
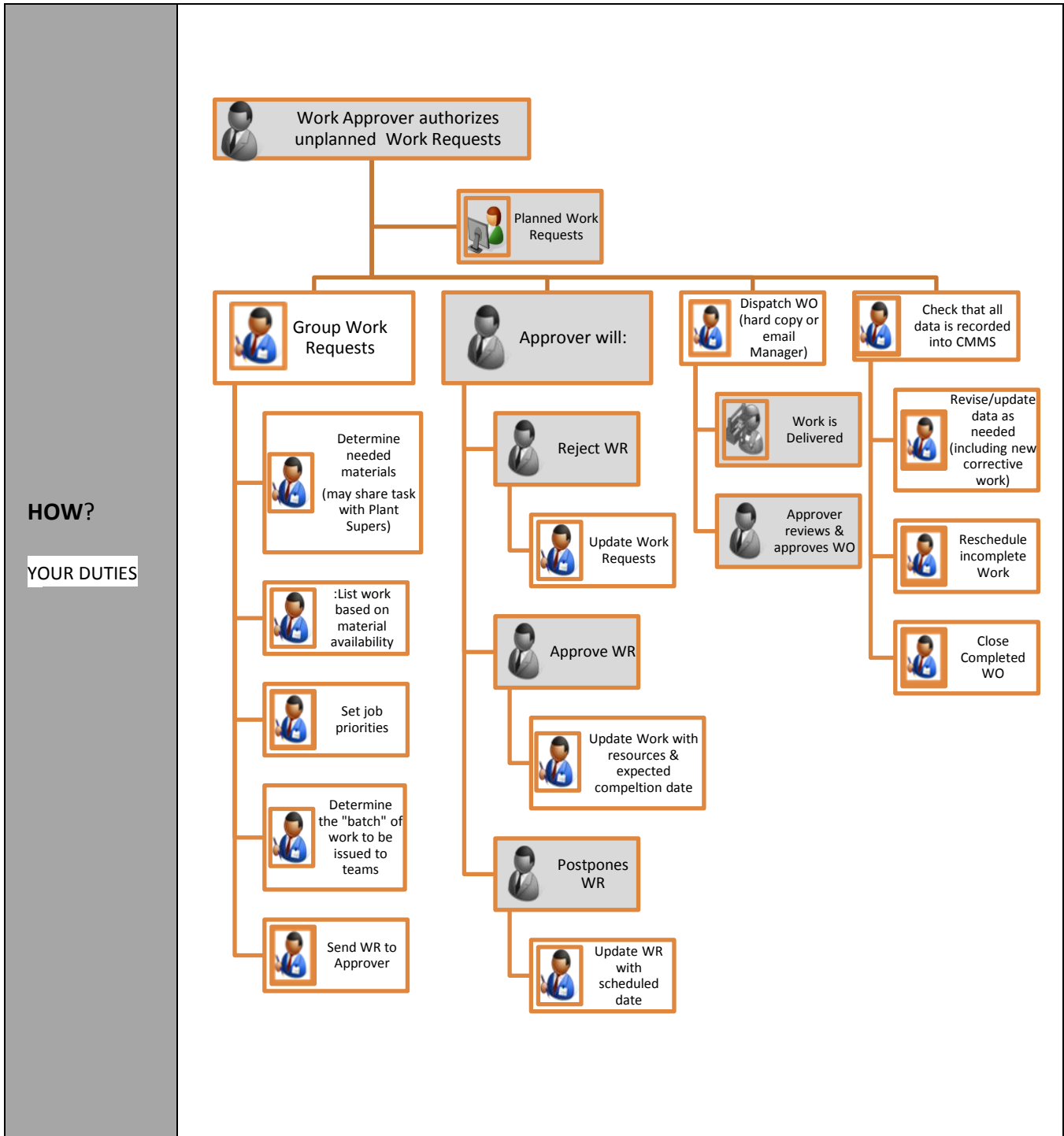


|                              |   |   |   |               |                         |
|------------------------------|---|---|---|---------------|-------------------------|
| CMMS ACTIVITIES              |    |   | <b>PLANNING</b>   |               |                         |
| WHEN?<br>DURING:             | <b>MEETINGS TO APPROVE/PLAN/SCHEDULE WORK , UPDATE WORK REQUESTS , RECORD WORK HISTORY</b>  |   |   |               |                         |
| WHO?<br>NTPC<br>POSITIONS:   | HYDRO DIVISION, T&D SUBSTATIONS   | THERMAL DIVISION, T&D SUBSTATION INSPECTION   | <b>T&amp;D DIVISION</b>   |               |                         |
|                              | PLANNER   | PLANNER   | HYDRO LINES PM & INSPECTION   | THERMAL LINES | THERMAL SUBSTATION PM'S |
|                              |   |   | DISTRIBUTION TECH   |               | T&D ASSET MANAGER       |
| YOUR GUIDE<br>TI PROFILE     | <b>“PLANNER”</b>  |   |   |               |                         |
| WHAT YOU CAN DO IN GUIDE-TI? | <ul style="list-style-type: none"> <li>• View/Edit access to outstanding work orders</li> <li>• Enter meter readings against assets (with or without a WO)</li> <li>• Full access to upcoming preventives list</li> <li>• Full Access to triggered preventives list</li> <li>• Full Access to completed preventives list</li> <li>• Full access to calendar/WO Planning</li> <li>• Assign