

Investigate potential recyclers and options to the disposal of the temporary transit tanks that come with each Class-A and Class-C chassis.



The vast majority of the internship was spent researching potential solutions for identified scrap concerns within the sawmill. Identification and investigation took approximately 5-6 weeks to complete due to the size and complexity of Winnebago’s operation. The objectives at the Charles City Hardwoods Division were primarily information gathering, organization, and recommendation. Charles City does a good job of gathering information on internal wood scrap issues, however they did not have the resources available to complete a rigorous analysis of that data. The intern was able to provide this type of analysis. The final assigned project dealt with an issue that had first been investigated by the 2001 P2 Intern. This project involved the revision and submission to Ford Motor Company of a potential solution first proposed by the 2001 intern, Micah Schreur.

Incentives to Change



- ◆ By streamlining production through methods of standardization Winnebago will see significant reductions in operating expenses and overhead costs.
- ◆ Decreases in overall landfill waste will result in a re-coop of the disposal costs.
- ◆ Winnebago Industries is one of the largest employers in the North-Iowa region; thus the company is in a position of leadership to the rest of the industrial and business community. By recognizing that company actions often influence the actions of smaller companies in the area, Winnebago must realize that the actions of the company are often times repeated by other businesses.
- ◆ Winnebago’s impact on the surrounding environment directly affects the well being of the surrounding community. By demonstrating a concern for the environment and acting in that manner, Winnebago demonstrates a sincere concern for the health and welfare of the surrounding public.

Regulatory laws will only become stricter in the future. By reducing or eliminating wastestreams on a continual basis, compliance with those regulations will only become easier.

Results

Action	Justification	Waste eliminated	Economic impact	Status
Devised "defect return system" with pine vendor	Elimination of solid waste	490,000 lbs. of pine	\$10,000 in recovered disposal costs	Implemented
Economic analysis of scrap use in bed paneling	Continuance of scrap re-use	272,581 lbs. of paneling utilized	\$192,000 in recovered purchase costs	Program continued
New software for KOMO routers	Standardize scrap for ease of re-use	Potential for 30-40 percent of scrap used: 300,000 lbs.	\$190,000 in recovered purchase costs	In progress, further study required
Root-cause analysis on re-work	Production disruption	7,115 hours of labor	\$111,000 in recovery of lost labor	Further investigation necessary into machine technology

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