

**BY ORDER OF THE COMMANDER  
21ST SPACE WING**

**21ST SPACE WING INSTRUCTION  
10-202**



**17 MARCH 2017**

**Operations**

**OPERATIONS  
MAINTENANCE SCHEDULING**

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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This publication implements Air Force Policy Directive (AFPD) 13-6, *Nuclear, Space, Missile, Command and Control, Space Policy*. The purpose of this instruction is to establish the guidelines and procedures to request, schedule, approve, and cancel activities for missile warning, missile defense and space surveillance units. This instruction references Joint Functional Component Command for Space (JFCC SPACE) OI 534-9, *Space Surveillance Operations*, SI 534-16, *Missile Warning (MW) and Nuclear Detection (NUDET) Operations*, United States Strategic Command (USSTRATCOM) Instruction (SI) 538-01, *Ballistic Missile Defense System (BMDS) Description and Asset Management*, SI 507-04, *Integrated Asset Management*, Joint Space Operations Center (JSpOC) Ground Sensor Command and Control Requirement Memorandum, NORAD Instruction (NI) 10-3, *Mission Integrity, Change Control Management and Test Control for the Integrated Tactical Warning and Attack Assessment (ITW/AA) System (attachment 3)*, and SI 534-22, *Mission Integrity, Change Control Management and Test Control for the ITW/AA System (attachment 3)*. This instruction ensures that scheduled activities result in maximum sensor utilization. This publication does not apply to members of the Air Force Reserve and Air National Guard. This instruction is applicable to all 21st Operations Group (21 OG) MW, Missile Defense (MD), Space Situational Awareness (SSA), and Defensive Space Control (DSC) units. It does not apply to the 721st Communications Squadron (721 CS) or the 821st Air Base Group. Refer recommended changes and questions about this publication to the Office of Primary Responsibility using AF 847, Recommendation of Change of Publication; route AF 847s from the field through the appropriate functional's chain of command. Ensure that all records created as a result of processes prescribed in this publication are maintained IAW Air Force Manual (AFMAN) 33-363, *Management of Records*,

and disposed of IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS). This publication may not be supplemented.

### ***SUMMARY OF CHANGES***

This is a substantial revision of the 21 Space Wing (21 SW) Instruction 10-202 and must be reviewed in its entirety. The processes included in this instruction ensure expertise is available from sensor experts when making future planning decisions for the MW, MD, SSA, and DSC units. This change includes additional processes to balance mission requirements and sensor maintenance, reducing the likelihood of cost overruns and delays to major sensor upgrades or critical maintenance, without compromising the operational mission. The maintenance codes and formatting instructions were removed and are no longer valid.

**1. Purpose.** This publication establishes guidance and procedures for maintenance scheduling within the 21 SW.

**2. Responsibilities.**

2.1. The Wing Commander (21 SW/CC) serves as the approving official for all maintenance.

2.2. The Operation Support Squadron Commander (21 OSS/CC) manages overall combat capability operations.

2.3. The 21 SW Scheduler:

2.3.1. Hosts a twice monthly classified maintenance meeting to coordinate maintenance with any external agencies requiring site downtime.

2.3.2. Consolidates, prioritizes, and processes all requests for scheduled maintenance activities in the Combat Capabilities Assessment Schedule (CCAS) On-Line Tool (COLT) and produces the CCAS.

2.3.2.1. Avoids scheduling site configurations that cause unacceptable degradation to MW and MD times/coverages, or that cause significant degradation to the Space Surveillance mission.

2.3.3. De-conflicts maintenance prior to approval in COLT.

2.3.3.1. Rejects any conflicting maintenance and returns conflicting maintenance dates/times to the site for further action.

2.3.3.2. Contacts the site if changes are necessary during de-confliction. The line number may be reduced or moved while ensuring the activity can be completed in the required time.

2.3.4. Submits the CCAS Priorities Memorandum and Bullet Background Paper for 21 OG Deputy Commander (CD) or 21 OG Technical Director (TD) approval.

2.3.4.1. The CCAS Priorities Memorandum and Bullet Background Paper provides the 21 SW maintenance and testing priorities for the upcoming execution period.

2.3.5. Distributes the approved CCAS Priorities Memorandum and Bullet Background Paper to the 614th Air and Space Operations Center Commander (614 AOC/CC), 614 AOC/Strategy Plans Division (SPD), and 614 AOC/COD.