WOs</li> <li>• View/Edit Activity Lines</li> <li>• View Resources (Users) List</li> <li>• Work Order routing / change status (Interventions)</li> <li>• Work Orders Closing</li> <li>• View/Edit access to technical notices</li> <li>• View/Edit access to warranties list</li> <li>• Access to some reporting/indicators (WO by Assets, Downtime, WO Backlog, etc.)</li> <li>• Can initiate new work orders through web interface or full software</li> </ul> |   |   |               |                         |
| YOUR SUPPORT TEAM            | HYDRO DIVISION  | THERMAL DIVISION  | T&D DIVISION  |               |                         |
|                              | PLANNER:<br><b>MORRIS CALLAHAN</b>  | PLANNER: <b>STUART ROBINSON, LES WATSYK</b>   | PLANNER: <b>JIMMY DUGGAN, MATT STORVOLD</b>   |               |                         |
|                              | MANAGERS (SCHEDULER, APPROVERS):<br><b>KEN BELL, SERGIO CATLYN, ROB SUNDERLAND, COLIN STEED, ROBERT BURGIN</b>  | MANAGERS (SCHEDULER, APPROVERS): <b>KELLY MCLEOD, BOYD MALLALEY, BOB ELDRIDGE, DANIEL BRUNEAU</b> | MANAGERS( SCHEDULER, APPROVERS): <b>GRANT PENNY, REX DALLEY, DIPANKER CHAKRABARTI</b> |               |                         |
|                              | CMMS SPECIALIST: <b>CHRIS CHATWOOD</b><br>GUIDE TI SYSTEM ADMINISTRATORS: <b>HELP DESK (BLAINE MCKAY), EILEEN HENDRY, NIHAL COSTA</b>   |   |   |               |                         |

