I. PURPOSE. This standard operating procedure (SOP) is a user reference for the UNC Charlotte Facilities Management Division personnel. The purpose of this SOP is to establish the procedures utilized when Zone Shop Supervisors and Processing Assistants create Preventive Maintenance (PM) Procedures and Schedules within Archibus Web Central.

II. SCOPE. Develop and implement standard operating procedures according to established process flows. Provide Archibus Web Central Supervisors step-by-step processes and the procedures involved when they create a PM procedure and schedule within Archibus. Provide procedures that clarify these processes and ensure PM work requests are initiated efficiently and, by following these standard operating procedures, enable user understanding of the PM work request process flows. This SOP applies to all Facilities Management employees who utilize Archibus Web Central.

III. RESPONSIBILITIES. Maintenance and Operations (M & O) Director and Director Administrative Assistant are responsible for ensuring PM procedures are updated and the Managers Zone Shop Supervisors or Processing Assistants (PA) are responsible for ensuring that PM schedules and special instructions are created accurately in Archibus Web Central when preventive maintenance is initiated by their shop.

IV. PROCESSES: Creating PM Procedure and Schedule

1. Preventive Maintenance (PM) Procedures and Schedules. The purpose of Preventive Maintenance is to get the best return for money spent by prolonging equipment life and avoiding costly corrective and emergency repairs. That goal is accomplished by regular maintenance. Archibus Preventive Maintenance tasks equips the FM Shops with the tools to identify procedures and schedule the maintenance for both serialized and non serialized equipment.

   1.1. The process for initiating preventive maintenance involves determining what equipment requires preventive maintenance and the procedure for that equipment. Once this criteria is determined then the Shop Supervisor may begin scheduling the Work Requests for the maintenance and defining when and how often Preventive Maintenance will be needed on that item. Procedures and Schedules are completed using the PM Easy Form within Archibus. The PM Easy Form in Archibus consolidates the processes of creating a PM work order (PM Procedure, PM Procedure Steps, PM Schedule and selecting Equipment) into one form.
1.2. There are two main parts of a PM: the procedure and the schedule

1.2.1. Procedure: The procedure is the parent key to the schedule that is created using the PM Easy Form.

1.2.2. Schedule: The schedule is created second and lists the specific details to accomplish the procedure. It defines who, what, where and when of a procedure.

2. Creating the Procedure. After logging into Archibus, the M&O Director or his Administrative Assistant must select the Equipment and Preventive Maintenance role within the Building Operations Management activity and then click on the Create PM Easy Form task to begin creating the procedure.

2.1. When the PM Easy Form task is selected, the Create Preventive Maintenance windowpane will display (Figure 1). Two separate screens will appear. The upper window is for the procedure and scheduling of the work order, and the lower window is for the equipment that will be needed for the work order.

2.2. In the Create Preventive Maintenance window, fill in all of the fields by clicking on the green ellipses buttons located to the right of the input boxes and by entering data in the boxes where appropriate. Note: In order for Facilities to efficiently process and complete the work order, fill out as many fields as possible. Fields indicated with a red asterisk are required fields (Figure 2).

Figure 1: Create PM Easy Form window

Figure 2: Required fields indicated by an asterisk
2.2.1. PM Procedure Name. The name field in the Procedure is the unique identifier, i.e. GEN + building name for the procedure.

2.2.2. Description. The description field indicates what the PM Procedure is; this is a long title and information that clarifies why the procedure is conducted indicating any safety reason and or requirements.

2.2.3. Instructions. The field titled “Instructions” on the PM Easy Form is used for entering the step-by-step instructions on how to perform the procedure. This field will display on the Work Request as “Description”.

2.2.4. Safety Instructions. If the PM is needed for safety, then the information should be annotated in the field provided. If the PM is not needed, this field may be left blank.

2.2.5. Procedure type. There are two types of procedures: Housekeeping and Equipment. A housekeeping procedure does not require the selection of a piece of equipment.

2.2.6. The Division Code, Department Code, Index/Fund and Banner Account Codes are selected using the green ellipse button.

2.2.7. Building, floor, and room code designates where the preventive maintenance will be conducted.

2.2.8. The Function Code is the designate the function associated with the PM (i.e. Electric, grounds, housekeeping, etc).

2.2.9. The Shop/Zone code selected will reference which Shop Zone has the responsibility for completing the PM. The shop zone code will determine the routing of the PM.

2.2.10. Reimbursable or Non-Reimbursable. This option will determine if the PM must sent for FAM Approval before routing to a shop.

3. Scheduling the PM. Once the primary fields are completed, the scheduling of the work order must be completed. The M&O Director and his Administrative Assistant may add the initial PM Schedule using the Create PM Easy Form (Figure 3) or the M & O Supervisors, Managers or other designated shop personnel may create the schedule using the Edit PM Easy Form task.

