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2JA OPERATIONAL SAFETY

I. OPERATIONS

A. REQUIREMENT DOCUMENTS

- 1. KHB 1700.7 SPACE SHUTTLE PAYLOAD GROUND SAFETY HANDBOOK**
- 2. OTHER KSC/NASA DOCUMENTATION (*THE MOST STRINGENT DOCUMENT APPLIES)**

B. TRAINING & CERTIFICATION

- 1. PERSONNEL ARRIVAL IN TIME FOR TRAINING**

C. AMMONIA OPERATIONS

- 1. LEAKS INSIDE OF HIGHBAY**
- 2. LEAKS OUTSIDE OF THE SSPF**

D. EMERGENCY EVACUATION

- 1. NEW PUSH BAR INSTALLED IN HIGH BAY**
- 2. MARSHALLING AREAS**

II. PROCEDURES

A. FORMAT

- 1. KNPR 8715.3 KSC SAFETY PRACTICES PROCEDURAL REQUIREMENTS**
- 2. ALL PROCEDURES (INCLUDING DRAFT SUBMITTALS) MUST BE DATED IN WESTERN STYLE (MONTH/DATE AND YEAR LAST) FOR IDENTIFICATION**
- 3. NO CHANGES (EVEN NON-SAFETY RELATED OR NONHAZARDOUS SECTION ONCE PROCEDURE HAS BEEN REVIEWED FOR APPROVAL/SIGNATURE)**
- 4. FLOOR COPY AND APPROVED COPY IS DIFFERENT.**
- 5. HAZARDOUS SEQUENCE GUIDELINES (SEE ATTACHMENT)**

B. TIMELINES

- 1. BASIC ISSUE – TEN DAY PRIOR APPROVAL**
- 2. REVISIONS – SEVEN DAY PRIOR APPROVAL**
- 3. PAGES CHANGES – THREE DAY PRIOR APPROVAL**
- 4. REAL-TIME DEVIATIONS**

C. NCR (NON-COMPLIANCE REQUEST)

D. WORK PLANNING SHEETS (REPETITIVE OPERATIONS)

III. SLOAA

- A. TIMELY SUBMITTAL**
- B. RESPONSIBILITY FOR OBTAINING SIGNATURES**
- C. REVIEW OF SLOAA TO PREVENT NUMEROUS REWRITES**
- D. JAXA HAS MORE SLOAA IN SHORT TIME THAN ANY OTHER NASA ENTITY**

IV. LESSONS LEARNED

A. CONFIGURATION CHANGES OF STANDS/PLATFORMS

- 1. APPROVED BY GSRP BEFORE CHANGING**
- 2. ACCEPTANCE BY NASA SAFETY**

B. CONTROL AREA

- 1. DEFINITION**
- 2. "ALL" PERSONNEL WILL ADHERE TO SAFETY REQUIREMENTS IN CONTROL AREA, NOT ONLY TECHNICIANS**

C. RAILINGS/CHAINS

- 1. ALL RAILS WILL HAVE A TOP, MIDDLE AND BOTTOM RAIL.**
- 2. ALL RAILS WILL HAVE TOE BOARDS**
- 3. IF CHAINS ARE USED INSTEAD OF RAILS, THEY MUST BE ABLE TO SUPPORT 200 LBS OF WEIGHT AND NOT SAG NO MORE THAN 3 INCHES.**
- 4. TIE WRAPS ARE NOT ACCEPTABLE MATERIAL FOR SECURING ANY PART OF RAILS/CHAINS, ETC.**

D. "TON" VS "TONN"

- 1. NEAR MISS INCIDENT WHEN LIFTING WEIGHT WAS CALCULATED BY "TONN" MARKED ON THE EQUIPMENT.**

2. **AMERICAN "TON" IS 2000 LBS; JAPANESE TONN IS 2200 LBS.**
3. **JAXA PERSONNEL AND TECHNICIANS NOT AWARE OF DIFFERENT IN MEASUREMENTS**

V. OTHER SAFETY ISSUES

A. SEAT BELT USE IN VEHICLES IS MANDATORY

- 1. EVERYONE MUST WEAR SEAT BELTS (ALL PASSENGERS IN FRONT AND BACK SEATS)**

B. ALCOHOL IN VEHICLES

- 1. NO ALCOHOL INSIDE OF THE CAR (OPEN OR CLOSED). EVEN IF ALCOHOL CONTAINER IS CLOSED, THE DRIVER CAN RECEIVE A TICKET/ FINE IF IT IS ACCESSIBLE.**
- 2. ANY DUI (DRIVING UNDER THE INFLUENCE) AND DWI (DRIVING WHILE INTOXICATED) IS AUTOMATICALLY AN ARRESTABLE OFFENSE.**

