

MOSS- Instruction	Title: BOSS-SPACEX General Support Agreement for Launch Complex 39A			Number: MSO-I-0005	
Unit Issuing: Mission Support Office	Approved by: MOSS Manager	Initial Issue Date: 08/13/19	Page: 1 of 8	Revision: 0 Eff Date: 08/13/19	

PURPOSE

This OA defines the planning of Activities and requirements for the Base Operations Spaceport Services Contract (BOSS) and SpaceX for performing maintenance and supporting operations at Launch Complex 39A referred to as Pad A that is located on Kennedy Space Center (KSC). The purpose of this OA is to identify the Roles and Responsibilities for planning, scheduling, and performing maintenance and mission support operations by BOSS and SpaceX personnel at Pad A. Proper coordination is required to ensure timely and safe access to Pad A is provided for personnel and that the availability of trained personnel is taken into consideration for maintenance and mission support operations during the planning and scheduling phase.

SCOPE AND APPLICABILITY

This procedure applies to all BOSS and SpaceX contract personnel supporting either facility and/or ground support equipment maintenance operations in addition to mission processing operations. Roles and Responsibilities are identified to ensure accountability and compliance with this agreement.

PROCESS

1. BACKGROUND

BOSS, SpaceX, and NASA require a defined scope of support to perform work on Pad A in support of SpaceX operations and maintenance activities in addition to performing maintenance on NASA owned assets. This agreement shall provide the guidelines for planning and scheduling BOSS support and also provide the contact information for the primary stakeholders involved.

2. PRECEDENCE

In the event of a conflict between the requirements of this and those of the current government contracts, the terms, conditions, and other provisions of the Government contracts always shall take precedence.

Period of Performance: The term of this OA is from April 1, 2019 through April 01, 2020.

Review/Effectivity: This OA shall be reviewed as required, and revisions shall be made to maintain a current state. Any changes to this OA shall be coordinated through NASA and approved by the responsible SpaceX, and BOSS organizations.

The Task Order will be processed using the normal business process with NASA and BOSS and shall be worked when approved and funded.

3. LC 39A ACCESS REQUIREMENTS

- 3.1.** Request for access to Pad A for scheduled work shall be made at least 48 hours in advance to allow SpaceX time to process the request.
- 3.2.** Process a real time request for BOSS access when advance planning cannot be provided. Approved request shall come from BOSS Mission Support personnel.

4. BOSS LABOR AND SERVICES PROVIDED TO SPACEX AT PAD A

- 4.1.** Work that is not specifically covered under an approved TOR/PPDBT shall require an approved TOR as follows:
- 4.2.** SpaceX shall generate a TOR and send it to KSC-TASK-ORDER-REQUEST@MAIL.NASA.GOV identifying the BOSS support required
- 4.3.** NASA shall review the request and generate a EWR to document the requested support to BOSS.
- 4.4.** BOSS shall review the EWR and shall process a Task Order for the requested support.

5. SPACEX PRE-CORDINATION REQUIREMENTS WITH BOSS FOR PAD A POWER AND UTILITIES USEAGE.

PAD A FIRE DELUGE & IGNITION OVERPRESSURE AND SOUND SUPPRESSION SYSTEM WATER USE SUPPLIED FROM J7-1388 PAD B PUMPSTATION

- 5.1.** Water use exceeding 10 GPM at Pad A shall require a minimum 5 working days advanced notification by SpaceX in order to schedule tech support if diesel engine / pump support is required at the Pad B Pump station. Charges shall be applied accordingly to an approved EWR/WON.
- 5.2.** Prior to and on completion of task using water exceeding 10 GPM at Pad A, SpaceX shall notify the BOSS Mission Support Office through the JSTC console at 861-5464. Coordination of support WON and water usage is the responsibility of the Mission Support Office. The JSTC shall notify the C-1 Console Operator of any planned water use and support.
- 5.3.** When not an emergency, SpaceX personnel shall provide notification to the BOSS JSTC at 861-5464 before the start of water flow activities to notify C-1

water console to start a diesel engine/pump and provide notification to stop pump at the completion of flow.

- 5.4. In order to reduce diesel engine run time and associated cost, it is highly recommended that BOSS and SpaceX pre-schedule work activities through the Mission Support Office to coincide with the diesel engine run PM if possible.

6. PAD A POTABLE WATER USEAGE

- 6.1. Normal use of the potable water system shall not require any notification to BOSS.
- 6.2. Potable water usage exceeding normal consumption such as large flows through open lines or flushing water mains shall require pre-coordination and notification to the BOSS Mission Coordinators Office JSTC at 861-5464.

