	Preliminary Post Incident Inspection
	Incident: *SPAD at signal MW826 at Mallow station on the 16th of May 2014*

Incident Background

On Friday 16th May 2014 train A302, the 08:55hrs passenger service from Cork to Tralee, passed signal MW826 at danger without authority. IÉ-RU produced an Operational Occurrence Report (OOR) titled '140516-RU01_Mallow_SPAD at MW826_OOR_Issue 1 Live', issued on 26th of September 2014.

Following receipt and review of the IÉ-RU OOR the RSC had questions relating to the SPAD Risk Ranking. This prompted the commencement of a Preliminary PII.

Summary of action/s undertaken;

The following activities were carried out by the RSC;
- ⊙ A request for information (RFI) was issued to IÉ-RU
- ⊙ Upon receipt of requested information the following was undertaken;
  - o Reviewed all Standards/Procedures relating to SPAD risk ranking
  - o Reviewed IÉ-RU guidance Documents/Procedures showing the detailed workings/tables used in calculating the SPAD risk ranking value
  - o Reviewed the OOR incident titled '140516-RU01_Mallow_SPAD at MW826_OOR_Issue 1 Live'
  - o Reviewed the SAU SPAD Management report issued in 2012
  - o Sought records of SPAD risk ranking training courses completed by persons involved
  - o Reviewed samples of workings from recent SPADs occurrences
  - o RSC met IÉ-RU Chief DTE and IÉ-RU Safety Compliance Manager in Inchicore on 2nd December 2014 to discuss the SPAD risk ranking process as used by IÉ-RU
  - o RSC has been in regular communication by email with the CTE (Chief Traction Executive) in 2015.

Inspector Recommendation

Based on the information obtained and reviewed a full PII is not warranted, however, there are a number of findings with associated outcomes, which are presented below.

Findings & Outcomes

The SPAD risk ranking scoring as used by IÉ-RU is performed using the SPAD Risk Ranking Tool (SRRT) software in conjunction with the supporting SPAD Risk Ranking Methodology handbook. The SRRT is a piece of software designed by the RSSB (Railway Safety Standards Board) that has seen some minor adaptions to suit IÉ-RU requirements e.g. Fleet Crashworthiness scores.

The SRRT is used to quantify the SPAD Risk, post-incident, and outputs a numeric score from 0 to 28, (low risk to high risk) with 28 being a major accident with high number of fatalities.

IÉ-RU's report '140516-RU01_Mallow_SPAD at MW826_OOR_Issue 1 Live' in clause 1.8 'SPAD Risk Ranking', produced a score of 16 for this incident. The SPAD risk ranking score is calculated using the SRRT software in conjunction with the 'IÉ SPAD Risk Ranking Methodology Handbook, Version 1 October 2008 – Draft'.

Finding: IÉ-RU are using the 'IÉ SPAD Risk Ranking Methodology Handbook, Version 1 October 2008' which is still in a draft version since 2008.

Outcome:

02/15-PII-AR 1: IÉ-RU should finalise the document so that 'IÉ's SPAD Risk Ranking Methodology Handbook, Version 1 October 2008' is not being utilised in a draft version.
PCD: 3 months

In 'IÉ's SPAD Risk Ranking Methodology Handbook, Version 1 October 2008 – Draft' clause 3.2, it states,

> *"The methodology should only be used by individuals of the SPAD Investigation Team who have successfully completed the one-day training course 'SPAD Risk Ranking Training Course' and have experience in the SPAD Investigation process."*

Finding: The Chief Traction Executive (CTE) is the only person identified as being responsible for undertaking the Risk Ranking of SPAD's as stated in OPS-SMS-2.0 clause 5.2. Additionally, the CTE must ensure SPADs are analysed and assessed as stated in OPS-SMS-1.0 clause 4.8.1.12.

No other IÉ-RU[1] employee is identified as being capable of ranking the risk of a SPAD occurrence. RSC Inspectors were advised that 2-3 individuals are familiar with the SRRT, however, a risk exists that should the CTE be unavailable, a SPAD risk ranking exercise could be delayed.

No evidence was provided by IÉ-RU of any person completing the '*SPAD Risk Ranking Training Course'* in accordance with IÉ SPAD Risk Ranking Methodology Handbook in clause 3.2. Given these facts the following outcome is made.

Outcome:

> **02/15-PII-AR 2:** IÉ-RU should identify and arrange training for a sufficient number of persons in the use of the SRRT (SPAD Risk Ranking Tool) software, in accordance with clause 3.2 of the IÉ SPAD Risk Ranking Methodology Handbook.
> **PCD:** 3 months

The SPAD risk ranking methodology has been in place for several years, but to date, it is understood that, there has been no review of any SPAD risk ranking scoring using the SRRT. By introducing an internal peer review process this would ensure consistency of approach and demonstrate good practice. However, given that no-one other than the CTE is able to use the SRRT software, independent challenge would appear to be limited. Thus, as there is only one user of the SRRT who completes the SPAD Risk Ranking currently, an external source would be required to review this process.

Finding: No evidence was provided to demonstrate that a peer review of the SPAD risk ranking scoring using the SRRT tool is completed by IÉ-RU or by an external reviewer.

Outcome:

> **02/15-PII-AR 3:** IÉ-RU should source the services of an external reviewer, e.g., company/consultant or other Railway Organisation with which IÉ-RU has ties, to undertake a review of a sample number the SPAD Risk Ranking scores on an ongoing basis. Such a review would give confidence that the SPAD handbook and the principles contained therein are being applied correctly in conjunction with the SRRT.
> **PCD:** 3 months

As part of the RSC's PII it is understood that, the RSSB (Railway Safety & Standards Board) who developed the SRRT software, have developed a new tool called SORAT (Signal Overrun Risk Assessment Tool) to further understand the risk of SPAD's. IÉ-RU might consider contacting the RSSB, to explore further this new technique and to review the current SRRT being used, remains fit for purpose.

IÉ-RU might consider its role in SPAD Risk calculation and whether this activity is best undertaken by the IÉ-IM. This is particularly true in cases where the CTE is calculating a SPAD Risk Ranking for another RU, as this could lead to issues leading to data protection.
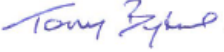
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[1] This particular SPAD occurrence was as a result of a Train Driver error and therefore Outcomes are directed to IÉ-RU, however, IÉ-IM might consider Outcome relevance to their own operations.