AcornPipe Material Control

Drawing

The drawings are the key to all Material control as all reports and files are created from information generated as drawings are created. It is a great advantage to put one Spool per drawing as this will be the only way to track individual spools. All tracking and records are generated by drawing. For example it will not be possible to issue part of a drawing for fabrication.

Reports/Files

As drawings are saved, a record in the Status file is created for each with Spool number, Ref. drawing, Revision, Weight, Diameter-inches and more. Plus user defined fields for tracking production status through the fabrication.

A list of any number of drawings can be made, and this list is used to generate reports for Status, Material summaries, Cut sheets, a Material Search, Labor summaries, and more.

As drawings are created, all material and labor in each drawing will also add any new items into Reference files. These files are common to all jobs in the Client folder and all have a field for entering and storing the base unit price of every item. There are separate files for Material, Welds, Automatic labor and Extra user defined labor. Each file will allow the entry of a unit price. These prices will be used for pricing unit price drawings. The welds and end prep will be the prices for Group 0 materials and will be multiplied by a factor for other material groups. The Automatic labor includes all Cuts, Bevels of various kinds, Bends in a bent pipe system, Extruded outlets and End protectors.

Inventory

As drawings are completed they are used to create an inventory file for the job, which contains an accurate tally of every item in all drawings. The inventory file contains fields for Estimated, Purchased, Received, Drawn, In Stock, In Fabrication, Complete, Unit Price and Price factor. The Drawn field will show the total for each item from all drawings in the job. Estimated, Purchased and Received quantities are manual entries into the file. Any amounts received will also go into the 'In Stock' column. As drawings are released for fabrication the material for those drawings will be transferred to the 'In Fabrication' column and then to the Completed column.

Material Receipt

Material receiving reports can be generated with the reports having an entry for Heat number, MTR number and PMI number for each item. This will be used to create a receiving report for the job, with Item code, Heat number, quantity received and used, etc. for all items. This file will be referenced as heat numbers are entered into drawings to verify the correct item is used. It will also confirm numbers and amount used for all items in the job. As heat numbers are verified, the PMI and MTR numbers will be added to the drawing automatically. It will be preferable to check the numbers before fabrication to catch errors before they are made.

We are also looking at the possibility of generating Bar codes (or RFID tags) from the file to tag items so they can be scanned as they are picked for fabrication and can be checked faster.

Release to Fabrication

If material has been entered as 'received' into inventory it will also be added to the 'in stock' column.

The AcornPipe program user will make a list of drawings ready for fabrication, by dragging the mouse across the list to select them by control number, or they can be sorted by by spec, or by reference drawing number, etc. , then selected.

When the program user chooses the 'Tools' menu in Fabrication Material Control, there are several selections available. Among them are menu items: Which Drawings to release for Fabrication, Issue for Fabrication, Shortage Report, etc.

The selected drawings can be checked against the stock available, and the list reduced to the drawings which can be fabricated. The program will decide which spools are the best to release based on the material available and the greatest number of spools which can be fabricated. For example if there are 6 'olets in stock and one spool in the list requires 6, but there are 6 spools which need just one each, the 6 spools will be left on the list. Users can designate items in inventory which are not essential for fabrication so they do not restrict the release. These could be items such as End plates, Re-pads, Blind flanges, End protectors, etc.

As drawings are released for Fabrication, the material for them will be transferred from the 'In Stock' column, to the 'In Fabrication' column of inventory. The release date will also automatically be entered into the status file and the status of that spool will be updated with the revision of the drawing issued. Drawings will not be able to be released a second time, unless its mate-

rial has been returned to stock first. Menu items on the 'Tools' menu allow for the 'Return form Fabrication'. Revised drawings which have already been released or completed, must have the previous revision material returned before they can be released again with the new revision. When saving changes to a drawing which has been released to fabrication, the user will be informed of the drawing status by an onscreen reminder. Then the user is given options such as returning it from fabrication, scrapping the previous drawing and saving it with another file/control number or making a new revision of the current drawing. Each revision will add separate records to the job item file so that the correct materials will always be returned from Fabrication to Stock as needed. As spools are designated as 'Complete', the date will again be entered in the Status file and material moved to the 'Complete 'column in inventory.

Material Purchase

We are looking at the possibility of using the material summaries to generate purchase orders. This would allow materials purchased to be entered into the inventory file automatically. The purchase order would also be used as a receiving report to track items and heat numbers, etc. for each fitting or pipe as it is received. This in turn will add to a single receiving file with every item having a heat number, MTR number, PMI number as needed, to verify final information added to each drawing.

Material Tracking

The system will be able to keep track of all material used on the job, and generate reports as needed. AcornPipe program users will be able to generate a data file containing the complete record of every item used on the job. This will enable the search for any heat numbers and all drawings which contain items with a specific number. This will reduced the chance of errors from entering incorrect heat numbers into drawings, or the wrong quantity of any number.

Production Tracking

The status report can be customized to track any spool as it travels from drawing release to final shipping. It will enable users to track how many spools, weight, and diameter-inches of weld goes through each stage of production per day, week, or any other time period. It will also be possible to post the status information to a company web site where remote customers can go to check on the status of the job or any spool in the job without needing to contact production staff directly. Inspection information could also be posted on a web site for access by customers at any time.

Pricing Drawings

The AcornPipe software's reference files are created from all items and labor functions used on every job in a specific client folder. Base unit prices can be entered into these reference files for all items. As drawings are produced in any job, the program will also create files containing each item and labor function in that job. Item records will be in the Inventory file.

These files will have the base prices transferred from the reference files and will also have a price factor column. The price factor is used for entering the discount factor for every labor and material item in the job, and changes to prices for that job if necessary.

The files are used to automatically price completed drawings as needed, with the selection at the drawing screen to print the pricing sheet, a drawing format is displayed with unit price, price factor and extended price calculated automatically. This pricing sheet can then be printed.

The entered prices will be adjusted with factors applied for different material groups, Cuts and End prep. on fittings, etc.

The AcornPipe program has the capability to adjust the factor of some items on individual drawings to reflect revisions on those drawings.

This will eliminate the tedious manual pricing of drawings.

Weld Tracking/Non Destructive Testing

Welder ID, inspection, weld procedures, consumables, etc. can be entered into the drawings as they are completed. All of this information will be added to this Job's weld file so that at the completion of the job, there will be a single data file of every weld completed. Each weld will display all information needed for complete traceability. The weld file as well as the Weld Report will display size, type of weld, specification, welder ID, inspection, etc.

The weld file can also be used to track the inspection record of any individual welder, or to trace which welder completed any weld which may have a future problem.

Welder Productivity

As jobs progress, reports can be generated showing the productivity of each welder for any time period desired. Problems can be flagged and corrected as required.