2.3.6. Provides COLT support and training to all 21 OG units.

2.3.6.1. Provides user account access to all new COLT users and coordinates user password reset and account re-activation with the Missile Defense Agency (MDA) in the event that the automated system is not functional.

2.3.6.2. Provides Site Schedulers with Asset Manager access and lists designated personnel as primary (pri) or alternate (alt) schedulers in COLT.

2.3.6.3. Grants site personnel with write access without the pri/alt designator.

2.3.6.4. Grants other site personnel visitor access as needed.

2.3.7. Provides the upcoming month's scheduled maintenance to 21 OG and 21 SW leadership on a weekly basis.

2.4. 21 OG Squadron Commanders:

2.4.1. Appoints, in writing, a minimum of one primary and one alternate Site Scheduler as site preventive maintenance Points of Contact (POCs) with the authority to schedule maintenance on behalf of the site.

2.4.2. Appoints, in writing a unit test manager as a POC.

2.4.2.1. Unit test managers must courtesy copy any changes for the test manager position to the 721 Communications Squadron Test Control (721 CS/SCJ) Test Scheduler to ensure the Test Objective Worksheet (TOW) is updated.

2.4.2.2. All appointment letters must be sent to the 21 SW Scheduling office within 10 duty days of a change in status or within a year of the previous letter. This appointment letter determines access to the classified COLT database.

2.4.3. Are the approval authority for unit participation in all test activities.

2.4.3.1. The Operations Officer or Maintenance Officer may approve test activities on behalf of the squadron commander.

2.4.4. Notifies the 21 SW Scheduler within 10 duty days, in writing, if any Site Schedulers are appointed or removed.

2.5. Site Schedulers:

2.5.1. Represents the site commander.

2.5.2. May be military, government civilian, or contractor personnel, pending no conflicts of interest, and must have at least a secret clearance and a valid Secret Internet Protocol Network (SIPRNet) account.

2.5.3. Must be assigned to a staff position (i.e., not assigned to a crew position) or a duty which primarily works day shifts.

### 3. Scheduling Considerations:

3.1. The 21 SW Scheduler will schedule maintenance based on the following priorities:

3.1.1. Maintaining full MW coverage and maximum MW time.

3.1.2. MD coverage.

3.1.3. Timely SSA availability.

3.1.4. Operational, fiscal, and/or contractual impacts to system upgrades and maintenance.

3.1.5. Configuration actions to mitigate operational impact.

3.2. Surveillance requirements must be predicted in advance, with coordination between JSpOC, 21 SW, Air Force Life Cycle Management Center (AFLCMC), Space and Missile Systems Center (SMC), 17th Test Squadron, 721 CS/SCJ, and MDA.

3.3. COLT. Sites with COLT access are required to use the COLT database to enter maintenance downtime requests. Sites without access to COLT must send their consolidated downtime requests to the 21 SW Scheduler for entry into the database.

3.3.1. COLT is a real-time database; line numbers are assigned as soon as a site enters downtime requests.

3.3.2. An initial version of the CCAS schedule is created in COLT when the first maintenance activity is entered for that month.

3.4. Line Number Requests. Site Schedulers will request line numbers in CCAS for all foreseeable planned activities expected to exceed a two minute recall time.

3.4.1. Requested activities must specify the appropriate Operational Capability (OPSCAP) status (i.e., RED, YELLOW, or GREEN).

3.4.1.1. OPSCAP status must be based on guidance listed in JFCC SPACE OI 534-9, SI 534-16, and SI 538-01.

3.4.1.2. The use of GREEN OPSCAPs for line numbers is limited to maintenance that involves outside agencies (e.g., Category Testing, situational awareness line numbers requiring site operation during the specified time period), and maintenance that requires taking a major component off-line, but which does not affect OPSCAP (e.g., a secondary computer system).

3.4.1.3. Non-operational/non-shooting periods are not scheduled as red time in COLT. This is a predictable time period that the unit is not available for operations. No line numbers are required for these time periods.

3.4.1.3.1. Units will enter line numbers for any maintenance actions taken during non-operational/non-shooting periods. OPSCAP status will follow the same criteria as if the site were up during their operational periods.

3.4.1.4. Routine site training causing no OPSCAP change to RED or YELLOW does not require a scheduled activity. The only exception is for 10 SWS, which is authorized a Mass Raid tape run every other Wednesday for system verification and analysis.

