SUBJECT **Scheduling Instruction & Guide (MSI-I-0001)**

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Figure 1: Work Order Life Cycle

PURPOSE

To provide instruction and definition to Scheduling for planning, tracking, scheduling, completing, documenting work activity, maintaining contractually required documentation and generating required reports in Maximo for the Base Operations and Spaceport Services (BOSS) contract: NNK18619079R.

SCOPE AND APPLICABILITY

This document applies to Scheduling, and all other departments involved with schedule coordination, planning, tracking, and documenting of internal and external work requirements.

PROCESS

The Scheduling Department is comprised of Schedulers, who are responsible for Maximo generated work activity and ensures that all work performed by BOSS is planned, estimated, scheduled, and documented accordingly.

In accordance with the Work Management Procedure (WCC-P-0004), Schedulers Scheduling department shall provide the following functions:

- Create Shop Backlogs, weekly and daily schedules.
  Ensure all required materials are available.
- Coordinate the schedule with Shop Supervisor and obtain schedule approval prior to release.
- Report schedule deviations that will affect metric performance to the Work Management Manager or the Scheduling Supervisor.
- Transfer the Work Order for execution.

Receive, analyze, correct, and schedule work prior to work execution to ensure validity and correctness of work orders. If errors have been identified the notification is made and the correct area of expertise corrects the WON. Schedulers utilize Maximo to document, status, track, and coordinate requirements needed for work completion. **Once resource verification**

has been completed, the Scheduler sets the final implementation Scheduled Start Dates (SSD) and Scheduled Finish Dates (SFD) as it flows into the three (3) week window.

This instruction provides direction for status of the work order at various stages of its life cycle but is not all inclusive. The life cycle of a work order is very fluid and dependent upon the circumstances, situation, priority, and other factors, the Scheduler shall apply best judgment in determining the correct, current, accurate status of a work order. The Scheduling Supervisor and/or their assigned designees have the authority to make the final appropriate status determination and direct the Schedulers for entry into Maximo.

Note: Anytime a Status is changed the Memo section will be completed

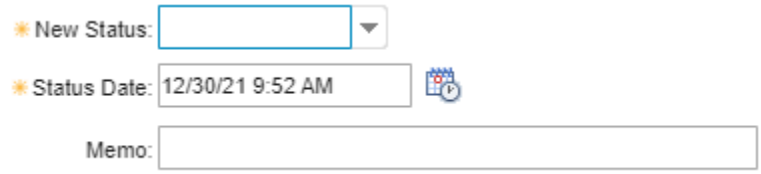
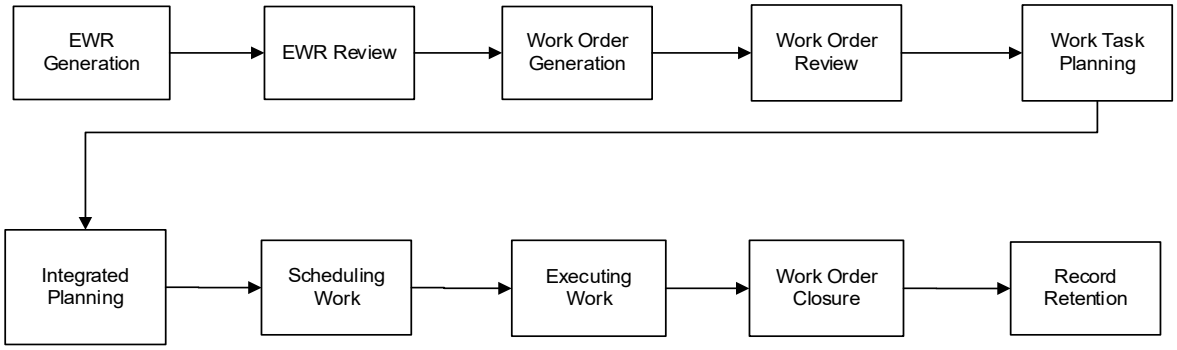


Figure 1: Work Order Life Cycle



1. REQUESTING/GENERATING WORK

Requests for BOSS work that is received and initiated by Integrated Planning & Scheduling is defined per this procedure. Requests for BOSS work are also received and initiated by the Work Control Center as defined in WCC-P-0004 (BOSS Work Management Procedure) for all work types, except preventive maintenance. Preventive Maintenance (PM) and Predictive Testing and Inspection (PTI) work orders are generated by Activation, Configuration & Asset Management (ACAM) based on a pre-determined schedule frequency per FAM-P-2001 (Maintenance Plan). Standing work orders (SWO's) are generated by the BOSS Business Office. All approved work will be assigned a Work Order Number (WON) and scheduled by the Scheduling Department in compliance with this instruction.

1.1. Scheduler Generated Electronic Work Requests (EWR's)

Schedulers shall generate WONs via EWR's directly related to their shop(s) under the following circumstances:

- Preventive Maintenance (PM) Discrepancies and/or PM Observations
- System Engineer (SE) Action Required
- When another craft or shop, not tasked on the original PM, is required to support the PM. These will be categorized as a PM-SPT WON.
- When work is requested by a Supervisor or Engineer and only affects work for the requesting Supervisor's shop.
- Other circumstances as directed by WCC Management.

1.2 Work Orders Requested by Internal and External Customers

The requests for work orders shall be reviewed by the WCC daily. Requests that are required to be reviewed prior to a chargeable status are for work that requires an additional level of details and that are non-PM related, non-recurring, non-standard requests from SE or Shop Supervisor (i.e. LOF, Transport unit to/from, etc. are recurring, standard requests).

1.2.1 Requirements

Shop Supervisor and/or Engineer shall submit requests directly to the Prime Scheduler for the shop that the work is required for (i.e. – if CORR crew is requested to do the work, the Engineer or Supervisor shall send the request to the CORR Scheduler).

Provide the following information

- Specific title of what the work is to be performed
- Specific reason of the request to include how the issue was discovered (i.e. performing work on site, etc.).
- Specific Asset Number
- Specific Location

What work is required?

- Shops requested to support
- Taskings and estimated hours for each shop
- Total Estimated Duration
- Material requirements (will we have to order?)

Note: *If these four (4) items cannot be answered, the WON will be sent to P&E.*

Prime Scheduler shall:

- Verify there is no open current work order in Maximo that meets the criteria requested. Ensure there is not duplication of work already in the system.
- Ensure the proper asset and taskings to be performed have been provided by the Engineer or Shop Supervisor
- Evaluate to determine if P&E is required (Asbestos Plan? Haz Metal Plan? How detailed do the taskings need to be for the work that is being performed?)

IMPORTANT: WONs **MUST** remain in WAPPR status for review in the daily New Work Review Meeting. If there is an immediate need for the work order to

be released, Real-time approval can be requested by the Scheduler to the Scheduling Supervisor.
Department Work Control Manager to place the work order into a workable or material orderable status.

The Work Load Management consists of the P&E, and Schedulers. BOSS Shop Supervisors and Facility Managers will review new work orders on the daily morning review and approve or reject the work request.

1.3 Lead Crew Assignments on a Work Order

When creating a work order, many factors need to be considered. The general rule is: The Prime/Lead shop, doing most of the work on the WON and who would need to order materials to complete the task(s). Exceptions will made for some work orders in which the crew owning the asset will be identified as the Prime/Lead shop. (i.e. Pwr/HVAC equipment requiring outages and the availability of HE equipment that needs to be transported to the shop and disassembled/reassembled and taken away after work is complete).

The examples listed below should be used to make decisions:

- HVAC limit switch broken – Utilities - 3211
- HE equipment the alternator is not working – HE - 3540
- Corrosion Control of an HVAC unit – Facilities Maintenance – 3420
- Sheet metal work to a generator – Facilities Maintenance – 3420

1.4 Correcting Work Order Errors

If errors are found during the daily New Work review, they must be corrected by **COB** that day. If errors are found at any other time during the life cycle of a work order corrections will be made as required. The following actions shall take place depending on corrections needed:

- If the WON has been generated and is still in WAPPR status, the Lead Shop Scheduler shall be responsible for correcting/cancelling the WON as identified during the New Work Review.
- If the work order was created with an incorrect Lead Crew the scheduler will update the crew as well as updating the task line and corresponding labor line. The scheduler is also responsible for updating the Lead Craft and Owner Group.
  IMPORTANT: **The Scheduler shall put their notes in the Long Description field of Maximo in the format of date, notes with First name initials and complete last name.**
  If the work order is still in a WAPPR status and needs to have the Project String corrected the Work Receipt Analyst will correct as required. The analyst will also update other minimal errors that were identified. If the work order is placed in an active status and a Project String needs to be changed a new work order will be generated by the Scheduling Supervisor or Work Control representative.
- If the errors are discovered after the New Work review the Scheduling Supervisor will assign the appropriate Scheduler the action to create the new WON if necessary.

The following determination shall be made as associated actions performed as instructed.

- If charges have occurred, the Work Control Analysts will notify employees to move the hours to the new WON. Once hours have been removed the WON will be cancelled via the REM process.

- If no hours have been charged the Scheduler or Scheduling Supervisor will cancel the old WON.

- the work order is placed in an active status and a Project String needs to be changed, the Analyst shall make the change if there are no existing PR's/ PO's or materials ordered using bench stock.

- All new WONs created shall be related to the original WON and EWR via "Add Req".

1.5 Requests for BOSS Shop Support

Various customers, both internal and external to BOSS, require BOSS shop support, which requires the planning and scheduling of shop resources. Requests come in through the BOSS Work Control Center via the EWR System. The WCC will not turn away work if it is received via a phone call.

1.5.1 Environmental Assurance BOSS Shop Support

When required, BOSS Environmental Assurance will need to request BOSS shop support during inspections, for access and/or escort provisions, and other items dependent upon the activity. Environmental Assurance shall submit an EWR with complete details after reviewing a WON will be generated as requested.

1.6 Work Order Classification Conversions and Exceptions

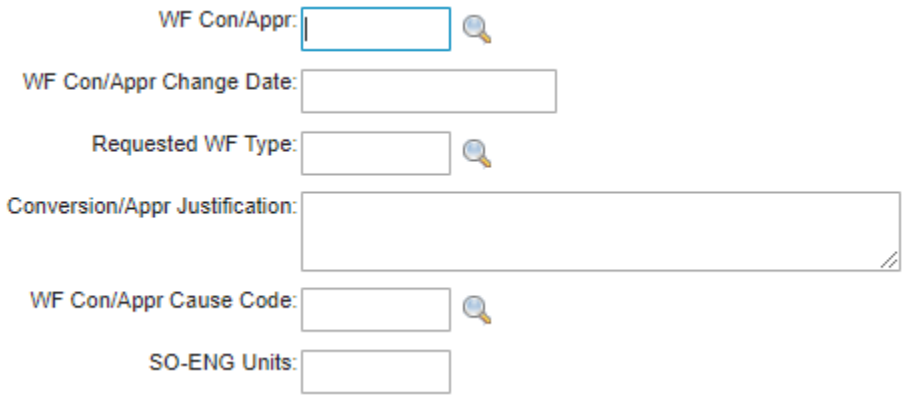
Work orders may require conversion during their life cycle, meaning their classifications may be changed upon approval or at the direction of Work Management, based upon varied factors (reference WCC-REF-2002, Work Thresholds and Conversion Factors): Change in scope of work.

* Amount of labor hours required to perform the work.
* Material costs exceeding the specific classification threshold.
* Total costs (to include material) exceeding the specific classification threshold.

1.6.1 Conversion Process for Work Orders

This Maximo process is required for all Work Order conversions.
The Shop Supervisor shall notify their Scheduler of the issue(s) and the reason for the increased scope and request that it be submitted for conversion approval using the WCC-F-2001A form. Prior to approval request, the work order must clearly document what has occurred up to the request point, to include all details documenting the need for conversion and justification.
IMPORTANT: The Scheduler shall put their notes in the Long Description field of Maximo in the format of date, notes with First name initials and complete last name.

The Shop Supervisor and shall verify this information. The Scheduler receives a completed WCC-F-2001A from the Shop Supervisor. All supporting shops, hours, tasking, and material should be identified prior to submitting for conversion. All forms with hours and/or materials MUST be signed by the Shop Supervisor. The scheduler will populate the following fields in Maximo for processing BRR's & SO's; For Conversion to Task Order: (notify Sonya via e-mail and the change will be made in Maximo)
W/F Con/Appr will need to be populated with "Requested" or "Pending Customer Approval".



BRR-A	Select "REQUESTED" – Scheduling Super or Appointed Person can convert WCC 2001A form not required.
BRR-B	Select "REQUESTED" – Scheduling Super or Appointed Person can convert WCC 2001A form not required.
BRR-C	Select "REQUESTED" – Scheduling Super or Appointed Person can convert WCC 2001A form not required.
BRR-D	Select "REQUESTED" – Scheduling Super or Appointed Person can convert
BRR-E thru BRR-K	Select "PENDCUSTAPPR" – NASA receives an automated Maximo report and will approve or deny once a week.
SO-1	Select "REQUESTED" – Scheduling Super or Appointed Person can convert
SO-2	Select "REQUESTED" – Scheduling Super or Appointed Person can convert
SO-3	Select "REQUESTED" – Scheduling Super or Appointed Person can convert
SO-4 thru SO-8	Select PENDCUSTAPPR – Work Receipt process these requests through EWRS, and each customer responds with their approval or denial. Sometimes the customer responses are slow.
BRR-? Conversion to Task Order (TO)	Select "TO-IMP "Under WF Type; and Select "TOREVIEW" Under WF Con/Appr – Sonya Plummer processes these every day and forwards them to Work Receipt to process in EWRS
TO-BRR-? Conversion to a **TO**-BRR-?	Please send an email to Sonya Plummer

WF Conversion/Appr Change Date Will be populated at approval.
Conversion Justifications will be provided by the Shop Supervisor or Manager It must be clear and precise. By answering the following main points, you will summarize your justification clearly:

- What is the WON being converted from and what is it being converted to?
- What work remains that drives the conversion?
- Are materials required to complete the remaining work?

