

CCC Desk Instruction	CCC Console Operator Responsibilities			Number: CCC-I-0001	
Complex Control Center	Approved by: SIC	Initial Issue Date: 06/12/12	Page: 1 of 15	Revision: 9 Eff Date: 01/12/24	

PURPOSE:

This desk instruction is provided to define the responsibilities and expectations of console operations personnel in the Complex Control Center (CCC) at Kennedy Space Center (KSC). This desk instruction is to be used exclusively by console operations personnel in the Complex Control Center as a reference guide to work requirements that are identified in MSO-P-0004, "Complex Control Center Operations".

INSTRUCTIONS:

The following instructions shall be adhered to by all console operations personnel when working any of the Complex Control Center console work stations.

- I. **Operation of Console Work Stations:** Operation of console work stations in the Complex Control Center shall be performed by authorized personnel only.
 - a. Console operators shall receive training on their duties and responsibilities.
 - b. All console operators shall obtain and maintain a minimum of three console certifications while working in the Complex Control Center. (i.e. – JOCC and 2 or more of the following: JBEP, JSEP, JBFX/JBWC and JBPN).
 - c. Console operators in training on a console are to be supervised by certified console operators authorized to operate the specific console work station.
- II. **Shift Turnovers:** Shift turnover is a critical part of Complex Control Center operations. Operational shift turnovers are required to be conducted by all off going console operators with all oncoming console operators. Shift turnovers shall provide an accurate status of all facility systems, maintenance or repair activities, status boards, logs, console screens, and outages at the time of the turnover. This includes review of status of equipment or operations and any know problems or issues with equipment or systems.
 - a. Oncoming personnel should not assume operational duties unless they are physically and mentally fit to do so and the off going console operators should have a high degree of confidence that the appropriate information transfer has taken place.
 - b. Off going personnel shall ensure that important information is current and readily available and the oncoming person understands the information.
 - c. Oncoming personnel shall conduct a comprehensive review of the SETI log, all console workstation monitoring screens and alarm pages.
 - d. Oncoming personnel shall arrive early so that review time is available.

- III. **Console Operator Log-On/Log-Off From KCCS Consoles:** Console operators are each assigned individual console log-on user names and passwords. These log-ons are specific to each console that a console operator has a certification for. For example, a console operator that has an HVAC console certification (JBAC) is issued an individual console log-on name and password for the HVAC console.
- a. Console operators are to log-on each console, using their individual log-on user name and password, for each console they are assigned to work at the beginning of their work shift.
 - b. Console operators are to log-off each console they are logged-on to at the end of their work shift.
- IV. **Daily Log Entries:** Logs provide a method for recording information and transferring it from one person or shift, to another, and are an important part of the operations turnover. The information contained in logs is also often used by engineering to track the performance of components or processes.
- a. Logs are regarded as legal documents and shall meet high standards for accuracy and consistency.
 - b. All console operators in the Complex Control Center shall utilize the Systems Electronic Tie-In Log (SETI) to make daily shift log entries in accordance with CCC Desk Instruction CCC-I-0010 "CCC Systems Electronic Tie-In Log (SETI) Usage and the BOSS Systems Electronic Tie-In Log User's Guide, MSO-UG-0003.
- V. **Response to Console Alarms:** Console operators are to be alert and attentive to indications and alarm at all times.
- a. Console work station alarm screens are to be scanned and reviewed frequently during each work shift to detect problem situations early.
 - b. Console operators shall acknowledge and respond to alarms received on the console work stations in a timely manner.
 - c. Actions are to be taken to identify and correct the cause of each alarm.
 - d. All reasonable action shall be taken to clear alarming conditions.
 - e. Alarms are to be reported in accordance with section XXIII of this desk instruction "Reporting of Alarms and Abnormal Conditions"
- VI. **Response To Console Indications:** Console operators shall believe all system and equipment indications unless proved otherwise. Ignoring an unusual reading because a console operator believes an instrument is faulty can cause abnormal conditions to go undetected.
- a. Console operators shall use other indications, when possible, to confirm unusual readings. (i.e. – a flow meter is indicating proper flow also indicates the associated pump is energized and "on" even if the pump's "on" indication light is not illuminated.
 - b. Prompt action shall be taken to report and investigate abnormal or unusual indications.
 - c. Abnormal indications, including unusual readings, are to be reported in accordance with section XXIII of this desk instruction "Reporting of Alarms and Abnormal Conditions"

