

PPS- Process	Title: Protective Systems Impairment Notification Process			Number: PPS-P-0001	
Unit Issuing: Protective Systems	Approved by: O&M Tech Ops Mgr. & Lead SE Protective Sys	Initial Issue Date: 01/07/00	Page: 1 of 25	Revision: 13 Eff Date: 09/22/21	

SUBJECT PROTECTIVE SYSTEMS IMPAIRMENT NOTIFICATION PROCESS

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PURPOSE

Define the request and notification process for all Protective Systems (Fire Alarm, Fire Suppression, Electronic Security System (ESS), Traffic System, and Tornado Area Warning System) impairments under the Base Operations and Spaceport Services (BOSS) contract.

SCOPE AND APPLICABILITY

All KSC Protective Systems are covered by this procedure. Personnel/organizations affected by this process are: Protective Systems Alarm Technicians, Plumbers, Protective Systems Supervisors, Fire Systems Engineers, Protective Systems Engineering, and Water and Waste Crews and Supervisors.

All KSC Protective Systems work for critical facilities/systems/equipment will be coordinated and scheduled. The Protective Systems Impairment Notification (PSIN) online application shall be used as instructed in this document.

PROCESS

The work process is divided into three (3) sections:

1. How to Initiate an Impairment.
2. How to Modify an Impairment.
3. How to Close an Impairment.

Note: IT Access to KSC Protective Systems Impairment Notification application must be submitted through IdMAX-NAMS request for authorization.

1. WHEN TO INITIATE AN IMPAIRMENT

All Fire Detection/Suppression systems and/or related devices that are (or will be) rendered inoperable (Impaired) for any duration of time that would require multiple visits to place back in service or that would otherwise reduce normal Fire Protection capabilities to an area not in the immediate vicinity of the work being performed shall be required to be formally impaired via the PSIN procedure defined in this document.

All personnel that impair (Place out of service, safe, disable) any Fire & Protective System(s)/Device(s) as part of a work order procedure shall cause or initiate a PSIN for said system(s)/device(s) or in the case of FUTURE impairments, the associated PSIN shall be updated from STATUS FUTURE to STATUS ACTIVE.

All personnel that discovers any Fire & Protective system(s)/device(s) that are not fully operational and that do not show any evidence of being acknowledged (No tags, no signs or evidence of being worked) shall cause or initiate a PSIN and tag said system(s)/device(s) accordingly.

Important Note:

PSIN Data reflects the status of the system in the field, NOT the status of any associated Work Order. When restoring a system, sufficient log notes shall be added to the associated Maximo work order(s) to show restored and retested status.

1.1. WHO INITIATES AN IMPAIRMENT?

Depending on the hierarchy of the impaired system(s)/device(s), a SINGLE PSIN shall be created to account for the highest-level function system(s)/device(s) impairment. The shop in charge of safing and/or disabling this system shall be responsible for creating a PSIN according to this procedure; Any details on related system(s)/device(s) affected by, or impaired as a result of or joint effort of the highest-level function system impairment shall be included in the same highest-level function system PSIN and verified restored before closing the PSIN. For example, Fire Sprinkler System and related devices impairments:

System/Device Status	Highest-Level Function System/Device Impaired	Action
Valves: Closed Flow Switch: Enabled	Valves	Plumbing Shop Creates PSIN
Valves: Open Flow Switch: Disabled	Flow Switch	Fire Alarm Shop Creates PSIN
Valves: Closed Flow Switch: Disabled	Valves	Plumbing Shop Creates PSIN
Valves: Open Manual Pull Station: Disabled	Manual Pull Station	Fire Alarm Shop Creates PSIN

No more than one (1) System/Device PSIN shall be created for the same work effort (Construction support, Fire Department Response Support, System Failure, etc.).

Important Note:

Future PSINs are generally initiated by Shop Leads or SEs. On the day of safing, the status of the PSIN shall be changed to ACTIVE.

2. HOW TO INITIATE AN IMPAIRMENT

A funded Maximo work order for new work, support, modification, or repair must exist in Maximo for an impairment to be initiated. Tasks may be in the form of new work, support, renovation, or repairs. A Preventative Maintenance Work Order can be used until a repair ticket is generated.