C. ALLERGY

- 1. IDENTIFY ANY ALLERGIES AND RECOMMEND BUYING A MEDICAL ALERT BRACELET/CHAIN.**

D. FISHING

- 1. ONLY FLORIDA RESIDENTS HAVE OCCASIONS WHERE A FISHING LICENSE IS NOT REQUIRED. ALL VISITORS WILL REQUIRE A FRESHWATER OR SALTWATER FISHING LICENSE, EXCEPT FOR CERTAIN CASES.**
- 2. THERE IS A SPECIES LIMIT AND CATCHING REGULATION. THEY MUST BE CAUGHT A CERTAIN WAY AND BE OF A CERTAIN SIZE.**
- 3. FINES ARE VERY EXPENSIVE FOR FISH & GAME VIOLATIONS. CHECK OR GET A COPY OF REGULATIONS.**

GENERAL GUIDELINES FOR HAZARDOUS PROCEDURES

The following are minimum “general” guidelines to be included in hazardous procedures.

1. Identify the Cover Page of the procedure with “THIS DOCUMENT CONTAINS HAZARDOUS OPERATIONS.”
2. Submit the **signature page** to the procedure (original, if possible) with a signature block for NASA Safety to sign. Hazardous procedures **must be approved** by NASA Safety “**by signature**” prior to use.
 - a. Shelf Life - the required number of days that the procedure must be approved prior to its use date.
 - (1) Basic/1st Issue – minimum of ten days
 - (2) Revision – minimum number of seven days
 - (3) Page Changes – minimum number of three days

This means that the procedures should arrive to our office for review in ample time to meet these requirements. For basic/new procedures, a minimum of twenty days before its scheduled use would be a good guideline.

3. In the beginning of the document, include an **objective/introduction statement** which gives a brief description of the operations, specific hazard(s) that is involved and the location where the operations will be held.
4. Perform a **safety walk down** of the operational area.
5. Provide a list of **essential personnel** that will be allowed in the control area by description of their occupation and number of personnel (i.e. JAXA Safety -1, NASA Safety – 1, etc)
6. Prior to the start of hazardous operations, add (in large block letters)

WARNING

THE FOLLOWING STEPS ARE HAZARDOUS DUE TO (*identify the hazard*)

GENERAL GUIDELINES FOR HAZARDOUS PROCEDURES

7. Add a statement “**Establish a control area of** (specify the control area, i.e. 25’ radius of the center of the crane) **and clear the control area of all nonessential personnel**”.
8. Conduct a **pretask briefing** and verify all personnel are certified (if applicable), equipped and ready to support the operation and verify safety walkdown has been completed.
9. Add a step in the procedure “**Obtain NASA Safety concurrence to proceed with hazardous operations**” and obtain NASA Safety signature on that step.
10. At the completion of the hazardous operations, add (in large block letters)

NOTE

HAZARDOUS OPERATIONS ARE COMPLETE

11. Upon completion of hazardous operations, add a step in the procedure “**Obtain Safety concurrence to open the controlled area**” and obtain NASA Safety and JAXA signatures on the step.
12. If the document initiates, activates or starts up any equipment by steps within the procedure, emergency instructions must be listed in the procedure as “**Appendix Z – Emergency Instructions**” to safety shut down the equipment immediately.
13. If a **SLOAA** is required for the procedure/operation to be performed, the form needs to be submitted for coordination/approval prior to the procedure review as the SLOAA needs to be indicated within the procedure. (No personnel are allowed to be under a suspended load/crane hook with a load at any time. However, if as a very **last resort**, if an operation/task cannot be completed without personnel being under a load, a SLOAA (**Suspended Load Operation Analysis/Approval**) form may be submitted for consideration.

GENERAL GUIDELINES FOR HAZARDOUS PROCEDURES

14. If the procedure calls out another procedure to perform the “hazardous operations”, the initial procedure (controlling document) will be considered hazardous. The sequence calling out the secondary procedure (subtask document) will be treated equally as a hazardous operations in the document/procedure, and will be written as such.
15. **Nonhazardous procedures** are not required to be submitted for approval, however, must be available for audit.