

Master AND Commander OF THE MRF



In the second story in an ongoing series about the modern MRF, our author shares expert advice on how to run a single-stream facility in the face of volatile markets, increasing complexity and financial pressures.

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Chapter 1 of this complete look at the issues and concerns surrounding the modern materials recovery facility, published in the April issue of Resource Recycling, ended with the following comment: “With rising costs, falling revenues and long-term contract obligations, there are more than a few stories of insufficient revenues to cover operations costs and contract responsibilities like commodity rebates and public education programs.”

What materials recovery facility can overcome the daunting challenges of change and financial crisis today? After visiting well over 250 MRFs over the past two decades, I have witnessed many valuable attributes that the best MRF operators possess, regardless of individual management styles. The best practices developed by those managers may prove invaluable for operators under pressure in today’s environment.

There are excellent operators working for all the major professional MRF service providers. My former company, Waste Management, had some of the best facilities and managers I have personally observed. Excellence can also be found at many other companies, including large haulers, independent professionals and integrated paper mill operations. There are, of course, poorly operated facilities with easily spotted indicators, which can be found at an alarming number of MRF sites – and generally stem from a lack of training, acumen or control.

A good operator can make a giant swing in the success of a MRF in a short period of time. The bottom-line impacts can be very large – to the tune of hundreds of thousands of dollars a month. I have seen this phenomenon play out at three different public companies over the last 40 years. What is the special combination of skills and approaches applied by gifted leaders to get through tough times and the swings of the recycling business? Ex-

ternal considerations, such as customer needs and talent acquisition, are important, and they’ll be explored in this series at a later date. For now, let’s look for answers within the MRF operation itself and the managers who set the pace at top-performing facilities.

Safety – no room for error

A skilled MRF manager will start by ensuring a successful safety program, with identifiable characteristics. It begins with energy. Good leaders will “sniff out” the lowering of standards and call immediate attention to approaching threats to safety. Strong MRF operators will also stop what they are doing and shut down production upon the discovery of serious unsafe acts and incidents – such as open electric panels, incomplete safety checklists, an unsafe loader being put back into service. In these instances, the operator calls the team together to point out the safety deficiency and makes it clear he or she will not tolerate repeats of the same incident.

It’s also important to establish and reward improving safety goals and celebrate employee and plant milestones, such as the avoidance of lost workdays or a significant period of time with no reportable accidents. If rogue employees or MRF users, such as third-party trucks tipping on the MRF tip floors, fail to follow the safety rules or are determined to be a threat, they are weeded out professionally. There are also regular safety meetings for all workers and brief toolbox safety huddles every shift. The accident rate will be low, and morale will be high – a well-operated MRF is a place where safe practices are trained, understood and followed. Energetic MRF safety programs are an excellent indicator of healthy plants.

OSHA representatives are now common visitors to MRFs, which are increasingly complex and potentially dangerous environ-

ments. Since 1990, there have been over 80 deaths due to forklifts and balers in the U.S., and many of these fatal incidents took place at MRFs and transfer stations. There have also been fatalities due to conveyor accidents, lack of traffic or energy control, and crushing and falling. An OSHA visit can literally put a MRF out of business, especially if the visit is due to a fatality or other serious accident.

However, there is nothing intrinsically hazardous in a MRF if proper protocols are put into place and enforced. Most MRF locations long ago adopted a zero-tolerance policy for poor OSHA compliance for personal protective equipment, hazcom/right-to-know, confined spaces, proper lockout/tagout energy control, equipment guarding, safety signage and other areas. Yet deaths still occur when OSHA standards aren't followed in MRFs, and, gallingly, some managers do not even wear appropriate personal protective equipment themselves while on-site.

A good operator knows accidents are very expensive in human costs, lost time, productivity and potential litigation. Some have cost MRF operators millions of dollars.