2.1. FIELD ACTIONS

SUPERVISOR/LEAD (Protective Systems, Plumbers, Water and Waste)

- 2.1.1 The Shop Supervisor shall coordinate and verify system impairment requirements. Coordinate future impairments in ALL facilities (Especially EGS processing facilities) with BOSS Mission Support and Facility Manager for approval and placement on KICS.
- 2.1.2 Notify Protective Systems Engineer if one of the following systems will be disabled, functionally impaired or out-of-service and the duration of the impairment:
 - Central Fire monitoring System (CFMS) - Communications Circuits
 - Central Radio Monitoring System (CRMS) – System Radio(s)
 - Electronic Security System (ESS) – Only at the discretion of the ESS engineer.
 - Fire Alarm System – Fire Alarm Control Panel(s).
 - Fire Hydrants – Fire Dept. Connections
 - Fire Supply Systems – Deluge/ Sprinkler Valves and Controls
 - Fire Pumps – Power and Controllers
 - Fire Suppression System – Sprinkler(s), Deluge, Stat-X, Chemical, Gas.
 - Fire Alarm signals are disabled (i.e. Bells, Strobes, Speakers, and Horns)
 - Fire Alarm activation devices (Manual Pull Station, Heat Activated Devices, Smoke Detectors, VESDA Aspirating Detection Devices, or etc.)
 - System reporting circuits or devices (communication lines, radios, or network)
 - Traffic System
 - Tornado Area Warning System (TAWS)
 - Work which could not be completed as scheduled
- 2.1.3 Designate or perform pre-task briefing if required.

PROTECTIVE SYSTEMS ALARM TECHNICIAN, PLUMBER OR WATER AND WASTE TECHNICIAN

2.1.4 SCHEDULED IMPAIRMENT

Upon approval to perform scheduled task and arrival on site, perform notifications per PPS-P-0020 including:

- PSCC (321-867-7627) or via radio group PS Alarm 2.
- Facility Manager.
- Facility personnel via area page or by personal notification if paging is not available.

NOTE: If the Facility Manager is unavailable, inform PSCC and record information on the Maximo Work Order.

- Perform Assigned Task.
- Notify Facility Manager when task is complete, and system is normal.
- Notify Facility personnel via area page or by personal notification if paging is not available.
- PSCC (321-867-7627) in compliance with PPS-P-0020.

NOTE: If the Facility Manager is unavailable, inform PSCC and record information on the Maximo Work Order.

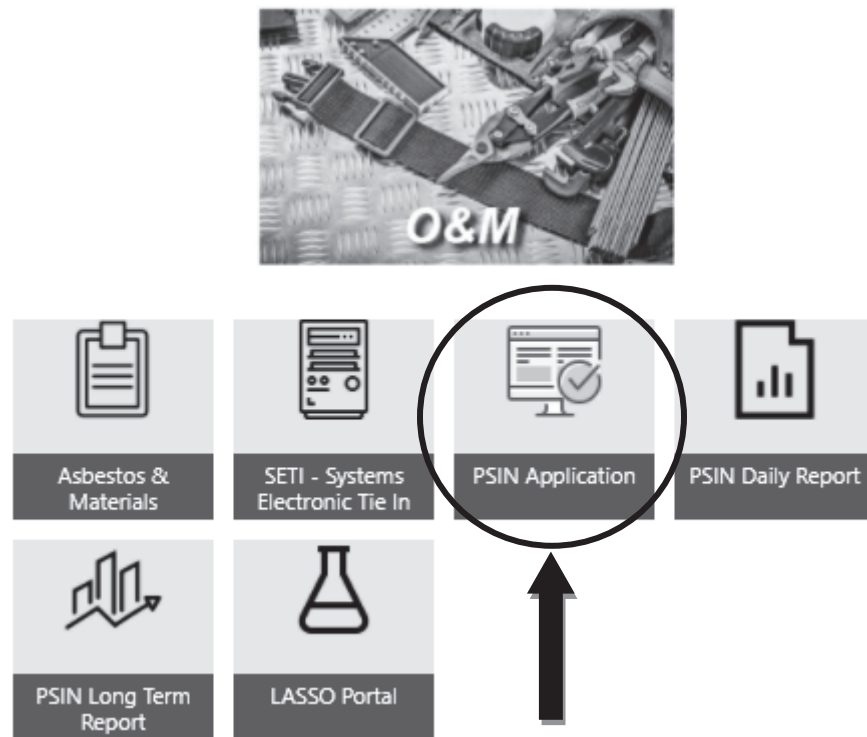
2.1.5 DISCOVERED/UNSCHEDULED IMPAIRMENT

- In the performance of any work order, if field crew detects an impaired system, they shall tag it with KSC Form 28-580 Out of service tag.
- Field crew shall notify the Facility Manager and SE from the field at primary desk phone or cell #.
- Phone notifications (Call or voicemail) shall always include name of caller, facility number/location, work order number, system asset number, asset type and/or system and a detailed description of the impairment.
- Notify PSCC and record information on the Maximo Work Order.
- Proceed to Desk Actions section 2.2.1 to initiate a PSIN.