1. The estimated duration field on the front screen in Maximo needs to be populated prior to submitting for conversion. The estimated duration field equals hours identified on the plans tab in Maximo *plus* hours being requested on the WCC Form or as provided by the Supervisor.
2. The Scheduler will add the tasking to the Plans tab and add a corresponding Labor line for any additional shops that have been identified on the WCC form.
3. The Scheduler will select and populate the applicable cause code for the conversion.
4. The scheduler will attach the WCC Form provided by the Supervisor to Maximo for all conversions ***greater*** than a BRR-C or SO-3.
5. Attachments to Work Orders in Maximo - Schedulers have (3) weeks / 15 business days before the auto closure process "closes" the work order. I believe this should be a team effort and distributed to all Managers, Supervisors and Technician's. The Schedulers will wait for this information so it can be attached.
6. The scheduler will update Maximo Work Order status to read WCCCON only on conversions greater than SO-8 or BRR-K
7. The Supervisor or Workload Manager **(or their appointed person)** shall review and convert WONS in the following categories: BRR-A's, thru BRR-D's, and SO-1's thru SO-3's. Once converted, notification is made to the scheduler
8. WON's that are requesting a conversion from BRR-E thru BRR-K and SO-4 thru SO-8 will be processed for customer approval and should have a Work Order status of "WCCCON"
9. The Work Receipt Center will update the priority, WF Type, and will adjust the TFD based upon the conversion type or negotiated date.
10. Upon approval the Scheduler shall follow the directions in this instruction based upon the work order type:

IMPORTANT: The Scheduler shall put their notes in the Long Description field of Maximo in the format of date, notes with First name initials and complete last name.

When a WON has been determined to exceed the scope of a baseline work type processing for Task Order Conversion is required in accordance with WCC-I-0007, Work Receipt Instruction. If material has been identified material **shall not** be ordered until the task order has been approved by the government.

1.6.2 Exception Process for Work Orders

Exceptions are entered directly into Maximo by the lead scheduler**,** Shop Supervisor or WCC management representative. Exceptions are recorded in Maximo in the following manner:

- Select REQUESTED
- General Comments shall be provided by the Shop Supervisor and be clear and precise describing why the exception is being submitted.
- CLIN 002 and 004 – NOT PMs or Task Orders.
- Estimated Scheduled Finish Date is required for NASA approval.
- If the Estimated SFD is not provided, it will not be approved.
- Cause Code needs to be selected.
- Review will be made by the FSEU Continuous Improvement Analyst
- Requests are submitted to NASA SI for approval.
- NASA SI sends back an Approval/Disapproval answer.
- **Regardless of the answer, the following fields are updated in Maximo by the Work Control Analyst:**
  - **Metric Exception Date field**
  - **Exception Status field**

Once the exception is approved, the shop scheduler and shop supervisor work to establish a new SSD & SFD in which to perform the work.

If material purchasing is involved, the new date may have to wait until a Vendor Delivery Date (VDD) is provided by Logistics. A VDD must be provided back to the Shop Supervisor and Shop Scheduler in a timely manner. If material falls outside of the 3-week scheduling window the Integrated Planner shall update the SSD and SFD. An exception can be changed from Approved to Denied based upon the adjustment of any conversion that may have been submitted. The goal is to keep the exceptions to a minimum.

1.7 Addressing Untagged Equipment Work Orders

When a WON is generated for untagged equipment (i.e. ice machines, refrigerators, and fans) and is questionable if it falls in the scope of the BOSS contract, the Scheduler shall leave the WON in WAPPR status, forward WON information to the assigned Planner, and annotate actions taken in the Long Description. The Planner shall coordinate with the SE to make the assessment. If the equipment is deemed within scope, the SE shall submit a Maintenance Action Request (MAR) to add the equipment to the maintenance plan and have an asset number assigned (reference FAM-P-2001). If the equipment is deemed out of scope, the Planner shall contact the requester to inform them that BOSS shall not complete the work. The Planner shall respond to the Scheduler to advise them if the work is within or outside of scope of the contract. The Scheduler shall add the WON to their schedule if it is within scope or cancel the work order if it is not.

Note: *The WON shall remain in WAPPR status until final determination of contract scope.*

2 PERFORMANCE METRICS AND POSITIVE CONFIRMATIONS

Work Management is required to meet or exceed performance metrics per NASA contract requirements for response and completion of Trouble Calls and Repair Work Orders and Service Orders (CLIN 002 and CLIN 004), Preventive Maintenance Work Orders (CLIN 001 and 003), Work Management Performance Metric Reporting (WCC-P-2005). When Work Orders are counted as "Metric Pass" – The Actual Finish Date must be less than or equal to the TFD; and the Status in "CMPLT".

- If CLIN 002 or CLIN 004 WO is **not** complete, then a NASA approved exception will be required to pass the metric.
- If the CLIN 001 and 003 is not complete, then a NASA Deferral/Reschedule is required to pass the metric.

Positive Confirmation is required for work orders that have performance metric requirements that have not been met or completed on the action due date based upon the specific metric criteria as defined in WCC-P-0005. Items Due reports shall be generated and distributed daily by the Scheduling Supervisor. Schedulers shall schedule, monitor, and communicate any issues immediately to the Scheduling Supervisor, the Integrated Planning & Scheduling Department, and the Work Control & Spaceport Integration Center Manager (WCSIC).

The responsible Shop Supervisor and/or WCSIC Manager shall monitor and ensure the performance metrics are met as defined, and provide Positive Confirmation when required as follows:

2.1 Emergency Trouble Calls (ETC)

ETCs require an immediate response and on the job, site working within 30 minutes following notification to stabilize the situation and restore essential services. Permanent repairs shall be completed within 15 calendar days of the ETC notification unless otherwise coordinated with the Contracting Officer's Representative (COR) or authorized representative.

2.1.1 ETC Positive Confirmation

Confirm the work is physically complete. All task lines shall be in a CMPLT status. Supervisor Concurrence must be submitted by all shops no later than close of business the following business day.

2.2 Routine Trouble Calls (RTC)

RTCs require response within 7 days following generation of the WON. Permanent repairs shall be completed within 30 calendar days following notification. Complete permanent repairs within 15 or 30 calendar days of notification from the WCC unless otherwise coordinated with the COR or authorized representative.

2.2.1 RTC 7 Day Positive Confirmation

Confirm that the shop has responded. The work order shall have an Actual Start Date (ASD) populated and be in an INPRG status.

2.2.2 RTC 15- & 30-Day Positive Confirmation

Confirm the work is physically complete. All task lines shall be in CMPLT status. Supervisor Concurrence must be submitted by all shops no later than close of business the following business day.

2.3 BRR's and SO's

Complete the work within the number of calendar days as defined in the table below. The days start upon WON generation or unless otherwise coordinated with the COR or authorized representative.

Work Type	Calendar Days to Complete
BRR-A	15
BRR-B	30
BRR-C	45
BRR-D	60
BRR-CPS thru BRR-DPS Protective Systems	30
BRR-E thru BRR-K	Within timeframe coordinated with COR or authorized representative
SO-1	5
SO-2	10
SO-3	15
SO-4	30
SO-5	45
SO-6	60
SO-7 and SO-8	Within timeframe coordinated with the vetted requestor
Actual Finish Date must be less than or equal to Target Finish Date.	

Confirm the work is physically complete. All task lines shall be in a CMPLT status. Supervisor Concurrence must be submitted by all shops no later than the close of business the following business day.

2.4 Preventive Maintenance (PM)

PMs shall be completed, deferred, rescheduled, or cancelled prior to the Target Finish Date (TFD). If the PM has been rescheduled, the PM shall be completed, deferred, or rescheduled prior to the PM Deferral Reschedule Date.

2.4.1 PM Positive Confirmation

Confirm the work is physically complete. All task lines shall be in a CMPLT, PMTSKDIS, PMTSKREP, or PMTSKNR status. Supervisor Concurrence must be submitted by all shops no later than close of business the following business day.

WONUM	WON STATUS	TASKID	CURRENT VALUE	REQUESTED VALUE
	CLOSE		PMTSKDIS	PMTSKOBV

2.5 WON Closure

All work orders, except for project packages, shall be updated as "Complete (CMPLT)" as appropriate within 15 working days after physical completion of the work.

2.5.1 15 Day WON Closure

Once the work is physically complete, the Shop Supervisor is responsible for ensuring all task lines are complete on the Actual Finish Date (AFD) of the work completion, and concurrence (electronic) or signature (hardcopy) has been submitted for the work order no later than close of business the following business day.

3 PLANNING AND SCHEDULING WORK

After required approvals have been accomplished, Integrated Planning and Scheduling Department manages the planning and scheduling flow of work directed to the shops based upon work priority and Target Finish Dates (TFD). The Integrated Planner Estimators are responsible for developing integrated long- and short-range plans for work performed by BOSS. Integrated Planner Estimators establish priorities, identify work capacity, and deconflict problems that may jeopardize or impact work schedules. Integrated Planner Estimators work closely with Schedulers, P&E, WCC and BOSS Management. Facility Managers will be contacted in advance to ensure there are no conflicts that would delay the work once the shop is on site. Schedulers are responsible for coordinating and scheduling all open work orders with in a three (3) week period as defined, developing weekly shop schedules for all work performed by BOSS. A commonsense approach to the planning and scheduling of all work order types (as defined in Section 2) to be executed shall be followed. For example:

1. Schedule work to be performed based upon a common area location. What can be scheduled and coordinated together to reduce impact to shop travel time and loss of manpower hours.
   - i.e. LC-39 Area (two facilities within a short travel distance)
   - Multiple work orders in large facilities i.e. Central Campus (M7-0301), the VAB (K6-0848), etc.
2. Schedule work to be performed based upon a common asset.
   - i.e. One asset has five open work orders that can all be performed at the same time, during the same outage.
3. PM Discrepancies to be worked with the next PM in the cycle if feasible

There are exceptions when the Supervisors are requesting the workflow straight to the shop (Need the work immediately, time critical, etc.) in which the Supervisor believes they can input solid tasking and hour estimates. For this exception where WCC is not the one providing estimated hours, the Supervisor has assumed responsibility and accountability for timely identification of task lines and hours on the WCC Form 2001A.

Requirements for Supervision input:

- Tasking & estimated hours will be documented on the WCC 2001A form. Tasking and hour estimates will not be performed at any level lower than front line supervisors. WCSIC Managers may also support this input if required.
- Completion of the WCC 2001A form for tasking and estimated hours will be completed **BEFORE** the work is started.
- The WCC 2001A form will be completed NLT 2 days (COB) after receipt of the work. (1st Day of receipt will be counted as the 1st day the Supervisor requested the work)
- The WCC 2001A form will be provided to the shop Scheduler, who will input the provided tasking and hours into Maximo. At the same time the Logistics Expediter should be included on the WCC 2001A distribution if material has been identified. This is required so they can be working in parallel process to identify and order parts.
- Estimated hours/tasks should be solid estimates with no contingency to add time for unknown discovery items, or to eliminate the need to document changes via the WCC 2001A form.
- Estimated hours should only be for Craft time. Do not include non-shop support organization times in the estimated hours (I.e. Safety, Engineering, etc.) even if they are needed to support the task. Support organizations can be added to the work order for charging purposes, but with no hours. They may charge their time to the WON, but their time will be filtered out when looking at actual cost and performance against the estimate.

Various types of work orders may require materials to perform the assigned task(s). Schedulers shall check and validate if the material is complete. Schedulers shall validate with the Logistics Specialist, Shop Supervisor and/ or Project Supervisor that the material is received and correct. If shop support is required to complete the work order (i.e. HEOPS to deliver a lift, CORR crew to set up scaffolding) the Lead Shop Scheduler shall ensure an EWR has been submitted for WON creation at least three (3) weeks prior to the support need date. The only exceptions shall be for emergencies that require immediate attention.

3.1 General Level of Work Task Planning

For all work orders, a general level of work task planning is required. The specific level of planning is directly related to the WF Type as defined in WCC-P-0004. A general level of work task planning shall be provided by a Shop Supervisor, SE, or Technical Representative directly related to the primary crew that is responsible for the completion of the task, support, or operation. P&E is sometimes required to assist as defined in WCC-I-0005.

General level of work task planning shall include, but is not limited to the following:

- Man-hours estimated to complete the identified task(s)
- Clear instructions for each required task
- Materials identified to complete the identified task(s)
- Special circumstances such as access, outage, or equipment
- Man-hours estimated to complete the identified Support requirement(s)
- Total Duration Hours

3.2 Scheduled Dates Requirements

Schedule Dates are comprised of Scheduled Start Dates (SSD) and Scheduled Finish Dates (SFD) and shall be populated to closely reflect the actual man-hours required to work the task(s) for each work order. ***If work needs to be rescheduled or requires more time, the Scheduled Start and Finish Dates shall be adjusted accordingly***. Schedulers are the only personnel who can make changes to the Scheduled dates in the **near**-term window. Integrated Planner Estimators/Workload Management/ Scheduling Supervisor can make these updates outside the 3-week window.

