ARE YOU LOSING MAINTENANCE DOLLARS IN INVENTORY?

AL SIKES

SURVEY WILL HELP IDENTIFY COST-SAVING OPPORTUNITIES.

OUR GENERATION TENDS TO LOOK TO TECHNOLOGY AS the way to provide our manufacturing and production efficiency gains. Understandably, because technology has provided us with great rewards in a very short time, we almost assume that all significant gains will come from the installation of new technology. Of course this technology trend will continue, but now with the pulp and paper market competition it may be a good time for a reality check. Could we be missing the obvious? Could there be some low-hanging fruit that does not require a US$ 2-million capital investment in technology to harvest? The answer for many pulp and paper mills is yes. Many mills have a poor mix of maintenance parts inventory that causes both excess cost and extended downtime.

This article is the beginning of a series of steps that will let you first confirm that significant opportunities actually exist in your mill, and ultimately will provide you with some way to harvest those opportunities. This first article asks you to survey the opportunities that exist in your mill. The survey forms and instructions are included (see Forms 1–3). Your participation will provide the current industry benchmark data. The second article will report the results of this benchmark survey so that you will better understand the scope of these opportunities throughout the industry. The third article will then outline the actions that you can take to harvest many of those low-hanging opportunities.

STEP 1:
Instructions for performing the survey (this article)
STEP 2:
Survey your mill (your contribution)
STEP 3:
Report of benchmark findings of all mills (future article)
STEP 4:
Recommendations for improvement (future article)

THE OPPORTUNITY

As you complete the attached survey of your mill, you may confirm that a poorly cataloged and controlled maintenance parts inventory has a huge impact on production output, productivity, and cost. Consider these examples that come from a selection of mills:

- You have already taken downtime to repair the equipment. Shortly after startup, the same equipment and part fails again causing extended downtime and lost production. Analysis later shows that the repair part found in the storeroom had originally been purchased with the wrong specifications and that the part's description is incorrect.
- Maintenance craftsmen often spend a lot of time hunting through the storeroom trying to find parts because they do not know the stock number of the parts they need.
- Repair-day (outage) jobs are canceled at the last minute (or even after work has begun) because the required repair parts cannot be found.
- Required parts are in stock but might not be found because the descriptions are inconsistent and not properly formatted.
- The storeroom contains "obsolete" spare parts for equipment that is no longer in service.
- Useful materials, left over from modification or capital projects, are not given stock numbers and descriptions that allow them to be found easily at a later time.

Completing this survey at your mill will help you discover whether your maintenance cataloging and inventory control practices are properly established. If they are not, you will uncover stories like those described earlier. This will provide the basis for estimating the financial effects of excess downtime, low labor productivity, and excess materials costs.

SUGGESTED PROCEDURES

We suggest the following approach to completing this survey. The entire survey should be completed in one week, with only the "survey coordinator" spending more than 30 minutes. The survey coordinator should spend no more than 16 hours performing the interviews and summarizing the findings. The suggested approach is as follows:

1. Mill manager appoints one person as the survey coordinator to coordinate the survey.

2. The survey coordinator identifies the people to be interviewed. We suggest talking with several people who have the following job functions:

   - Mechanical craftsmen
   - E & I craftsmen
   - Maintenance planners
   - Maintenance supervisors
   - Production operators
   - Production supervisors and superintendents
   - Production manager
   - Maintenance manager
   - Maintenance engineers
   - Stores supervisor
   - Stores issue window personnel
   - Purchasing buyers (involved in expediting emergency orders)

3. Schedule the interviews of these people either as individual interviews or as small groups of two to four people.

4. At the beginning of each interview (which should last no more than 30 minutes), each person should complete the Survey Interview Form (Form 1). The second part of the interview should be a discussion of specific examples where materials-related procedures and practices have affected the mill's production output, productivity, or cost. The survey coordinator should document the key points associated with each example that is given by the person being interviewed.

5. After all of the interviews are complete, the survey coordinator summarizes the findings on the Survey Summary (Form 2) that is included with this article. Also, on the Survey Examples sheet (Form 3), the coordinator should list a summary of the key examples that illustrate the nature of the materials-related problems at the mill.

6. The survey coordinator sends the Survey Summary and Survey Examples list of key examples to the address given below. Include the coordinator's name, business address, and telephone and fax numbers. Confidentiality is guaranteed.