2.2. DESK ACTIONS

- 2.2.1** From the BOSS Program Site Homepage, navigate to the PSIN Application under O&M (Operations and Maintenance).

Note: If denied access, a Nomad Access Management System - NAMS request will need to be submitted.



2.2.2 Click on the PSIN Form tab to access the Request Form. The form has three (3) main sections **A**, **B** and **C**. ***Required Fields.**

PROTECTIVE SYSTEMS IMPAIRMENT NOTIFICATION

PSIN Form About Reports Search

REQUEST FORM

A

TO: Duty Office, Mission Support Office, AHJ, Fire Systems Engineering, PSCC
FROM: FSEU Representative

Facility:* Location: Status:* Active
WON #: Asset #:
From:* To: Shift:* --Select--
System Type:* --Select-- Work Type:* Scheduled Task:* --Select--
Equip Status:* --Select-- Disabled Devices:*
Work Description:*

B

COMPLETE FOR UNSCHEDULED SYSTEM IMPAIRMENT ONLY:
Breakdown Date: Time:
Cause:

C

SYSTEM ENGINEER NOTIFICATION - MUST BE COMPLETED BY END OF SHIFT:
Engineer:* --Select-- Date:* Time:*
PSCC: NOTIFY AS APPLICABLE DUTY OFFICE: NOTIFICATION
Fire Dept ☐ Watch Commander ☐ Facility Manager ☐ Other:
REQUESTOR NOTIFIED THE FOLLOWING:
Requestor's Supervisor: --Select-- Date: Time:
Fac Manager: Date: Time: ☐ N/A
Requestor:* Email: Date:

SUBMIT RESET

Section A Instructions

TO: Duty Office, Mission Support Office, AHJ, Fire Systems Engineering, PSCC
FROM: FSEU Representative

Facility:* Location: Status:* Active
WON #: Asset #:
From:* To: Shift:* --Select--
System Type:* --Select-- Work Type:* Scheduled Task:* --Select--
Equip Status:* --Select-- Disabled Devices:*
Work Description:*

***Facility:** Facility Number (Not Facility Name).

Location: Specific location of asset or work to be performed within the facility (ex. Room #, Area Name, Floor, Tower, Level...).

WON #: Work Order Number Associated with PSIN. Note: EWR#s cannot be used except for follow on work.

***Asset #:** Asset(s) to be repaired, replaced, modified, or decommissioned. Note: Combine system assets to one impairment per facility. If impairment affects more than one facility, then each facility must have its own impairment.

From: Start date of impairment.

To: Projected completion date when system will be put back in service (ECD).

System Type: CFMS, CRMS, ESS, Fire Alarm, Fire Suppression, TAWS, Traffic. Note: Each system type affected by the same issue should be tagged under the same impairment. If impairment affects more than one system type, then each system must have its own impairment.

Work Type: Scheduled, Unscheduled. (Real-time support (< 72 hrs.) requests should be considered Unscheduled)

Equip Status: Manual Mode, Out of Service (OoS), Partially Disabled, Return to Service, Removed from Service.

Disabled Devices: Name of device(s) impaired during From-To period (ex. Flow Switch, Duct Detector, VESDA...Other).

Status: Active (System is currently impaired), Future (System is scheduled to be impaired)

FUTURE IMPAIRMENTS

- F-1** Initiating a Future PSIN will generate a SINGLE email sent to the initiator.
- F-2** The initiator shall send the PSIN's generated email **TO:** Facility Manager, & FPEs distribution list which is: KSC-DL-BOSS-FPFE ksc-dl-boss-fpfe@mail.nasa.gov and **Cc:** Responsible System Engineer assigned to the system(s)/asset(s) to be impaired (Refer to Appendix A for sample email).
- F-3** The email shall request permission to proceed with the work as stated and to advise of any compensatory actions that shall be implemented to expedite the work order completion.
- F-4** The email shall request the work to be placed on KICS or Facility Schedules.
- F-5** This email may initiate discussions about the work by any of the contacted parties.
- F-6** **FOR EGS FACILITIES ONLY.** After completing steps F-2, F-3 and F-4, forward the sent email to:
 - 1) Robert Briggs (EGS Operations Manager) robert.e.briggs@nasa.gov.
 - 2) Mission Support Operations KSC-DL-BOSS-MISSION-COORDINATORS@mail.nasa.gov.
 - 3) Utility Console at KSC-DL-BOSS-UTILITY-CONSOLE-OPS@mail.nasa.gov.

(Refer to Appendix A for sample email and Appendix B for EGS Facility List).

Shift: 1, 2, 3 or ALL.

Task: Repair, Support, Long Term. (Long Term shall only be selected if system or device is scheduled to be OoS for more than 1 year.)