To avoid mistakes, safety checklists should be used for daily inspections of equipment, building and traffic control. The lists can cover numerous guidelines including: those from an equipment manufacturer, revised Z245.41 ANSI standards, OSHA minimum standards, and MRF continuous improvement team local safety recommendations. At well-run operations, cascading and simple safety checklists are also assigned to trained personnel – such as sort-line captains, maintenance technicians and equipment operators – for pre-shift inspection and are collected for frequent review. Such checklists are updated and controlled with care and are acted upon immediately to correct deficiencies when noted.

Additionally, safety procedures and warning signs – with simple, visual, multilingual messages – for all employees are posted near all energy sources, maintenance areas, elevated platforms, tip floors and storage areas. The maintenance of signs and other warnings, like pedestrian-restricted pathways, are made a priority, and they are kept clean, easily identified and understood. In this system, reviewing daily safety rules and implementing predictable correction and enforcement activities actually leads to encouraged employees offering good ideas on their own.

An effective operator creatively makes

the safety system a welcomed part of the culture, instead of the dirge of unnecessary paperwork. “Safety speak,” milestones and concern for fellow employees become a part of the common pride in the plant.

Attitude of compliance

When the retired Bill Ruckelshaus, former chief of the U.S. EPA, came to BFI over 25 years ago, the company leadership adopted an “obsession with compliance” in regards to regulation, and its MRF operations were no exception. The guidelines also required compliance with even-tougher internal rules regarding equal opportunity, overtime pay, emergency response, spill prevention, storm-water discharge, fire codes, reporting and a host of other site mandates.

This attitude became the industry standard, through the great work of pioneers such as Lloyd Andrew, Bob Davis, Nat Egosi and Susan Eppes. Great plants regularly and formally review their compliance obligations and ensure timely fulfillment of the needed processes and physical tasks to avoid dehumanization, fires, pollution and unpreparedness as well as the fines, litigation and human costs that come from these actions.

The complexity of MRF operations – and the need for more precise and diverse equipment with higher-speed throughput – leads smart operators to add fully documented preventive maintenance and repair programs that cover every process and machine in the building. In the best operations, manufacturer and plant requirements are broken down in the following ways:

- The employees who use the equipment are trained on how they fit into the maintenance process, and they know how to troubleshoot their particular equipment with a specific checklist, either paper or electronic, that is completed daily.
- Direct supervisors commonly observe how employees complete the checklist task and check the output and effectiveness of the comments with the maintenance team.
- The equipment's daily, monthly and annual inspection intervals are precise and are sacrosanct parts of every affected employee's job description.
- Obvious risks are dealt with promptly – for example, defective equipment is either taken out of service immediately or made the highest priority maintenance item in the off-shift.

- Work orders are created for any spotted deficiency, and they only get closed when the deficiency is corrected.
- Double-checks and sign-offs on maintenance work are completed by both the maintenance supervisor and the plant operations manager.
- Operators regularly review how the maintenance system is working through audits, financial goal achievement, and/or physical analysis of equipment, and they offer constructive feedback.

Strong communication of equipment deficiencies will translate into low maintenance costs and downtime. Interestingly, when these conditions are present, the maintenance team is somehow more efficient, happier and seen as more “talented.” In addition, turnover lowers for this critical function. There is no magic here. It starts with managers who understand preventive maintenance and delegating responsibility for it to everyone in the value process. Some of the best facilities have adopted “lean manufacturing” or “total quality maintenance” protocols, or software programs that automate systems for maintenance, work orders and parts inventory. Not all operators have access to these tools, but skilled managers nonetheless find ways to build similar homemade approaches. With any of these best practices, operators should aim to implement bite-sized processes with personal accountability, and they should insist on their usage and effective completion.