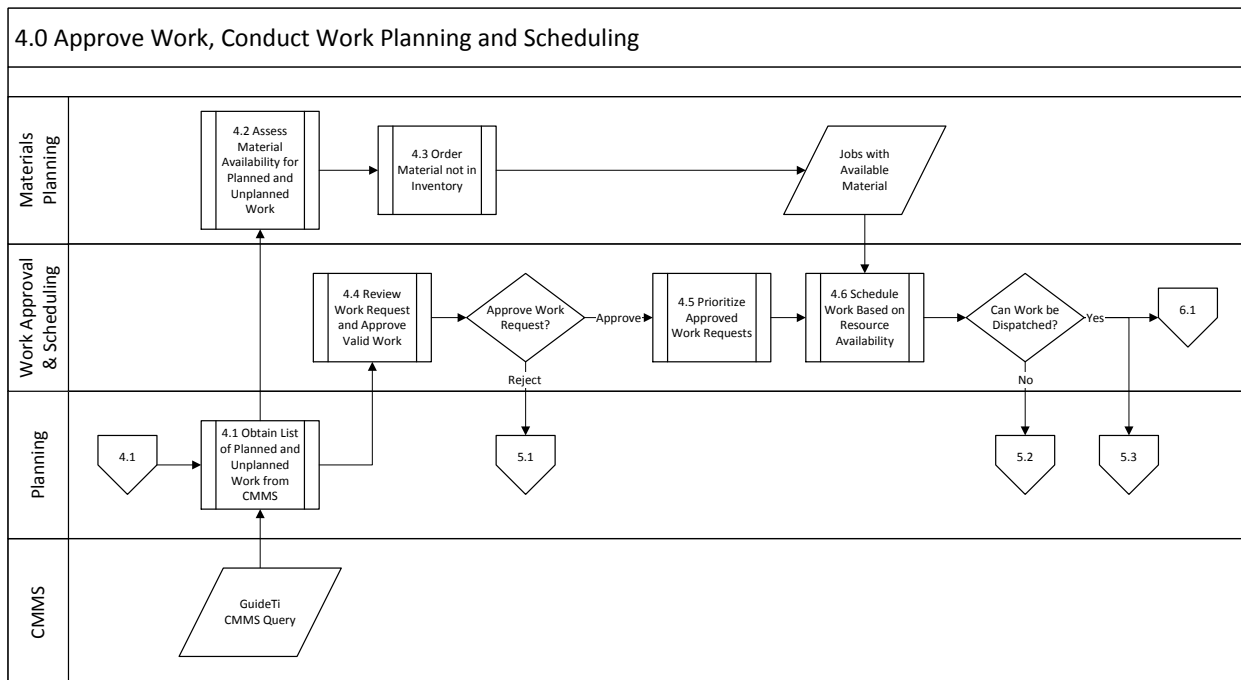
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# CMMS PROCESS DETAILS

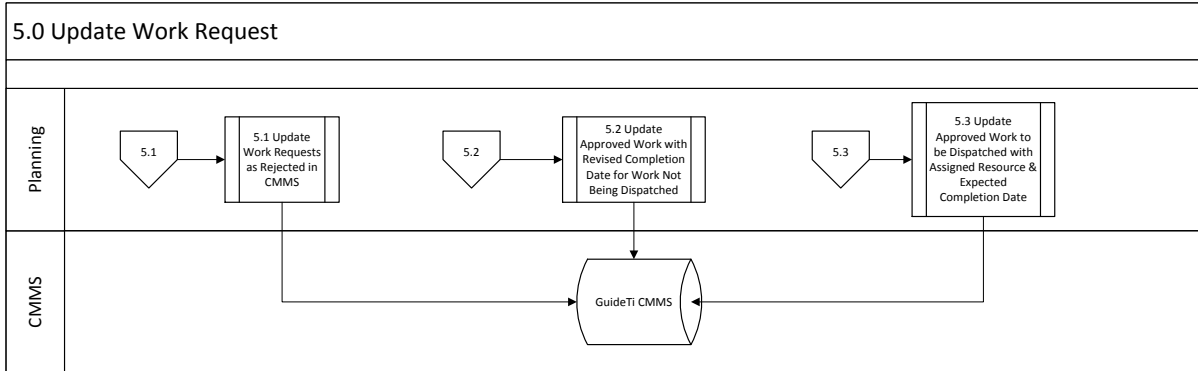
| Role     | Responsibilities  |
|----------|---|
| Planning | The role of Planning is to facilitate the execution of the maintenance work captured in the CMMS through external service requests and auto-generated based on the PM and Inspection procedures applied against the assets. The Planning role interacts with the CMMS to determine the backlog and future scheduled work in the system and provides the information for the decision makers to approve, prioritize and schedule work for the next work period. Once the decisions on approval, prioritization and scheduling are determined, work orders are generated and released for dispatching and the CMMS updated with the latest statuses and relevant information. |