Work Description: Scope of work to be completed. Detailed work description, identifying specific system(s)/asset(s) that are (or will be) impaired for the duration of the work.

Section B Instructions (Complete for Unscheduled System Impairment Only)

COMPLETE FOR UNSCHEDULED SYSTEM IMPAIRMENT ONLY:	
Breakdown Date:	Time:
Cause:	

Breakdown Date: Date when system breakdown/impairment was reported.

Time: Time when system breakdown/impairment was reported.

Cause: Determined or suspected cause of system breakdown/impairment.

Section C Instructions (Notifications)

SYSTEM ENGINEER NOTIFICATION - MUST BE COMPLETED BY END OF SHIFT:			
Engineer:*	Date:*	Time:*	
PSCC: NOTIFY AS APPLICABLE		DUTY OFFICE: NOTIFICATION	
Fire Dept ☐	Watch Commander ☐	Facility Manager ☐	Other:
REQUESTOR NOTIFIED THE FOLLOWING:			
Requestor's Supervisor:	Date:	Time:	
Fac Manager:	Date:	Time:	☐ N/A
Requestor:*	Email:	Date:	
SUBMIT			RESET

SYSTEM ENGINEER NOTIFICATION (MUST BE COMPLETED BY END OF SHIFT)

SYSTEM ENGINEER NOTIFICATION - MUST BE COMPLETED BY END OF SHIFT:		
Engineer:*	Date:*	Time:*

Engineer: *System Engineer that was notified.

Date and Time: *Engineer notification date and time.

PSCC: NOTIFY AS APPLICABLE**DUTY OFFICE: Notification**

PSCC: NOTIFY AS APPLICABLE		DUTY OFFICE: NOTIFICATION	
Fire Dept ☐	Watch Commander ☐	Facility Manager ☐	Other:

- Notify the Fire Department when there are Fire Components involved. (Fire Hydrant, Fire Pump, FDC, etc.)
- Notify the Watch Commander if PSIN is security or traffic related. (Notify SE for additional Temporary Traffic Control/ Security Operations if deemed necessary.)
- **ALWAYS NOTIFY EGS FACILITY MANAGERS** (Other Facilities are Optional).
- Other entities notified can be included in the form.

REQUESTOR NOTIFIED THE FOLLOWING:

REQUESTOR NOTIFIED THE FOLLOWING:			
Requestor's Supervisor:	--Select--	Date:	Time:
Fac Manager:		Date:	Time:
Requestor:*	preloads	Email: preloads	Date: preloads
			☐ N/A

Requestor's Supervisor: Immediate requestor's supervisor.

Date and Time: Present Date and Time.

Facility Manager: Related Facility Manager.

Date and Time: Present Date and Time.

EGS FACILITY MANAGERS SHOULD ALWAYS BE NOTIFIED OF ACTIVE AND FUTURE IMPAIRMENTS.

2.2.3 After filling out all the ***Required Fields**, click on the **SUBMIT** button to initiate impairment request (The **RESET** button will clear up all the fields in the form).

TO: Duty Office, Mission Support Office, AHJ, Fire Systems Engineering, PSCC		SAMPLE PSIN FORM		
FROM: FSEU Representative				
Facility:*	K6-0848	Location:	E-TOWER 4 TH FLOOR	
WON #:	12345678	Asset #:	DBFFACPN13	
From:*	01/01/21	To:	01/10/21	
System Type:*	CRMS	Work Type:*	Scheduled	
Equip Status:*	Partially Disabled	Disabled Devices:*	Duct Detector	
Status:*				Active
Shift:*				ALL
Task:*				Repair
Work Description:*				Faulty duct detector, MAPNET GROUND causing no answers. Additional Troubleshooting required.
COMPLETE FOR UNSCHEDULED SYSTEM IMPAIRMENT ONLY:				
Breakdown Date:		Time:		
Cause:				
SYSTEM ENGINEER NOTIFICATION - MUST BE COMPLETED BY END OF SHIFT:				
Engineer:*	T Edison	Date:*	12/31/20	
PSCC: NOTIFY AS APPLICABLE		DUTY OFFICE: NOTIFICATION		
Fire Dept ☐	Watch Commander ☐	Facility Manager ☐	Other:	
REQUESTOR NOTIFIED THE FOLLOWING:				
Requestor's Supervisor:	N Tesla	Date:	12/31/20	
Fac Manager:	K6-0848	Date:	12/31/20	
Requestor:*	preloads	Email:	preloads	
Time:*		1030 Hrs		
Time:		1030 Hrs		
Time:		1030 Hrs		
Date:		preloads		
SUBMIT		RESET		

