Linen Supply Procedures and Standards

ALWAYS GREEN

West Michigan Shared Hospital Laundry has always been focused on preserving the environment and the resources of our members. In addition, we go well beyond the standard practices of those in our environmentally friendly industry.

For forty years, WMSHL has focused on conserving natural resources through the very act of doing business as a shared central laundry. We ship millions of pounds of reusable linens each year. Our process reduces the vast amount of petroleum and cotton inputs that are needed for our members to provide quality healthcare services to West Michigan.

As a large shared laundry, the efficiency granted by our volume significantly reduces the amount of water, electricity and natural gas that would be required by smaller less efficient laundry operations. Typically, smaller on premise laundries require up to five percent more utilities per volume to process laundry.

As part of our mission, we make many products available that are historically disposable though not all members choose to utilize them (*Surgical gowns, surgical wrappers, under pads, adult and baby diapers, cleaning cloths and isolation gowns*).

Post Service Linen Recovery	Even reusable linens have a set life. As items reach the end of their utility as hospital linens, we sell the majority to companies that utilize them in the cleaning industry. This puts money back into our system.
Linen Donations	We also donate thousands of pounds of linen each year to missions and other international programs and services.
Water Reuse	The use of state-of-the-art processing equipment allows us to reuse millions of gallons of water each year. This reduces our demand for water by over 50%.
Water and Heat Reclamation	All water used in the wash process is through a heat reclaimer. This heat reclaimer generates an average of 40 degrees of temperature. In addition, we reuse all of the water that is used in the cooling process of our air compressors. This captures and utilizes the heat and the water. This process represents a decrease in natural gas usage.
Intake Air Heat Reclamation	The majority of our dryers receive their intake through a coaxel intake system. This system passes all intake air through a dual layered system that is enclosed by ducts that carry the heated exhaust gasses. The system increases the dryer efficiency by over 4%. This represents a reduction in natural gas usage.
Energy Efficient Lighting	Approximately ten years ago, WMSHL received a grant to replace all of our production lighting with energy efficient fixtures. These bulbs produce a more natural, higher output of light at substantial energy reductions.
Recycled Plastic	The standardization of all soiled linen bags that members use has allowed productive savings for this facility and direct savings for our members. It also allowed us to recycle 100% of all plastic returned to this facility. In addition, we make available collection barrels to our members so that members can collect and send plastics for recycling. Besides savings to our environment of scarce petroleum resources, it generates revenue annually.

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Metal Salvage Program	Because of WMSHL's focus on constant change and the upgrade of equipment and capabilities, we routinely generate a large amount of scrap metals. WMSHL has an aggressive program to savage metals whenever possible.
Reused Hanger	Although the reuse of garment hangers seems a trivial matter, as a central laundry, we use a very large amount. Our return program reduces the use of new hangers, generating a savings every year.
Returned Hospital Equipment	Along with our obligation to the environment, we are dedicated to saving our members dollars wherever possible. We recover and return hospital equipment each year. Any equipment returned represents the saved resources needed in its replacement.
Cardboard Recycling Program	WMSHL recycles over 20,000 pounds of cardboard each year.
Delivery Skids	WMSHL recycles over 400 delivery skids each year.
Flat-Screen Monitors	Over the past five years we have replaced all our conventional CRT's with energy efficient flat-screen monitors. This represents a power reduction of 70%.
Wash Chemical	The efficiency gained by our volume ensures that we use far less chemicals than would be required if our volume was dispersed, however, being a central laundry dictates that we use a large amount of chemicals in our wash process. To ensure that we are a conscientious guardian of the environment, we will only maintain a relationship with a chemical supplier that shares our focus. Our present and any future chemical provider must guarantee that they adhere to all local, state and federal regulations. In addition, we require that all key materials used in our chemicals are biodegradable and that only hands off automated chemical delivery systems are used. This greatly reduces the likelihood of any personal and environmental contact.
Miscellaneous	WMSHL makes attempts in every facet of our daily operations to conserve natural resources and owner financial resources. This myriad of lesser policies and procedures include; lighting of only utilized areas of our facility, using energy saving modes on all equipped equipment, recycling of all toner cartridges, donation or proper removal of all upgraded office equipment.

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Wash Process	All laundry/linen is handled and processed according to and strictly adhering to all state/federal and applicable organizational guidelines. Cleanliness and kill/removal of infectious agents is assured through the redundant combination of four complimentary factors: • **Mechanical Action** – The agitation of linen against themselves and the interior of the wash wheel (Industrial wash machines provide mechanical action that is not possible with nonindustrial machines. All patient linens at WMSHL are processed within continuous batch washers that have five foot vertical wash chambers and provide cascade action. • **Dilution** – The introduction and permeation of large quantities of water allows the removal and transport of soils and infectious agents from the linens. • **Heat** – Patient linens are washed at a minimum of 160 degrees. This temperature that can only be reached through the introduction of live steam aids in the cleaning process and takes the linen to a temperature range that is identified to be beyond the survival zone of known infectious agents. • **Chemical Actions** – Through the introduction of chemical agents (alkali, oxygen, bleach, sour) an environment is achieved that is lethal to all infectious agents. Unlike home, industrial or hospitality processing, healthcare laundries are dedicated and configured to handle the specific needs of healthcare organizations, the staff and their patients. Not only must we strive to clean and maintain the linens we must take into account the infectious nature of the soiled linen and the requirements placed on clean linen that patients with their potential long term exposure to the linens and their compromised immune systems and the sensitive physical reactions. **Detailed Wash Process (Patient Linens):** 1. Linen is sorted by classification. Classification Criteria include: product type, product use, fabric, construction, soil content, and finishing procedures. Each classification has a weight specification that is monitored by sorting equipment. When the target weight is reached the soiled linen is transferred to storage. 2. Sorted products are stored and staged awaiting calls from equipment. Calls are based on schedules, member and productive requirements, and machinery qualifiers. 3. Linen is called and transferred to the appropriate equipment along with classification and weight data. Wash formula is determined by classification and chemicals and water flow adjusted by weight. 4. Patient Linens are processed in the continuous batch washers. These washers perform separate wash steps in progressive pockets. The wash process takes a minimum of 24 minutes and reaches a minimum of 160 degrees.