Work Instruction - Operations

PLATFORM SCREEN GATES (PSGS) FAILURES

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Work description: The purpose of this document is to describe the actions necessary to handle PSGS failures. This document is applicable for the Operation and Maintenance Services on the Honolulu Rail Transit Project (HRTP).		
Scope: All PSG incidents that require an immediate remedial response.		
References: HNL-09527 Fault Reporting Process, HNL-09421 Contingency Plan, HNL- 09320 Unauthorized person trackside, HNL- 09535 Sweep Run, HNL-09415 Station Stop Problems		
PPE and precautions	**Competencies or qualifications**	**Licenses or permits required**
Standard worker PPE, Electrical Hazards	Train Operator, Station Operator, OCC Supervisor, Information Controller, Engineering & Faults Controller	Nil
Tools and equipment required		
PSG Operating Panel Keys		

System Description	Whenever a platform screen gate fails to close upon completion of dwell time at a station, the ATC system does not allow the train to leave the station. When a platform screen gate is isolated (locally) or inhibited (from OCC), the ATC system ensures that the corresponding train door will not be opened when the train stops at the concerned station. When platform screen gates are isolated, a Train Operator/ Station Operator shall apply a warning sticker that indicates that the gate is out of service. Whenever a gate is isolated and in open position, the gate area shall be made inaccessible and the constant monitoring of a Train Operator/ Station Operator is required. The Train Controller can command the opening and closing of gates from OCC, with or without a train stopped at platform. However, the command can be performed only when a Train Operator/ Station Operator monitors the concerned platform.

Platform Screen Gate Fails to Open (train stopped at platform)	In the event a train arrives at platform and one gate fails to open, ATC displays the relevant alarm. Passengers in front of the faulty gate will likely open it through the corresponding emergency release device located on the fixed panel. When activated, the emergency release device generates an alarm on the ATC system. After 15 seconds, the emergency egress gate will attempt to close (unless there is a failure or obstacle that impedes the closure). The remaining gates will close upon the expiry of the dwell time.
OCC Supervisor	The OCC supervisor shall: • Be ready to define the most appropriate contingency plan (see HNL-09421 Contingency Plan)
Train Controller	Train Controller shall: • In the event the gate is opened by the passenger through the emergency release device, monitor the concerned gate • Dispatch a Train Operator/ Station Operator at the concerned platform • Check that the train leaves the platform • Monitor the subsequent train and check if the failure occurs again. In the event one or more doors fail to close see section 4.
Engineering & Faults Controller	The Engineering & Faults Controller shall: • Alert the maintenance team and open a failure notification according to HNL-09527 Fault reporting process.
Information Controller	Information Controller shall: • Inform passengers through PA to use the other gates to board or alight the train • Monitor the affected platform • Inform passengers on other trains and platforms about possible delays.

Approved By: **Signature:** **Date:**	☐ Director, Operations and Maintenance	☐ Department Manager	☐ Manager, HSE (Operations and Maintenance)

Train Operator/ Station Operator	The Train Operator/ Station Operator shall: • Upon Train Controller request, reach the affected platform • Operate in coordination with Train Controller • Instruct passengers to use the other gates to board or alight the train. • Monitor the gates behavior upon the next train arrival.