- VII. Disabling Of Console Alarms:** Console alarms shall not be disabled unless certain conditions warrant the need to do so and proper approvals have been obtained from the responsible engineer. Conditions that warrant the need to disable alarms include: A system or piece of equipment is off-line for repair or maintenance; A system or piece of equipment is intentionally out of normal configuration; A system or piece of equipment is not connected to the communications network at a particular time; A system or piece of equipment that is undergoing construction or modification; A sensor that is known to be faulty and in need of repair, etc.
- a. If an alarm is disabled, a SETI log entry shall be made by the console operator indicating who authorized the alarm to be disabled and the reason for why the alarm is disabled. If an outage number or work order number is associated with the alarm being disabled, that information shall also be included in the SETI log entry.
 - b. If an alarm is disabled, and it is associated with a KCCS screen that has the capability for an "i" note to be added, then the console operator shall add an "i" note on the KCCS screen indicating the reason for the alarm being disabled, along with any other applicable information regarding who authorized the alarm to be disabled and/or any outage or work order number associated with the reason for the alarm being disabled.
 - c. A weekly review of all disabled alarm pages on each KCCS console shall be performed by the console operators and reviewed by the CCC Manager. During this review, the reason each alarm being disabled shall be validated and verified. Any alarms that are disabled and cannot have the reason they are disabled verified, shall be re-enabled by the console operator.
- VIII. Remote Operation** – When at all possible, equipment controlled from the console work stations in the Complex Control Center, shall be operated remotely from the console. Prior to any remote operation of systems controlled from the console workstations, console operators shall verify that the area around the system is clear of personnel and/or obstructions. Failure to follow this requirement may result in causing injury to personnel or damage to equipment.
- IX. Resetting Protective Devices** – Protective devices, such as circuit breakers, are in place to protect a piece of equipment, system, facility, or personnel. When a protective action occurs, prompt action shall be taken to report and investigate all automatic protective action events.
- X. Awareness of Deviations From Expected Trends:** Console operators shall view and monitor all console work station screens and be alert for trends or deviation from expected trends (i.e. – cool air temperatures rising, water pressure dropping, water flow not increasing when a pump starts, sudden increase in or decrease in amperage on a power meter, etc.)
- a. Prompt action shall be taken to report and investigate deviations from expected trends before equipment or system malfunction occurs.
 - b. Console operations personnel shall print out and provide any applicable KCCS screen shots and KCCS trend screens to shop supervisor, systems maintenance engineering and the Complex Control Center Manager to report/illustrate systems and/or equipment whose performance is deviating from normal trends.

- XI. Use of "I" Notes:** All console operators shall utilize "i" notes on the console work station screens to provide accurate up-to-date information to all other personnel that may look at the console screens.
- a. "i" notes shall be used to indicate the status of an alarm, indicate why an alarm has been disabled, indicate alarms or equipment with temporarily changed set points, indicate outages on equipment or systems, and any other pertinent information such as work order numbers, outage numbers, names of people notified of the problem, etc.
 - b. Console operators shall, upon resolution of an alarm, repair of a system issue, closure of an outage or when a system is returned to normal operating conditions, re-enable any disabled alarms and remove the "i" note from the appropriate KCCS screen.
 - c. Console operators shall ensure all "i" note information on the console screens is both current and correct by performing a weekly review of all "i" notes on each console screen and shall remove or update any existing "i" notes on the as required.
- XII. Pseudo Console Indication Maintenance:** Anytime switching on the electrical distribution system at KSC is performed, and it involves a "pseudo" indication on the power console, the power console operators shall keep the console "pseudo indications" current with the real-time field configurations.
- XIII. Electrical Shop Overtime Call-Ins:** On off-shifts, weekends or holidays, when electrical shop supervision or management personnel are not on-site, console operations personnel will utilize shop overtime lists, upon verbal approval from electrical shop supervision or management, to call in electrical shop personnel as required. When doing so, console operations personnel shall:
- a. Obtain the latest revision available of the appropriate shop's overtime list from the electrical systems share drive shop overtime folders.
 - b. Print a copy of the latest revision of the appropriate electrical shop's overtime list.
 - c. Attempt to call the personnel listed on the overtime list, contacting the technician with the lowest overtime balance first and then the next lowest, etc. until you contact the required number of technicians that need to come in.
 - d. If two phone numbers are listed for a technician, attempt to call both phone numbers.
 - e. Annotate on the printed out copy of the overtime list what response you received for each phone number called. For example: Answering Machine, No Answer, Left Message, Accepted ... etc.
 - f. Place a copy of the printed out copy of the overtime list in the notebook on the power console titled "Power Console Overtime Call-In Lists".
 - g. Make a SETI Log entry with the same information that is on the printed out copy of the overtime list (i.e. - Who was called, what the response was, who turned down the overtime, who accepted and came in, etc.)