Schedulers shall adhere to the following requirements:

- All work orders are required to have both Scheduled Start and Scheduled Finish dates except for the following: WOUTAGE.
- Work orders placed in WMATL should be scheduled to the material request date, as soon as an updated PO has been processed the work order should be scheduled 2 weeks out from the Vendor Delivery Date. Scheduling is responsible for watching updated Vendor Delivery Dates and adjusting the Schedule Start and Finish Dates accordingly.
- All dates will be input using Akwire.
- The only exception for Scheduled dates is ETCs and urgent work that are completed within 48 hours of release of the work order. These tasks do not require Scheduled dates
- The Scheduled Finish Date shall be based on the start date and the duration of time required to complete the work.
- Scheduled dates shall be entered within 2 days of creation of the work order.
- **Accurate Scheduled dates shall be entered 5 days prior to start of a task unless real-time coordination is necessary.**
- Facility Managers shall be notified 2 days in advance of any work being scheduled in their building(s) to ensure any conflicts can be eliminated. If the conflicts cannot be resolved, the Facility Manager will notify the Scheduler and provide a date for the work to begin.
- **If work is not completed as scheduled both Scheduled Start and Finish dates shall be adjusted.** If these dates exceed the TFD an exception request must be submitted and approved as in accordance with section 1.5.2 of this document.
- Work requiring Asbestos Abatement will require a 48-hour notice to the appropriate scheduler so that the proper notices can be sent to Environmental Health when needed.

3.3 Weekly Schedule Build Requirements

Based on a 52-week calendar, a 21 day (3 week) backlog will be generated for processing of the 7 day schedule and will be approved and published no later than 8:00am. each Friday utilizing **AKWIRE** and formatted as presented to you by your Scheduling Supervisor. Schedules shall be built based on the Work Flow type and Scheduled Finished Date, per the Work Management Procedure WCC-P-0004, applicable completion dates, work types, work order priorities, criticality of assets and resource allocation.Daily Schedules shall be distributed electronically via email no later than 2:30 p.m. each day for the respective Shop Supervisor to review and approve. Weekly Recaps Sheets will be distributed and completed at the beginning of each Work Week to address all missed work from the previous weeks schedule.

Akwire Standardized 7-Day Schedule Creation

The Weekly goal is to create a “Scheduling Standard” for Scheduling work utilizing manpower allocation.
All Work Orders will require scheduling.
Superviors will provide in writing any work orders they deem necessary for scheduling during the next work week by Wednesday of each week and any information for training PTO or any other reason a tech will not be present during the next work week. The Scheduler will fill in remaining Work until 75% of the available manpower is scheduled which Includes manpower/hours for Task Orders. All scheduling and changing of dates will be performed in AKWIRE only and published to ensure the data is captured.

Schedulers shall develop as follows:
Monday- meet with Assigned Supervisor(s) for date changes and approval/concurrence prior to the WLMP/IMS meeting. Update all S.S. and S.F. dates prior to Tuesday meeting.

Tuesday- attend WLMP/IMS Scheduling meeting/start Akwire Schedule to include these items. Note: Supervisors will provide all required responses during this meeting. The Schedulers will update S.S. and S.F. Dates on any changes made during this meeting, update as required.

Wednesday-Schedule all remaining work orders to the 75% level (Supervisors will provide the total FTE’s available for the next week) with final schedule completed and ready for Supervisor review.

Thursday-Set up meeting with Assigned Supervisor(s) for changes and approval/concurrence due no later than Thursday close of business.

Friday- Final 7 Day schedules will be published in Excel each Friday morning by 0800 and a pdf. copy loaded into the shared drive.

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Akwire Standardized 1-Day Schedule Creation

A daily schedule is required for each day of the Work Week. This schedule will be comprised from the 7 day schedule and any additional work deemed required by the shop Supervisor. All scheduling and changing of dates will be performed in AKWIRE only and published to ensure the data is captured and posted to the sharded drive by no later than 9:00am each day.

Goal is to schedule with this method:

- PM's (Life Safety and Mission Essential) TFD plus 2 weeks in advance min.
- Metrics driven Baseline Work: BRR-a-thru BRR-K, SO-1 thru SO-8 by (TFD)
- TASK ORDER COMMITMENTS –SHOP IMPLEMENTED TASK ORDERS AND COF SUPPORT
- SWO COMMITMENTS
- BACKLOG WORK
- ALL WORK ORDERS SCHEDULED WILL HAVE THE S.S. AND S.F. DATES UPDATED TO REFLECT SCHEDULED WORK FOR THE NEXT WEEK. ONLY SCHEDULE WORK ORDERS WITH THE FOLLOWING STATUS: INPRG, WSCHED, SCHED, INRSCHED, PMSCH, AND WAPPR.

This will ensure that all Shops are scheduling to the same standard. Provides a starting point for the heat map function available in Akwire.
Note: Akwire requires all percentages in for all crews to be at the same percentage: 76% before it turns red.

3.4 Shop Scheduling Meeting Requirements

The Scheduler shall ensure scheduling meetings are established and maintained via Outlook calendar for the shops they support. These meetings shall be held at a minimum of once a week. The following individuals shall plan on attending the Scheduling Shop meetings: The Shop Supervisor and the Scheduler. The Scheduler shall also provide copies of their schedule as handouts during the shop meeting. This meeting needs to ensure Resources are entered into the Calendar Function in Akwire. This meeting needs to be accomplished by 10 a.m. on Thursdays to publish the Resource Calendar by 8:00am on Fridays.

The minimum requirements for these meeting agendas are to discuss and review:

- Discuss and status current work on the schedule and new work that has been generated.
- Discuss, identify, and resolve work that has **not** been completed including any exceptions which may exist.
- Discuss and address all work orders that have no SSD assigned.
- Discuss and status active project milestones – Task Orders.

- Material requirements – any issues? PRs/POs needed?
- Support shop requirements for pending work.
- Outage requirements.
- Access requirements and coordination.
- Work order priorities and pending conflicts.

Shop Supervisors shall assist and provide the Shop Scheduler the following:
- Provide Scheduler with manpower hours available for each Workflow Type.
- Provide Scheduler with any known work requirements that will require completion within the weekly timeframe.
- Supervisors shall use their resources efficiently and effectively.
- Coordinate with Engineering for support if applicable.

Schedulers:
- Take manpower availability estimates provided by the Shop Supervisor into consideration for each Workflow Type
- Notify Shop Supervisor of any required support needed for the applicable week

3.5 Coordination of Area and/or Facility Access

The Lead Crew/Primary Shop Scheduler shall coordinate area access with the Facility Manager(s) and the BOSS Facility Manager using the KICS Entry Request Form 2 days prior to work commencing by 2 p.m. All real-time work coordination shall be worked through the Facility Manager. The Facility Manager should be provided a copy of each schedule that is released.

3.5.1 BOSS LC-39 Integrated Schedule Requirements

Routine work scheduled greater than 2 working days in advance shall be coordinated with the Facility Manger for schedule conflicts and placement on the KSC Integrated Control Schedule (KICS) using the KICS Entry Request Form by 2 p.m.
- Mission Support shall attend the daily and weekly scheduling meetings.
- Mission Support shall place any shop work that is scheduled greater than 2 days in advance on the KICS or appropriate scheduling tool.
- Facility Managers shall check schedules for any operational conflicts and coordinate any changes required.
- Mission Support shall brief the test team as required between the scheduling meetings.

Routine work scheduled greater than two days and less than five days shall be coordinated with the Facility Managers for scheduling conflicts and placement on the KICS schedules.
- Facility Managers shall notify TOSC to add BOSS work to the daily update of the KICS as required.

Non-Trouble Call, Real-Time work request with less than 48 hours' notice, shall be worked through the JSTC console at 861-5464. The JSTC shall process the

request on the Operational Intercommunication System (OIS) through the NTD and Pad Leader if applicable. Trouble Calls that are in non-critical ***and/or*** non-processing facilities are exempt from the KICS scheduling requirement. The shops may contact the Facility Manager or the JSTC at 861-5464 to obtain an operational status of the facility prior to traveling to the facility. If after working a trouble call the work required exceeds the scope of a trouble call, then the WON shall be converted to a repair in accordance with this instruction, and the task shall be coordinated and placed on the KICS or appropriate schedule for work to complete the repairs.

3.5.2 Processing Facilities Access

For access to any processing facilities, coordinate any access requests through the Facility Manager who is the designated Points of Contact (POC) and liaison for the specific facility. These areas include but are not limited to the following facilities. This list and the requirements are subject to change without notice.

- Industrial Operations Zone (IOZ) of Neil Armstrong Operations and Checkout Facility (O&C) M7-0355 (This does NOT include the administration areas)
- Launch Abort System Facility (LASF) M7-0777
- Multi-Payload Processing Facility (MPPF) M7-1104
- Payload Hazardous Servicing Facility (PHSF) M7-1354
- Space Station Processing Facility (SSPF) M7-0360 (This does NOT include the administration areas)
- Ordnance Operation Facility M7-0559
- Rotation Processing Servicing Building K6-0494
- Orbiter Processing Facilities 1, 2, and 3 (K6-0894 OPF 1 and 2, K6-0696 C3PF)
- Launch Pad A, J8-1708
- Launch Pad B, J7-0337 – (KICS need to be in by 12 Noon)
- Vehicle Assembly Building (VAB) K6-0848
- Kennedy Data Center (KDC) M6-0547
- Booster Fabrication Facility (BFF) L6-0146
- Aft Skirt Test Facility (ASTF) L7-0251

Any questions in regards to the above facilities should be directed to the Facility Manager, http://BOSS.ksc.nasa.gov/facility_managers.html

The technicians shall check in with the appropriate Facility Manager or sign in upon arrival at the facility prior to start of work and upon completion of the work.

3.5.3 Ordnance Storage Facility (OSF)

The KSC Ordnance Storage Facility (OSF) has reduced staffing and access. The OSF will be open the first full week of every month to provide access to the Ordnance Magazines and Receiving & Inspection Facilities and provide ordnance support. All other access to the facilities and ordnance support must be scheduled a minimum of five (5) business days in advance by calling Ordnance Services at 853-7951 and notifying the Facility Manager.

3.5.4 Visitor Center (Delaware North) Facility (VC)

1. The VC facility will now require an access form sent via this link: https://app.smartsheet.com/b/form/a36858073d7b49ad8c673552d3f1a4a8 to request entry. This form is very similar to the fields that were being filled out on the Microsoft Word form previously.
2. Fill out all required fields and hit submit.
3. Wait for the approval or declined email response that will include any comments or reasons for declining and a confirmation number.
   a. **If the request is approved**. - please provide the confirmation number, location of the work, and the description to the security guard to gain access.
   b. **If the request is declined** – review the comments and resubmit on a new form for approval

Except Emergencies and Urgent. The VC will also require seventy-two (72) hour notice if DN support is required and forty-eight (48) hour notice if DN support is not required. The work is expected to be performed on the days scheduled. If the work cannot be performed on the scheduled days, notification must be sent to the DL and a new request must be generated to extend or reschedule the work. ETC's are exempt from this notification process and should be worked through the Delaware North emergency contact, Dan Huss at mailto:DHuss@delawarenorth.com (920) 716-6030.

3.6 Elevator Maintenance Notifications

Elevator preventative maintenance and repairs are an important function of the BOSS contract. Because of the impacts for day to day elevators users and more specifically disabled personnel, a heightened standard of communications, follow-up, response times, and repairs shall be made.

The following standards have been implemented to ensure consistent elevator notifications and response actions are being performed related to all elevator outages/repairs. These actions shall not supersede any procedure notifications or response actions.

***NOTE*:** *While this section refers to specific individuals as POCs, the personnel are subject to change without notice. Specific new POCs shall be determined and coordinated with the FSEU Management Team.*

3.6.1 Requirements

- Scheduled elevator outages (i.e. Preventative Maintenance) shall be communicated with NASA SI-C1. Outages that take place Monday – Friday between 6:00 AM and 7:00 PM need to be sent to the KSC-DL-DAAWG distribution group by noon the day prior to the outage. Routine elevator maintenance shall normally be scheduled between 7:00 AM and 3 PM. In addition, JSTC (861-5464) shall be notified to make PA announcements concerning the affected area the day prior to the outage.
- Elevators shall be returned to service immediately upon the safe completion of repairs or maintenance.

- Central Campus Elevator: Any outage or work that could impact the 7th floor shall be coordinated with them directly by Facilities Supervision/Management. Call 867-3197 and ask for the Administrative Assistant. Do not rely on "by noon the day prior" notification or PA announcements when dealing with impacts to the 7th floor.
- Unscheduled elevator maintenance shall be responded to base upon the location and severity of the issue. In general, when elevator faults occur, they become the higher priority maintenance focus area. This means that scheduled maintenance that is being worked or is getting ready to be worked may be impacted while the Maintenance Technicians respond to the unscheduled elevator failure. For minor elevator repairs in which a single elevator is taken out of service and other elevators are available and shall be returned to service during the same shift, no notification shall be communicated. Any elevator failure that appears shall run through the end of the day shall be communicated through NASA SI-C1 & KSC-DL-DAAWG distribution group and the Facility Manager.
- Short Duration elevator work (Less than 30 minutes) is considered minimal and shall not require outage notifications, provided that the short duration work is not done at the beginning or end of standard work hours (0630-0830 & 1500-1700). Example: Elevator Fire Service Recall Test.
- When elevator e-mail notifications are required, they shall be sent to the appropriate distribution groups listed above using form: FAM-F-2012, by the Scheduler. The form is available in the Forms Directory. In the absence of the Scheduler or backup scheduler the Elevator Shop Supervisor has final responsibility in ensuring the required notifications are made. Electronic copies of the notification forms shall be maintained by Master Schedule Integration.
- The Elevator Technician Supervisor shall ensure that updates, changes, and elevator PMs/Trouble calls are communicated to the Scheduler as soon as they are known.

3.7 Bridge Closure Notifications

Bridge closures for maintenance impact all personnel working at Kennedy Space Center as this change's road conditions for ingress and egress to the work force. All bridge closures require support from Roads shop and Security. Bridge Closures shall be scheduled at minimum two weeks in advance to allow for adequate time to obtain approvals and coordinate support. The following process is the scheduling requirements for the coordination and notification of bridge closures. For bridge work that requires the bridge to be out of service, the Supervisor or SE shall initiate an Outage Request so that internal and external customers are better informed and can coordinate and deconflict any issues.