#### **4. Scheduling Process:**

4.1. The 21 SW Scheduler processes change requests outside of the execution week.

4.1.1. Every Sunday, the C2 agency assumes approval authority for the upcoming week's CCAS.

- 4.1.1.1. Any line number changes within the execution week not initiated by JSpOC must be requested in COLT, where JSpOC COD will grant approval.
- 4.2. CCAS. The CCAS shall be used to schedule maintenance, hardware/software upgrades, testing, exercises, and training activities.
- 4.3. Site Schedulers:
  - 4.3.1. Crew personnel may be given write access to the COLT database in the event that a pri/alt scheduler is not available (crew personnel do not need to be indicated in the appointment letter). This write access must only be used for real-time schedule changes during non-duty hours. Any last minute line number changes not initiated by JSpOC are to be requested in COLT, where JSpOC COD will grant approval.
  - 4.3.2. Gathers all requests for maintenance, hardware/software upgrades, testing, exercises, and training activities from external agencies (e.g., AFLCMC, SMC, MDA, Program Management Division, Civil Engineering) and combine them with local maintenance requirements to create CCAS requests.
    - 4.3.2.1. Requests for maintenance will be received via email or voice requests while following all classification procedures.
    - 4.3.2.2. MDA requests are entered into the MD database via an EOW (Event Objective Worksheet) by the projects POCs. The MD database will generate line numbers which will appear on the CCAS.
    - 4.3.2.3. MDA line numbers appear without OPSCAPs or site approvals and must be edited (OPSCAP, times, and site approval) by the unit scheduler.
    - 4.3.2.4. The unit must use the MD line numbers generated instead of entering individual lines for these requests or the crosstalk between the systems will not work properly.
    - 4.3.2.5. Maintenance activities should be scheduled at the same time if possible to limit site downtime.
    - 4.3.2.6. Maintenance activities that occur at slightly different but overlapping times that have different recall times and priorities should be scheduled as separate line numbers. This allows the C2 agency more flexibility when deciding to recall a site for real world operations.
  - 4.3.3. Reviews the 721 CS/SCJ Test Notification Message and Test Schedule Forecast every Thursday for testing information. Discrepancies between the 721 CS/SCJ message, test schedule, and the CCAS must be reported to JSpOC COD.
  - 4.3.4. Only requests time that is actually required for CCAS activities to occur.
  - 4.3.5. Maintains a minimum of 60 days of projected maintenance in the CCAS.
  - 4.3.6. Enters CCAS requests with the following:
    - 4.3.6.1. Start date/time and stop date/time.
    - 4.3.6.2. Task/Activity Name: A short description of the maintenance being performed. Define all acronyms.

4.3.6.3. Remarks: A detailed, extended description of the maintenance being performed, to include priority, costs (if applicable), reason for the line number (including specific purpose and equipment involved), why downtime is necessary for the task, specific number of parts receiving maintenance (i.e., number of end caps or elements). Include alternate plus or minus time constraints, if applicable (i.e., +/- 2 hours from start).

4.3.6.3.1. Explain the impact and monetary cost of the CCAS line number if the line number is cancelled.

4.3.6.3.2. If a request involves several line numbers over multiple days, describe in detail what activities are to be performed during each line number. If a request involves a single line number that covers multiple days, describe in detail what activities are being performed during each day.

4.3.6.3.3. CCAS activity priority definitions:

4.3.6.3.3.1. High. A CCAS activity that occurs at a specific moment due to severe consequences, such as launch constraints, contractor constraints, coordination with other agencies, or the potential for immediate degradation to the weapon system if not accomplished as scheduled.

4.3.6.3.3.2. Medium. A CCAS activity that occurs but with less specific time constraints. Contractor time, if necessary, can be moved left or right by hours or days. Coordination with outside agencies is not required, or the CCAS activity is necessary to maintain the fidelity of the system, but may be postponed. A "Medium" CCAS activity may be upgraded to "High" if delayed for too long.

4.3.6.3.3.3. Low. A CCAS activity that is required, but is routine and does not have to occur at a specific time or date. Low priority CCAS activities, such as training or routine equipment maintenance, are very fluid and have the most scheduling flexibility. A "Low" CCAS activity may be upgraded to "Medium" or "High" if delayed for too long.

4.3.6.4. Recall Time: Best estimate of return to operations for maintenance being performed if recalled from CCAS line number. If simultaneous actions are to be performed, recall times are based on the longest recall time.