- XIV. CoF Construction “Minor Outage in Lieu of a BOSS Electrical Outage” Forms:** In an agreement between NASA-SI and the BOSS Electrical Department, these forms used by Construction Services personnel for use with CoF Construction Projects that involve local electrical outages that meet the following two conditions: (1) The outage is only affecting a branch circuit as defined by the National Electrical Code; and (2) The work is deemed non-critical or is determined by the appropriate parties that the outage will not adversely affect operations or joint occupancy requirements. If the planned work meets the two conditions above, then the Cof Construction “Minor Outage in Lieu of a BOSS Electrical Outage” Form is used in lieu of a Maximo Outage Requests (SR). Before the work is initiated, Construction Inspectors are to complete the top half of this form and provide a copy (electronic or hard copy) to the power console. The power console operators shall then:
- a. Print out a hard copy of the completed form, if necessary.
 - b. Using the Cof Construction “Minor Outage in Lieu of a BOSS Electrical Outage” Form Log Book located at the Power Console, assign the next CCC Tracking number to the “Minor Outage In Lieu of a BOSS Electrical Outage” form received, and write this number on top of the form in red ink.
 - c. Fill in the log sheet in the Cof Construction “Minor Outage in Lieu of a BOSS Electrical Outage” Form Log Book with the information contained on the “Minor Outage In Lieu of a BOSS Electrical Outage” form that has been received.
 - d. Place the hard copy of the “Minor Outage In Lieu of a BOSS Electrical Outage” form in the Cof Construction “Minor Outage in Lieu of a BOSS Electrical Outage” Form Log Book.
 - e. When notified by the contractors that they are going to open a breaker or breakers, make a SETI log entry of who contacted the console, what breakers were opened, and reference the appropriate Cof Construction “Minor Outage in Lieu of a BOSS Electrical Outage” Form number.
 - f. When notified by the contractor that they are going to close a breaker or breakers, append the original SETI log entry where the breaker or breakers were opened and enter the name of who contacted the console and what breakers were closed.
- XV. Professional Behavior:** Console operations personnel are expected to maintain a formal, professional atmosphere in the Complex Control Center.
- a. Console operators are to direct their full attention to monitoring and controlling equipment, system and facility operations.
 - b. Non-work related discussions are to be minimized.
 - c. Console operators shall adhere to company and government policies with regard to the use of procedures, communication protocols, etc.
 - d. Only activities essential to supporting the operation shall be conducted in the Complex Control Center.
 - e. The noise level in the Complex Control Center is to be kept to a minimum so as not to interfere with monitoring of any console.
 - f. Feet shall not be put up on console surfaces or work tables unless medically necessary. If medically necessary, console operator must provide a note from their physician stating so to the Complex Control Center Manager.