NOTE: *While this section refers to specific individuals as Points of Contact (POC), the personnel are subject to change without notice. Specific new POCs shall be determined and coordinated with the FSEU Management Team.*

3.7.1 Two Weeks or More in Advance of Bridge Closure

The Scheduler shall:

- Email the Mission Support Office (MSO) to verify if there are any heavy equipment movements scheduled during the time the bridge closure shall occur. The information for the email shall be coordinated between the Bridges Supervisor and the Scheduler. The email shall specify the following information:
  - Date(s) of closure.
  - Time duration of closure (normally 0800 to 1500).
  - Type of Lane Closure – Single Lane Closure or Full Span Closure (applicable to the Indian River Bridge only).
    - Indian River Bridge notices shall specify which span will be closed, north or south span if it is a single lane closure, and how the traffic will be diverted.
    - For a FULL bridge closure, a marquee sign is required for roads to set up 2 weeks prior to the full closure.
- Notify the Scheduler of Roads shop to request support. Two to three weeks advance notice shall be given when requesting support.

The MSO shall provide concurrence response to the heavy equipment movements and provide the Service Request (SR) Number for Security Support to the Scheduler. Once the Scheduler receives the approval from the MSO, the Scheduler shall email NASA for Bridge Closure concurrence. This email shall, at minimum, be distributed to NASA-SI-C1 and their respective Supervisor, and the Shop Supervisor for Elevators. Upon receipt of concurrence from NASA, the Scheduler shall add a copy of the email approval to the Scheduling Shared Drive.

3.7.2 Two to Three Days in Advance of Bridge Closure

The Scheduler shall send Bridge Closure notification email two to three days prior to the closure to allow adequate time to have it listed in the KSC Daily News. Reference MSI-REF-0001, Appendix D: Sample Bridge Closure Notification Emails.

3.7.3 Daily Activity During Bridge Closure

The Scheduler shall send daily reminder emails between the advance notification and through the course of the bridge closure period. Reference MSI-REF-0001, Appendix D.

3.8 Managing Shop Backlogs

Schedulers shall monitor, status, and track all work orders in the shop backlog. Backlog work orders shall be scheduled based upon available shop resources, priority, and material availability. Integrated Planner Estimators or assigned personnel shall monitor the shop backlog outside of the 3-week window daily to review for planning requirements. Schedulers shall monitor the backlog and ensure to manage critical and/or high visibility items such as American with Disabilities Act (ADA), Fire Inspection (F/I), or Life Safety (LS) work orders.

To generate a Shop Backlog Report in Maximo:

- From the Maximo Start Center, select Work Order Tracking

- On the List tab in Work Order Tracking use the available options to specify the search criteria.
- Download into Excel by clickinfg on the download icon , for further review in Excel.

3.9 Monitoring Due Dates

Schedulers shall monitor target completion dates, scheduled finish dates, and/or rescheduled dates (as applicable) on all open work orders in their shop and ensure jobs are scheduled in advance to ensure adequate time for completion of work.

3.10 Maintaining Accurate Work Order Status

Schedulers shall monitor, status, and track all open shop work orders, ensuring the status recorded in Maximo is the most current, accurate status of the work order. This includes ensuring documentation of the status is captured in the Long Description of the work order in Maximo. A work order shall not be placed in SCHED or an INPRG status without accurate hours, materials and/or tasking identified. The exception for this is if the Duty Office places a work order INPRG on 2nd or 3rd shift or on a weekend when no Scheduler is available. The Scheduler shall enter accurate Scheduled Dates upon their return to work the next business day.

The life cycle of a work order is very fluid and dependent upon the circumstances, situation, priority, and other factors, the Scheduler shall apply best judgment in determining the correct, current, accurate status of a work order. The WCSIC Manager, Scheduling Supervisor and/or their assigned designees have the authority to stop the workflow as the status cannot be changed if there is a current workflow in process. The WCSIC Manager, Scheduling Supervisor and/or their assigned designees have the authority to make the final appropriate status determination and direction the Schedulers for entry into Maximo.

3.11 Hardcopy Work Order Scheduling

A hard or paper copy of the work order can be printed by using the WO Print function in MAXIMO. A hardcopy work order shall **only** be utilized when it is not possible to perform work as defined in WCC-P-2002. If work must be performed using a paper copy the WON will be bought off and attached to Maximo once the work has been completed.

4 EXECUTING WORK

Prior to executing the work order, the Shop Supervisor or shop Lead shall:

- Verify permitting has been approved.
- Verify availability of Material to complete the job.
- Review work for Quality requirements in accordance with QAL-P-0037, Quality Engineering.
- Review work for LOTO and provide instructions if applicable in accordance with SHP-P-0147, Hazardous Energy Control (Lockout/Tagout).
- Ensure SHP-F-3100, Job Hazard Analysis is available for Technicians.

- Verify Facility Access and Outage Coordination with Facility Manager of applicable facility with assigned Scheduler and/or Planner.
- Verify Support Shops are supporting work as Scheduled with assigned Scheduler.

5 MONITORING WORK IN PROGRESS

While the work order is in progress, the Shop Supervisor shall:

- Monitor actual labor hours to ensure estimated labor hours are not exceeded.
- Monitor scope of work to ensure that work is not exceeding established scope.
- Notify Scheduling Supervisor and Work Load Manager, Integrated Planning and Scheduling Department of deviations that will affect job completion.
- Partner with Shop Supervisor and Provide justification for schedule deviations.
- Report schedule deviations that will affect metric performance to the Scheduling Supervisor and Work Load Manager, Integrated Planning and Scheduling Department.
- Process Conversions and/or Exceptions as required.

5.1 COMMUNICATION

Communication is essential in conveying information to the Customer, Technician, Shop Supervisor, Scheduler, Facility Manager and the WCC.

Technician shall ensure they communicate the following:

- Document how the customer was contacted in the Notes section of the work order.
- Communicate any deviations or delays to the customer in a timely manner.
- Notify the Supervisor of any deviations or delays upon arrival back to Shop.
- Notify Supervisor of any Scheduled dates that will be missed or that need to be adjusted or rescheduled.
- Notify Supervisor of any job that exceeds the planned work order task or level of support if conversion is necessary.
- Notify Supervisor of any materials that need to be ordered to complete the task.

Shop Supervisor shall ensure they communicate the following:

- Notify Scheduler of any Scheduled dates that will be missed or that need to be adjusted or rescheduled.
- Verify that the Technician has notified the customer and Facility Manager of the status of the job. In the event the customer is not contacted it is the responsibility of the Shop Supervisor to notify the customer.
- If notified the planned work order or task level shall exceed scope, notify the assigned Scheduler for appropriate actions for conversion to be taken as defined in this instruction.
- Upon the Supervisor being made aware of material requirements that were not part of the original scope, verify that it shall not exceed the approved threshold for the specific work type in accordance with WCC-P-0004.
- Ensure the assigned Scheduler is made aware of changes that will require documentation in Maximo.

Scheduler shall ensure they communicate the following:

- Scheduler shall notify the Shop Supervisor of any changes to support.
- Notify Shop Supervisor of any dates that will be missed.
- Notify Scheduling Supervisor of any missed dates.

Scheduling Supervisor shall ensure they communicate the following:

- Provide direction on missed dates.
- Provide direction on work that exceeds scope.

6 CONCURRING TO WORK COMPLETION

Prior to concurring to work completion on the work order, the Shop Supervisor shall:

- Review work order for accuracy and completeness.
- Ensure the PCRs, as required, are recorded and a clear, concise description of the problem and work completion have been documented.
- Ensure as Found, Troubleshooting, and Work Completed are documented.
- Ensure the Technicians have performed work steps and have completed work as tasked.
- Ensure all work has been performed, completed, and documented.
- Ensure all tasks requiring data capture have been adequately documented.
- Ensure all test data/supporting documentation and all required attachments, including forms and OMIs, are completed and attached to the Maximo Work Order.
- For PM work orders, ensure all tasks noted as PMTSKDIS (PM Task Discrepancy), PMTSKNR (PM Task Not Required), or PMSKREP (PM Task Repaired on Site), have corresponding notes documenting the justification for that disposition. If the PMTSKDIS is on a Life Safety item, it **must** have concurrence by the Engineer prior to initiating the PM-REP Discrepancy Repair WON.
- For PM work orders, ensure Task 10,000 has the Asset Condition Code recorded and that the task line is complete.
- If work is performed on a hard copy work order, ensure the work order has been signed and dated by the Technician and Supervisor and attached to the Maximo work order.

Work Orders shall not be considered complete until all crafts are complete, all Supervisors have concurred, and all required documentation as specified in this procedure have been submitted to the assigned Scheduler.
Note: when question arise or additional information is required the scheduler may use the Status of QUEUE (Waitting additional Information). The use of this status is only approved for **7** working days. Any Work Oder that the status is changed to QUEUE requires a reason.
IMPORTANT: The Scheduler shall put their notes in the Long Description field of Maximo in the format of date, notes with First name initials and complete last name.

7 ROUTINE TROUBLE CALL (RTC) WORK ORDERS

There are two types of routine trouble calls as defined in WCC-P-0004. While there are differences as noted, all RTC work orders are processed in the same manner and shall be referred to throughout the remainder of this document as an RTC. RTC work requests shall

be received and processed through the BOSS Duty Office also known as the WCC. The WON will appear in the Maximo Start Center and an e-mail notification will be automatically generated by Maximo and sent in Microsoft Outlook using the Maximo Person Group associated with the workflow assigned for each crew.

Access the WON by clicking on the link provided in the e-mail notification or by selecting the WON in the Start Center. Click "Workflow" on the top tool bar to accept the WON, and then click "Accept Assignment" in Workflow. ***ALL*** WONs must be "Accepted" in a timely manner by the Lead Craft Scheduler. All trouble calls shall be reviewed by the WCC, Scheduler and/or Supervisor for accuracy. All corrections must be made prior to the WON being taken out of WAPPR status see section 1.4.

7.1 Emergency Trouble Calls

As defined in WCC-P-0004, an ETC is always a priority 1 and the only WON with this priority.

7.1.1 Actual Start Date (ASD) and Target Finish Date (TFD) for an ETC

- The Actual Start Date (ASD) on all ETC WONs shall be within 30 minutes following notification. (Duty Office personnel shall place the Actual Start Date on the front page at the time the work is generated, and the shop is notified).
- The Target Finish Date (TFD) is 15 or 30 days from the report date depending on the Workflow Type.

ETCs may require conversion based upon varied factors, reference Work Order Classification Conversions section of this instruction for direction. The NPR type for Emergency Trouble Calls (ETC's) will never change during the life of the WON.

7.2 Routine Trouble Calls (BRRA's and BRRB's)

As defined in WCC-P-0004, a RTC can be a priority 2, 3, or 4.
An RTC may require conversion based upon varied factors, reference Work Order Classification Conversions section of this instruction for direction.

7.2.1 Actual Start Date (ASD) and Target Finish Date (TFD) for RTC's

- The Actual Start Date on all RTC WONs is calculated off the Report Date (Report date + 7 Days or less)
- The Target Finish Date is calculated off the Report date and is 15 Days for a BRRA and 30 days for a BRRB.

The Actual Start Date is the date the shop first responded/charged to the RTC; some examples are listed below:

- Site visit to check on job
- Adding support shops
- Ordering material for job
- Technician charged to the WON

The Scheduler shall input the response date in the Actual Start field on the front page of the Work Order Tracking screen on all RTCs if it did not auto populate

from EXMax Mobile. The Shop Supervisor shall ensure all RTCs are responded to within 7 days or less. At a minimum the Shop Supervisor shall perform or assign a Technician to perform an onsite observation. The Shop Supervisor shall place a note in the Log section of Maximo providing detailed information obtained from the onsite observation this information can suffice as an ASD.

8.0 Changing Lead Crew - Wrong Craft Assigned to BRR's & SO's

If a WON was assigned to the wrong Crew, Scheduler will correct the WON, notify the *correct* shop's Scheduler by sending the WON in work flow after the New Work has been distributed, annotate the action(s) taken in the Long Description field in Maximo. **IMPORTANT: The Scheduler shall put their notes in the Long Description field of Maximo in the format of date, notes with First name initials and complete last name.**

8.1 Multiple Crafts on BRR's & SO's

The **Lead** Crew Scheduler notifies and coordinates with the support shops through total completion of a multiple craft WON. The Lead Crew Scheduler is responsible for populating **ALL** dates for the corresponding crafts after close coordination has been made. These dates will be populated and kept current using Akwire.

8.1.1 Adding a Support Shop to BRR's & SO's

If additional shop support is required, the shop supervisor or WCSIC the manager will submit a WCC-F-2001A form to the Scheduler. The Scheduler shall add the support shop to the existing WON by completing required fields in the on the plans page in Maximo. The WCC Form identifying the additional hours will be attached to Maximo.

- Populate the task number, summary field (include shop and description of work) task information in the Long Description field of the task line, and estimated hours for each shop added.
- In the Labor section, populate the shop's task number and Craft number. It is required to have the ratio of one task line and one matching labor line per task, per crew.
- Notify the shop's Scheduler after adding a support shop to a WON and the Lead Crew Scheduler. The Lead Crew Scheduler is responsible for the coordination of this work.
  IMPORTANT: **The Scheduler shall put their notes in the Long Description field of Maximo in the format of date, notes with First name initials and complete last name.**

Note: *If minimal shop hours (less than 5) are required and these hours do not exceed the current threshold the WCC Form can be waived. Tasking, duration, and a note in the long* description *must identify these minimal changes and who requested them.*

Schedulers shall ensure to annotate the action(s) taken in the Long Description field in Maximo upon completion of these lines. If adding additional hours and the WON

exceeds the threshold the WCC will need to be processed for conversion in accordance with the Conversion Process for Work Orders section 1.5.1 of this document.

