

Code	Date	Location	Time
HHR-IIR-2021-01	13 April 2021	Crossover 5.	23:36 hours
Incident Classification: Failure in the signalling system		C7 Loss of detection of the position of all the turnouts of Crossover 5.	

Incident Overview	Personnel Involved		
	Person 1 Name	Armando Canlas	Job Function: Works Foreman on Site (COPASA)
	Person 2 Name	Kazim Ali	Job Function: Works Foreman In Charge (INABENSA)
	Person 3 Name	Manzoor Ahmad	Job Function: Works Foreman on Track (XRAIL). In charge of the incident site.
	Person 3 Name Person 4 Name	Fahad Almeteb David Pérez Vargas	Job Function: BOCC Telecom Operator Job Function: BOCC Maintenance Trainer
	Person 5 Name Person 6 Name	David Berna Elias José Pérez Carrasco	Job Function: BOCC Traffic Supervisor (22:00 to 6:00 shift) Job Function: BOCC Traffic Supervisor (06:00 to 14:00)
	Person 7 Name	Gustavo Prado Armayor	Job Function: Traffic Safety Coordinator Advised due to the procedure established in the SSTPC Notification C-6 (number of SPAD authorised)
The day 13 of April 2021, at 23:36 h turnouts in Crossover 5 fall in failure			

Actions and Timeline		
13.04.2021	23:36 h	CRC Traffic Supervisor (Mr Berna) opens an incident in the ICECOF system for loss of detection of the 4 turnouts of Crossover 5 (KP224+000)
13.04.2021	23:36 h	Telecom Operator (Mr Almeteb) opens incident nº 8196 with three works orders: 135854 (COPASA), 135855 (COBRA) and 135856 (SIEMENS) requesting the maintenance team to check and repair the failure in Crossover 5.
14.04.2021	00:10 h	First maintenance team (SIEMENS) arrives to Crossover 5. COPASA team arrives at 0:19 and COBRA team arrives at 0:47
14.04.2021	00:23 h	The Traffic Operator grants a TIBT to the WF on Site Mr Canlas by means of an additional message.
14.04.2021	00:50 h	TIBT re-established for WFIC Mr Canlas by means of an additional message, but the failure remains unsolved.
14.04.2021	01:00 h	The three maintenance teams (SIEMENS - 01:00, COPASA – 01:06, COBRA - 01:19) communicate by phone to Telecom Operator (Mr Almeteb) that under their scope of works is not failure, and they leave the location, but the failure in the turnouts continues as before.
14.04.2021	01:25 h	The failure in Crossover 5 continues. Mr David Pérez (Maintenance Trainer) goes to the Main Signalling Room, placed in a building next to the BOCC, to check with Siemens signalling staff on duty if the information displayed there is the same that in the CTC.
14.04.2021	01:40 h	It is confirmed by Mr David Pérez that the information of the Local Operation Control of the MSR displays the same information of the failure the CTC.
14.04.2021	02:05 h	Traffic Supervisor, Mr Berna, informs by mobile phone about the incident to Traffic Safety Department (Mr Gustavo Prado) because the SPAD authorisations exceed the threshold as per Notification CT 6. Mr. Prado asks Mr. Berna if the turnouts are secured, and he confirms that, according to SIEMENS, COBRA and COPASA WF's, the turnouts are out of service, de-energised and secured with clamps.
14.04.2021	02:07 h	Mr. Gustavo Prado authorises CRC to keep authorising the entry signal of Crossover 5 because they were de-energised, immobilised and secured with clamps.
14.04.2021	07:10 h	Traffic Supervisor, Mr Pérez, communicates by mobile phone to Mr. Prado that the failure continues without being fixed, the threshold of 10 authorisations has been reached, and there are two authorisations pending for the last commercial trains.
14.04.2021	07:12 h	Mr. Gustavo Prado authorises CRC to keep authorising the entry signal of Crossover 5 because they were de-energised, immobilised and secured with clamps.
14.04.2021	07:45 h	The Maintenance team issues new works orders to SIEMENS (135868), COPASA (135869) and COBRA (135870) to reconcile the known and identified the failure.

14.04.2021	08:58 h	After the commercial schedule (special services for Ramadan C-2) finishes, it is granted a BTM between KAEC and Madinah on both tracks, to investigate and reconcile the known and unidentified failure.
14.04.2021	10:07	The Works Foreman in Charge of the stretch KAEC to Madinah, Mr Kazim Ali, authorise the possession of the Crossover 5 to the WFOT, Mr Zain (COPASA).
14.04.2021	11:45	The WFOT, Mr Zain, returns the possession of the turnouts of CR5 to the WFIC, Mr Kazim Ali, with the failure unsolved.
14.04.2021	13:52	The Works Foreman in Charge, Mr Kazim Ali, authorise the works in the turnouts of the Crossover 5 to the WFOT, Mr Manzoor Ali (XRAIL).
14.04.2021	14:38	The WFOT, Mr Manzoor Ali, returns the possession of the turnouts of CR5 to the WFIC, Mr Kazim Ali, with the failure unsolved.
14.04.2021	14:51	The WFIC re-establishes the BTM between KAEC and Madinah with the failure in the Crossover 5 turnouts unsolved. The turnouts are in direct position, de-energized and clamped.

Evidence Examined

Data recording	Communications – Voice recording are being evaluated currently.
CTC Book of forms	The procedural messages transmitted are being evaluated.

Key Findings

KFIND1	The maintenance team (COPASA) confirms that the turnouts are set in direct position, mechanically locked and immobilised and secured by clamps.
KFIND2	The maintenance team (COBRA) confirms that the turnouts are de-energised.
KFIND3	Lack of responsibility and accountability of the companies in charge of the maintenance.

Actions Taken

ACT 01 – CRC Traffic	Informs Maintenance Telecom Operator about the failure of turnouts in Crossover 5 and open an incident file in the ICECOF.
ACT 02 -CRC Telecom	Opens the incidence in CMMS and requests the Maintenance teams to come to Crossover 5 to solve the incident.
ACT 03 – CRC Traffic	Requests check of the affected turnouts by maintenance team before authorising SPAD.

ACT 04- Safety Dept.	Assesses the situation of Crossover 5, and once confirmed that the turnouts were secured in direct position, authorises CRC to continue authorising the pass of the entry signals of Crossover 5.
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Recommendations

REC1 - SSTPC	The communications from the BOCC must be done using the HHR fixed network.
REC2 - SSTPC	The SSTPC Maintenance team must regularly check the progress of the incident's resolution until they are completely resolved.
REC3 - SSTPC	An inquiry must be established to clearly identify those failures which can be immediately attributable to the 3 different Partner Sub-contractors
REC4 - SSTPC	One identified Partner sub-contractor should be assigned sole responsibility to investigate and 'close out' the failure to the complete satisfaction of the Infrastructure Maintenance Manager