Figure 3: Scheduling the PM section of the PM Easy Form
3.1. After selecting the procedure and then selecting the Add New button under the Schedules window, the “Create Preventive Maintenance” windowpane will display (Figure 4).

3.2. The form is completed by entering the data and filling out all the scheduling input boxes by either entering the data in the input box or selecting from the appropriate options.

3.2.1. Date of the First PM. This date will determine when the first PM will generate.

3.2.2. Estimated hours to complete the PM.

3.2.3. Fixed or Floating PM.

Fixed indicates that the schedule occurs at a fixed timeframe, i.e. once a month.

3.2.4. Floating – This type of interval is automated to occur at a designated timeframe. Please note: the floating PM will not generate again until the previous PM has been performed and closed out.

3.3. System process for Floating PMs- The system will look for the previous PM that is scheduled and after completion, the next one will automatically generate in the timeframe selected. The PM will not generate again until the previous one has been completed and closed.

3.4. On-demand—(new upcoming development) this type of PM is set up on demand or generated as needed, not automated; it is already preset and defined.

3.4.1. An On Demand PM is generated based upon when maintenance needs to occur.

3.5. **Note:** It is recommended that Fixed is used if the PM is to generate at a specified date each month, year, etc to eliminate confusion with PM generation.

3.6. Once a PM has been created, the next PM generation is based upon the most recent work request created. So if the PM schedule to be established is listed to generate on January 15th and the interval is once a month, then the next schedule PM will be February 15th.

3.7. **Note:** If a user needs to create a PM that will start generating on the 1st of every month then they must set the first date established to the 1st of the month and not a random date and expect to later update it after the first PM has been created.

3.8. Frequency of Interval and the Interval type – The frequency of the interval will determine how many times the PM will generate during that specific timeframe. The Interval type will determine how often PM will generate. Ex: For the Interval type field, selections include years, months, weeks, days, hours, miles etc (Figure 3).

3.9. Type in a numeric value to indicate how often the PM is to generate according to the Interval type selected. Ex. Once a month.

3.10. **Please Note:** If a PM schedule is not create on a monthly basis, but at the 30 day interval, then the PM schedules will be off after the 2nd or 3rd PM generation because 30 days is not an exact month.

3.11. Comments, Special instructions, Parts and Safety information may also be indicated on the form.
3.12. Review. After filling out all of the fields of the work order, be sure to review and make sure that required fields as well are completed as well as any other information that might be needed to complete the work order (Figure 4).

3.13. Adding Equipment. Once all the information has been entered on the PM Easy Form, a piece of equipment must be selected if the PM is an Equipment type PM instead of a Housekeeping PM.

3.14. Using the Select Equipment window, find and select the equipment that will be needed in order to complete the work order.

3.15. In order to search for the appropriate equipment, scroll to the far right and select the small plus sign to display the mini console. Type the information into the appropriate input box and click on the filter button, or click on the small grey buttons to the right of each column title to sort the lists alphabetically or numerically.

3.16. Once the equipment has been located, click on the small box in the far left column. A green check mark will appear (Figure 5).

3.17. **Note:** No limit has been set on the number of equipment that can be added/used for the work order. Select as needed.

3.18. After finished selecting equipment, review the list of equipment to make sure that the proper materials have been selected.
3.19. After completing, select the save button in the Create Preventive Maintenance window (Figure 6).

3.20. The Work Order. When a PM is been created, there are several fields that will display onto the Work Request form from the PM Easy Form to the Work request form including:

3.20.1. Work Request Code
3.20.2. Shop Zone code. This information was listed on the Procedure and assists in routing the PM to the proper Shop/Zone for completion. **Please note:** PMs will routed based on what the user puts into the shop code value when creating the PM schedule.
3.20.3. Problem type: Preventive Maintenance.
3.20.4. Procedure type
3.20.5. PM Schedule Code is assigned when the schedule is created.
3.20.6. Work Description: The steps to complete the PM is listed in this fields. This information comes from the Instructions field when the Procedure is completed. When the PM Schedule generates, the system picks up the instructions and adds them to the work request.
3.20.7. Building Code
3.20.8. Date Requested and Date to Perform
3.20.9. Department and Division
3.20.10. Fund and Banner Account Codes
3.20.11. Function code
3.20.12. Indication of a Reimbursable or Non Reimbursable PM
3.20.13. Estimated hours to complete the PM
3.20.14. Equipment: required/suggested to complete PM
3.20.15. Safety instructions will display if information was added
3.20.16. Special instructions field is connected to the PM schedule. It displays any information concerning schedules or equipment.