- g. Console operators are to minimize the time their backs are facing their console work stations. Personnel shall ensure they are behaving in a manner in which they appear focused on and engaged in monitoring their console systems.
 - h. Console operators are to minimize the amount of time they are away from their console work station during their work shift. (This does not include being gone to attend meetings or training) If personnel have to leave, they shall ensure someone is watching/listening up for their telephones and/or alarms in their absence.
 - i. Console operators are to ensure that they minimize the amount of time you are on personal calls on government phones and/or personal calls on their personal cell phones.
- XVI. **Minimization of Distractive Material and Devices:** Written material that does not relate to console work station duties and entertainment devices (i.e. - radios, MP3 players, DVD players, computer or telephone games, etc.) are prohibited at the console work stations to eliminate distractions. Good judgment shall be used to ensure the console duties are not compromised.
- XVII. **Controlling Access To Console Task Keys/Lock Box:** Numerous task keys are maintained by the Complex Control Center in a lock box near the power console. Technicians may check out these task keys, but console operators are to ensure that all task keys are signed out using the Key Log Book, KSC Form 28-523NS. Keys not turned in, within the expected time frame, are to be reported to supervision immediately.
- XVIII. **Controlling Access To The Complex Control Center:** Console operators are to assist in controlling access to the number of personnel in the Complex Control Center.
 - a. Area access number #32 is required to get into the Launch Control Center perimeter and area access number #33 is required to have unescorted access into the Complex Control Center. Personnel that don't have the appropriate number on their badge, must have a Temporary Area Access permit and be escorted by personnel that do have the required area access permissions.
 - b. Visitors that do not have authorized area access to the Complex Control Center via a PACAS badge (and card reader), including visitor's with Temporary Area Access "to be escorted" badges must sign the Complex Control Center Visitor's Log, Form CCC-F-0001A, upon entering and exiting the Complex Control Center. Reference Attachment A for a sample of the Complex Control Center's Visitor Log.
 - c. Authorized escorts shall only be those individuals that have the required area access permissions for the Launch Control Center and the Complex Control Center.
 - d. All visitors that do not have authorized access via a PACAS badges, must remain with their authorized escort at all times while in the Complex Control Center.
 - e. Access shall be limited to personnel on official business only.
 - f. The number of personnel in the Complex Control Center are to be limited in order minimize noise, confusion and distractions in the Complex Control Center.
 - g. Personnel shall not linger in the Complex Control Center; they shall exit the area when their business is complete.
 - h. Console operators shall ensure that the chains are kept in place, as required, to prevent personnel from accessing the Power Systems Map Board, unless it is required for them to perform their work task.

- XIX. Housekeeping:** Console operators shall practice good housekeeping while conducting day-to-day activities in the Complex Control Center.
- a. Console operators are expected to keep the Complex Control Center in as good or better condition than found.
 - b. Each console operator is to keep their area of responsibility clean and orderly.
 - c. Console operators are to keep the tops of consoles clean, taking care not to stack papers, books, or other personal items on the consoles.
 - d. Console operators shall ensure that items posted on the consoles are kept to a bare minimum.
 - e. Console personnel are to use the Complex Control Center share of drive, file cabinets and/or console reference books for storage of needed reference materials and information.)
 - f. Console personnel are to attempt to correct any minor housekeeping deficiencies by sweeping up, mopping up, cleaning console screen and counter tops, dusting, wipe downs, vacuuming, trash removal etc.
 - g. Personnel shall report any major housekeeping issues to supervision.
 - h. Console operators shall perform Housekeeping tasks in accordance with SHP-P-0025 "Housekeeping".
- XX. Answering Telephones:** Console operators shall attempt to answer the console telephones in a timely manner. Phone lines shall not be placed on "hold" to reduce the number of phone lines that ring.
- a. When answering the phone, state "Power Console, This is John" or "Power Console, John Speaking", etc. to identify which console you are answering the phone for and what your name is. This shall allow those calling to remember which console they called and who they spoke to.
 - b. When console operators step away from their console work station (to take a break, use the restroom, go to the break room, attend a meeting or attend a training class, etc.) they need to ask another console operator to listen-up for and answer any phone calls that come into their console(s) during the absence.
- XXI. Eating/Drinking at Consoles** Console work stations in the Complex Control Center are not to be used as an eating place for console operators or other personnel.
- a. Food and drinks are to be kept away from keyboards and computer at each console.
 - b. If possible, console operations personnel are to use the tables and or the break room to place your food and drinks on when you are eating. It is expected that drinks and food not be on the workspace directly in front of the console or near the computer equipment or keyboards.
 - c. Food and drinks may be brought in by others visiting the Complex Control Center. If so, console operations personnel are to ensure that any visitors to not set food or drinks on the consoles as well.