4.3.6.5. OPSCAP: This defines operational degradation for each mission area. Select appropriate OPSCAP for each area, if a mission area is not applicable to the unit, leave at default ("-").

4.3.6.6. Array Face/Tower: If applicable, this defines which radar face or optical tower is affected by the maintenance activity.

4.4. The 21 SW Scheduler:

4.4.1. Considers the following items during de-confliction:

4.4.1.1. Known real world activities.

4.4.1.2. JSpOC guidance.

4.4.1.3. Site priorities and any specific instructions contained within the remarks of the activity which would aid or limit the movement of the maintenance activity.

4.4.2. Will publish a new version of the monthly CCAS schedule when one or more requests are received and approved. Newly approved maintenance is not available to outside users until a new version of the CCAS schedule is published.

## **5. Execution:**

5.1. 21 OG units must request initial approval 30 minutes prior and final approval 5 minutes prior to the start of CCAS activities from the appropriate Command and Control (C2) agency based on guidance listed in SI 534-16.

5.1.1. The appropriate C2 agency approves, disapproves, or amends the site's requested CCAS activity.

5.1.2. All units report their OPSCAP status to the appropriate C2 agency within Higher Headquarters directed timelines.

5.2. When a 21 OG unit's CCAS activity is put on hold by the C2 agency due to real-world priorities, the C2 agency references the CCAS and contacts the unit to determine if portions of the activity can be accomplished upon event termination.

5.2.1. The C2 agency will consider if the stated recall time allows the unit to proceed with the CCAS activity and still meet its stated recall time if a recall is directed to support mission requirements.

5.2.2. If the CCAS activity can be rescheduled in real-time, the C2 agency coordinates with the unit to reschedule the activity and the unit notifies the 21 SW Scheduler of the change.

5.2.3. In the case of downtime cancellations, the 21 SW Scheduler works with respective units to reschedule downtime as soon as possible.

5.3. Units may request CCAS activity extension if requested prior to the unit entering the CCAS activity's recall time. Extensions are granted on a case-by-case basis based on mission requirements and, if approved, are considered a continuation of the scheduled CCAS activity.

5.4. If the unit is unable to return to operations within the scheduled recall window, or determines that the CCAS activity cannot be completed by the projected time, then the scheduled CCAS activity is re-categorized as Corrective Maintenance (CM). The CM is effective from the time the unit determined completion of time could not be met.

## **6. Test Coordination.**

6.1. The TOW is a list of procedures, objectives, personnel, and equipment needed to conduct system testing. Such worksheets are normally used when testing the functionality of newly installed software or hardware for MW and SSA units.

6.2. Upon receipt of a TOW, Site Schedulers will:

6.2.1. Provide the test impact, OPSCAP, and ability to support the test. MW, MD, and SSA units notify 21 SW Schedulers of any discrepancies or questions regarding the TOW.

6.2.2. Complete coordination and provide comments to the testing agency within five working days from receipt of TOW.

6.2.3. Do not participate in a test without coordinating on the TOW or without having a CCAS activity request assigned specifically for the test being conducted.

6.3. The requesting test agency or program manager will contact the unit's test manager through classified or unclassified means NLT one hour before assigned test start time. If the unit's test manager is not contacted, the unit will cancel the line number for that test with the C2 agency and notify 21 SW Schedulers.

6.4. All Consolidated Test Meeting (CTM) tests involving 21 OG units are included in the CCAS based on the inputs received from the site's test manager. Testers contact units directly for all test-related matters.

6.4.1. All external test agencies coordinate with the participating units using the TOW NLT six weeks prior to the start of a Category A or B test.

6.4.1.1. The TOWs include all necessary configuration and site information. Incomplete/inaccurate TOWs are not accepted. If a TOW is updated, the test POC submits the updated TOW to the participating units.

DOUGLAS A. SCHIESS, Colonel, USAF  
Commander



**Attachment 1****GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

**Note** - Access to some references may require the application of user protection controls (e.g., passwords, digital encryption certificate verification, etc.)