3. HOW TO MODIFY AN IMPAIRMENT

3.1 DESK ACTIONS

3.1.1 From the PSIN Application click on the “Search” tab to access the Search Form.

PROTECTIVE SYSTEMS IMPAIRMENT NOTIFICATION Welcome: NDC\astudt

PSIN Form About Reports **Search**

SEARCH

PSIN Number:

Facility Number:

System Type:

Asset:

WON:

Equipment Status:

Task:

3.1.2 Impairments can be found by PSIN Number, Facility Number, System Type, Asset, WON, Equipment Status and/or Task.

PROTECTIVE SYSTEMS IMPAIRMENT NOTIFICATION Welcome: NDC\astudt

PSIN Form About Reports Search

SEARCH

PSIN Number:

Facility Number:

System Type:

Asset:

WON:

Equipment Status:

Task:

23089
23090
23091
23092
23093
23094
23095
23096
23097
23098
23099
23100
23101
23102
23103
23104
23105
23106
23107
23108
23109
23110
23111
23112

3.1.3 After selection criteria is specified, click “SEARCH” to find desired PSIN(s).

PROTECTIVE SYSTEMS IMPAIRMENT NOTIFICATION Welcome: NDC\astudt

PSIN Form About Reports Search

SEARCH

PSIN Number: 23116 ▼

Facility Number: ▼

System Type: ▼

Asset: ▼

WON: ▼

Equipment Status: ▼

Task: ▼

SEARCH **VIEW ALL** **RESET**

Note: The “VIEW ALL” button will show all active PSINs. The “RESET” button will reset the Search Form.

3.1.4 Select desired PSIN and click on “Edit” to access edit mode.

PROTECTIVE SYSTEMS IMPAIRMENT NOTIFICATION Welcome: NDC\astudt

PSIN Form About Reports Search

UPDATE

[Export to Excel](#)

***UPDATE NAME is required**

ID	REQUESTOR	SUPERVISOR	FACILITY	STATUS	WON	E/O WON	ASSET	START DATE	ECD	EQUIP STATUS	WORK TYPE	SYSTEM TYPE	TASK	DEVICES	DESCRIPTION	CLOSE DATE	*UPDATE NAME	
23116	Dampier, Terry Lee.		K6-848	Active	10071617			12/15/2020	01/21/2021	Partially Disabled	Unscheduled	Fire Alarm	Repair	signal circuit	Replace ZAM			Edit

3.1.5 Make desired changes/updates to the open fields.

PROTECTIVE SYSTEMS IMPAIRMENT NOTIFICATION Welcome: NDC\astudt

PSIN Form About Reports Search

UPDATE
Export to Excel

***UPDATE NAME is required**

ID	REQUESTOR	SUPERVISOR	FACILITY	STATUS	WON	E/O WON	ASSET	START DATE	ECD	EQUIP STATUS	WORK TYPE	SYSTEM
23116	Dampier, Terry Lee.		K6-848	Active	10071617			12/15/2020	1/21/2021	Partially Disab	Unsched	Fire A

M TYPE	TASK	DEVICES	DESCRIPTION	CLOSE DATE	*UPDATE NAME
Alarm	Repair	signal circuit	Replace ZAM		

3.1.6 Click on the “Update” button to save updates. All PSIN edits must be described under the “DESCRIPTION” field (Separate edits with “//”). All PSIN edits require an “UPDATE NAME” follow the “Initial + Last Name” format (e.g. ASMITH for Alex Smith).

PROTECTIVE SYSTEMS IMPAIRMENT NOTIFICATION Welcome: NDC\astudt

About Reports Search

***UPDATE NAME is required**

REQUESTOR	SUPERVISOR	FACILITY	STATUS	WON	E/O WON	ASSET	START DATE	ECD	EQUIP STATUS	WORK TYPE	SYSTEM
Dampier, Terry Lee.		K6-848	Active	10071617			12/15/2020	1/21/2021	Partially Disab	Unsched	Fire A

M TYPE	TASK	DEVICES	DESCRIPTION	CLOSE DATE	*UPDATE NAME	Update/Cancel
Alarm	Repair	signal circuit	Replace ZAM //		ASMITH	Update/Cancel

Separate edits with //

4. HOW TO CLOSE AN IMPAIRMENT

4.1 DESK ACTIONS

4.1.1 From the PSIN Application click on the “Search” tab to access the Search Form.

PROTECTIVE SYSTEMS IMPAIRMENT NOTIFICATION Welcome: NDC\astudt

PSIN Form About Reports **Search**

SEARCH

PSIN Number:

Facility Number:

System Type:

Asset:

WON:

Equipment Status:

Task:

4.1.2 Impairments can be found by PSIN Number, Facility Number, System Type, Asset, WON, Equipment Status and/or Task.

PROTECTIVE SYSTEMS IMPAIRMENT NOTIFICATION Welcome: NDC\astudt

PSIN Form About Reports Search

SEARCH

PSIN Number:

Facility Number:

System Type:

Asset:

WON:

Equipment Status:

Task:

23089
23090
23091
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4.1.3 After selection criteria is specified, click “SEARCH” to find desired PSIN(s).

