

NRA Interim Advice Note 07/13

**Monitoring Phase Procedures for
Permanent Repair Material Systems**

October 2013

Summary:

This NRA Interim Advice Note 07/13 (NRA IAN 07/13) sets out sets out the procedures for the monitoring of Permanent Repair Material Systems which are installed in accordance with NRA IAN 08/13.

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Monitoring Phase Procedures for Permanent
Repair Material Systems**

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1. INTRODUCTION

General

- 1.1 This document provides the procedures for the monitoring of Permanent Repair Material Systems (PRMS) which comply with the requirements of NRA IAN 06/13 Procedures for Use of Permanent Repair Material Systems on National Roads, and are installed in accordance with NRA IAN 08/13 Specification and Notes for Guidance on the Use of Permanent Repair Materials.
- 1.2 The procedures outlined in this document and indicated by the flowchart in Appendix A shall be followed for a one year period after the repair area is opened to traffic. This period shall be referred to as the 'Monitoring Period'.
- 1.3 The system installer shall monitor the performance, materials and workmanship of the PRMS for the Monitoring Period from the date of opening the repair area to traffic.

Implementation

- 1.4 NRA IAN 07/13 should be used forthwith, as directed by the NRA, for the monitoring of PRMSs in National Roads that comply with the requirements of NRA IAN 06/13, and are installed in accordance with NRA IAN 08/13.

2. ROAD TYPE CATEGORY

General

- 2.1 The monitoring of the repair area shall take note of the road type category in which the Works, carried out in accordance with NRA IAN 08/13, have been completed. The relevant road type category shall be recorded based on Table 9/42 of NRA IAN 08/13.

3. INITIAL MONITORING

General

- 3.1 During the first seven days of the Monitoring Period, visual checks shall be carried out daily by the system installer and Employer's Representative on the repair area by the system installer to record any defects, specifically debonding or delamination of the PRMS from the existing surface. Suitability of the PRMS at this stage shall be confirmed if no defects are noted. At the end of this seven day period a record sheet shall be completed confirming suitability of the PRMS and a copy forwarded to the Employer's Representative within three working days. Refer to sample record sheet included in Appendix B.

4. ON-GOING MONITORING

General

- 4.1 After the initial seven day period, further monitoring of the PRMS shall be undertaken by the system installer and the Employer's Representative at intervals of 1 month, 3 months, 6 months and 12 months after opening to traffic. The system installer shall give 7 days' notice to the Employer's Representative of all inspections. Approval of the PRMS after each inspection shall be confirmed if no defects are noted. After each inspection a record sheet shall be completed confirming suitability of the PRMS and a copy forwarded to the Employer's Representative within three working days. Refer to sample record sheet included in Appendix C.
- 4.2 During the Monitoring Period, the Employer's Representative shall undertake their own separate inspections of the PRMS as deemed necessary.

5. SYSTEM FAILURE AND REMEDIATION

General

- 5.1 After each visual inspection, where the repair area contains no defects, the performance of the PRMS shall be deemed as suitable. The location and extent of any defects such as ravelling, bleeding, rutting, bulging, surface cracking and edge breakup or edge cracking of the repair area shall be noted. The repair area shall be deemed as unsuitable if any such defects are noted.
- 5.2 Any defects on existing material adjacent to the repair area shall not be used to influence monitoring of the PRMS. Furthermore defects noted during monitoring of the PRMS surface arising from obvious oil spill, fire or vehicle collisions shall not be deemed as a defect with which the product manufacturer/system installer has responsibility for rectifying.
- 5.3 Should the performance of the PRMS be deemed as unsuitable by the system installer and Employer's Representative in accordance with the requirements of paragraph 5.1 during the Monitoring Period, the product manufacturer and/or system installer shall be obliged to replace the repair area in accordance with sub-clause 702.10 of the NRA Specification for Road Works. This shall be deemed as a PRMS failure.
- 5.4 In the event of the system failing, the system installer shall notify the Employer's Representative immediately of same.
- 5.5 Should the performance of the PRMS be deemed unsuitable in accordance with the requirements of paragraph 5.1 during the Monitoring Period, further use of the PRMS shall not be permitted on the road category of the National Roads network where the failure occurred or any higher categories. If subsequently proposed for use on a road category which is lower than where the previous failure occurred, the PRMS will be required to fully comply with NRA IAN 08/13. The road type category shall be defined in accordance with Table 9/42 of NRA IAN 08/13.