8.1.2 Adding Engineering Support to BRR's and SO's

If Engineering support is required, the Shop Supervisor or Manager(s) will submit a request identifying the Engineer and support required to the Scheduler. The Scheduler shall add the Identified Engineer to the existing WON for Engineering support and complete the required fields on the plans page in Maximo.

• Populate the **Task** number (511) in the **Summary field** (Identify the Engineer and provide a basic description of support required) task information in the Long Description field of the task line,
Populate the **Scheduled Start** Date,
Populate **Scheduled Finish** Date (5 Business days from Scheduled Start date),
Estimated hours will equal 0.00 (This tasking is expected to equal less ten 10 hours of support. ENG will use a Baseline Charge number for any required support).
Add the identified Engineer in the **Inspector Field**.
Once this is complete, the status may be changed to WENG.
Notify the Engineer assigned: to inform you by email when they are complete or if they require any additional assistance. Once the Scheduled Finish date has gone past 30 days email the assigned Engineer and request an update. If no response in a reasonable amount of time (Several Days) email them again, requesting an update and include their assigned Supervisor and the Scheduling Supervisor.

• Once Engineering has completed the assigned step, the Work Order status will be changed to the applicable status for P&E completion of the Work Order.

• No Labor line(s) will be required.

8.1.3 Review and Pre-Ops Requirements for a Package

Preoperational briefings (Pre-Ops) are required to be held before the start of work with more than two supporting crews. Pre-Ops provide the opportunity to ensure the work is understood, roles and responsibilities are agreed upon, all hazards have been identified and mitigated and/or controlled, as well as to discuss preparation for contingencies as needed and to confirm all parties are ready to proceed to work execution. Upon receipt of the work order, the Lead Crew Scheduler shall review the following criteria with the Lead Crew Supervisor:

- Priority
- Scheduled Start Date and Scheduled Finish Date
- Material Ordered and status (if applicable)

Based on this information, a pre-ops meeting shall be set up for all shops involved at the request of the Lead Crew Supervisor or assigned Project Supervisor/Manager. The Lead Crew Scheduler or assigned Project Supervisor shall secure a location and time for this meeting and send a calendar invitation to the following personnel:

- Engineer/Planner/Designer who wrote the package
- Facility Manager of the respective facility or facilities (if more than one is impacted)

- Requestor
- Quality Assurance (if applicable)
- Environmental Health (if applicable)
- Safety Representative (if applicable)
- Lead Crew Supervisor
- Project Supervisor (if different from Lead Crew Supervisor)
- Lead Crew Scheduler
- Support Shop(s) Supervisor(s)
- Support Shop(s) Scheduler(s) Any other personnel identified by Lead Crew or Project Supervisor as required

The Lead Crew/Primary Scheduler shall prepare a pre-ops attendance roster (QAL-F-0043A) to document all attendees and attach the roster to Maximo. The Project Supervisor or Lead Crew Supervisor shall chair the pre-ops and document the meeting utilizing the form Pre-Operational Briefing Guide (FAM-F-2008). The form FAM-F-2008 shall be attached to Maximo by the Lead Crew Scheduler. The agenda shall cover the following items:

- Work Order number
- Identification of key players
- Scope of work
- Schedule for the work to be executed
- Any associated permit and/or outage requirements
- Any safety requirements and/or concerns
- Environmental requirements
- Hazardous work plan

8.2 Ordering Material on BRR's & SO's

The Supervisor/Lead shall prepare a WCC-F-2001A which will identify the required material, a copy is provided to the Lead Crew Scheduler, to attach to Maximo. The Shop Supervisor or Shop Lead is responsible for providing the WCC-F-2001A material list to Logistics. If work is not ready to commence, the Scheduler shall:

- Set the work order to WMATL status and upload a copy of the WCC-F-2001A form into MAXIMO.
  Note: The Work Order will not be placed into a WMATL status, until the WCC-F-2001A form has been delieved to the scheduler.
- Populate the ASD if this is the first action taken in response to the WON.

If work is ready to be implemented, the Scheduler shall:

- Ensure the work order has been set to the status of SCHED or INPRG as appropriate.

8.3 PLANNING on BRR's & SO's

Planning & Estimating (P&E) review is required when the BRR is greater than a BRR-B or greater than a SO2. It is also required when an Asbestos Plan, Hazardous Metals Plan, or Silica Plan is required. If P&E support is required, the RTC shall be converted

in accordance with this instruction when P&E has completed their portion of the planning.

8.3.1 Routing a SO or BRR to P&E

When it is necessary to route a WON to P&E for planning or evaluation, ordering material, Asbestos, Silica or Hazardous Metals Plan, the Lead Crew Scheduler shall change the **Crew** to P&E in the responsibility section of MAXIMO. If

- Populate the task number (710) in the summary field (provide a basic description of the support required) task information in the Long Description field of the task line,
- Populate the Scheduled Start Date,
- Populate Scheduled Finish Date (5 Business days from Scheduled Start date),
- Add the identified P&E supervisor in the Inspector Field.
- Change the status of the WO to WREPLN.
- Using the Workflow Button – Workflow it and notification will go to the P&E Supervisor
- P&E Supervisor receives the WON
- P&E Supervisor assigns the WON at which time the WON will go to WPLN

WPLN	6/3/19 11:53 AM	RROLON
WREPLN	6/3/19 11:46 AM	MTIBBITS

- P&E will complete their new tasking and send back to the P&E Supervisor for review.
- P&E Supervisor will then update the Lead Crew and flow the WON back to the appropriate shop.

When P&E has finished planning the job per Planning and Estimating Instruction, **WCC-I-0005**, the P&E Supervisor will work flow the WON to the Lead shop. If the TFD is within 5 days, the P&E Supervisor will submit for an exception.

8.4 Notification of Last Open Shop for BRR's & SO's

If a shop Scheduler completes their shop and there is only one shop open, annotate the action(s) taken in the Long Description field in Maximo, notify the Scheduler for that open shop that they are the "last open shop" and notify the Lead Crew Scheduler. When the last open shop Scheduler receives this notice, they are to notify the shop Supervisor their shop is last open. If after 7 days, the last open shop has not been completed the Lead Crew Scheduler will notify the Scheduling Supervisor for further action.

IMPORTANT: The Scheduler shall put their notes in the Long Description field of Maximo in the format of date, notes with First name initials and complete last name.

8.5 Cancellation of a BRR or SO

If a Trouble Call needs to be cancelled or is requested to be cancelled by the Shop Supervisor, approval must be granted to the Scheduler prior to taking the cancellation action by the Scheduling Supervisor and/or the Integrated Planning and Scheduling WCSIC Manager. If the WON has not been taken out of WAPPR status, the Lead Crew Scheduler cancels all crafts and then cancels the WON. If the work has been taken out of WAPPR, the Lead Crew Scheduler shall notify all support Schedulers that the WON is being canceled. Support Scheduler retrieves all copies of issued WONs (if hardcopy), cancel (CAN) their craft(s) on the Plans page, and annotate the action(s) taken in the Long Description field in Maximo. Prior to placing the WON in CAN confirmation needs to be received from the Scheduling Supervisor that there are no hours or material charges associated with the WON.

A WON with any cost accrued (hours or material) cannot be canceled and shall be placed in CMPLT status. Enter the completion date based on the last date of cost accrual. Enter the name of the person requesting the cancellation and the reason for the cancellation in the long description field of Maximo. If the WON is still required and one or more support shops are being canceled, the Lead Crew Scheduler notifies the support shop(s) that their craft is not required and CAN their shops. Annotate the action(s) taken in the Long Description field in Maximo. The remaining support shop(s) still required shall complete their task and follow the closure process as required.

8.6 Completing a BRR or SO

Ensure all jobs are closed in Maximo after receipt of the Supervisor's signed original WON or electronic concurrence per craft. Enter the "ASD" and "AFD" for the WON on the first page of the Work Order Tracking Screen in the appropriate field. If a hardcopy work order was utilized, transfer the problem, cause and remedy codes annotated by the technician into the Failure Reporting Tab. Completion dates for individual crafts are to be entered on the Plans page in the top section. The date that the crew signs and prints their name on the WON as being completed is the date that shall be entered in Maximo. If performed electronically, this will automatically populate from the Mobile CMMS. The completed work order shall be placed in a CMPLT status in Maximo no later than 15 days after the work order was signed off by the last shop in an open/active status.

When completing the support shop portion of a multi-craft WON, add the shop completion date in the AFD field in the top section of the Plans page and change the craft status to CMPLT in the task line. If performed electronically, this will automatically populate from the Mobile CMMS. Annotate Tech notes in the long description on action was taken by your craft with your initials. If performed electronically, this will automatically populate from the Mobile CMMS. On a multi-craft WON, the Scheduler completing the last shop open shall CMPLT the whole WON putting the Actual Finish Date on page 1, using the last Actual Finish Date. RTC's shall not be completed without the completed paperwork in the scheduler's possession or after all task lines and electronic concurrences have been received.

The AFD will always be the last date that the WON was charged to in Maximo; this information is located on the Actuals Tab under the Labor sub tab.

9 WORK ORDERS THAT FLOW STRAIGHT TO SHOP

There are various types of direct to shop work orders, as defined in WCC-P-0004. While there are differences as noted, all work orders are processed in the same manner. BRR's greater than a BRRB or SO's greater than a SO2 shall be reviewed prior to release to the shop to determine the level of planning required. Only small scope/small duration work shall be allowed to flow directly to the shop without planning. It will be the Supervisors responsibility to inform the scheduler of the tasking and hours to complete the WON. Schedulers shall release SO's & BRR's to the shops based upon established manpower hours per shop, and prioritization of work. This work may be initiated by Schedulers as repairs identified during PM/PTI activities or by users/requesters requested via the WCC.

10 PREVENTIVE MAINTENANCE (PM) WORK ORDERS

PMs are issued a unique WON number and generated nine (9) weeks in advance of their due date by Activation Configuration Asset Management Office (ACAM) on a scheduled frequency utilizing the 52-week calendar year. These work orders are released in WSCH status to the Schedulers via email notification per the Maintenance Plan, FAM-P-2001.

A Workflow Type of PM-RI indicates that this PM is a Regulatory Inspection. This specific Work Type shall be used for regulatory inspections that are categorized as SPCC (Spill Prevention Control and Countermeasures) and/or ENV (Environmental) in the description of the work order. These inspections are required to maintain a facility, system, or equipment so it can reliably perform its intended function and meet regulatory requirements. Failure to complete PM/RI work orders on time can result in regulatory non-compliance at State and Federal levels, which may be significant in nature.

NOTE: *Changing tasks on a PM Work Order is **NOT** allowed. If the tasks cannot be performed as written the work order should be cancelled. The PM deferral process shall be utilized to route the cancellation request to the Engineer and the Engineer shall take the appropriate action to correct any discrepancies noted on the work order.*

The PM work order shall not be placed in either INPRG or SCHED until it is scheduled to be worked and SSD and SFD populated. Schedulers shall monitor PM due dates against actual status to ensure completion prior to the TFD. The Scheduler shall:

- Verify accuracy of the PM prior to closure.
- Generate a PM Discrepancy, PM Observation and/or SE Actions WONs as indicated by submitting an EWR and process thru WON creation.

10.1 PM Job Plan Validations

If the Engineer requires technicians to assist in validating revisions to a job plan prior to MAR submission to update the job plan, the Engineer shall submit an electronic copy of the job plan and the asset the Engineer has selected to utilize for the job plan validation exercise via EWRS and request a work order to be generated. The WCC shall review and, if approved, generate a work order with the title "Validate Job Plan per Attachment". WCC shall attach the document in Maximo. The document shall be used to validate the

job plan, with a copy provided to the Engineer for final disposition and MAR submission to ACAM. The Scheduler shall follow the "Completing a Work Order and Record Retention sections of this instruction."

10.2 Adding Crews to PMs

If the Scheduler is advised that additional crews are required to complete an active PM, they will need to create a new PM-SPT work order to support the PM work to prevent work stoppage this is accomplished by creating a WON thru the EWR process. The PM-SPT WON will need to include the following information: the PM WON number, the number of hours and when the support is needed. Generating a support work order for support shops may invalidate the assigned Scheduled Dates. The job may need to be replanned and/or rescheduled to permit time to coordinate and assess resource availability and the scope of work. If a support shop is added, notice shall be given to coordinate on to the schedule appropriately.

10.3 Special PMs

A special PM is a PM work order that is generated when unique circumstances require maintenance to be performed outside of the 52-week PM calendar cycle. Unique circumstances could be situations such as new equipment on the BOSS contract, frequency of use cycle (i.e. a unit that must have preventative maintenance performed every 250 uses but cannot have the time frame predicted as use frequency varies, etc.). The supervisor or engineer may submit an EWR to create a Special PM if one is required. The following information will need to be included in the EWR:

- "Special PM" in the Title of the Work Order
- Asset Number as provided by the Engineer or Supervisor.
- WF Type = PM
- Work Type = PM or PTI
- Job Plan
- Priority 3
- Target Start Date as determined by the Engineer or Supervisor.
- Target Finish Date as determined by the Engineer or Supervisor.

10.4 Materials Required for PM Performance

Only consumable materials may be ordered against a PM. If non-consumable material is required, create a PM Discrepancy REP-PM WON referencing the original PM in the originating record field. Consumable materials are materials that are considered necessary to complete the PM. Examples are: Filters, belts, batteries, and lamps. A PM task line that requires consumable material shall not be dispositioned as a PM Discrepancy due to the material not being available for the completion of the step. The step shall remain open until materials are received and installed. All other repairs identified on the PM shall be considered a PM Discrepancy and the required material shall be ordered on the PM Discrepancy work order.

10.4.1 Technician

When working a PM work order that contains a step that requires consumable material that is unavailable, the task line will remain open until the required consumable material is obtained and installed to complete the required action.

