

<b>Work Instruction - Operations</b>	<b>HITACHI</b>
<b>TRACTION POWER FAILURE WORK INSTRUCTION</b>	<b>Hitachi Rail Honolulu JV</b>

<b>Work description:</b> This work instruction describes the handling of Traction Power Failures		
<b>Scope:</b> This work instruction is written specifically for the OCC operating staff of Honolulu Rail Transit.		
<b>References:</b> HNL-09515 Access to the Emergency Walkway Work Instruction, HNL-09331 Train Evacuation Work Instruction, following HNL-09421 Contingency Plan (Alternate Service Plan) Work Instruction		
<b>PPE and precautions</b>	<b>Competencies or qualifications</b>	<b>Licenses or permits required</b>
Nil	Engineering & Fault Controller, OCC Supervisor, Train Controller, Information Controller, Train Operator, Station Operator	Nil
<b>Tools and equipment required</b>		
Nil		

<b>If the power failure is non-vehicle related, affecting only a localized power section,</b>	
<i>Engineering &amp; Fault Controller</i>	<p>You must:</p> <ol style="list-style-type: none"> <li>1) Report the incident to the OCC Supervisor and the Train Controller</li> <li>2) Make sure there is no abnormal indications on the traction power supply network (SCADA) then try closing The tripped circuit breakers</li> <li>3) If unsuccessful after 3 attempts: <ol style="list-style-type: none"> <li>a) Inform the maintainer to arrange a TPE engineer/technician to proceed to the scene (TPSS/GBS) to examine the TPE and estimate the recovery time needed</li> <li>b) Keep track of the inspection/repair progress</li> <li>c) Inform the OCC Supervisor and the Train Controller about the latest inspection/repair progress</li> </ol> </li> </ol>
<i>OCC Supervisor</i>	<p>You must:</p> <ol style="list-style-type: none"> <li>1) Instruct the Information Controller to make public broadcast announcements on service delays to trains and stations</li> <li>2) Instruct the Information Controller to monitor crowd conditions on affected platforms</li> <li>3) Follow the inspection/fault rectifying progress closely</li> <li>4) Depending on the operational circumstances if the estimated recovery time is not acceptable: <ol style="list-style-type: none"> <li>a) Instruct the Train Controller to dispatch Train Operators/Station Operators on the platforms/affected area to carry out train evacuation</li> <li>b) Instruct the Train Controller to implement alternative services following HNL-09421 Contingency Plan (Alternate Service Plan) Work Instruction on the unaffected sections if applicable</li> <li>c) Instruct the Information Controller to make public announcements on service delays to trains and stations</li> </ol> </li> <li>5) On confirmation from the Engineering &amp; Fault Controller on the recovery of TPE equipment, instruct the Train Controller to resume normal train service and instruct the Information Controller to make public announcements on service resumptions to trains and stations</li> <li>6) Log the event in the OCC Supervisor Daily Report</li> </ol>
<i>Train Controller</i>	<p>You must:</p> <ol style="list-style-type: none"> <li>1) Make sure trains moving towards the affected area are stopped at stations to prevent bunching up</li> <li>2) On instructions from the OCC Supervisor, make the affected area safe and dispatch Train Operators/Station Operators to reach the trains to carry out train evacuation</li> <li>3) On instructions from the OCC Supervisor, implement alternative services following HNL-09421 Contingency Plan (Alternate Service Plan) Work Instruction</li> <li>4) On instructions from the OCC Supervisor, resume normal train service</li> <li>5) Log the event in the Train Controller Log</li> </ol>

<b>Approved By:</b>	<input type="checkbox"/> Director, Operations and Maintenance	<input type="checkbox"/> Department Manager	<input type="checkbox"/> Manager, HSE (Operations and Maintenance)
<b>Signature:</b>			
<b>Date:</b>			

Document Code	HNL-09420 Traction Power Failure Work Instruction.01	Effective Date:	
File Name	HNL-09420.01.00-0-Traction Power Failure Work Instruction	Rev No. 01	Page 1 of 3

## TRACTION POWER FAILURE WORK INSTRUCTION

<i>Information Controller</i>	<p>You must:</p> <ol style="list-style-type: none"> <li>On instructions from the OCC Supervisor: <ol style="list-style-type: none"> <li>Make public broadcast announcements on service delays to trains and stations</li> <li>Make regular announcements to update trains and stations affected</li> <li>Monitor crowd conditions on affected platforms</li> <li>Make public announcements on resumption of normal train service to trains and stations</li> </ol> </li> <li>Log the event in the Information Controller Log</li> </ol>
<i>Train Operators / Station Operators</i>	<p>You must, on instructions from the Train Controller:</p> <ol style="list-style-type: none"> <li>Proceed to assist passenger detrainment at the platforms</li> <li>Follow the safe path to reach those trains stranded between stations and carry out train evacuation following: <ol style="list-style-type: none"> <li>HNL-09515 Access to the Emergency Walkway Work Instruction</li> <li>HNL-09331 Train Evacuation Work Instruction</li> </ol> </li> </ol>

**If the power failure is non-vehicle related, affecting the entire mainline (a system-wide traction power failure or loss of external power supply from HECO),**

