MATERIAL MONITORING

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abstract

Waste Reduction Operations Complex (WROC) facilities are located at the Idaho National Engineering Laboratory (INEL). The overall goal for the Pollution Prevention/Waste Minimization Unit is to identify and establish the correct amount of waste generated so that it can be reduced.

Quarterly, the INEL Pollution Prevention (P2) Unit compares the projected amount of waste generated per process with the actual amount generated. Examples of waste streams that would be addresses for our facility would include be are not limited to: Maintenance, Upgrades, Office and Scrap Metal. There are three potential sources of this variance: inaccurate identification of those who generate the waste; inaccurate identification of the process that generates the waste; and inaccurate measurement of the actual amount generated. The Materials Monitoring Program was proposed to identify the sources of variance and reduce the variance to an acceptable level.

Prior to the implementation of the Material Monitoring Program, all information that was gathered and recorded was done so through an informal estimation of waste generated by various personnel concerned with each processes.

Due to the inaccuracy of the prior information gathering system, the Material Monitoring Program was established. The heart of this program consists of two main parts. In the first part potential waste generators provide information on projected waste generation process. In the second part, Maintenance, Office, Scrap Metal and Facility Upgrade wastes from given processes is disposed within the appropriate bin dedicated to that process.

The Material Monitoring Program allows for the more accurate gathering of information on the various waste types that are being generated quarterly. This system includes a number of questions added the to facility work order form which solicites waste related information.

This system allows for the accomplishment of three important concepts. It allows the waste projection information necessary to write the QWRR to be accessed from a central location. The system increases awareness of the waste generation and the need to minimize waste. Finally, it allows for waste generation tracking by process, location and specific job.

Provisions have also been made to monitor all non-work order waste streams through this system. Special work orders have been established to enter information on wastes generated that are not normally generated on work orders. Data on the amounts of these wastes streams generated is gathered monthly and entered into the system under the appropriate work order.

In conjunction with the Materials Monitoring System we are proposing a second half of the Materials Monitoring Program - an expanded waste bin disposal system for specific waste streams. Separate waste bin collection points would be set up at each facility. These waste bins would allow the waste generated by these specific waste stream to be more accurately calculated and tracked. Simply stated, this program will allow the facilities to better meet obligations concerning overall Waste Minimization goals.

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Material Monitoring

The Waste Reduction Operations Complex (WROC) facilities are located at the Idaho National Engineering Laboratory (INEL). The overall goal for the Pollution Prevention/Waste Minimization Unit is to identify and establish the correct amount of waste generated so that it can be reduced. Lockheed Idaho Technologies Company (LITCO) must meet certain waste reduction goals annually for the next 15 years. LITCO must reduce the overall amount of waste generated by approximately ten percent each year. This will help to allow LITCO, by the year 2010, to met its ultimate goal established by the DOE-ID which is to come as close as possible to generating zero waste.

Quarterly, the INEL Pollution Prevention (P2) Unit compares the projected amount of waste generated per process with the actual amount generated. Examples of waste streams that would be addresses for our facility would include but are not limited to: Maintenance, preventive and corrective; Upgrades, painting; Office, paper and normal office trash; and Scrap Metal, excess metal from various projects. For example, the volumes of Maintenance, Office, Scrap Metal and Facility Upgrade wastes projected in the WROC Waste Minimization Plan varies from the actual amount recorded as disposed at the INEL Landfill Complex. There are three potential sources of this variance: inaccurate identification of those who generate the waste (painters, pipe fitters, etc.); inaccurate identification of the process that generates the waste; and inaccurate measurement of the actual amount generated. The Materials Monitoring Program was proposed to identify the sources of variance and reduce the variance to an acceptable level and in the process of being implemented at the site work order level to solve this situation.

Prior to the implementation of the Material Monitoring Program, all information that was gathered and recorded at the WROC facility was done so through an informal estimation of waste generated by various personnel concerned with each processes. Contacts were established in hopes to gain all necessary information for the Quarterly Waste Reduction Report (QWRR). This QWRR was designed to gather information on the amount of waste generated per

process and better allow for Pollution Prevention Opportunity Assessments to be identified.

A Pollution Prevention Opportunity Assessment (PPOA) is a process in which waste streams are studied to identify possible reductions of current wastes generated. These reductions could result from such activities as process changes, material substitutions, recycling, or good operating practices. Once a PPOA has been conducted and approved it is implemented.

Due to the inaccuracy of the prior information gathering system, the Material Monitoring Program was established. The heart of this program consists of two main parts. In the first part potential waste generators provide information on projected waste generation process. In the second part, Maintenance, Office, Scrap Metal and Facility Upgrade wastes from given processes is disposed within the appropriate bin dedicated to that process. At the end of each quarter, the waste accumulated, within the each bin, is measured and properly disposed of. If prior to the end of the quarter the bin is filled, the date shipped, measured amount of waste, and the type of waste or bin will be recorded; then the waste will be properly disposed of.

The Material Monitoring Program allows for the more accurate gathering of information on the various waste types that are being generated quarterly. This system includes a number of questions added the to facility work order form which solicites waste related information. A work order form is a series of approvals and needed information that are gathered before any job at this facility can be complete. The work order forms and format have been placed on an electronic tracking system (MCRS-2) which allows for easy access for all those personnel using the work order form. This system is linked between the different facilities by a data link (Ether Net).

The maintenance foreman or appointed personnel who fills out the work order must now include information on the kinds of waste to be generated and the planned disposition of that waste. By placing the information on the computerized work order form we are now able to track all the waste generated

by the before mentioned waste streams more accurately and be able to acquire the necessary information at the touch of a button.

This system allows for the accomplishment of three important concepts. It allows the waste projection information necessary to write the QWRR to be accessed from a central location. The system increases awareness of the waste generation and the need to minimize waste. Finally, it allows for waste generation tracking by process, location and specific job. An automated waste tracking report can be generated from all those work orders that contain waste generation information.

Any Material Safety Data Sheets (MSDSs) applicable to the products used that could be in the waste stream will be linked to the work order, so if necessary, they can be referenced to better identify any hazards that could be in the waste streams.

Provisions have also been made to monitor all non-work order waste streams through this system. Special work orders have been established to enter information on wastes generated that are not normally generated on work orders. These waste stream could include, but are not limited to office waste; hazardous, mixed and low level waste; and waste generated by outside contractors. Data on the amounts of these wastes streams generated is gathered monthly and entered into the system under the appropriate work order.

In conjunction with the Materials Monitoring System we are proposing a second half of the Materials Monitoring Program - an expanded waste bin disposal system for specific waste streams that on a per day basis generated a small quantity, while on a quarterly basis generate a fair amount of waste. Separate waste bin collection points would be set up at each facility for Maintenance, Office, Scrap Metal and Facility Upgrade wastes. These waste bins would allow the waste generated by these three specific waste stream to be more accurately calculated and tracked. This program should cut down on the amount of time spent on gathering the information that pertains to the quantity of each waste stream generated.

These waste streams can be tracked per job by the type of process, waste stream and facility on the MCRS-2 system for auditing and specific tracking purposes. Trends in the generation of certain types and amounts of waste could then be better identified. This would also allow for the targeting of the major sources, of each waste stream, for their potential improvement through Waste Minimization and Pollution Prevention Opportunity Assessments, in the future. Simply stated, this program will allow the facilities to better meet obligations concerning overall Waste Minimization goals.

Environmental Section of Work Order

Was there waste generated _____

Description/Comments _____

_____

_____

_____

Disposition (Dumster):

_____ Maintenance

_____ Scrap Metal

_____ Office Waste

_____ Other, Where _____