Examples:

- ❖ Check filter, replace as necessary
- ❖ Check belt, replace as required

The task line will remain open with a note indicating unavailable consumable material is required to include a description on the material such as quantity and size. The same will apply for hard copy work orders with the information placed in the notes section.

10.4.2 Supervisor

PM consumable material shall be ordered on the PM work order. Once an order has been placed the following actions are required:

- Monitor material status. When the materials arrive contact the Scheduler for the purpose of scheduling the work for completion.

A PM work order containing a step that requires consumable material that is unavailable at the time the PM is being worked the task line will remain open until the required material is obtained and installed for the required action and the step is completed by the technician.

10.4.3 Scheduler

Shall annotate the information provided by the Supervisor in the L/D of the PM (i.e. “Material ordered on date per Supervisor Y”)

IMPORTANT: **The Scheduler shall put their notes in the Long Description field of Maximo in the format of date, notes with First name initials and complete last name.**

- The work order status when PM actions can continue without the material will be INMATL
- The work order status when PM actions cannot continue without the material will be WMATL.

Note: The Work Order will not be placed into a WMATL status, until the WCC-F-2001A form has been delieved to the scheduler.

10.5 Completing a PM Reschedule

When a PM work order cannot be completed by the original TFD due to access restrictions, outages, etc., the PM may be rescheduled by the Shop Supervisor for completion on a later date.

Upon notification of a PM reschedule, the scheduler shall complete the following steps:

1. Go to the PM Deferral/Reschedule Section of Maximo.

- Select the arrow next to the work order number and then “Go to PM Deferral” or go to the PM Deferral/Reschedule Tab from the Maximo Start Center.

1. If ready to proceed with the reschedule, change the Deferral/Reschedule code to RS/A. If not, route the deferral back to the originator for review.
2. Enter the Actual Finish Date, and then click Workflow. This will COMPLETE the PM Workflow.

3. Select the “Change Status” icon. Change “New Status” to CMPLT, and then select OK. This action changes the WON to completed (CMPLT) and completes (CMPLT) the plans page.

10.6 Completing a PM Deferral

When a PM work order cannot be worked and will not be rescheduled the PM will be deferred by the shop supervisor. Upon notification of a PM Deferral, the scheduler shall complete the following steps:

1. Go to the PM Deferral/Reschedule Section of Maximo.
   - Select the arrow next to the work order number and then “Go to PM Deferral” or Go to the PM Deferral/Reschedule Tab from your Start Center.
2. If ready to proceed with the deferral, change the Deferral/Reschedule code to the appropriate “approval” code. If not, route the deferral back to the originator for review.
3. Enter the Actual Finish Date. This date is based upon the date the deferral process was initiated. To find this date, utilize the View Work Order History and select the first date and time the work order changed to PMSME status. Then click Workflow. This will then COMPLETE the PM Workflow.
4. Next, select “Change Status” icon. Change “New Status” to:
   - “CMPLT”, if the Deferral/Reason code is “CX”.
   - “CDEF”, for all other Deferral/Reason codes. This action changes the WON to CDEF (complete deferred), and CDEF (complete deferred) on the plans page.

Utilize WCC-P-2000, Preventive Maintenance Deferral Process, for determination of PM deferral code reasons, Work Flow Statuses and deferral/reschedule codes.

10.7 Generating an Engineering Action

There are two primary reasons an engineering task line should be added to baseline work orders.

- When an engineering product is required prior to shop implementation of the work order.
- When shops require an engineer to be on site to support implementation or troubleshooting an anomaly.

Examples of engineering products to support baseline activities should be limited to items which take approximately eight hours or less and includes items such as: developing CCB documentation for configuration changes, creating test plans for shop implementation, assisting P&E with developing scope details for more complicated projects, or researching the replacement of obsolete parts and components. The goal is for engineering to research and resolve any issues in five days or less to stay on schedule. If data is not attached to Maximo and engineering needs to recreate or hunt down documents target finish dates will be in jeopardy. When shop technicians or supervisors indicate an Engineering, action is required (i.e. Job Plan correction, asset number corrective, incorrect location, etc.), the scheduler shall submit an EWR with following information:

- “Description of Action Required” from the original PM WON into the Description field of the EWR and its associated task line(s)

- The EWR shall have the original PM WON identified.

All Engineering WONS will be created as ENGWO/BSLN WONs. These WONs need to be created in the following manner by the WCC:

- Identify “SE Action” in the title block.
- Annotate the original PM WON in the "Originating Record” field.
- Generate Task Line 511 for Engineer Assignment.
- Ensure there is a matching labor line for each task line.
- Populate the Crew field with ENG
- Once the engineer develops the required product, they will notify the engineering scheduler.
- If the WON was a baseline WON the lead crew will be changed to reflect the appropriate shop, and work flowed to the assigned scheduler for implementation.
- If the WON was an ENGWO the WON will be placed in a CMPLT status.

There is no need for a scheduler to add an engineering task line when the shop needs general consultation or basic guidance to accomplish the scope of the baseline work order. It is the responsibility of the shop supervisor or lead to coordinate with the engineer to answer questions or provide direction for the shop to accomplish the requested scope.

10.8 Generating a PM Discrepancy WON

PM Discrepancies are work orders generated to address discrepancies found during the performance of a PM that could not be resolved at the time the PM was worked... Work orders generated from PM’s are identified as repair work and will be identified with one of the following NPR/WF Types: REP-PM/BRR, or SO-INT/BSLN. All SO-INT WONS will be associated with the CCFSEU00 JON. When the shop technicians indicate a PM, Discrepancy WON is required (i.e. the task line can’t be completed as directed or requires a repair), the shop supervisor will concur that a discrepancy WON should be generated.

***Note**: If the Discrepancy is noted on a PM/RI SPCC and/or ENV work order, go to Section 10.10 for instructions.*

Supervisors:

For Non-Life Safety assets, the Supervisor shall perform one of the two following actions:

- Specifically request a PM Discrepancy or PM Observation Repair work order or SE Action work order for each discrepancy or observation that requires one by entering a Supervisor Note, separate from the concurrence note, for each (t*his **does not** mean that a separate work order is required for each discrepancy task).*
- Specifically, state that no follow-up work orders are required with justification by entering a Supervisor Note, separate from the concurrence note.

Schedulers:

When a PM Discrepancy WON is created the scheduler shall include the following information in the WON:

- Identify “PM DISC” in the title
- Provide the Asset number.

- Complete the POC field with the name of the technician who performed the PM or the approving supervisor
- Every discrepant task line on the original PM must be carried over to the new WON just as it is on the PM.
  - If task line 1,150 is marked PMTSKDIS it gets copied to the new WON: 1,150 IF scale or slime is noted, THEN request WON to Clean and Sanitize machine.
- Annotate the original PM WON in the title and populate the Originating Record field in Maximo.
- Include the required corrective action in the task line description field, i.e. Repair cracks in top assy.
- Enter estimated hours for all task lines this information should be obtained from the shop supervisor. A Corresponding Labor line needs to match each task line.

***Note**: If the PM Discrepancy needs to be worked in conjunction with the PM work order, immediately submit a request for an EWR/WON to be generated by the Scheduler.*

10.9 Generating a Life Safety PM Discrepancy

Life Safety PM Discrepancies are work orders generated to address discrepancies and/or findings found during the performance of a Life Safety PM.

10.9.1 Supervisors Responsibilities

Supervisors are required to review all notes and discrepancies noted on a PM work order in accordance with WCC-P-2002, section 2.2.4. In addition: For Life Safety assets, the Supervisor shall enter a Supervisor Note, separate from the concurrence note, to clarify/summarize the discrepancies and/or observations and the actions required.

For Life Safety assets, the Supervisor shall perform one of the two following actions:

- Specifically request a PM Discrepancy or PM Observation Repair work order or SE Action work order for each discrepancy or observation that requires one by entering a Supervisor Note, separate from the concurrence note, for each (t*his **does not** mean that a separate work order is required for each discrepancy task).*
- Specifically, state that no follow-up work orders are required with justification by entering a Supervisor Note, separate from the concurrence note.

10.9.2 Engineers

For Life Safety assets, the Engineer shall perform one of the two following actions:

- Specifically request a PM Discrepancy or PM Observation Repair work order or SE Action work order for each discrepancy or observation that requires one by entering a note in the Maximo Work Log for each (t*his **does not** mean that a separate work order is required for each discrepancy task).*

- Specifically, state that no follow-up work orders are required with justification by entering a note in the Maximo Work Log.
- If a repair work order already exists for the discrepancy, then include the WON and request that it be related to the PM work order.

Once the note has been entered, the System Engineer shall notify the Scheduler of the requested follow-up work orders, if any.

10.9.3 Schedulers

For Life Safety assets, after updating the PM work order's status to CMPLT, the Scheduler shall notify the Engineer that disposition of PM discrepancies is required.

The Scheduler shall review the Supervisor (Non-Life Safety) or Engineer (Life Safety) notes and perform the following as required:

- Create a PM Discrepancy, PM Observation and/or SE Actions WON created as requested in the notes and related them to the PM work order in accordance with MSI-I-0001.
- If the Supervisor or System Engineer note states that no follow-up work is required and references an existing repair work order, then relate that work order to the PM work order.

If a repair work order already exists for the discrepancy, then include the WON and request that it be related to the PM work order.

10.10 Generating a PM/RI Discrepancy WON

PM/RI Discrepancies are work orders generated to address discrepancies and/or findings found during the performance of an RI that could not be resolved at that time. Work orders generated from RI's are repair (REP-RI/BRR-A's, BRR-B's, or SO-INT/BSLN) work orders. When the shop technicians or supervisors indicate a PM, Discrepancy WON is required (i.e. the task line can't be completed as directed or requires a repair), the Scheduler shall generate a new PM DISC WON for Corrective Maintenance (CM). When generating a PM/RI Discrepancy WON the scheduler shall submit an EWR with the following information:

- Identify if this is an SPCC Finding or an ENV Finding
  - If SPCC Finding, identify "SPCC Finding" in the title block of the EWR
  - If ENV Finding, identify "ENV Finding" in the title block of the EWR
- Provide the Asset number.
- Complete the POC field with the name of the technician who performed the PM or the approving supervisor
- Every discrepant task line on the original PM must be carried over to the new WON just as it is on the PM.
  - If task line 1,150 is marked PMTSKDIS it gets copied to the new WON: 1,150 IF scale or slime is noted, THEN request WON to Clean and Sanitize machine.
- Annotate the original PM WON in the title and populate the Originating Record field in Maximo.
- Include the required corrective action in the task line description field, i.e. Repair cracks in top assy.

- Enter estimated hours for all task lines this information should be obtained from the shop supervisor. A Corresponding Labor line needs to match each task line.

10.11 Completing PMs

PM work orders shall be placed in a CMPLT (Complete) status in Maximo within 2 business days of work order completion of the last open shop. The Supervisor shall sign and provide the Scheduler with the completed original WON. If performed electronically, this will automatically populate from the Mobile CMMS. The following criteria shall be used to verify accuracy of the paperwork prior to placing the PM into **CMPLT** status:

- All entries have been completed in black or blue ink (if performed by hardcopy).
- All task instructions have been marked with either:
  - PMTSKDIS or “X” indicating an incomplete or discrepant task
  - PMTSKREP or “Circle X” indicating a discrepant task repaired on site
  - PMTSKNR or “NR”, indicating task not required
  - CMPLT or the Technicians initials indicating completion of the task as instructed.
- All single-line strike-through have been initialed (if performed by hardcopy).
- All usernames or initials correspond with signatures and printed names on signature lines.
- Deferral Codes in Maximo match deferral codes documented on the work order. Utilize WCC-P-2000, Preventive Maintenance Deferral Process, for determination of PM deferral code reasons, Work Flow Statuses and deferral/reschedule codes.
- All tasks with PMTSKNR or “NR” have a detailed explanation listed in the Notes section.
- One note entry from the technician is acceptable for documenting the PM Discrepancy issues or any Not Required (NR Steps), such as the examples noted below. The note shall document the associated task lines.
  Examples:
  - Tasks 1300 thru 1350 not required per step 1290
  - Tasks 1250 thru 1270 not required – no bells on this system
- All tasks with PMTSKDIS or PMTSKREP or an “X” or “Circle X” have a detailed explanation listed in the Discrepancy section.
- One note entry from the technician is acceptable for documenting the PM Discrepancy issues for any Discrepancy steps, such as the examples noted below. The note shall document the associated task lines.
  Examples:
  - Tasks 1050 thru 1200 bad HADs, need to replace
  - Tasks 1200 thru 1210 strobe light broken, need to repair
- All task lines with “Record” or “Annotate” are complete.
- Validate that a value has been recorded on Task Line 10,000, Asset Condition Code (electronic). If the PM was performed via hardcopy, the Scheduler shall manually enter the value on Task Line 10,000 in the Data Collection field.
- Metrology Number, Calibration Due Date and Nomenclature for each piece of calibrated equipment used shall be listed in their respective sections. If no calibrated equipment was required, “NR” shall be noted in the respective sections.
- “Engineer Action Required?” If yes, generate a WON for the SE action to be completed.

- (On hardcopy PMs only) "CM WON Required?" If yes, generate a PM Discrepancy annotate on the PM the PM Discrepancy WON.
- (On hardcopy PMs only) All craftsmen who initialed task lines signed and printed their names on the signature line.
- The Supervisor provided electronic concurrence or signed and printed their name.

If any of the steps above are incorrect or incomplete, (open steps, missing or inaccurate information, etc.), return the work order to the Supervisor for clarification or correction prior to placing the PM in CMPLT status. Populate the Actual Finish Date field in Maximo using the last date that the WON accrued any charges. This information is located on the Actuals tab in Maximo. Upon completion of ALL hardcopy PMs the scheduler will scan and attach the completed Work Order to the originating PM WON. MSI-F-0003, PM Discrepancy/Observation, is a form that is designed to give a trackable, list of all follow-on work orders that need to be written from PMs. The Scheduler that completes the form in full (i.e. last action taken is documenting the WON of the follow-on work) shall submit an EWR with the use of this form.