Air Force Policy Directive (AFPD) 13-6, *Nuclear, Space, Missile, Command and Control, Space Policy*

JFCC SPACE OI 534-9, *Space Surveillance Operations*, 14 March 2015

SI 538-01, *Ballistic Missile Defense System Description and Asset Management*, 18 August 2011

SI 534-16, *Missile Warning and NUDET Detection Operations*, 26 September 2011

SI 507-04, *Integrated Asset Management*, 1 October 2010

NI 10-3, *Mission Integrity, Change Control Management and Test Control for the Integrated Tactical Warning and Attack Assessment System (attachment 3)*, 9 September 2011

SI 534-22, *Mission Integrity, Change Control Management and Test Control for the Integrated Tactical Warning and Attack Assessment System (attachment 3)*, 25 March 2011

***Prescribed Forms***

None

***Adopted Forms***

AF 847, *Recommendation of Change of Publication*.

***Abbreviation and Acronyms***

**21 OG**—21st Operations Group

**21 SW**—21st Space Wing

**721 CS**—721st Communications Squadron

**721 CS/SCJ**—721st Communications Squadron Test Scheduling Office

**AFLCMC**—Air Force Life Cycle Management Center

**AFPD**—Air Force Policy Directive

**BMDS**—Ballistic Missile Defense System

**C2**—Command and Control

**CCAS**—Combat Capability Assessment Schedule

**CDR JFCC—SPACE**—Commander, Joint Functional Component Command for Space

**CM**—Corrective Maintenance

**COD**—Combat Operations Division

**COLT**— Combat Capability Assessment Schedule Online Tool  
**DSC**—Defensive Space Control  
**ITW/AA**—Integrated Tactical Warning and Attack Assessment  
**JFCC SPACE**—Joint Functional Component Command for Space  
**JSpOC**—Joint Space Operations Center  
**MD**—Missile Defense  
**MDA**—Missile Defense Agency  
**MW**—Missile Warning  
**NI**—NORAD Instruction  
**POC**—Point of Contact  
**NUDET**—Nuclear Detection  
**OPSCAP**—Operational Capability  
**OSS**—Operations Support Squadron  
**PMI**—Preventative Maintenance and Inspection  
**SI**—Strategic Command Instruction  
**SIPRNet**—Secret Internet Protocol Network  
**SMC**—Space and Missile Systems Center  
**SSA**—Space Situational Awareness  
**SW**—Space Wing  
**TOW**—Test Objective Worksheet  
**USSTRATCOM**—United States Strategic Command

### *Terms*

**C2 Agency**—The agency that has operational control of a particular section of the maintenance schedule.

**Corrective Maintenance (CM)**—Any non-scheduled maintenance performed to repair or replace equipment that causes a change to the unit's OPSCAP or interferes with an ability to return to normal operations.

**CCAS On—Line Tool (COLT)**—Online scheduling database created by the Missile Defense Agency used to schedule and de-conflict maintenance. The CCAS is the schedule generated from the COLT database.

**Combat Capability Assessment Schedule (CCAS)**—A consolidated listing of planned weapon system activities generated and optimized by wing scheduling personnel based on criticality of the activity and the need to retain operational capability.

**Consolidated Test Meeting (CTM)**—A weekly meeting held by 721 CS/SCJ Test Control to coordinate ITW/AA testing.

**Event Objective Worksheet (EOW)**—A template used by event owners to submit and coordinate asset scheduling requests showing event objective, dates & times, points of contact, assets involved, and methodology.

**Execution Period**—Current period of time in which JSpOC Combat Ops performs their mission. This is always the current calendar week starting on Sunday morning 0000z and ending on Saturday evening 2359z.

**Operational Capability (OPSCAP)**—The overall capability of the site to perform its mission. Annotated in COLT as “R” for RED, “Y” for YELLOW, “G” for GREEN or “-“ for not applicable.

**Non—Operational and Non-Shooting Periods**—A period of time during which the radar or optical telescope cannot be used due to environmental (non-weather), contractual, or international agreements.

**Preventative Maintenance (PM)**—Also known as PMIs (Preventative Maintenance Inspections). Any scheduled activity for the express purpose of servicing the mission system to prevent system degradation.

**Revision Request**—A request to add, modify, or cancel any CCAS activity.

**Test Objective Worksheet (TOW)**—A list of procedures, objectives, personnel and equipment needed to conduct system testing. These worksheets are normally used when testing the functionality of newly installed software or hardware for missile warning and space surveillance sensors.

**Scheduled Activity**—Any activity during a predefined period which is forecast in advance and incorporated into the CCAS.

**Shooting Period**—The operational period for optical sites assigned to the 21 OG. The period between sunset and sunrise.