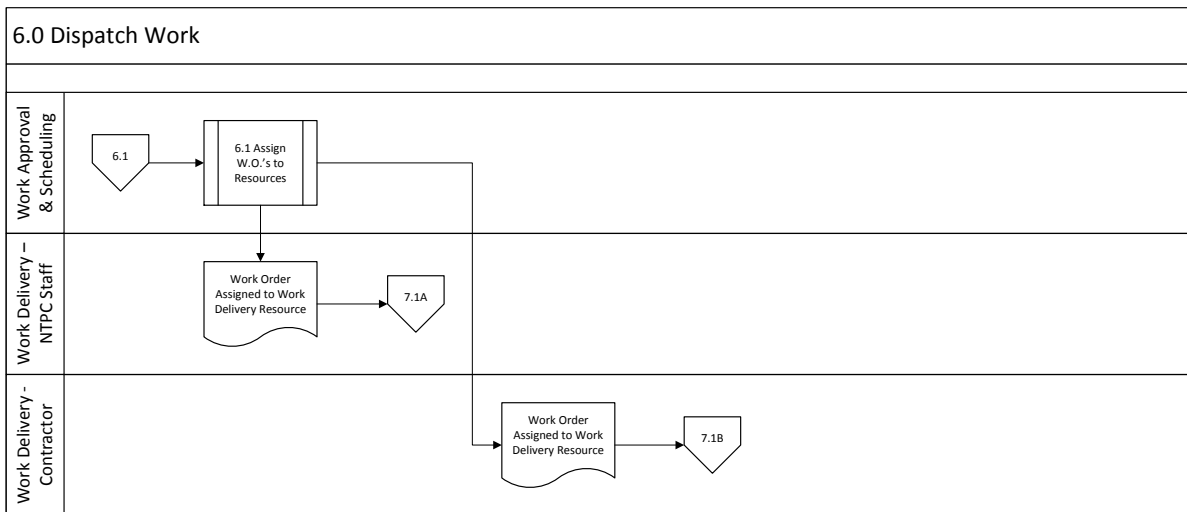
| Process No. | Process Description   | Process Narrative  |
|-------------|---|--|
| 4.0         | Approve Work, Conduct Work Planning and Scheduling          | Work that has been identified requires review, approval, work planning and scheduling. This process is carried out in weekly planning meetings in which the Planner and Managers jointly review the work that has been captured in the CMMS and based on resource availability and capacity, determine the batch of work to be released for execution.   |
| 4.1         | Obtain List of Planned and Unplanned Work from CMMS         | The Planner runs reports for newly raised unplanned work requests along with planned PM's and inspections that are either past due or planned to be delivered within the planning period under consideration.  |
| 4.2         | Assess Material Availability for Planned and Unplanned Work | Materials Planning assessed the availability of materials required to deliver the lists of planned and unplanned work obtained from the CMMS. Planned material requirements for major maintenance activities and for overhauls are obtained from the "Shopping Lists" contained in the Paramount application. Material Planning determines which jobs have sufficient material to allow for work scheduling. |

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|     |                                 |   |
|-----|---------------------------------|---|
| 4.3 | Order Material not in Inventory | The required material list is compared to existing available inventory contained in the Great Plains Inventory Management module and the net requirements are determined and any material shortages procured through Great Plains Procurement module. |
|-----|---------------------------------|---|