10.11.1 PM Taskings to Perform per Operations and Maintenance Instruction (OMI)

PMs that direct the Technician to perform taskings per OMI XXXXX shall have the first page of the work order printed (electronic) or the work order printed in full (hardcopy) and have the applicable sections of the OMI attached. The OMI attachment shall be dispositioned in the same manner as noted above (task done, discrepancy, discrepancy repaired, not required) by the Technician.

The Shop Supervisor is responsible for validating:

- The correct, applicable section of the OMI is attached
- The correct, applicable task lines of the OMI are dispositioned
- The work order and attachments are provided to the assigned Scheduler for Record Retention

Note: *self-generated checklists or alternate forms that are not controlled documents shall not be accepted.*

10.12 Generating a PM Observation WON

PM Observations are work orders generated to address observations made that require work to be performed that are found during the performance of a PM but not specifically to be addressed as part of the PM. Work orders generated from PM Observations are repair (REP/BRR-A, BRR-B or SO-INT/BSLN) work orders.

Note: *A PM Observation work order shall be generated only if the shop supervisor states the WON is required*.

When a PM Observation WON is created the scheduler shall include the following information in the WON:

- Identify "PM OBSERVATION" in the title
- Provide the Asset number.
- Complete the POC field with the name of the technician who performed the PM or the approving supervisor

- Include the required corrective action called out by the observation made by the technician with concurrence from the shop supervisor in the line description field, i.e. Repair cracks in top assy.
- Create a separate task line and matching labor line for each observation called out.
- The Workflow Type shall be set to “BRR-A, BRR-B or SO-INT”, the Work Type shall be set to “REP or BSLN”, and the Priority shall be applicable for each type.

10.13 Deferred Maintenance Guidelines

The BOSS Performance Work Statement glossary defines Deferred Maintenance as follows:

> Deferred Maintenance (DM), formally referred to as Backlog Maintenance and Repair (MMAR), is the unfunded facility’s maintenance work required to bring facilities and collateral equipment to a condition that meets acceptable facility maintenance standards (See NPR 8831.2).

- Work Control personnel will regularly review Baseline Repairs & Replacements (BRRs) during the customer Integrated Review Board (IRB) meetings in accordance with PWS 2.1.3.3 to determine if work orders should be deferred due to funding constraints.

- FSEU Supervisors and Managers will regularly review BRRs in accordance with the Work Management Plan to determine if Preventative Maintenance (PM) Discrepancy work orders can be deferred until the next PM cycle.

Work order candidates for “DM”:

- Should not have labor hours or materials charged in Maximo on the ACTUALS LABOR, MATERIALS, or PROCUREMENT ACTIVITY tabs.

- Should not have an internal asset JON (JON does not equal CCFSEU00).

The following statements are all true related to “DM” workflow categorizations and Maximo functionality:

- Procurement actions can be accomplished if the workflow type is “DM.”
- “DM” workflow categorization is excluded from the BRR or SO metric calculation. When a work order is returned to the originating BRR categorization, the target finish date will be manually adjusted to align with contractual timelines for completion.

- EWR PM Discrepancy Creation:

1. Supervisor identifies the non-LS or ME discrepancy as “DM”.

2. Scheduling personnel submits the EWR with “DM” in the title.
3. Assign the following:

    - Request Type = BSLN BRR
    - Work Type = REP-PM
    - Workflow Type = DM
    - PWS ID = BRR

- Create the Maximo work order.
- **Changing Work Orders to “DM” after BRR WON Creation:**
- Work Control or Scheduling personnel will validate there are no labor or material charges.

Work Control or Scheduling personnel will enter a note into the work order long description detailing the date the work order was deferred, the requestor and the original workflow categorization.

Examples:

- 6-15-20 Supervisor Jeff Painter requested PM Discrepancy WON 10024561 be deferred until the next scheduled PM date of XX-XX-XX. The workflow type for WON 10024561 was changed from “BRR-B” to “DM”. (Appointed Person Plummer)

6-15-20 The Air Force Customer contacted Work Control Manager, Rick Tully, requesting WON 10024561 be deferred until next fiscal year due to funding contracts. Validated no labor or material has been charged. Changed the workflow type from BRR-C to DM.

Scheduling personnel will update the Maximo field WORORDER.SCHEDFINISH. The Schedule Finish Date should reflect the planned date of completion. For PM Discrepancies, the Schedule Finish Date should be aligned with the next PM due date of the originating PM work order.

Work Control or Scheduling personnel will change the Maximo field WORKORDER.WFTYPE to “DM”.

Scheduling personnel for each assigned crew will notify Work Control personnel via e-mail when “DM” categorized work orders are within 15 days of their scheduled finish date for completion.

Susan Bowling – susan.a.bowling@nasa.gov (Primary)
Michael Chaput -- Michael.E.Chaput@nasa.gov
Kelly Sorey – kelly.l.sorey@nasa.gov
Appointed Person Plummer – Appointed Person.
Sonya.Y.Plummer@nasa.gov
Fitzroy Dacres – Fitzroy.F.Dacres@nasa.gov

When removing the work order from “DM”, Work Control personnel will enter a note in the work order long description detailing the date and requestor of the change and notify Workload management personnel to complete the change and update the TFD.

Example:

- 6-15-20 Directed by ELLV Supervisor, Scott Dewitt, work order 10024561 was removed from DM. The workflow type was changed to BRR-C; the target finish date was updated to 7-30-20 (45 days from today). (Fitz Dacres)

Workload management personnel will change the WORKORDER.WFTYPE to the correct BRR categorization.

Workload management personnel will change the Maximo field WORKORDER.TARGCOMPDATE based on the date of notification when removed from “DM” in accordance with the PWS timeline of the correct workflow type categorization.

Scheduling personnel shall never change the WORKORDER.STATUS to “CMPLT”, “COMP”, “CMPLTAL” when the workflow type is “DM.” If unsure what the workflow type should be, contact Work Control personnel.

A Work Control Data Analyst will prepare a report of all baseline BRRs in “DM” for NASA review during the weekly Baseline Work Integration Meeting in accordance with PWS 2.1.3.2. The report will include the following information:

- WON
- WON Description
- Location
- Asset #
- Crew
- Status
- Work Type
- Reported Date
- Schedule Finish Date
- Unit Value
- Customer

***Note:* PM’s cannot be cancelled by the Scheduler.**
PM’s are cancelled by the ACAM Office.

11 TASK ORDERS

There are various types of Task Order (TO) work orders, as defined in WCC-P-0004. While there are differences as noted, these TOs are processed in the same manner and shall be referred to throughout the remainder of this document as TOs. TO's are released to the Shop Schedulers when planning is complete, and funding is approved. Superintendents work with Engineering, Project Management, Facility Managers and P&E to establish job scope and shop resource requirements. Based on the information obtained Project Superintendents shall mitigate/resolve schedule conflicts, coordinate with Facility Managers and area access personnel as previously defined in this procedure to ensure access is available, and coordinate outages as needed. Project Superintendents provide comprehensive, detailed planning for projects and launch support facilities across Kennedy Space Center (KSC) and Cape Canaveral Air Force Station (CCAFS) to include but not limited to:

- Facility & Repair Projects
- Year End Outages
- PAO Events
- Processing Facilities
- C of F Projects- Normally assigned to Construction Inspectors
- Construction Services Projects- Normally assigned to Construction Inspectors

Project Superintendents also produce mini schedules to provide an extra level of detailed planning for high visibility projects.

***Note**: Based on unforeseen circumstances, Integrated Planning with the support of scheduling may need to get involved with coordinating work within the 3-week window when necessary.*

11.8 Review and Pre-Ops Requirements for a Package

Preoperational briefings (Pre-Ops) are required to be held before the start of work with more than two supporting crews. Pre-Ops provide the opportunity to ensure the work is understood, roles and responsibilities are agreed upon, all hazards have been identified and mitigated and/or controlled, as well as to BOSS preparation for contingencies as needed and to confirm all parties are ready to proceed to work execution.

See section 8.1.2 for full details.

11.9 Requirements for Additional Materials and/or Shop(s) for a TO

A Scheduler cannot add a shop to a package nor can a shop order material against a package. Doing so changes the scope and cost of the job. These additional requirements can only be done by the Project Superintendents, Project Manager or Project Supervisor. The Lead Crew/Primary Scheduler and/or Shop Supervisor shall be responsible for notifying the Project Superintendents, Project Manager or Project Supervisor, when additional shops are needed, or additional material and shop hours are required.

11.10 Dig Permits for a Package

The original dig permit with drawings/maps shall be sent to the shop that will be doing the digging (i.e., Roads and Grounds, Electrical, etc.). The requestor of the Dig Permit

will attach it to the Work Order in Maximo. Once the job is scheduled to commence, the Shop Supervisor shall submit the dig permit for approval in accordance with ENG-I-MP07, Utility Locate/Excavation Permits.

11.11 Contractor Shop Support - TO

11.4.1 TO Construction Services/PIO as Lead Crew

If the Lead Crew on an outside Contractor Shop Support package is Construction Services/PIO, Construction Services/PIO shall be responsible for maintaining proper status of the WON in Maximo. The Lead Crew Scheduler shall schedule all support shops per required dates provided from the Construction Services/Management. As support shops complete their tasks, they will update Maximo accordingly. Once all shop work has been completed and bought off in Maximo, the Lead Crew Scheduler shall then place the overall Maximo status in CMPLT. If red line drawings or other documentation has been submitted to the Lead Crew Scheduler the scheduler shall attached them in Maximo and a note placed in the long description of Maximo identifying what items were attached to Maximo.

11.4.2 **Outage Support - TO**

WONs will be created for BOSS shops to support outside contractors for Outages or Impairment support that has been identified during the outage request process in accordance with MSO-P-0002, Outage Procedure. To expedite the processing of this type of support, this instruction shall still be followed in its entirety as applicable. An EWR shall be submitted by BOSS Construction Management after discussions with the applicable customer(s) and NASA Project Manager in accordance with WCC-P-2002. Once the WON has been established, WCC will notify Construction Services and P&E to have the appropriate shops per WCC-I-0007 . P&E will be responsible for loading tasking and hours in Maximo. During the outage process, the Construction Manager shall identify if support is required and shall compose an email with the information as follows:

- Contract Number
- Work Order Number
- Location
- Date Support is Requested
- Time Support is Requested
- Requestor's Name
- Requestor's Phone Number
- Brief Description of Work to be performed

The email shall then be sent to the appropriate distribution list(s):
KSC-DL-BOSS-Alarms-ESS
KSC-DL-BOSS-Power-Systems-Shop-Distribution
KSC-DL-BOSS-Utilities
In accordance with WCC-I-0005, upon receipt of the email request, the P&E Lead shall assign the action to the appropriate P&E Designer. The P&E Designer shall review, plan, task, and distribute the approved TOR using WCC-

F-2021, Contractor Support Task Order, to the appropriate distribution list(s) noted above.

11.5 Processing Substantially Complete Notifications

There are numerous driving factors to ensure TO projects are correctly documented and completed based upon their agreed upon performance dates. The assigned Project Manager/Project Supervisor shall notify the Scheduling Supervisor, when all work has been completed including but not limited to items identified during the Final Walkdown. The Scheduling Supervisor shall then assign actions to the appropriate Schedulers. The assigned Scheduler shall take appropriate actions in getting the task lines bought off and concurred to within 48 hours of notification. Once all concurrence has been received the WON will be placed in a CMPLT status. The AFD shall be the date the last concurrence has been received or latest date reflected on the task lines. The scheduler will notify the Scheduling Supervisor when all task lines have been completed and overall WON has been placed in a CMPLT status. If proper notification has not been received from the Project Manager, the shops tasking will remain open until notification has been received.

11.6 Cancelling One or More Support Shops on a TO

The Lead Crew Scheduler shall notify support shop(s) when determination is made by the Lead Crew Supervisor that their support is not required. The Support Scheduler(s) shall take the following actions:

- Cancel their craft on the Plans tab
- Document in the Long Description the reason for canceling
- If no charges have been accrued and notification has been made to close the WON, the shop at that time can cancel the corresponding task line ONLY if no charges have been made.

11.7 Cancellation of a TO

To cancel a TO, a notification must be received from the Project Superintendent, Project Manager, Project Supervisor, or Lead Crew Supervisor. The written request is to be documented in the long description field and attached to Maximo. The Lead Crew/Primary Scheduler shall notify all support shop Scheduler(s) to cancel their task lines and shall follow the same procedure as above in cancelling their respective shop(s). The Lead Crew/Primary Scheduler shall document in the Long Description of Maximo their notes in the format of date, notes with First name initials and complete last name. and CMPLT the WON. If material had been ordered the Project Manager/Project Supervisor shall notify Logistics to halt the purchasing of materials. The Lead Crew Scheduler shall then place the WON in CMPLT status. The Actual Finish Date will be the date on which the final concurrence for the cancellation was received.

12 COMMERCIAL (COM) WORK ORDERS

Commercial work is generated by the Duty Office/WCC for the routine call in support related to the commercial contracts that we have established between BOSS and other NASA

Contractors. COM WONs can have a priority of 2-6 depending on the route it came into the system. COM WONs shall be processed in accordance with this instruction.

13 MISSION SUPPORT/LAUNCH WORK ORDERS

Mission Integrated Planner Estimators provide the required support for Mission Milestone operations (rollout, launch, landing etc.) on "load sheets". Load sheet information is taken from a support plan/IOMI.