3.21. **Please Note:** Once the PM has been created the first time, the PM may be edited to add several schedules using the Edit PM Easy Form task (See # 7 below for instructions).

4. **M & O Established Procedures and Process:** A clear understanding on how the PM system works within Archibus will ensure that delays do not occur.

4.1. **M & O Access Determination.** Only selected M & O Personnel have access to the Equipment & PM role.

4.1.1. The M & O Director designates who will have access to create, edit and delete PM Procedures and Schedules.

4.1.2. The Director of M & O will provide the generic/overall instructions for all Preventive Maintenance (PM) Procedures entered.

4.1.3. When trends occur, the M & O Supervisor level will determine who will enter the new information in relation to general procedures.

4.1.4. The Special Instructions field is available for all Zone Shops personnel to edit and to add additional information related to the PM Schedule or equipment.
4.1.5. When creating a PM template, all fields should be completed wherever possible.
4.1.6. PM schedules are to be specific to the piece of equipment with specific instructions and parts lists.
4.1.7. Reimbursable PM’s must have the correct Department identified based upon the Banner 5 digit ORG code for proper routing to the department FAM.
4.1.8. For clarification on FAM codes, refer to the FAM list in Archibus and contact the specific FAM if needed for clarification.
4.1.9. The Reimbursable PM works similar to a reimbursable WR for Approvals: Once PM template has been submitted to the FAM, it will go to their inbox under “Approve PM Schedule” within their Archibus FAM role.
4.1.10. Please Note: If a PM template has been waiting in submitted status for an extended period of time, please contact the FAM from that department and request that they approve PM so that work can begin on the PM. Please note: a PM work request will not generate until the following date after FAM Approval.
4.1.11. Emails are sent by M & O Director, however, this does not mean that they act upon the email and sometimes they need a reminder. In addition, the PM approval process may be new.
4.1.12. If an error is made on a PM that is in the submitted status, the point of contact is the M & O Director who will update based on the changes. NOTE: When a request occurs to update the department, the FAM must be contacted because when manual updates are performed, the FAM does not get an email.
4.1.13. If assistance is needed to create a new procedure, M & O personnel will contact the M & O Director and his assistant to ensure the PM is consist with the established standards.
4.1.14. When creating a reimbursable PM, the date selected must take in consideration the needed for the FAM to approve. Current system setting will automatically set the generation date to the next day following the FAM Approval.
4.1.15. When creating a first time procedure for multiple non-reimbursable and reimbursable schedules using the PM Easy Form, please insure the first schedule is a non-reimbursable with the procedure. Creating a non-reimbursable schedule allows the ability to go to the edit screen and continue adding schedules (non-reimbursable and reimbursable) without waiting for approval.
4.1.16. If a piece of equipment exists within the equipment list that is not subject to an existing PM procedure, M & O personnel are instructed to use the “Edit PM Procedure” function to Add a new PM schedule and attach the appropriate piece of equipment.
4.1.17. Note: When creating a first time PM Easy Form, create a first time procedure and the associated schedule. If the first associated schedule is reimbursable, the FAM must approve the first associated PM schedule before additional PMs schedules can be created.

4.2. Important Note: If a technician completes a PM and in the process determines a problem with the equipment or that parts are needed, then the technician will initiate a completely new Work Request for the problem(s) identified.

5. Archibus System Processes. Archibus system logic allows all PM schedules to be generated based upon the date initially established by the user when the PM Easy Form was originally created.
5.1. Any following PMs that are generated are based upon the last PM created, not completed. Preventive Maintenance will be managed through the same process as the Work Order process.

5.2. Once the PM is created and scheduled in Archibus, Archibus automatically will generate the preventive maintenance work orders. **Note:** If the PM created is Reimbursable, the work order will not generate until the PM Schedule has been approved by the FAM.

5.3. **PM System Generation Process and Issues.**

5.3.1. PMs are generated by the system each day at midnight. All PMs posted will be selected based upon calendar date of the last PM that was generated. The PM generation is based upon the most recent work request created within the system. Therefore, if a PM schedule is established on June 15th and the interval is once a month, then the next scheduled PM would be generated for July 15th.

5.3.2. The system looks at the calendar view and pick up the PM from the Preventive Maintenance Schedule (PMS) table and the Equipment table.

5.3.3. If the user needs to create a PM that starts on the 1st of every month then the user must set the first date established to the 1st day of the month and not some random date and then try to update it later after the first PM has been created.

5.3.4. Consistency must be used when setting up intervals on the PM schedules. If the 30-day interval is selected, the 30-day interval will cause schedules to be off after the 2nd or 3rd PM generation because 30 days is not an exact month.