PROTECTIVE SYSTEMS IMPAIRMENT NOTIFICATION Welcome: NDC\astudt

PSIN Form About Reports Search

SEARCH

PSIN Number: 23116 ▼

Facility Number: ▼

System Type: ▼

Asset: ▼

WON: ▼

Equipment Status: ▼

Task: ▼

SEARCH **VIEW ALL** **RESET**

Note: The “VIEW ALL” button will show all active PSINs. The “RESET” button will reset the Search Form.

4.1.4 Select desired PSIN and click on “Edit” to access edit mode.

PROTECTIVE SYSTEMS IMPAIRMENT NOTIFICATION Welcome: NDC\astudt

PSIN Form About Reports Search

UPDATE
[Export to Excel](#)

***UPDATE NAME is required**

ID	REQUESTOR	SUPERVISOR	FACILITY	STATUS	WON	F/O WON	ASSET	START DATE	ECD	EQUIP STATUS	WORK TYPE	SYSTEM TYPE	TASK	DEVICES	DESCRIPTION	CLOSE DATE	*UPDATE NAME
23116	Dampier, Terry Lee.		K6-848	Active	10071617			12/15/2020	01/21/2021	Partially Disabled	Unscheduled	Fire Alarm	Repair	signal circuit	Replace ZAM		Edit

4.1.5 Under the “STATUS” field select “Closed”.

PROTECTIVE SYSTEMS IMPAIRMENT NOTIFICATION Welcome: NDC\astudt

PSIN Form About Reports Search

UPDATE
[Export to Excel](#)

***UPDATE NAME is required**

ID	REQUESTOR	SUPERVISOR	FACILITY	STATUS	WON	F/O WON	ASSET	START DATE	ECD	EQUIP STATUS	WORK TYPE	SYSTEM
23116	Dampier, Terry Lee.		K6-848	--Select-- Active Future Closed	10071617			12/15/2020	1/21/2021 1	Partially Disat	Unsched	Fire A

4.1.6 Under the “EQUIP STATUS” field select “Return To Service” (If system was removed then select “Removed From Service”).

PROTECTIVE SYSTEMS IMPAIRMENT NOTIFICATION Welcome: NDC\astudt

PSIN Form About Reports Search

UPDATE
[Export to Excel](#)

***UPDATE NAME is required**

ID	REQUESTOR	SUPERVISOR	FACILITY	STATUS	WON	F/O WON	ASSET	START DATE	ECD	EQUIP STATUS	WORK TYPE	SYSTEM
23116	Dampier, Terry Lee.		K6-848	Active	10071617			12/15/2020	1/21/2021 1	Manual Mode Out Of Service Partially Disabled Return To Service Removed From Service	Unsched	Fire A

4.1.7 Click on the “Update” button to save updates. All PSIN edits must be described under the “DESCRIPTION” field (Separate edits with “//”). All PSIN edits require a “CLOSE DATE” and an “UPDATE NAME” follow the “Initial + Last Name” format (e.g. ASMITH for Alex Smith).

PROTECTIVE SYSTEMS IMPAIRMENT NOTIFICATION

Welcome: NDC\astudt

About Reports Search

NAME is required

DIRECTOR	SUPERVISOR	FACILITY	STATUS	WON	E/O WON	ASSET	START DATE	ECD	EQUIP STATUS	WORK TYPE	SYSTEM
Director, Lee		K6-848	CLOSED	10071617			12/15/2020	1/21/2021	Return To Service	Unscheduled	Fire Alarm

M TYPE	TASK	DEVICES	DESCRIPTION	CLOSE DATE	UPDATE NAME	
Alarm	Repair	signal circuit	Closed PS N //		ASMITH	Update Cancel

Separate edits with //

5. GENERAL INFORMATION

5.1 PROTECTIVE SYSTEMS IMPAIRMENT STATUS LOG

- Long Term Status Report must be run to view impairments over 1 year old.
- YELLOW highlighted field indicates ECD is within 5 days of expiring or has expired.
- BLUE font items on PSIN status log represent FUTURE impairments.
- RED font items on PSIN status log represent NEW Impairments.
- GREEN font items on PSIN status log represent CLOSED Impairments.