Limiting easy-to-control mistakes

For good operations, reliance on simple routines for individual processes to minimize mistakes goes far beyond safety, compliance and maintenance. Other prescriptive, simple and well-understood checklists for important routines proliferate. These include:

- Employee annual training cycles
- Required plant start-up and shut-down procedures and inspection
- Individual equipment basic operations – procedures should be clearly posted and be supplemented by regular trainings
- Municipal contract reporting and other individual customer requirements
- Cash handling and scale testing daily, weekly and monthly
- “On-boarding” – plant tour and required orientation and training for new employees

- Outside customer tours
- Housekeeping – daily, weekly, monthly and annual

These and other important documented routines become “de rigueur” in well-operating facilities. To avoid duplication and lost productivity, the skilled operator often reviews these real-time checklists or has a MRF team empowered to improve them. This process ensures they remain simple, user friendly, relevant and cover all emerging points of concern.

Identifying critical processes and training is key in manufacturing. Complex MRFs are no different. The best MRF teams assure proper files and procedures are documented and remain current. Amazingly, despite a great deal of prescribed routine and documentation, these same plants seem to have more time for planning, continuous improvement projects, customer attention and employee input. There are simply fewer mistakes. The best sites spend some of that extra time creatively enhancing routine programs to pique interest in their teams. The boss willingly implements homegrown good ideas on a process-by-process basis. Though some operators move their sites to ISO, LEED and other certified program compliance, the majority of MRFs are not there yet. However, excellent managers without such access still succeed. Conversely, operators who do not attend to process-by-process details and improvement rarely prosper long term.

Champion and cheerleader

A former president of Columbia’s Teachers College once explained to me great leadership occurs when the authority maximizes his or her skillset and plays to the strengths of individual members of the team. To be really effective in a fast-moving environment like a MRF, there is no better advice.

Every individual has a different style and background, but good operators utilize their most effective personal attributes, and find roles and methods of response that resonate with their team needs. It is something I have personally witnessed in every case of good MRF management. Some effective facility leaders are quiet and some boisterous; some are great with people, while some are analytical and sparse with talking. Some are just plain quirky. Not everyone is a fiery coach, nor a mechanical genius, nor a good numbers person or an empathetic team-builder.

However, though different in temperament, good operators share common principles: They have a sense of human respect, use effective communication, know the value of breaking down processes and emit good energy. Finally, they are confident in their own style and approach and use their particular talents to accomplish goals through their teams. These gifted operators project their approach consistently and thoughtfully.

The common characteristics good operators and operations have can be summed up in eight MRF leadership principles:

1. Captain of the ship

Excellent operators seem present all the time at the MRFs they call home. Many firms have tried sharing MRF managers between campuses for cost savings. But because of the frequent adjustments in single-stream MRF labor, equipment settings, materials, markets and necessary follow-up, the “cost” of having someone there, with ownership and visibility, outweighs the “savings” of sharing leadership between campuses. MRFs are very complex operations making a lot of products, and production on any can get skewed quickly.

A key to making the most of on-site presence is the old “management by wandering (or walking) around” concept from Thomas Peters and Robert H. Waterman’s best-selling book “In Search of Excellence.” A leader’s availability in the MRF, in safety meetings, in the scale house, on the floor, in the maintenance bay and elsewhere involves a sensual presence of listening as well as talking, measuring and eyeballing a process until new understanding occurs. The learning is then documented for follow-up discussions, usually in a public way. To use a common example, imagine a baler gets turned off unexpectedly – an attentive manager stops whatever he or she is doing and moves quickly to investigate the disruption. Downtime is a reason for urgent reprioritization.

For another example of responsible action, consider the build-up of UBC in the glass residue. An engaged operator will be seen taking samples back to the office and then discussing what can be done to eliminate the loss. Effective operators will also know to put their foot down appropriately and authoritatively (in their own style), when they find waste or repeated mistakes. They may get highly impatient when they discover a speeding truck on-site and chase it down for counseling. They also find

ways to communicate their pleasure at high performance and achievement as soon as they see it.

When not present, an engaged operator is highly accessible to employees, customers and colleagues through electronic communication, and the leader establishes high accessibility requirements for all of the team supervision and staff functions. If something important arises, details are shared to the widest appropriate circle of staff.