5.3.5. For example: If a PM is a reimbursable, and it is approved to run once a month and any following PM is based upon the established date, then technically more than one PM a month for a schedule could generate.

5.3.6. This issue would occur if a PM schedule starts on the 1st of the month then the M & O personnel decides to change it to start at the middle of the month. Previous established system logic and processes would create the first PM on the first of the month and any following PMs would be based upon the last created PM, which would still be the first.

5.3.7. It would then be possible to have the first PM created to be generated on the first and the next PM to be generated sometime in the middle of the month. The logic would now have two PMs created within one month for a schedule.

5.3.8. This type of inconsistent changes can cause problems especially with a reimbursable in relation to approvals and auditing issues.

5.3.9. **Note:** Because of these types of issues that could occur, it is very important that the user is consistent in creating PM Schedules and is careful in setting PM frequency and intervals. When errors occur because of user inconsistency and processes, Facilities Information Systems (FIS) office will not change workflows without meeting with necessary parties to discuss changes and the effects upon all parties concerned.

6. **Editing PM Instructions.**

6.1. Additionally, designated M & O personnel also have the ability to edit the PM instructions. This ability is especially advantageous when instructions become outdated and need modifying. Editing the instructions can be accomplished by accessing the Edit PM Instructions task located under the Equipment and Preventive Maintenance activity.

6.2. Although they may modify the existing instructions, the old instructions are maintained on the historical work requests for auditing purposes.
6.3. They may deactivate or activate a PM Schedule also under the Edit PM Instructions windowpane located at the bottom of the window. Even if the Procedure is inactivated, the inactive ones are available within this area of Archibus and can be reactivated if needed (Figure 7).

6.4. Once any changes are made, be sure to select save to save the updates in each windowpane.

Figure 7: Editing PM Instructions

7. **Editing the PM Easy Form**
Only individuals selected by the M & O enterprise level to access the Equipment & Preventive Maintenance role may edit a procedure using the Edit PM Easy Form function or “add” a new PM schedule and attach associated equipment.
After selecting the Edit PM Easy Form, four separate windowpanes will appear. Locate and select the PM Procedure from the Procedures window.
Once selected, the list of schedules associated with that Procedure will appear in the Schedules window below. Click on the Schedule that needs editing. The form will appear in the Schedule window to the right.
Edit the information in the Schedule form as needed. When finished, click on the save button (Figure 8).
7.1. **Note**: The department code, sub department code, Index and Banner Account codes are required fields.
7.2. **Note:** If another schedule for the work order needs to be created, click on the Add New button located in the Schedules windowpane; a window will pop up, providing access to another form for creating a PM work order (Figure 9). Complete the fields and select the equipment item associated.

7.3. Once the information on the form is filled out, click the Save button. The new Schedule will automatically appear in the Schedules window (Figure 10).

![Figure 9: Adding a New Schedule form](image)

![Figure 10: New Schedule Added to Schedules Window](image)

8. **Lock PM Work Request Process.**

8.1. As mentioned previously, when a PM Schedule is initially established, the estimated hours to complete the PM is provided along with the intervals. In addition, the Reimbursable PM Schedules are approved by the FAMs according to the estimated time/costs that are added (hours associated for the PM and the frequency of the PM generation) (Figure 11).
8.2. The estimated cost information provided will determine the number of hours billed for the completion of the PM Work Request. If during the process of completing the PM Work Request, the costs and hours go over the estimation, then the PM Work Request will lock preventing the work request from being completed and billed. The PM Work Request will be in “Locked” Status.

8.3. The Lock PM Work Request feature prevents estimated cost overages. When a PM WR locks, an email notification will generate to the Shop Supervisor, Processing Assistant and the Manager informing them that the PM WR hours/costs have exceeded the estimated amounts.

8.4. In order for the work request to move forward to completion and billing, the hours must be adjusted.

8.5. Once adjusted, the PM Work Request will unlock.

9. PM Estimated Cost Fields

9.1. When creating or editing the PM Schedule estimated costs, the M &O Shop Supervisor, Processing Assistant or Manager may add estimates for parts, shop stock and or external charges
(Other Costs) within the fields provided on the PM Schedule in addition to the estimated labor hours in order to provide a more accurate estimate for the PM (Figure 12).

9.2. **Note:** Any adjustments or changes to Reimbursable PM Schedule estimates will require an email to be re-sent to the FAM allowing them to review and approve the estimated cost totals.

![Figure 12: Estimated Cost Fields for Hours, Parts, Other Costs and Shop Stock](image)

10. **Reports**

10.1. There are several PM type reports available within the Equipment & Preventive Maintenance role of Archibus (Figure 13).

![Figure 13: PM reports](image)
10.2. These reports provide information on managing, forecasting and review of PM information.