APPENDIX A – FUTURE IMPAIRMENT DETAILS

Reference for page 8 steps F-2, F-3 and F-4.

Future Impairment Email Example

From: Future Impairment Initiator

To: Input Facility Manager Email KSC-DL-BOSS-FPFE

Cc: Input Responsible SE Email

Subject: FW: PSIN SUBMITTAL NOTIFICATION *****

Following PSIN procedure PPS-P-0001, this email serves to inform all the required parties about the scheduled impairment affecting facility XX-XXXX. Consider this email as a permission request to proceed with the work as stated in the work description below. Please also consider including the scope of this work to be placed on KICS and/or Facility Schedules for progress tracking.

AHJ representatives, if additional compensatory measures are required, please advise * _____.

FPFE DL Includes:

Fire Marshal.
Fire Engineers.
Fire Inspectors.

PSIN REQUEST SUBMITTAL

PSIN ID: *****

REQUEST DATE: XX/XX/XXXX

REQUESTOR NAME: Future Impairment Initiator

FACILITY: XX-XXXX

WON: *****

STATUS: Future

ASSET: *****

START DATE: XX/XX/XXXX

EQUIP STATUS: Out Of Service

WORK TYPE: Scheduled

SYSTEM TYPE: (System Type)

DEVICES: (Impaired Devices)

WORK DESCRIPTION: Detailed work description, identifying specific assets that will be impaired for the duration of the work.

PSIN GENERATED EMAIL

*The point of contact may be the Facility Manager, Project Manager, Construction Inspector, the shop lead, the shop supervisor, or the System Engineer.

¶ See next page for EGS Facilities Future Impairment step.

Reference for Page 8 step F-6:**FOR EGS FACILITIES ONLY:**

After sending the above email as noted on page 8 steps F-2, F-3 and F-4, forward the "SENT" email to robert.e.briggs@nasa.gov, KSC-DL-3OSS-MISSION-COORDINATORS@mail.nasa.gov and KSC-DL-3OSS-UTILITY-CONSOLE-OPS@mail.nasa.gov.

The purpose of forwarding this email is to ensure that these three (3) entities are notified that the Facility Manager and the FPFE Direct Distribution List (Which includes the Fire Marshal, Fire Engineers and Fire Inspectors) have been contacted prior to starting any type of work related to the associated Future PSIN at the respective facility.

APPENDIX B – EGS FACILITY LIST**EGS FACILITY LIST**

		FAC#	NAME
North		CT-2	CRAWLER TRANSPORTER NO.2
		J7-0337	LAUNCH PAD 39B
		J7-1388	INDUSTRIAL WATER PUMPING STATION
		K6-0345	SURGE BUILDING #2
		K6-0494	ROTATION/PROCESSING BLDG
		K6-0497	SURGE BUILDING #1
		K6-0848	VEHICLE ASSEMBLY BLDG
		K6-0895	PUMP HOUSE (OPF)
		K6-0900	LAUNCH CONTROL CENTER
		ML1	MOBILE LAUNCHER 1
		UK-0008	CRAWLERWAY
South		M7-0777	LAUNCH ABORT SYSTEM FACILITY
		M7-1104	MULTI-PAYLOAD PROCESSING FACILITY
		M7-1362	FIREX PUMP STATION

RECORDS

The following records are retained by the organizations listed below:

Record	Responsible Organization	AFS/ Item #	Retention Period
Work Authorization Document	Duty Office	Section 8/107	<i>Temporary. Destroy / delete between 5 & 30 yrs after program/project termination. See Note 2 in NPR</i>
Protective Systems Impairment Notification (PSIN) – Form 28-830V2 NS	Protective Systems	1442/78E.2	90 days after system restoration

AFFECTED DIVISIONS

FSEU and OM&E
Safety & Mission Assurance

MANAGEMENT ROLES AND RESPONSIBILITIES

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

Branch Manager: Ensures compliance with BOSS metrics for the posting of PSIN data, weekdays.

FUNCTIONAL ROLES AND RESPONSIBILITIES

Protective Systems Engineering: Ensures system integrity, supports shop, and updates infrastructure report.

Shop Supervisor: Ensures information on the Maximo Work Order is correct, ensures the completion of the tasking, schedules the Maximo Work Order, reschedules WAB, authorizes call-ins, verifies system requirements, briefs techs, and debriefs techs. The Shop Supervisor communicates with all personnel involved with this procedure (if required) and closes the Maximo Work Order when work is complete.

Protective System Alarm Technician: Performs tasks in a timely manner. Communicates with personnel in this procedure (as required). Complete PSIN and faxes to appropriate personnel.

Plumbers: Performs tasks in a timely manner. Communicates with personnel in this procedure (as required). Completes PSIN and fax to appropriate personnel.