7. Discuss the findings with the mill manager and others who encouraged and sponsored this survey.

Our target schedule is to receive all of your responses no later than Dec. 31 and to publish the results in the spring. We anticipate that your participation in this survey will benefit your mill as well as the industry in general. If you have questions, please call Al Sikes at +1 770 717–2737. Please mail or fax responses to TAPPI JOURNAL, P.O. Box 105113, Atlanta, GA 30348; FAX: +1 770 446-6947.

Sikes is vice president of operations at Performance Consulting Associates, Inc., Duluth, GA 30136, and is a Certified Management Consultant.

TAPPI JOURNAL thanks the author, Al Sikes, for designing and coordinating this survey.

MAINTENANCE INVENTORY SURVEY

SURVEY FORM 1: INTERVIEW

For: Each person involved in the survey

Instructions: Make one copy of this form for each person being interviewed. For each best practice, check one of the following conclusions as it relates to your mill:

A. The practice is already successfully in place

B. Improvement is needed and would produce moderate benefits

C. Improvement is needed and would produce big benefits

D. The improvement is not significant to your operation, or you do not have an opinion

Best practice	A Already successful	B Moderate benefits	C Big benefits	D Not applic. or don't know
1. It is easy to identify the stock number of needed parts.	❍	❍	❍	❍
2. The same item is never in stock more than once with different stock numbers and descriptions.	❍	❍	❍	❍
3. It takes very little research to identify vendor sources for ordering non-stock items.	❍	❍	❍	❍
4. It takes very little research to identify vendor sources for ordering non-stock items.	❍	❍	❍	❍
5. Obsolete items never accumulate in stock except in controlled areas waiting for disposition.	❍	❍	❍	❍
6. There are tight and consistent standards for defining descriptions of new items added to stock.	❍	❍	❍	❍
7. Materials users are free to define trade names for stock items (e.g., names that allow that part to be quickly located but do not conflict with the "official" description of the item).	❍	❍	❍	❍
8. Non-stock items are identified on a database and are properly described and cataloged.	❍	❍	❍	❍
9. When equipment is modified, old parts are deleted (and removed from stock) and new parts are properly set up in stock.	❍	❍	❍	❍
10. Before a part is deleted from stock, someone ensures that the item is not used elsewhere in the mill.	❍	❍	❍	❍
11. Before a stock level (reorder point) is reduced, someone ensures that the higher stock level is not needed for other mill equipment.	❍	❍	❍	❍

MAINTENANCE INVENTORY SURVEY

SURVEY FORM 1: INTERVIEW

Best practice	A Already successful	B Moderate benefits	C Big benefits	D Not applic. or don't know
12. Descriptive specifications for parts are complete and clear enough so that vendors are not able to substitute parts that do not meet technical specs.	❍	❍	❍	❍
13. Critical and insurance spare parts are coded and easily identified.	❍	❍	❍	❍
14. All spare parts are associated with all of the equipment on which they are used.	❍	❍	❍	❍
15. If parts specifications are upgraded or changed, stores is notified and the existing stock is evaluated and replaced if necessary.	❍	❍	❍	❍
16. Capital projects, while in the engineering stage, define new stock items that will be required to maintain the equipment.	❍	❍	❍	❍
17. Capital projects, while in the engineering stage, define increases for existing stock items that will be required to maintain the equipment.	❍	❍	❍	❍
18. Special storage conditions (e.g., temperature and humidity control) that are necessary to preserve the parts are identified as part of the item's descriptive codes.	❍	❍	❍	❍
19. Special in-storage maintenance (e.g., motor rotation requirements) that are necessary to preserve the parts are identified as part of the item's descriptive codes.	❍	❍	❍	❍
20. Special shelf-life information is kept for parts as needed to preserve the quality of the parts when needed.	❍	❍	❍	❍
21. Valuable warranty information associated with applicable parts is readily available.	❍	❍	❍	❍
22. Maintenance has the opportunity to influence the design and selection of new equipment.	❍	❍	❍	❍
23. Useful materials, left over from capital or modification jobs, are promptly assigned part numbers, accurate descriptions and storage locations.	❍	❍	❍	❍

MAINTENANCE INVENTORY SURVEY

SURVEY FORM 2: SURVEY SUMMARY

For: The survey coordinator

Instructions: From all of the Survey Forms, total the number of responses for each best practice. For example, if 20 people participated in your survey, the response for the first best practice may be as follows:

Best practice	A Already successful	B Moderate benefits	C Big benefits	D Not applic. or don't know
1. It is easy to identify the stock number of needed parts.	0	3	12	5

Best practice	A Already successful	B Moderate benefits	C Big benefits	D Not applic. or don't know
1. It is easy to identify the stock number of needed parts.	___	___	___	___
2. The same item is never in stock more than once with different stock numbers and descriptions.	___	___	___	___
3. It takes very little research to identify vendor sources for ordering stock items.	___	___	___	___
4. It takes very little research to identify vendor sources for ordering non-stock items.	___	___	___	___
5. Obsolete items never accumulate in stock except in controlled areas waiting for disposition.	___	___	___	___
6. There are tight and consistent standards for defining descriptions of new items added to stock.	___	___	___	___
7. Materials users are free to define trade names for stock items (i.e., names that allow the part to be quickly located but do not conflict with the "official" description of the item).	___	___	___	___
8. Non-stock items are identified on a database and are properly described and cataloged.	___	___	___	___
9. When equipment is modified, old parts are deleted (and removed from stock) and new parts are properly set up in stock.	___	___	___	___
10. Before a part is deleted from stock, someone ensures that the item is not used elsewhere in the mill.	___	___	___	___
11. Before a stock level (reorder point) is reduced, someone ensures that the higher stock level is not needed for other mill equipment.	___	___	___	___

MAINTENANCE INVENTORY SURVEY

SURVEY FORM 2: SURVEY SUMMARY

Best practice	A Already successful	B Moderate benefits	C Big benefits	D Not applic. or don't know
12. Descriptive specifications for parts are complete and clear enough so that vendors are not able to substitute parts that do not meet technical specs.	____	____	____	____
13. Critical and insurance spare parts are coded and easily identified.	____	____	____	____
14. All spare parts are associated with all of the equipment on which they are used.	____	____	____	____
15. If parts specifications are upgraded or changed, stores is notified and the existing stock is evaluated and replaced if necessary.	____	____	____	____
16. Capital projects, while in the engineering stage, define new stock items that will be required to maintain the equipment.	____	____	____	____
17. Capital projects, while in the engineering stage, define increases for existing stock items that will be required to maintain the equipment.	____	____	____	____
18. Special storage conditions (e.g., temperature and humidity control) that are necessary to preserve the parts are identified as part of the item's descriptive codes.	____	____	____	____
19. Special in-storage maintenance (e.g., motor rotation requirements) that are necessary to preserve the parts are identified as part of the item's descriptive codes.	____	____	____	____
20. Special shelf-life information is kept for parts as needed to preserve the quality of the parts when needed.	____	____	____	____
21. Valuable warranty information associated with applicable parts is readily available.	____	____	____	____
22. Maintenance has the opportunity to influence the design and selection of new equipment.	____	____	____	____
23. Useful materials, left over from capital or modification jobs, are promptly assigned part numbers, accurate descriptions and storage locations.	____	____	____	____

MAINTENANCE INVENTORY SURVEY

SURVEY FORM 3: SURVEY EXAMPLES

For: The survey coordinator

Instructions: Review your notes from each interview and highlight the key points and examples that highlight the variety of materials-related problems and opportunities at your mill. List these in summarized form on the Survey Examples sheet that is provided. Where possible, estimate the impact that each problem has on your operation. For more writing space please copy this page.

Key examples and opportunities	$ Impact on production output	$ Impact on productivity	$ Impact on materials cost

The Board of Directors of JWI Group and its Chairman, Charles Johnson, are pleased to announce the appointment of Garry E. Kirby to the position of President and Chief Executive Officer.

In this role, Mr. Kirby will be responsible for JWI's operations worldwide. During his 25-year career with JWI, he has held a series of senior manufacturing, marketing and general management positions throughout the company's North American divisions. Since 1990, Mr. Kirby has been the company's Chief Operating Officer. JWI is nearing completion of plant and equipment modernization programs aimed at enhanced quality and lower cost. This added manufacturing capacity will assist JWI in serving its growing markets in Asia and Latin America.

JWI Group, with its European sister company Heimbach, is a leading supplier of paper machine clothing and drainage systems to the world's pulp and paper industry. Serving papermakers in 55 countries, the combined resources of JWI/Heimbach offer technical expertise, extending across all grades and operating environments, to improve paper performance.

"The greatest thing this generation can do is lay a few stepping stones for the next generation."

Charles F. Kettering

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