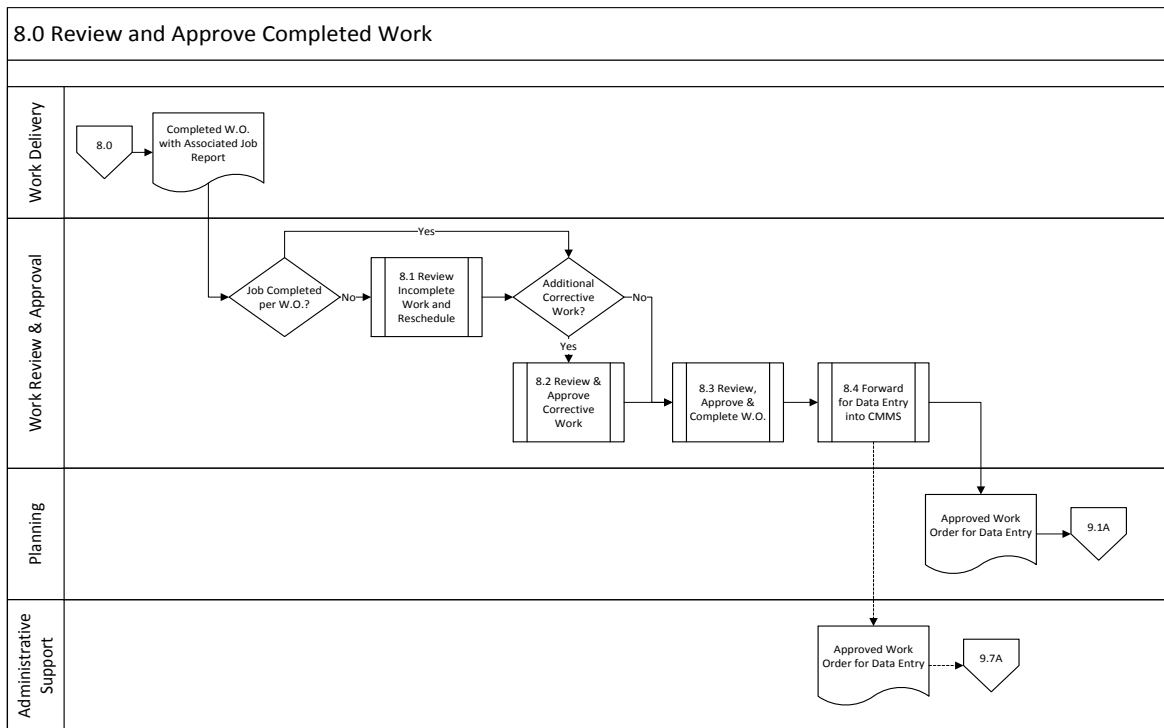


| Process No. | Process Description   | Process Narrative  |
|-------------|---|--|
| 5.0         | Update Work Request   | The results arising out of the weekly planning meetings are captured in the CMMS to reflect the latest status of work requests and auto-generated work orders.   |
| 5.1         | Update Work Requests as Rejected in CMMS  | Work requests that have been rejected in the weekly planning meetings are updated with a rejected status. The original work requester is notified of the decision not to proceed with the requested work.    |
| 5.2         | Update Approved Work with Revised Completion Date for Work Not Being Dispatched         | Approved work requests are updated with an approved status at which time the work request becomes an approved work order to be scheduled. The estimated start date (from 4.3) is assigned to the work order. |
| 5.3         | Update Approved Work to be Dispatched with Assigned Resource & Expected Completion Date | Approved work that is scheduled to be dispatch in the next work period is updated with the scheduled start date, the estimated completion date and the name of the assigned resource, or of the contractor.  |