XXII. Event and Near Miss Reporting Complex Control Center personnel shall prepare and submit event and/or near miss reports in accordance with SMA-P-0016 "Event and Near Miss Reporting" with the following two clarifications:

- a. If the event or near miss occurs in the Complex Control Center, then console operations personnel shall submit the Event Report or Near Miss Report.
- b. If the event or near miss occurs in the field, during normal working hours, on a system monitored or controlled by the consoles in the Complex Control Center, then the appropriate shop supervisor or Systems Engineer on-site at the time shall submit the event or near miss report.
- c. If the event or near miss occurs in the field, during an off-shift, weekend or holiday and the supervisor and/or systems maintenance engineer is not on-site at the time, then the console operator on duty at the time shall submit the event report in the absence of the supervisor and systems maintenance engineer.
- d. If console operations personnel need to generate and submit the Event Report, then they shall utilize the Event Report Checklist located on the CCC Share Drive, in the "Checklist" folder, to assist in completing and submitting an Event Report properly.

XXIII. Reporting of Alarms and Abnormal Conditions Console operations personnel shall ensure that all console alarms and any noted abnormal conditions at a minimum are reported to:

- a. The appropriate shop Supervisor or Manager;
- b. The appropriate Systems Engineer(s)
- c. The Complex Control Center Manager; and
- d. JSTC

XXIV. Use Of Operational Intercommunication System and Two-Way Radios: Console operators shall adhere to the following protocol when using the Operational Intercommunication System (OIS) or Radio Nets to communicate to field technicians, engineers, test conductors, NASA Test Directors (NTD) etc.

- a. Speak in a loud, clear voice and enunciate.
- b. When initiating contacts, identify the addressee and channel being used.
- c. Do not blow into a Radio or OIS headset microphone for a communication check. A simple count (i.e. – "1, 2, 3 Check") shall be used for communication checks.
- d. Do not start the message until the addressee acknowledges with his or her identification and channel. Once contact has been established, it is not necessary to repeat the identification for each step in a series of continuous communications.
- e. Respond to action commands as follows: If the command is "Main Bus A power switch OFF," the response is to be "Main Bus A power switch OFF - Now" with the accent on "Now" as the switch is moved. If, for the same command, the operator finds the switch already off, response is to be "Verified OFF."
- f. Give prompt response of a brief descriptive nature to test commands.
- g. Where the length of the action necessitates a delay between initiation and completion, acknowledge the command, state "In work," and verify work action completion.
- h. Use OIS or Radio Nets only for communications pertinent to the operation.
- i. Never use vulgar or abusive language.
- j. Avoid use of words or phrases that can be misunderstood easily. It is imperative that commands and responses be worded to avoid any possible misunderstanding.

- k. If a number is contained within the nomenclature, it is imperative to clarify the specific action required.
- l. Use applicable OIS and Radio Net call signs or call words; minimize the use of personal names. Reference Attachment B for "Standard OIS/Radio Net Words".
- m. Use the phonetic alphabet to clarify letters with similar sounds. Reference Attachment C for the "Phonetic Alphabet".
- n. Always refer to the sequence and step number being worked during operations performed.
- o. If using a headset, unplug the headset from the OIS unit when it is not in use.

XXV. KCCS Issue Troubleshooting For any KCCS related issues (i.e. – Server alarms, console workstation issues, comm. losses, etc.) Console operations personnel shall provide notification and ensure troubleshooting is performed as defined below.