Platform Screen Gate fails to close (train stopped at platform)	In the event a platform screen gate fails to close, the ATC does not allow the train to leave the platform. In case of obstruction, the gate attempts closure at slow speed for three times. If the closure attempts are not successful, the gate remains open.
OCC Supervisor	The OCC supervisor shall: • Be ready to suggest the most appropriate contingency plan (see HNL-09421 Contingency Plan)
Train Controller	Train Controller shall: • Check, through ATS, the faulty gate • Dispatch a Train Operator/ Station Operator to the faulty gate • Instruct the Train Operator/ Station Operator to manually close the gate and to remain close to it • Manually execute the gates opening command through ATC and then close them.
	Note The remote opening/closing command from OCC requires a Train Operator/ Station Operator on the platform when a train is not present. This is to ensure passengers are far from gates.
	• Check that the train leaves the station and request the Train Operator/ Station Operator to check the gate behavior upon the arrival of the next train. ***In the event the gate fails again:*** • Ask the Train Operator/ Station Operator to close and isolate the gate through the corresponding mode switch • In the event the door cannot be isolated and closed, ask the Engineering & Faults Controller to alert the maintenance team. • Inform station Operator to clos the gate manually
Engineering & Faults Controller	The Engineering & Faults Controller shall: • Upon Train Controller's request, alert the maintenance team • Report the fault in the MMIS (see HNL-09527 Fault Reporting Process)
Information Controller	Information Controller shall: • Monitor the platform • Inform passengers on other trains and platforms about the delay • Instruct passengers to board or alight trains from the other gates • In the event of obstruction, instruct passenger to stay far from the gate • In the event the gate fails to close for three times due to an obstacle, notify passengers about the obstruction.
Train Operator/ Station Operator	The Train Operator/ Station Operator, once reached the faulty gate, shall: • Upon instruction from Train Controller, close the gate manually • Remain in the vicinity of the faulty gate and check that the train leaves the station • Check the gate behavior upon the next train arrival and subsequent arrivals in line with the Train Controllers advice • If the fault occurs again, isolate the gate through the mode switch and put on it the out of service sticker
	Note Once isolated the gate, the Train Operator/ Station Operator shall extract the key from the mode switch.

Unintended gate opening (no train at platform)	When an unintended gate opening is detected, the ATC system drops down the line speed in the approaching, platform and exit track circuits on both tracks. Thus trains entering, leaving or departing from the station cannot move.
OCC Supervisor	The OCC supervisor shall: • Be ready to suggest the most appropriate contingency plan (see HNL-09421 Contingency Plan)
Train Controller	Train Controller shall: • Dispatch a Station Operator to the affected gate • Observe the area using CCTV • Alert the Engineering & Faults Controller to be ready to de-energize the third rail in the affected area • Based on information received from the Train Operator/ Station Operator and Information Controller, evaluate if anyone accessed the track and activate the procedure HNL- 09320 Unauthorized person trackside • Once verified that the mainline is free, instruct a Train Operator to perform a Sweep run according to the procedure HNL- 09535 Sweep Run. • Monitor the gates behavior upon the next train arrival.
Engineering & Faults Controller	The Engineering & Faults Controller shall: • Be ready to de-energize the third rail • Be ready to alert the maintenance team and notify the failure through the MMIS (see HNL-09527 Fault Report Process)
Information Controller	Information Controller shall: • Send PA messages to the platform, instructing passengers to stay far from the open gate • Monitor the platform through CCTV to make sure that no passenger gets close to the open gate • Monitor any train that is prevented to enter the affected platform through CCTV and send PA messages to reassure passengers that service is resuming shortly.
Train Operator	The Train Operator shall: • Check that no unauthorized person accessed the track • Close the affected gate • Be on the platform to check that the train regularly leaves the platform • Monitor the gates behavior upon the next train arrival • In the event the fault occurs again, close and isolate the gate • Put the out of service sticker on the affected gate.
	 ***Note*** Once the gate is isolated, the Train Operator/ Station Operator shall extract the key from the mode switch.

Train stopped due to PSG failure (PSG faults preventing trains to enter a platform)	In the event a train cannot enter the platform due to PSG failures, the ultimate aim is to bring the train as soon as possible at the platform. As a first instance, the Train Operator/ Station Operator at the platform shall check: • Platform Gate Open/fault indicators • Emergency Gates fault indicators. If one platform gate open indicator is on (i.e. light is on), independently on the status of the gate fault indicator on the same gate, the Train Operator/ Station Operator shall close the gate and inform the OCC. If one platform gate fault indicator is on and the relevant open indicator is off, the Train Operator/ Station Operator shall isolate the gate and inform the OCC. In all the other cases, the Interlock Override functionality shall be used to bring the train in the platform (see Interlock Overdrive Execution)
OCC Supervisor	The OCC supervisor shall: • Be ready to suggest the most appropriate contingency plan (see HNL-09421 Contingency Plan)