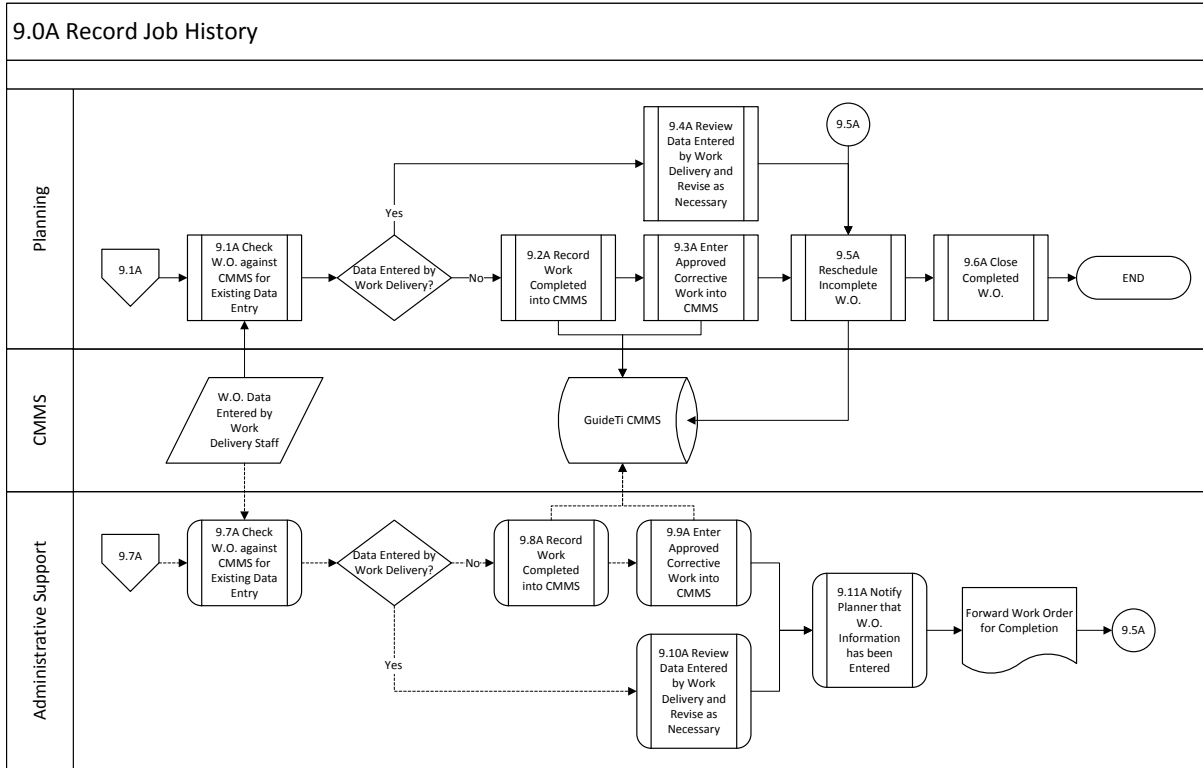
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| Process No. | Process Description              | Process Narrative   |
|-------------|----------------------------------|---|
| 6.0         | Dispatch Work                    | Work is dispatched to the assigned resources via hardcopy work orders. The Planner or the Administrative Assistant either prints off the hardcopy work orders for the Manager to distribute to the assigned resources or provides electronic versions of the printed work orders to be emailed to the recipients. |
| 6.1         | Assign Work Order's to Resources | Hardcopies of the work orders are bundled and distributed to the assigned resources. The assigned resources may be internal NTPC staff members or to external contractors.  |



| Process No. | Process Description               | Process Narrative   |
|-------------|-----------------------------------|---|
| 8.0         | Review and Approve Completed Work | Work assignments completed by NTPC staff or by contractors are reviewed by the Manager to ensure the work was properly carried out and that any follow-on work or activities arising out of the original assigned work orders are properly processed and entered into the CMMS for follow-on actions. |
| 8.4         | Forward for Data Entry into CMMS  | The signed work orders are forwarded either to the Planning function or the Administrative Support function for data entry into the CMMS.   |

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| Process No. | Process Description  | Process Narrative   |
|-------------|--|---|
| 9.0A        | Record Job History   | Information contained in the approved work orders signed by the Manager is entered into the CMMS to record work completed against the assets. This provides a record of the work history as well as asset conditions or meter readings for assets.  |
| 9.1A        | Check Work Order against CMMS for Existing Data Entry        | The assigned party responsible for entering the work order information into the CMMS checks the CMMS for any indications of data entry from the field staff. If data entry has been initiated from the field, the entered data is reviewed for accuracy and if need be, edited to reflect the correct information (see 9.4A).     |
| 9.2A        | Record Work Completed into CMMS                              | The assigned party responsible for data entry enters the completed work order information into the CMMS. This includes the actual completion date, the person that carried out the actual work, meter readings, asset conditions, etc. The work order status is marked as complete.   |
| 9.3A        | Enter Approved Corrective Work into CMMS                     | Any approved corrective work shown on the work order is entered as an approved work order into the CMMS. If an estimated start date is shown, that is entered as part of the work order.  |
| 9.4A        | Review Data Entered by Work Delivery and Revise as Necessary | For work orders that contain previously entered work order data from the field, the entered information is reviewed and checked for accuracy. Any corrective work entered is also reviewed to ensure the assets have been properly identified; correct work request information as necessary to provide the relevant information. |
| 9.5A        | Reschedule Incomplete Work Order                             | Incomplete work on previously dispatched work orders are identified and re-entered into the CMMS as required work yet to be completed. This incomplete work will be rescheduled in the next planning meeting.   |
| 9.6A        | Close Completed Work Order                                   | Work orders are marked closed once all the data entry is completed.   |

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