IMPORTANT: **The Scheduler shall put their notes in the Long Description field of Maximo in the format of date, notes with First name initials and complete last name.**

Schedulers shall complete the MSO work orders following the same process as previously defined for completing SO's and BRR's. The MSO work orders are to remain in an INPRG status until determined by PIO that all associated mission costs have been incurred and they have provided concurrence for completion of the work order. PIO will notify the Scheduling Supervisor as to when the WON can be placed in CMPLT.

14 CALIBRATED EQUIPMENT WORK ORDERS

Where procedures require measurements to be taken that have stated minimums, maximums or tolerances, calibrated equipment shall be used to take those measurements in accordance with CAL-P-0002. The Nomenclature, Metrology Number and Calibration Due Date shall be recorded on the WON by the craftsmen under the "TMDE Used/Remarks" section. When calibrated equipment is not required under task instructions on the work order but is used by a technician, the results shall be recorded under "Remarks" in the Failure Classification & Code Data section (hardcopy) or in the General Notes tab (electronic). Schedulers shall record the metrology numbers and calibration due dates on the Work Order tab in Maximo in the Metrology Number field and Calibration Date fields if the work order is performed on hard copy. If more than one piece of calibrated equipment is used, annotate the additional information in the long description field in Maximo.

15 RECORD RETENTION REQUIREMENTS

All retained records, both hardcopy and electronic shall be kept in reasonable order, be retrievable, and be in compliance with QMS-P-0002, Control of Records.

16 MAXIMO PROCESSES

16.1 Documenting in the Long Description Field of a Work Order

The long description field is to be used to document notes relevant to the WON. Notes shall be professional and concise. Start each notation with the current date, the information being recorded, and end with your initials.

16.2 Linking Work Orders Using Related Records Tab

If a work order is identified as related to another open work order (i.e. same asset) or if a work order is cancelled or closed to an existing work order (merging work onto one

WON), document in the long description the actions taken and link the work orders under the Related Records Tab.

16.3 Reopening Work Orders in Maximo

In the event a work order or a task line that is in a completed or closed status needs to be reopened, a written request shall be submitted to the Scheduling Supervisor or Business Analyst. The request shall state the work order and, if applicable, any associated task lines and justification for the action. If the request is from Finance, a follow-up notification shall be provided that all actions are completed and the work order can be reclosed, cancelled, or further processed via REM.

16.4 Scheduler Review (SCHEDREV) Status Requirements for Maximo

This status appears in Maximo on the work order when a change has occurred on the work order from the Mobile CMMS system per the Electronic Work Order Procedure (WCC-P-2002). SCHEDREV occurs when a technician sets a work order to working status, notes are entered, task lines are completed and/or work order is finished, and supervisor concurrence. Schedulers shall follow all processes as defined in WCC-P-2002 and this procedure. Schedulers shall review SCHEDREVs throughout the course of the business day, ensuring that no work order remains in the SCHEDREV status more than 24 hours (excluding weekends and holidays) or without specific justification that shall be documented in the Long Description of the work order in Maximo. SCHEDREV status – PMs, BRRs & SOs are to be completed in Maximo in a timely fashion.
AFDs are showing the status of work orders are not being updated to a CMPLT status in Maximo in a timely fashion.

Management has the right to update this status if required for metric reporting.

16.5 Viewing Attachments in Maximo

If you need to view or print an attachment from Maximo, click on the paper clip in the upper right-hand corner of the Front Page of the work order and select the appropriate attachment.

16.6 How to Lookup JONs in Maximo

There are several ways to look up JONs for locations and assets in Maximo. This section will cover the primary way. You may also use the hyperlink options while in Work Order Tracking to navigate from a work order to the location or asset information, and then select Return or Return with Value. On the home screen of Work Order Tracking, select Go To, then Assets. In that menu you can select Assets and Locations. Select the appropriate item and it will open that area. Enter the asset or location you are searching for and review the JON number field for the latest updated JON.

17 BACKUP EXPECTATIONS FOR SCHEDULERS

Coordination with back-up Schedulers (as applicable) is required for planned absences. The Scheduling Supervisor or Work Control Manager, shall notify the backup when unplanned absences occur. The backup Scheduler shall perform all duties in accordance with this procedure during a co-worker's absence to ensure continuity of the Scheduling

processes in support of the BOSS Contract. The expectations for a backup scheduler will be to process work as needed to keep the shop running as well as maintaining their area. If the backup scheduler is required to fill in more than 24 hours, they will be expected to fully engage in the assigned area by ensuring all SCHEDREVs, WCC Forms and any other pertinent documentation is processed.

18 PROCESS BASED WORK ASSIGNMENTS FOR SCHEDULERS

Schedulers shall be assigned a specific Process Based work assignment by the Scheduling Supervisor. This provides the ability to align resources and narrow specific focus to a select group of work orders and their respective processes to best fit the needs of the BOSS Contract and its customers. The Process Based work assignments are as follows:

- Schedules and SCHEDREVs (Primary POC for Shop Scheduling Support)
- Projects
- PM Discrepancy and Observation generation
- DOCCL

RECORDS

The following records are retained by the organizations listed below:

Record	**Responsible Organization**
Preventive Maintenance Work Orders	FSEU OM&E, Work Management
FAM-F-2008, Pre-Operational Briefing Guide	Engineering Services (DOCCL)
FAM-F-2012, BOSS Elevator Maintenance Notification	FSEU OM&E, Integrated Planning & Work Mgmt.
MSI-F-0003, PM BOSS Discrepancy/Observation	FSEU OM&E, Integrated Planning & Work Mgmt.
QAL-F-0043A, Meeting Attendance Roster	BOSS-SMA - Safety and Mission Assurance,

AFFECTED DIVISIONS

FSEU OM&E
Logistics
Engineering Services
Safety and Mission Assurance

MANAGEMENT ROLES AND RESPONSIBILITIES

Mission Support Manager: Ensures Compliance within the Division to the requirements stated in this procedure.
Work Control Manager: Ensures Compliance at the WCSIC level to the requirements stated in this procedure.
Maintenance/Facilities Manager: Responsible for ensuring the Shop(s) is providing timely notifications and information to the Scheduler so that proper notifications can be made. Ensures that downtime is minimized. Overall responsibility in Maintenance notifications.

Integrated Planning and Scheduling WCSIC Manager: Responsible for ensuring that the Elevator Shop has Scheduler support, and that Schedulers are maintaining Compliance with all requirements of timely notification of elevator maintenance.
Construction Management: All COF project work that impacts service(s) in any way shall require Compliance with this instruction, and the Construction Inspectors shall provide real-time feedback to the elevator crew should any plans and durations change for work that is scheduled. COF support shall be planned and scheduled to ensure that proper notifications and coordination is occurring for elevator impacts

FUNCTIONAL ROLES AND RESPONSIBILITIES

Work Management Planning and Estimating- Interfaces with Shop Schedulers during project's scheduling phase
Shop Supervisors- Review backlog with Scheduler, Review and approve weekly schedule, Assign personnel as workload dictates, Monitor actual man-hours to determine if work will be accomplished as planned, Monitor actual costs to ensure work remains in scope, Validate technician actions and approve or concur prior to submittal for closure, Initiate PM Deferral/Reschedule
Engineering Services- Provide engineering packages in accordance with schedules and criteria
Logistics Services- Provide material/equipment requested on approved PRs, expedite materials/equipment to meet material required dates established by Master Schedule Integration, provide status of all parts and material to Schedulers/Integrated Planner Estimators as needed
Shop Scheduler: Responsible for issuing the Maintenance Notification form(s) to the required distribution list as well as Scheduling work IAW BOSS procedures, and Work Management requirements.
Supervisor: Responsible for ensuring timely information is provided to the Scheduler related to maintenance and repair.
Bridges & Elevators Supervisor: Responsible for execution of scheduled elevator maintenance that has been properly communicated. Responsible for coordinating directly with 4th floor personnel, for elevator work impacting the 4th floor. The resulting coordination information shall be provided to the Scheduler so they can submit the elevator maintenance notification form.
Outage Coordinator: Any outage that will impact facility elevators shall be clearly highlighted in the outage documentation, due to the importance of BOSS making required notifications for special needs personnel within facilities.
Power Coordinators: Shall provide detailed real-time information to the elevator crew when power interruptions and restorations have occurred to allow the Elevator Technicians to return the elevators back to service in a timely manner.

REFERENCE DOCUMENTS

The following documents are referenced in this procedure:

Document Number	Title
ENG-I-MP07	Utility Locate/Excavation Permits
FAM-F-2008	Pre-Operational Briefing Guide
FAM-F-2012	BOSS Elevator Maintenance Notification
FAM-P-2001	Maintenance Plan
MSI-F-0003	PM Discrepancy/Observation
MSI-REF-0001	Master Schedule Integration Planning and Scheduling Appendixes
MSO-P-0002	Outage Procedure
NNK18619079R	Base Operations and Spaceport Services (BOSS) Contract
QAL-F-0043A	Meeting Attendance Roster
QAL-P-0037	Quality Engineering
QMS-P-0002	Control of Records
SHP-F-3100	Job Hazard Analysis
SHP-P-0147	Hazardous Energy Control (Lockout/Tagout)
WCC-F-2001A	WCC LABOR, SCOPE, AND MATERIAL
WCC-F-2021	Contractor Support Task Order
WCC-I-0005	Planning & Estimating Instruction
WCC-I-0007	Work Receipt Instruction
WCC-P-0004	Work Management Procedure
WCC-P-2000	Preventive Maintenance Deferral Process
WCC-P-2002	Electronic Work Order Procedure
WCC-REF-2002	Work Thresholds and Conversion Factors

ACRONYMS

ACAM	Activation, Configuration and Asset Management
ADA	American with Disabilities Act
AFD	Actual Finish Date
ASD	Actual Start Date
BOSS	Base Operations and Spaceport Services
BRR	Baseline Repair & Replacement
CCASFS	Cape Canaveral Space Force Station
CDEF	Complete Deferred
CLOSE	Closed
CM	Corrective Maintenance
CMMS	Computerized Maintenance Management System
CMPLT	In Progress – Preliminary Completion
COM	Commercial
CMPLT	Completed

COR	Contracting Officers Representative
DAAWG	Disability Awareness and Action Working Group
ENV	Environmental
ETC	Emergency Trouble Call
EWR	Emergency Work Request
F/I	Fire Inspection
FSEU	Facility, Systems, Equipment, Utilities
INMATL	In Progress Waiting on Material
IOZ	Industrial Operations Zone
JON	Job Order Number
KICS	KSC Integrated Control Schedule
KSC	Kennedy Space Center
LASF	Launch Abort System Facility
LOTO	Lockout/Tagout
LS	Launch Support
LS	Life Safety
MAR	Maintenance Action Request
ME	Mission Essential
MPPF	Multi-Payload Processing Facility
MSO	Mission Support Office
NASA	National Aeronautics and Space Administration
NR	Not Required
NTD	NASA Test Director
O&C	Neil Armstrong Operations and Checkout Facility
OIS	Operational Intercommunication System
OMI	Operations and Maintenance Instruction
OPS	Operations
OSF	Ordnance Storage Facility
P&E	Planning and Estimating
PAO	Public Affairs Office
PCR	Problem Cause Remedy
PM	Preventive Maintenance
POC	Point of Contact
PTI	Predictive Testing and Inspection
PWS	Performance Work Statement
QUEUE	Waiting Additional Information
REP	Repair
RI	Regulatory Inspection
RTC	Routine Trouble Call
SFD	Scheduled Finish Date
SO	Service Order
SPCC	Spill Prevention Control and Countermeasures
SSD	Scheduled Start Date
SWO	Standing Work Order
TFD	Target Finish Date
VDD	Vendor Delivery Date
WAPPR	Waiting Approval

WCC	Work Control Center
WCSIC	Work Control & Spaceport Integration Center Manage
WF	Workflow
WMATL	Waiting on Material (Not In Progress) **Note: The Work Order will not be placed into a WMATL status, until the WCC-F-2001A form has been delieved to the scheduler**.
WON	Work Order Number
WSCH	Waiting to be Scheduled

DEFINITIONS

Integrated Planning – is a joint planning exercise that ensures participation of stakeholders, customers, and affected BOSS organizations.

Project Superintendent- is a joint planning exercise that ensures participation of stakeholders, customers, and affected BOSS organizations.

Job Order Number (JON) – A unique number used for funding purposes. These are established and maintained in Finance and change periodically. JONs can be assigned to unique assets, facilities, packages, etc. as needed to track and bill charges and funding accordingly.

Lead Shop - A designated organization that provides required disposition, operations, maintenance, repair, and/or fabrication of equipment

Maintenance Action Request (MAR) – Generated by SEs for requesting, documenting, and tracking requests to change any job plans, asset information, etc. These are processed through ACAM for entry and Completion into the system.

Mission Essential (ME) - A building, area, or system that is critical to the Center's mission or is essential for Center of Excellence performance.

Mission Support - A building, area, or system that provides support to the Center's primary mission or Center of Excellence assignment.

Outage - The planned or unintentional interruption or termination of a utility service such as electricity, water, steam, chilled water, or communication.

Parent-Child WON- The hierarchical relationship of WOs used to associate related work.

Substantially Complete (SC)- Substantially complete is defined as operational/physical completion of the project, including final walkdown, however, minor punch-list items and close out activities are still pending (For projects including Fire Alarm, a successful preliminary fire alarm test shall be completed).

Status - In Maximo, the status reflects the condition of a WON, such as WAPPR (waiting for approval) or INPRG (In Progress).

REVISION RECORD

The following revisions have been applied to this document:

Revision Number	Change Description	Date
0	BOSS Initial Release	04/01/2019
1	Revised in its Entirety	02/17/2020
2	Revised in its Entirety	10/31/2020
5.7	Revised	5/21/2021
5.8	Revised in its Entirety	1/18/2022

Document Approvals

1/19/2022

X Michael Chaput

Michael E. Chaput
Manager, Work Control
Signed by: MICHAEL CHAPUT (affiliate)