<i>OCC Supervisor</i>	<p>You must:</p> <ol style="list-style-type: none"> <li>Suspend train service</li> <li>Instruct the Information Controller to make public broadcast announcements at stations due to temporary service suspension</li> <li>Authorize the Engineering and Fault Controller to switch to back-up power from the external generators</li> <li>Instruct the Train Controller to initiate evacuation of passengers from stranded trains</li> <li>Monitor the evacuation process until all passengers are evacuated safely to the stations</li> <li>Follow the power supply rectifying progress closely; on confirmation from the Engineering and Fault Controller on the full recovery of the traction power then authorize the Engineering and Fault Controller to switch back to external power from HECO and initiate service resumption</li> <li>Log the event in the OCC Supervisor Daily Report</li> </ol>
<i>Engineering and Fault Controller</i>	<p>You must:</p> <ol style="list-style-type: none"> <li>Call the single point of contact from HECO to confirm total external power loss</li> <li>Inform the maintainer (TPE) to carry out maintenance intervention and/or shutdown on non-essential power usage at stations if required</li> <li>On authorization from the OCC Supervisor, command the switch to external generator power supply</li> <li>Keep track of the power recovery/repair progress from HECO/maintainer and inform the OCC Supervisor on full recovery of the external power supply</li> <li>Log the event in the logbook</li> </ol>
<i>Train Controller</i>	<p>You must:</p> <ol style="list-style-type: none"> <li>Wait until all trains coasted to a stop, then apply emergency stops to prevent trains from moving suddenly when there is a restoration of power</li> <li>Identify stranded trains' locations and deploy Train Operators to the stranded trains</li> <li>Ensure each Train Operator a safe path to reach the stranded train</li> <li>Confirm with Engineering &amp; Fault Controller that the external generator power supply is switched ON</li> <li>Release the hold and authorize one train movement at a time for the Train Operator to drive the stranded train manually in BYPASS mode to the nearest station for passenger detrainment</li> <li>Repeat until all stranded trains are safely berthed at stations and all passengers are evacuated to the stations</li> <li>Ensure the Train Operators turn OFF the trains before exiting</li> <li>Log the event in the Train Controller Log</li> </ol>
<i>Information Controller</i>	<p>You must:</p> <ol style="list-style-type: none"> <li>On instructions from the OCC Supervisor: <ol style="list-style-type: none"> <li>Make public broadcast announcements on service suspension to trains and stations</li> <li>Make regular announcements to update passengers on stranded trains to wait for staff to come on board and then transport them to the next station</li> <li>Log the event in the Information Controller Log</li> </ol> </li> </ol>

<b>Work Instruction - Operations</b>	<b>HITACHI</b>
<b>TRACTION POWER FAILURE WORK INSTRUCTION</b>	<b>Hitachi Rail Honolulu JV</b>

<i>Train Operator</i>	<p>You must:</p> <ol style="list-style-type: none"> <li>1) On instructions from the Train Controller, get on board the train and assist in any way possible to evacuate passengers from the train berthed at station</li> <li>2) On instructions from the Train Controller, access the emergency walkway and get on board the train and operate the train in BYPASS mode to the nearest station followed by assisting passengers to evacuate from the train berthed at station; turn OFF the train before exiting</li> <li>3) Log the event in the Duty Event Form</li> </ol>
<i>Station Operator</i>	<p>You must:</p> <ol style="list-style-type: none"> <li>1) On instructions from the Train Controller, get on board the train and assist in any way possible to evacuate passengers from the train berthed at station</li> <li>2) Log the event in the Duty Event Form</li> </ol>

<b>If the power failure is caused by a defective vehicle/train,</b>	
<i>Train Controller</i>	<p>You must:</p> <ol style="list-style-type: none"> <li>1) Report the incident to the OCC Supervisor</li> <li>2) Inform the Engineering &amp; Fault Controller to arrange maintainers (rolling stock) on board for maintenance intervention</li> <li>3) Make sure trains moving towards the defective train are stopped at stations to prevent bunching up</li> <li>4) On completion of examination of the defective train by the maintainer, if the train power cannot be recovered within a short period of time, seek OCC Supervisor authorization to: <ol style="list-style-type: none"> <li>a) Implement alternative services following HNL-09421 Contingency Plan (Alternate Service Plan) Work Instruction</li> <li>b) Take the train off service following HNL-09329 Train Rescue by Means of Another Train Work Instruction – make sure the maintainer has retracted all the current collector shoes from the defective train</li> <li>c) Upon successful taking the defective train off service, resume normal train service</li> </ol> </li> <li>5) Log the event in the Train Controller Log</li> </ol>
<i>Information Controller</i>	<p>You must:</p> <ol style="list-style-type: none"> <li>1) On instructions from the OCC Supervisor: <ol style="list-style-type: none"> <li>a) Make public broadcast announcements on service delays to trains and stations</li> <li>b) Make regular announcements to update trains and stations affected</li> <li>c) Monitor crowd conditions on affected platforms</li> <li>d) Make public announcements on resumption of normal train service to trains and stations</li> </ol> </li> <li>2) Log the event in the Information Controller Log</li> </ol>
<i>Engineering &amp; Fault Controller</i>	<p>You must:</p> <ol style="list-style-type: none"> <li>1) On request from the Train Controller, inform the maintainer to arrange a rolling stock technician on board the Train to examine the train power failure and estimate the recovery time needed</li> <li>2) Keep track of the inspection/repair progress</li> <li>3) Inform the OCC Supervisor and the Train Controller about the latest inspection/repair progress</li> </ol>
<i>OCC Supervisor</i>	<p>You must:</p> <ol style="list-style-type: none"> <li>1) Instruct the Information Controller to make public broadcast announcements on service delays to trains and stations</li> <li>2) Instruct the Information Controller to monitor crowd conditions on affected platforms</li> <li>3) Follow the inspection/fault rectifying progress closely</li> <li>4) Depending on the operational circumstances, if the estimated recovery time is not acceptable, instruct the Train Controller to take the train off service by using a rescue train to the nearest siding</li> <li>5) Instruct the Information Controller to make public announcements on resumption of normal train service to trains and stations</li> <li>6) Log the event in the OCC Supervisor Daily Report</li> </ol>