7. POWER DISTRIBUTION SYSTEM SERVICE

- 7.1. KSC High Voltage and/or Low Voltage electrical distribution systems provide support to Florida Power & Light (FPL) Commercial/Industrial Load Control (CILC) Program and BOSS/SpaceX shall comply with the contractual agreements between FPL and the US Government as outlined in PPS-P-0021. BOSS shall notify SpaceX Pad Manager and SpaceX Facility Manager that a planned CILC event is scheduled to be initiated.
- 7.2. Any operational restrictions to high-voltage or medium voltage switching requested by SpaceX, including Neutral Grounding Resistors use at C-5, shall be approved by the BOSS Mission Support Office and documented prior to implementation if not noted within this document.
- 7.3. SpaceX shall grant planned and coordinated access to BOSS for medium voltage maintenance. SpaceX shall be responsible for low voltage switching when BOSS is switching the medium voltage system at LC39A.
- 7.4. All medium voltage switching on LC39A shall require planning and coordination with BOSS.
- 7.5. The demarcation between NASA/BOSS and SpaceX is the secondary transformer bushing. Per KCA-4360
- 7.6. Significant load deltas at the Pad require pre-coordination with BOSS to verify medium voltage cable size and relay settings.
- 7.7. New feeds which shall be connected to medium voltage transformers require SpaceX to pull the feeds and install the lugs, BOSS shall make the final connection to the bus.

- 7.8.** For Switch Station 902 Battery Bank, any action which impacts the batteries (Outage on USS 952, or on Panel PQ) by SpaceX shall be coordinated with BOSS per the Utility Outage Processing Requirements specified in Section 8.0 that follows.
- 7.9.** SpaceX personnel shall contact the BOSS Power Console after any event that results in a feeder loss to the Pad prior to any large loads being restored to the 518 feeder supported substations.

8. POWER RESTRICTIONS FOR FALCON LAUNCH ACTIVITIES

Switching Restrictions During LC-39A & CX-40 SpaceX Static Fire and Launch Operations

- 8.1.** Unless approved by the BOSS Mission Support Office, there shall be no scheduled primary and secondary switching to the power system that directly affects LC-39A and Industrial area specified test areas during the following operations unless to support a scheduled processing task in the LC-39A area:
- 8.2.** SpaceX Launch Activities:
- 8.2.1. LC-39A & CX-40 Static fire & Launch L-12 hours to L+2.5 hours:
 - 8.2.2. No switching at C5/C5A/EPP.
 - 8.2.3. No NGR usage at Orsino
 - 8.2.4. C5/C5A/EPP protective relays must be in preferred mode
 - 8.2.5. Orsino protective relays affecting CDSC must be in preferred mode
 - 8.2.6. No primary switching on feeders A1, 601, 606, 607, 609, 612, 615, 517, 518, 207, 209.
 - 8.2.7. No Low Voltage switching in the following facilities: LCC, VABR, 500' W.T., Utility Annex, CCF, Pad-B Pump Station, CDSC, EPP, C5\C5A
- 8.3.** There shall be no scheduled high-voltage or low-voltage switching operations that limit, affect, reduce the redundancy of, change the configuration of, or modify the design of the power system at a launch critical facility or launch processing facility at any time without an approved outage.
- 8.4.** Exceptions to the above processes shall only be allowed upon approval of the BOSS Power and Mission Support Office Management.

9. EMERGENCY RESPONSE

All anomalies, mishaps, or unscheduled outages on the KSC electrical systems during the prior noted integrated operations that require a switching order shall not require an Exception Document but shall be reported to the NTD immediately through the BOSS Power Coordinator and BOSS Power Systems Engineering representatives.

10. UTILITY OUTAGE PROCESSING REQUIREMENTS

- 10.1.** Any request from SpaceX for BOSS to secure a NASA maintained Power or Utility System shall be required to submit a Utility Outage through the BOSS Mission Support Office. Outage request shall be initiated and submitted in accordance with BOSS procedure MSO-P-0002.
- 10.2.** SpaceX shall pre-plan any utility outage and should provide BOSS at least 10 days to process the request.
- 10.3.** Utility or power outages initiated by securing SpaceX equipment that only result in a loss of equipment owned and maintained by SpaceX shall not require a BOSS outage request, if the outage impacts a BOSS system that requires securing, SpaceX shall submit an outage request and request support through the Mission Support Office.
- 10.4.** SpaceX shall notify the Air Traffic Control Tower at 261-3866 of any outage, planned or unplanned which disables the Aircraft Avoidance beacons on the pad.

11. PERMITTED MOVES – OVERWEIGHT AND OVERSIZED LOADS

- 11.1.** All vehicles which exceed Florida Department of Transportation (FDOT) standards for dimensions and/or gross weight distribution shall apply for a permit to use KSC transportation infrastructure in accordance with BOSS Instruction ENG-I-BP01, “KSC Vehicle Transit Permitting Process” and submit a BOSS form ENG-F-BP01, “Request for Special Road Use Oversize/Overweight KSC Roadway Permit Application” and BOSS form ENG-F-BP02, “Permit for Overweight/Oversize Roadway Vehicle at KSC”.
- 11.2.** Permit applications shall be submitted no less than 3 weeks prior to the requested move. When advance planning is not possible, real time request for permits can be submitted and shall be worked as support is available.
- 11.3.** SC Mission Support shall track all permitted moves, support engineering with permit, schedule security support for escorts as required, schedule Roads and Grounds support for MOT controls and roadway plates as determined by the permit.

