Waste Avoidance/Process Improvement – A Key Missing Element from Waste Regulations

Waste minimization has many meanings. The definition used for Canada focuses on reducing the final volumes and activity that require storage, and, ultimately, long-term disposal. A key missing element in this is Waste Avoidance/Process Improvement. Waste Avoidance/Process Improvement can include: using launderable items to replace single use RPPE, reusable bags and floor coverings, and many building maintenance activities (dry mops, wet mops, and microfiber towels). Over the last 20 years, this has helped Canadian customers avoid 8M pounds of radioactive waste and saved millions in direct cost. These processes have also been implemented in the US and European markets. However, from the organizational level, the departments and budgets within Canadian waste generators are not aligned to maximize this key element. There is no specific group assigned this responsibility and significant opportunities are being missed.

There are typically 3 budget groups and 2 technical groups that hold significant pieces to ensure the success of a Waste Avoidance/Process Improvement Program, but they are not aligned:

Budget Groups:

1) the group that purchases/pays for single use clothing, floor coverings, mops, wipers, packaging materials, etc.
2) the laundry group that pays for reusable items to be decontaminated and reused,
3) the waste/environment group that processes and pays for the radwaste generated.

Technical Groups:

1) Health Physics that prescribes clothing use
2) Maintenance/Operations/Outage Groups

Budget groups are not aligned. For example, if a launderable bag, cover, or clothing is put into service – the laundry bill goes up and commodity spend and waste volumes go down without budget adjustment and these numbers can get to be significant. These budgets need to have common control or a structural way to allocate/reallocate budgets to keep a company-wide focus on Waste Avoidance/Process Improvement. Not making the waste is the best possible outcome, yet it is not required by regulation.

We have seen significant labor-saving/dose saving items be implemented, (provided upon request) but because there is no mechanism in place to evaluate, track, and then celebrate the benefits of a given item, it can be undone, and possibly more importantly, only one group at one station is benefiting while other stations continue to work "old method" or inefficiently which needlessly generates radioactive waste or increases time spent on a given task that adds employee dose and overall cost.

Health Physics have several groups that get together and measure metrics and share successes (ALARA, RHP's, etc.). The ALARA program drives dose reduction concepts and highlights opportunities for improvement from the top to the bottom of the organization. If this level of focus was added to a Waste Avoidance/Process Improvement program, significant volumes of radioactive waste, worker dose, and cost could be avoided. There simply is not enough focus. Groups like the Environment or Waste groups do get together infrequently but they do not have the visibility or authority of an ALARA group. Further, for waste avoidance, they are cheerleaders at best and do not have the means to drive progress – they try to sell it without authority or budgets. Their role is to simply ensure generated waste is packaged efficiently and everyone already has plenty of work on their plate. However, all the pieces are already in place, and if this became a regulatory requirement, waste generators could make some organizational changes that could turn this on almost overnight. If you could get these concepts built into every worker and every evolution – significant benefits would be realized by the waste generator, their employees, and the environment.