In sum, this leader likes to be around, likes to talk about the site with pride and wants to hear the latest and greatest information about the MRF business and flow. At underperforming locations, the operator is often hard to find and contact. Not only does the MRF suffer, consider what a customer may think of this type manager. Upon seeing those types of situations, a friend of mine in the industry would say he “got the impression that folks were just pushing piles around in circles” – such a MRF is like a ship without a rudder.

2. Language of success

The successful operator talks, writes and teaches in easily understood “MRF language.” It begins every shift with team huddles, during which employees learn of yesterday’s performance and issues and look ahead to the coming day’s most important priorities. The MRF staff members all share a common dialogue of indicators and messages. This means communicating simple goals and corresponding metrics all the way down to entry-level positions so that key

Record breakers

A while back, an experienced facility manager in California made a graph depicting pounds recovered per employee hour. All site hours, including his own, were included.

Using a three-day rolling average, this operator would plot the pounds per employee per hour on a large graph, and management paid attention to it, communicating the significance and progress of the results to workers.

By being consistent, productivity grew until a ladder was needed to account for the latest successes in breaking the record. The eyes of the employees would light up when a record was broken. The manager would discuss the metric in the daily shift huddle, and would occasionally have pizza served for hitting important milestones.

measurements become the team's focus. Common goals and language are essential to high productivity and high morale, especially in work environments filled with noise, dust and other difficult elements. Humans want to please and head toward the light. Providing the light is what good managers do. Core success metrics are taught, communicated and regularly updated, leading to heightened performance.

3. The mirror of the MRF

Living half of one's waking life without basic feedback is heartbreaking. Yet many managers, who might be talented in areas like finance, fail to do this with their employees at MRFs. They stay behind closed doors, are absent from the site or remain immersed in endless paperwork. They do not provide feedback or establish process controls, emerging only when a preventable crisis becomes apparent. In this setting, the staff turnover mounts, the piles do get pushed in circles, and the plant drifts from crisis to crisis.

Profits through presence

Several years ago, a veteran lead sorter at a facility in a big Northeast city said of his new ever-present manager: "That dude drives me crazy. He may not be as nice as the last (expletive) manager, but we're getting somewhere. I told my wife this job is starting to make sense."

It's little wonder then that particular MRF's operating cost almost immediately went down over 15 percent while safety and other indicators improved over time.

Conversely, the best operators are effective at constant feedback and use their style to dispense both praise and discipline in a believable way. Because they are measuring for improvement, they communicate when processes are getting better and talk in easily understood metrics, like throughput, residue rates and bale production. They show impatience when conditions worsen, but they also spread pride and joy with achievement. There are not enough words to supplement the science of effective supervision on this point.

Excellent operators find a personal rhythm to their style of feedback, embrace its use, and point out both successes and deficiencies in ways that motivate improvement in the staff and employees. No favorites are

played, and the object is the success of the facility. Catching someone "doing something right" is just as important as catching someone committing errors. Operators should strive to offer mirror-like feedback – not doing so is a recipe for failure.

4. Building trust and teams

When a manager is trusted, the MRF team will come to leadership with an issue before it becomes a liability. If the manager is predictable, available and has some of the aforementioned traits, employees begin taking pride in an operation's accomplishments, and the MRF team becomes self-enforcing. When a problem becomes too big for individual employees, they come to the operator to solve the issue early. Often these are potentially threatening issues, like safety maintenance, or compliance, because they are understood. Where trust is even higher, open and early communication may also develop in regards to the more difficult HR issues involving subordination, laziness, harmfulness or inappropriateness. A very good indicator of an efficiently run facility is the plant workers adopting the plant standards and raising them themselves.

5. Allowing individual growth

Things don't ever get better in a MRF that has high turnover and team members that experience stagnant roles and responsibilities. Buy-in and enculturation are low in these conditions. However, excellent operators grow team and individual abilities and prepare team members for higher levels of responsibility and a corresponding greater sense of self-worth. The plant may feature "homegrown" heroes who are admired by other associates and supervising staff. This is a key indicator to strive for in any operation.