Duty Officer: Perform task as stated within this procedure.

Protective Services Control Center: Performs tasks as stated within this procedure, communicate with Fire Services, Watch Commanders, Supervisors, engineers, Technicians, and Plumbers (as needed).

Mission Support Coordinators: Coordinate any tasks in this procedure that affect mission operations.

Fire Systems Engineers: Contact Protective Systems (as needed).

Fire Services: Contact PSCC (as needed).

Watch Commander: Contacts PSCC (as needed).

REFERENCE DOCUMENTS

The following documents are referenced in this procedure:

Document Number	Title
KSC Form 28-830V2 NS	Protective Systems Impairment Notification (PSIN) Scheduled/Unscheduled Coordination Request
KSC Form 28-580	Out of Service, in case of fire dial 911, tag
KSC Form 4-622	Do Not Use or Operate, tag
NFPA 101	Life Safety Code, 7-6.1.8 & 7-7.6
NFPA 72	National Fire Alarm Code, 7-1.3
NFPA 25	Inspection, Testing and Maintenance of Water Based Fire Protection Systems, Chapter 14
PPS-P-0035	Mishap/Incident Call Requirements for Protective Systems
PPS-I-0007	PS Engineering Launch Support – GSFA & Red Crew
PPS-P-0008	Customer Procedure For Requesting Protective Systems Support
PPS-F-0012	Protective Systems Alternate Documentation System
PPS-REF-2003	Protective Systems: Fire Detection/Fire Suppression Support Response Matrix
PPS-P-0020	Alarm System Coordination Requirements, KSC

ACRONYMS

AHJ – Authority Having Jurisdiction

CFMS – Central Fire Monitoring System

CRMS – Central Radio Monitoring System

EGS – Exploration Ground Systems

ESS- Electronic Security Systems

FACP – Fire Alarm Control Panel

FDC – Fire Department Connection

FSDS – Fire Suppression/Detection System

GSFA – Designated call sign for Protective Systems during mission related activities.

BOSS – Base Operations and Spaceport Services

JFIR – Designated call sign for PSCC Fire Console during mission related activities.

JSTC – Designated call sign for the Mission Support Console

KICS – KSC Integrated Control Schedule
KSC – Kennedy Space Center
NASA- National Aeronautical and Space Administration
PICS – Payload Integrated Control Schedule
PSCC – Protective Services Control Center
PSIN – Protective Systems Impairment Notification
STS – Space Transportation System
TAWS – Tornado Area Warning System
WON – Work Order Number

DEFINITIONS

Critical – A system is designated as “critical” if loss of the overall system function or improper performance of the system function could result in loss of life, loss of vehicle or damage to a vehicle system.

Impaired – A Protective System status which is less than normal and indicates that the complete system or portions of it are out-of-service.

Routine Support – Scheduled support which are tasks, duties, or procedures typically performed in support of a Work Authorization Document.

Scheduled Impairments – Protective Systems which are to be out of service due to routine support or for maintenance.

Unscheduled Impairments – Protective Systems which are to remain out-of-service longer than anticipated due to breakage, incomplete work, system or component failure.

Real-time Impairments: For the purposes of this procedure, the term is synonymous with Unscheduled. The "Real-Time" block on the KSC Form 28-830NS is redundant.

AHJ – The official authority and duty to enforce compliance with a standard or code, and to approve the use of systems, strategies, practices, procedures, protocols, plans, methods, machines, facilities, and installations.

REVISION RECORD

The following revisions have been applied to this document:

Revision Number	Change Description	Date
0	Initial Release	01/07/00
1	Revised under JBOSC	07/10/00
2	Revised under JBOSC	08/21/01
4	Revised under JBOSC	05/04/05
5	Revised under JBOSC	06/28/06
6	Revised under JBOSC	09/28/06
7	Revised under JBOSC	05/30/07
8	This revision removes the statement "SGS Company Proprietary – JBOSC Competition Sensitive" from this document	07/13/07
9	Complete revision to ISC format	06/22/10
10	Administrative change only. Document updated to remove branding of previous contract.	04/01/19
11	Updated to BOSS	01/28/21
11.1	Updates to header	2/25/21
12	Updates to Future Impairment Process	07/20/21
13	Updates to Future Impairment Process Added "When to Initiate an Impairment" and "Who Initiates an impairment" sections	09/22/21

Document Approvals

9/23/2021

9/23/2021

X Melquiades Lopez

Mike Lopez
O&M Tech Ops Manager
Signed by: Melquiades Lopez (affiliate)

X Al Studt

Albert W. Studt
Lead SE Protective Systems
Signed by: cards