12. SITE PLANS

Due to KSC IT firewall restrictions, the best practice for SpaceX to request site plans is to contact your NASA Customer Advocate by email with the request. The NASA Customer Advocate or their designee shall input the request to the BOSS EWRS system. The request shall be processed and notifications sent out per the BOSS business practice. The SpaceX email request shall cc Mike Sweeney, Anne Schlawiedt, Rick Tully, Rick Rolon, and William Brennan for notification. This will assure preplanning and a notification to those who document and process the request.

RECORDS

The following records are retained by the organizations listed below:

Record	Responsible Organization
NA	

ROLES AND RESPONSIBILITIES**LC 39A ACCESS REQUIREMENTS**

- i. BOSS shall input all planned work on the SIMS and provide a completed "Pad A Entry" Document with the Work Order, description of work, planned work dates, exact location of work area and list of names when applicable of those performing the work. The completed form shall be sent by email to KSC-DL-BOSS-Mission-Coordinators. BOSS Mission Support Office or Management shall then send the request to LC39A.Pad.Access@spacex.com per KSC-PLN-3444.Request at least 48 hours in advance for scheduled work.
- ii. BOSS personnel with emergent critical and emergency work shall have access granted real time as required and with consideration given to operations and hazards on Pad A. Real time access requests shall be submitted by the Mission Support or Planning Management personnel. Real time request will be sent via email to the SpaceX Pad Manager and SpaceX security. The following BOSS personnel are authorized to call in real time access for emergent or emergency access to Pad A via email to SpaceX Pad Manager and SpaceX security:

<i>Name</i>	<i>Work Phone</i>	<i>Cell Phone</i>
Mike Sweeney	321-861-3725	321-749-4931
Barbara White	321-867-0208	321-431-9862
Carl Critchfield	321-867-7597	321-289-7579

BOSS LABOR AND SERVICES PROVIDED TO SPACEX AT LC39A

- i. BOSS shall input all BOSS provided services and labor support for SpaceX at LC39A accordance with the Commercial Space Launch Agreement (CSLA) between NASA and SpaceX as follows:
 - 1) BOSS shall provide services and labor as specified by NASA SI in an approved TO for support of SpaceX.
 - 2) BOSS shall provide services and labor as requested by SpaceX generated by SpaceX or their designee.
 - 3) BOSS will help integrate launch processing request with LASSO lab services and sampling as requested in accordance with the SpaceX TOR.

- 4) BOSS shall provide port-o-let service using available counts for technician hours purchased by SpaceX.
 - 5) BOSS shall provide SpaceX and NASA a report that shows the active work generated as requested. The Mission Support Office will review the new and complete request on the recurring support integration call with SpaceX, BOSS and NASA.
- ii. For questions concerning requests using PPDBT WONS or any questions as to what is or what is not covered contact:

<i>Name</i>	<i>Work Phone</i>	<i>Cell Phone</i>
Mike Sweeney	321-861-3725	321-749-4931
Barbara White	321-867-0208	321-431-9862

SPACEX CONTRACT RESPONSIBILITIES

i. Funding Guidelines

SpaceX shall pre-fund and replenish as needed RTC's, and Tech Shop Support PPDBT counts for support required of BOSS. Larger projects, or support not covered by the above, can be worked with an approved and funded Task Order.

- ii. The following SpaceX personnel are authorized to request services via the KSC/BOSS Mission Support Office. Other users may request services with the approval of the individuals listed below (email approval to the KSC-DL-BOSS-Mission-Coordination authorized).

<i>Name</i>	<i>Work Phone</i>	<i>Cell Phone</i>
Sonya Keith	321-730-4909	321-266-8546
Karen LaFon	321-730-4005	321-302-9933
Ricky Lim	321-730-4001	310-200-4102
Barron Demarse	321-730-1407	321-313-0499
Christopher Couluris	321-730-5966	937-510-1351
Eric Miner	321-730-1390	321-243-5376
Henry Arab	321-730-1389	321-720-2938
Sam Purdy		321-232-0428

REVISION RECORD

The following revisions have been applied to this document:

Revision Number	Change Description	Date
0	Initial release	08/13/19

DOCUMENT APPROVALS

1/13/2020

X Barbara Ivey White

Barbara White
MOSS Department Manager
Signed by: cards

1/13/2020

X Michael J. Sweeney

Michael Sweeney
Mission Support
Signed by: 1c0b27d8-b812-4628-9804-42f1ada5f372