Such indicators may include a grassroots promotion for a one-time temporary worker, a sort-line captain who has a knack for keeping the team motivated, a highly efficient and safe loader operator, or a scale operator who has excellent relationships with a contracted city. Many of these employees will be motivated to stay on the job for longer careers due to motivation. And, in the best environments, they over and over again surprise their leaders with critical bellwether feedback and innovation as their skills develop.

6. Huddle up

Good MRFs are built on regular communications cycles where team members and management meet at defined intervals to set up goals and corresponding tasks, enabling production to be its most efficient. Examples of such practices include:

- Daily pre-shift meetings
- Maintenance planning meetings to minimize downtime and reduce repair outages
- Continuous improvement projects, through which teams are offered time to improve singular processes. At the best facilities, three or four improvement projects are in progress at any given time.
- Financial performance meetings where key MRF data is shared with key members and improvements are discussed
- Staff meetings with updated and prioritized agendas, with employee feedback on major issues, like productivity, customers, personnel or equipment
- Brief toolbox meetings on particular pieces of equipment or for short employee enrichment and training

These meetings tend to be very efficient, and do not stop production. Pre-shift huddles can be very effective and can be completed in less than five minutes. Through dialogue and sharing of the latest plant data, work becomes more interesting and enculturation quicker for the MRF team.

In this way, small teams within the MRF become "invested" in making their areas of responsibility run better. This takes time, employee development and patience. A MRF is a tough place for responsible delegation. However, the best MRFs and operators frequently achieve it. Things run like clockwork and improve because the plant team has bought in to the guiding principles laid out and embodied by leadership staff.

7. Keep it clean

Housekeeping is often seen as overrated in single-stream MRFs. It is viewed as never-ending, taking extra money and not adding value to the product. The variance of opinion over its usefulness day-to-day is often disputed because of its cost. The pile will be there tomorrow after all. The literature, however, is clear. Housekeeping in manufacturing lowers cost by:

- Ensuring compliance with OSHA's "clean and orderly and in a sanitary condition" Standard 1910.22
- Making working conditions tolerable
- Improving sense of pride and moral, thus increasing productivity
- Preventing accidents and fires
- Reducing waste and disposal costs
- Boosting use of space
- Improving hygienic conditions and leading to improved health conditions
- Reducing operation and handling time
- Reducing federal, state, and local fines and penalties

An effective MRF manager can be seen walking to the fence line of the property and picking up litter, assigning latrine detail and doing inspections with the assignees (without favoritism), having a continuous painting schedule, and completing organizing projects like shadow boards, 5S, ISO and others. If you are at a busy MRF that is neat and orderly, it does not seem like a solid waste facility. There may be inevitable

litter, but it vanishes before the end of the day. Current and potential customers enjoy visiting the facility, which can lead to more business. Ultimately, the proof is in the sweepings: Clean, organized facilities are generally more profitable than those that are not, and those attributes are good indicators of good operations.

8. Promptness and courtesy as the rule

Lord Admiral Nelson once said that "time is everything; five minutes make the difference between victory and defeat." The pace of an operation will pick up if the manager is always on time, starts meetings on the minute and asks why things are not running precisely when lunch hour is over.

Such leaders communicate clearly and concisely, and remind employees how valuable time really is by challenging where they ought to be. In this sense, the manager sees wasting time as a defect, one a

customer (and stockholder for that matter) is unwilling to pay for. However, the good operator also always finds a way to take the time to focus on the team, ask for employee input and show concern for workers' lives and families. The door remains open to employees.

The recycling landscape today holds daunting challenges as markets and materials continue to evolve and conditions shift. A critical component to making it through stormy seas is having the right internal leadership and processes. MRFs with good management hold their own in cost control and revenue maximization, and can be profitable even in the darkest times. **RR**

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