Train Controller	Train Controller shall:
	• Dispatch a Train Operator/ Station Operator to the affected platform and ask to check gate closure/fault indicators and report back
	• Based on the outcomes of the check, coordinate for gate isolation/closure or interlock override. In the event the interlock override is required, make sure that the platform is manned with two Train Operator/ Station Operators.
	• If after train arrival one or more gates cannot be closed, make sure that maintenance is alerted and that:
	  ○ Train Operator/ Station Operator prevent passengers to access the area
	  ○ Direct the Station Operator or Train Operator to manually close the door
	  ○ Engineering & Faults Controller alerts the maintenance team
	  ○ The OCC supervisor evaluates the implementation of the most suitable fallback scenario (HNL-09421 Contingency plan).
	• Monitor the behavior upon the next train arrival. Evaluate with the OCC Supervisor the most suitable contingency plan until repair is performed.

Engineering & Faults Controller	The Engineering & Faults Controller shall: • Be ready to alert the maintenance team and notify the failure through the MMIS (see HNL-09527 Fault Report Process)
Information Controller	Information Controller shall: • Monitor the affected trains and platform • Send PA messages to the affected platform instructing passengers to stay away from the gates and to follow the instructions of Train Operator/ Station Operators • Send PA messages to passengers on the affected platforms and trains informing them about delays in train circulation.
Train Operator/ Station Operator	The Train Operator/ Station Operator shall: • Check Platform Gate Open/fault indicators • Emergency Gates fault indicators • If one platform gate open indicator is on (i.e. light is on), independently on the status of the gate fault indicator on the same gate, close the gate in coordination with OCC • If one platform gate fault indicator is on and the relevant open indicator is off, isolate the gate in coordination with OCC • In all the other cases, coordinate with OCC to implement the Interlock Override. If only one Train Operator/ Station Operator is present, ask for an additional Train Operator/ Station Operator at platform • Monitor the platform upon the next train arrival and act in compliance with Train Controller's instructions.

Interlock Override Execution	This functionality will only be used when it is impossible for the Train Operator/ Station Operators to identify a faulty/not properly closed gate. So, in the event that the closed and locked signal is broken but the platform is deemed safe for operations to continue, the actual closed and locked signal can be overridden by the Interlock Override switch on the local control panel by turning the relevant key-switch to the right. The key-switch is biased and must be held in place to maintain the signal.
	 ***Note*** All platform screen gates, and emergency egress gates shall be confirmed physically closed to perform the interlock override functionality. The affected platform shall be manned with two Train Operator/ Station Operators to perform the interlock override: one to activate the command, one to keep passengers away from gates and to close/isolate the faulty gate.
	 ***Note*** The Interlock Override functionality is a temporary measure. In the event the fault cannot be resolved by the Train Operator/ Station Operator, the command can be used until the maintenance team fixes the fault.
	The execution of this command requires a strong coordination between the Train Controller and Train Operator/ Station Operators.
Train Controller	Train Controller shall: • Make sure that two Train Operator/ Station Operators are available at the affected platform • After assessing traffic condition, authorize the Train Operator/ Station Operator to execute the interlock override • Put a TWC hold on the affected platform • Check with Train Operator/ Station Operators that all platform gates are physically closed after the expiration of dwell time • Release the TWC hold once the Train Operator/ Station Operator s confirm that all gates and train doors are closed, and the train is safe to leave • Coordinate with Train Operator/ Station Operators to ensure train movements on the other track as well.
Train Operator/ Station Operator	The Train Operator/ Station Operator shall: • Request the second Train Operator/ Station Operator at the platform if not already present • Activate the override key only upon Train Controller's authorization • Once the train arrives at platform, do not release the override key until instructed by the Train Controller • Ask the Train Controller to close all gates, if required • Upon expiration of dwell time, instruct the other Train Operator/ Station Operator to manually close the faulty gates • Inform the Train Controller when all gates are closed and locked and the train is safe to leave the platform.