- a. First - Check with the power consoles to see if a power or comm. outage was opened or if a power fluctuation has occurred that might have taken power down to a Field Interface Controller (FIC) or to any KCCS equipment in the Complex Control Center.
- b. Second - Contact JSTC And Request Trouble Call For Relay & Test Shop To Look At The FIC(s) And Report FIC Status To The Console. Contact the appropriate SE to notify them of the FIC issue. Notify Relay and Test Supervisor of Issue. Contacts are specified on the FIC\Circuit\Edge List and listed below:
 - Dave McGough, BOSS Relay and Test Supervisor
 - Martin Kraus, BOSS Systems Controls Engineer
- c. Third – Notify the NASA KCCS Point of Contact:
 - Jack King, NASA KCCS Engineer
- d. Fourth - If it's not the PLC\FIC in the field, or if it's a problem with the software on the KCCS screens, go directly to the BOSS KCCS Control Systems Design Engineers:
 - Steve Csori, BOSS KCCS Design Engineer
 - Tori Hubbard, BOSS KCCS Design Engineer
- e. Fifth - If you get a Server Alarm then check with the BOSS IT Engineering group to see if the KCCS Servers or workstations have had a problem
 - Brian Kovalovsky, BOSS Informations Systems Administrator
 - Ted Saunders, BOSS Informations Systems Administrator
- f. Lastly - If it's not the PLC\FIC in the field or the KCCS Servers or Workstations, then Contact Comm. And open a trouble ticket, giving them the FIC Circuit Number (The 5ATUXXXXX Number).
 - COMM. Trouble Call 867-4141

XXVI. Artemis Launch Support and Problem Reporting For any Artemis launch countdown (LCD) or simulation run, the following protocol applies:

- a. Manning - Starting at Call-to-Stations (L-46H40M), the HVAC (JBAC), Water (JBFX/JBWC) and Power (JBEP/JSEP) consoles in the CCC are required to be staffed by qualified/certified console operators.
- b. Planned Steps in the Integrated LCD Document (Solumina) – When working planned steps during LCD, JSTC will notify the appropriate console (JSEP, JBFX, JBAC, etc.) on OIS 114 of the planned step needing to be performed. Console operator then works with shops/engineering to ensure step is worked and then reports completion to JSTC on OIS 114. JSTC will then notify GTC.
- c. Non-Conformance Reporting Protocol during LCD – All non-conformances (anomalies) are to be reported per ENG-I-0045, “BOSS Launch Test Team Discipline”. In summary, the following protocol is to be followed when making an initial report of a non-conformance:
 1. From Call-to-Stations (L-46H40M) through one hour prior to Cryo Load (L-8H10M), console operator is to make initial report of all non-conformances to JSTC on OIS Channel 114. JSTC will notify GTC. Problem details will be briefed to GTC on OIS channel 111.
 2. From one hour prior to Cryo Load (L-8H10M), through T-10M, the engineer on the console is to make initial report of all non-conformances directly from engineering to GTC on OIS channel 111.
 3. When reporting a non-conformance, Form ENG-F-0045, BOSS LCD Problem Reporting Template, should be used to collect the required information to report the issue.
 4. From T-10M through T-0, no problems shall be reported unless it is an LCC violation. Report LCC violations to NTD on OIS channel 232. *BOSS currently has NO LCC’s so should not be reporting anything during this timeframe.

[illegible]

Form C.C.C. F 0001A

ATTACHMENT B
Standard OIS/Radio Net Words

TERMINOLOGY	MEANING
Affirmative	Yes.
Break	Used to break continuity in a transmission so that listeners will know that the speaker has changed subjects. Also used to break into a conversation by a station wishing to use the net, join the conversation, or report an emergency.
Correction	You have made a mistake or you should have said (or performed); or, I have made a mistake or I should have said (or performed).
Disregard	Disregard what I have just said. It is not applicable or is in error.
Execute	Carry out the instruction.
Go ahead	Proceed with your transmission.
I copy	I received your last message satisfactorily and understand.
I copy. Wilco	I have received your message, understand it, and will comply.
In work	The task is in work.
I say again	I am repeating the message for clarity and do not expect a reply.
Negative	No.
Out-clear	I have completed this conversation.
Proceed	Go ahead with your task.
Say again	Repeat your last communication.
Speak slower	You are talking too fast.
Stand by	I must pause for time, or wait a few moments.
Verify	Check status or correctness

ATTACHMENT C
Phonetic Alphabet

PHONETIC ALPHABET		
A - ALPHA	J - JULIET	S - SIERRA
B - BRAVO	K - KILO	T - TANGO
C - CHARLIE	L- LIMA	U - UNIFORM
D - DELTA	M - MIKE	V - VICTOR
E - ECHO	N - NOVEMBER	W - WHISKEY
F - FOXTROT	O- OSCAR	X - XRAY
G - GOLF	P - PAPA	Y - YANKEE
H - HOTEL	Q - QUEBEC	Z - ZULU
I - INDIA	R - ROMEO	

RECORDS

The following records are retained by the organizations listed below:

Record	Responsible Organization
Systems Electronic Tie-In Log	Complex Control Center

ROLES AND RESPONSIBILITIES

Department Manager: Ensures compliance within the Department to the requirements stated in this procedure.

Spaceport Integration Center Manager: Ensures compliance at the Spaceport Integration Center level to the requirements stated in this procedure.

Complex Control Center Staff: Ensures performance of console operations duties in accordance with this desk instruction

REFERENCE DOCUMENTS

The following documents are referenced in this procedure:

Document Number	Title
CCC-I-0010	CCC Systems Electronic Tie-In Log Usage
KSC Form 28-523	Key Log Book
MSO-P-0004	Complex Control Center Operations
Form CCC-I-0001A	Complex Control Center Visitors Log Form
MSO-UG-0003	BOSS Systems Electronic Tie-In User Guide
SHP-P-0025	Housekeeping
SMA-P-0016	Event and Near Miss Reporting
ENG-I-0045	BOSS Launch Test Team Discipline
ENG-F-0045	BOSS LCD Problem Reporting Template

ACRONYMS

BOSS – Base Operations & Spaceport Services Contract

CCC – Complex Control Center

FIC – Field Interface Controller

KCCS – Kennedy Complex Control Set

KSC – Kennedy Space Center

HVAC – Heating, Ventilation and Air Conditioning

JBAC – HVAC Console Operator

JBEP – Low Voltage Power Console Operator

JBFX/JBWC – Water Console Operator

JBPN – Pneumatics Console Operator

JSEP – Medium/High Voltage Power Console Operator

JSTC – BOSS Test Conductor

LCD – Launch Countdown

NTD – NASA Test Director

OIS – Operational Intercommunication System
 PLC – Programmable Logic Controller
 SETI – Systems Electronic Tie-In Log
 SR – Support Request

DEFINITIONS

N/A

REVISION RECORD

The following revisions have been applied to this document:

Revision Number	Change Description	Date
0	Initial Release	6/12/12
1	Updated name & phone number for Relay & Test Supervisor	9/27/12
2	Added Section III "Console Operator Log-On/Log-Off From KCCS Consoles; Added Section VII "Disabling of Console Alarms". In Section X "Use of I Notes", added section C. Moved various existing sections and renumbered them.	2/22/13
3	Revised Section VIII. on Remote Operation and Section XI. On Resetting of Protective Devices.	4/3/13
4	Added Sections XII "Electrical Shop Overtime Call-Ins", Added Section XIII "CoF Construction Minor Outage in Lieu of An BOSS Electrical Outage SR Forms"; Updated Section XXI "Event and Near Miss Reporting"; and changed all references of SME to SE.	7/11/14
5	Added Attachment A, CCC Visitors Log Form and Updated Section XVII to include requirement to use this form.	1/21/16
6	Added Section XI. "Pseudo Console Indication Maintenance"	7/27/17
7	Converted Desk Instruction from ISC to BOSS Document	6/13/19
8	Added Section XXVI For Artemis Launch Support and Problem Reporting	9/24/21
9	Updated Names in Section XXV, Updated Windows in Section XXVI, Updated Visitor Log Form, Updated New BOSS Logo and Updated Signatures	01/12/24

DOCUMENT APPROVAL

1/12/2024

Manager, Complex Control Center
 Signed by: cards