6. COMPLETION OF MONITORING

General

- 6.1 In accordance with NRA IAN 08/13, after one year in service a final visual assessment shall be undertaken by the product manufacturer/system installer and the Employer's Representative.
- 6.2 In accordance with NRA IAN 08/13, and specifically sub—Clauses 946.39 and 946.40, if no defects are noted this inspection shall confirm that the Permanent Repair Material System is suitable for further use on the same National Route road type category upon which the assessed repair was installed. The road type category shall be defined in accordance with Table 9/42 of NRA IAN 08/13. If the PRMS is deemed to be suitable, it will also be deemed suitable for use on lower road type categories.
- 6.3 Should the PRMS be deemed suitable in accordance with sub-clause 946.41 of NRA IAN 08/13, any further repairs on the same or lower road type category shall not be required to undergo the requirements of NRA IAN 07/13. However the system shall continue to meet the testing and workmanship requirements of NRA IAN 08/13.

7. RECORD KEEPING

General

- 7.1 Records of all inspections undertaken shall be kept in a format similar to that shown in Appendices B and C.

- 7.2 Copies of all documentation relating to the PRMS shall be supplied to the Employer's Representative at the following intervals: after each monitoring inspection, after completion of monitoring and (if required) after completion of remedial works. Records submitted shall include details of failures recorded, materials used, layer thicknesses and compaction methods.

8. REFERENCES

8.1 National Roads Authority Publications:

NRA Manual for Contract Documents for Road Works (NRA MCDRW), generally and specifically:

- NRA MCDRW Volume 1, NRA Specification for Road Works (NRA SRW) – Series 700, Clause 702

NRA IAN 06/13 Procedures for Use of Permanent Repair Material Systems on National Roads

NRA IAN 08/13 Specification and Notes for Guidance on the Use of Permanent Repair Materials

9. ENQUIRIES

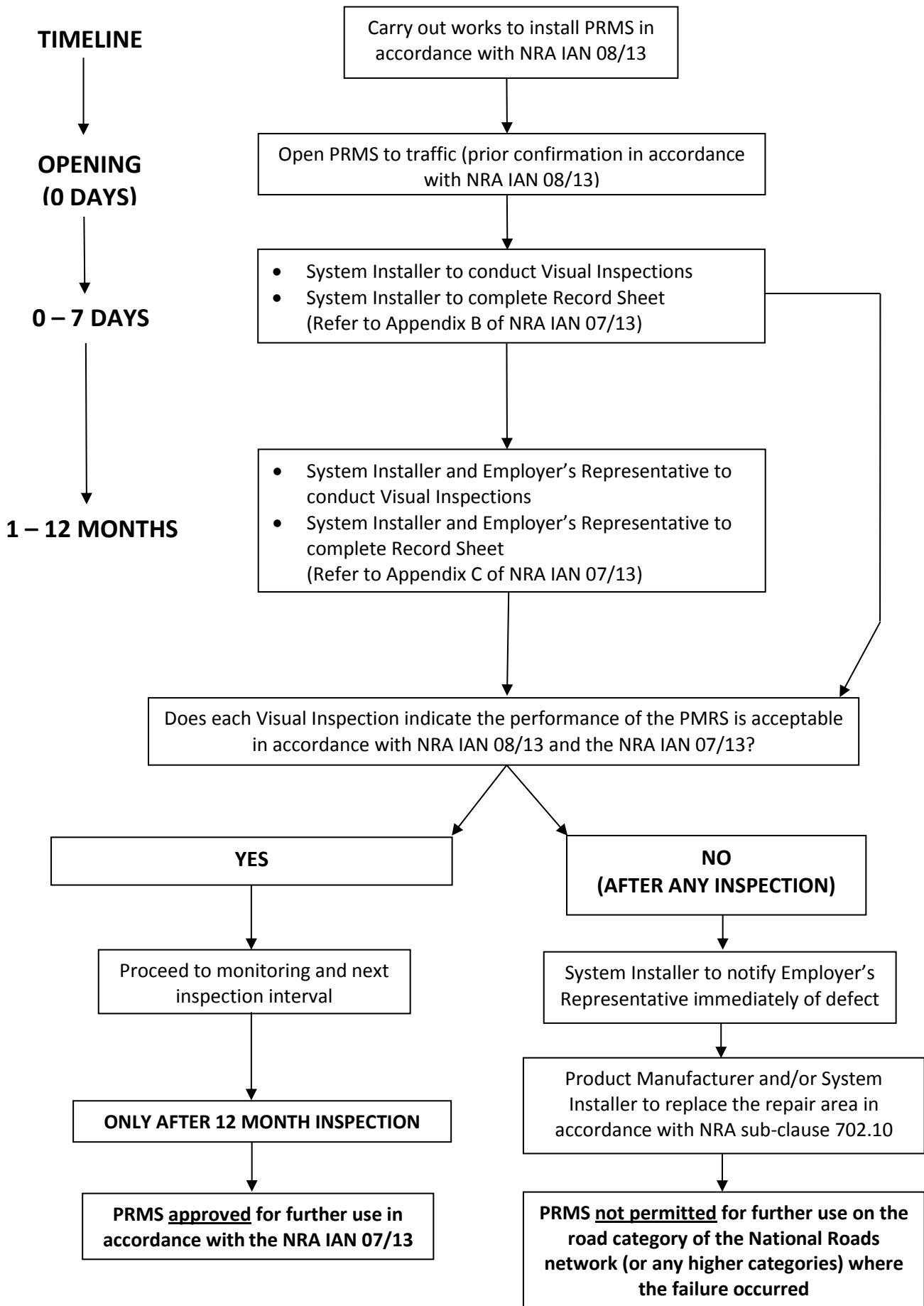
- 9.1 All technical enquiries or comments on this document, or any of the documents listed as forming part of the NRA DMRB, should be sent by e-mail to infoDMRB@nra.ie, addressed to the following:

Head of Network Management, Engineering Standards & Research
National Roads Authority
St Martin's House
Waterloo Road
Dublin 4



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Pat Maher
Head of Network Management,
Engineering Standards & Research

APPENDIX A: EXAMPLE APPROACH FOR MONITORING PHASE PROCEDURES FOR PERMANENT REPAIR MATERIAL SYSTEMS



APPENDIX B: SAMPLE RECORD FORM FOR INITIAL MONITORING INSPECTIONS OF PERMANENT REPAIR MATERIAL SYSTEMS

Permanent Repair Material Systems – Monitoring in accordance with NRA IAN 08/13			
Relevant Parties			
Authority Details		Installer Details	
Authority/Employer:		Installer:	
Employer's Representative:		Installer's Representative:	
Title:		Title:	
Permanent Repair System Details			
Location (Address):			
Road Reference:		Road Type Category (as per Table 9/42):	
Repair Size:			
Location of repair in the carriageway (traffic lane, hard shoulder, etc.):			
Date of Opening to Traffic:			
Permanent Repair Material Description			
PRM System (PRM / LRS):		Total Thickness:	mm
Product Manufacturer (if applicable):			
Monitoring Inspection (to be carried out at intervals required in NRA IAN 07/13)			
Time elapsed since opening to traffic: 7 days			
Authority and Installer Confirmation - Defects Recorded: <input type="checkbox"/> Yes <input type="checkbox"/> No			
Defects recorded (if applicable): _____			
<p>If DEFECTS RECORDED: PRMS shall not be permitted for further use on the road category of the National Roads network (or any higher categories) where the failure occurred. Any defects shall be rectified in accordance with NRA IAN 08/13.</p>			
<p>If NO DEFECTS RECORDED: We hereby confirm that the PRMS installed is performing in accordance with the requirements of NRA IAN 08/13 and NRA IAN 07/13.</p>			
We hereby confirm that the PRMS has been inspected regularly since the repair area has been opened to traffic.			
Authority Confirmation: <input type="checkbox"/>		Installer Confirmation: <input type="checkbox"/>	
Authority/Employer:		Installer:	
Employer's Rep.:		Installer's Rep.:	
Title:		Title:	
Date:		Date:	

APPENDIX C: SAMPLE RECORD FORM FOR ON- GOING MONITORING INSPECTIONS OF PERMANENT REPAIR MATERIAL SYSTEMS

Permanent Repair Material Systems – Monitoring in accordance with NRA IAN 08/13			
Relevant Parties			
Authority Details		Installer Details	
Authority/Employer:		Installer:	
Employer's Representative:		Installer's Representative:	
Title:		Title:	
Permanent Repair System Details			
Location (Address):			
Road Reference:		Road Type Category (as per Table 9/42):	
Repair Size:			
Location of repair in the carriageway (traffic lane, hard shoulder, etc.):			
Date of Opening to Traffic:			
Permanent Repair Material Description			
PRM System (PRM / LRS):		Total Thickness:	mm
Product Manufacturer (if applicable):			
Monitoring Inspection (to be carried out at intervals required in NRA IAN 07/13)			
Time elapsed since opening to traffic (tick as appropriate): <input type="checkbox"/> 1 month <input type="checkbox"/> 3 months <input type="checkbox"/> 6 months <input type="checkbox"/> 12 months			
Authority and Installer Confirmation - Defects Recorded: <input type="checkbox"/> Yes <input type="checkbox"/> No			
Defects recorded (if applicable): _____			
<p>If DEFECTS RECORDED: PRMS shall not be permitted for further use on the road category of the National Roads network (or any higher categories) where the failure occurred. Any defects shall be rectified in accordance with NRA IAN 08/13.</p>			
<p>If NO DEFECTS RECORDED: We hereby confirm that the PRMS installed is performing in accordance with the requirements of NRA IAN 08/13 and NRA IAN 07/13.</p>			
Authority Confirmation: <input type="checkbox"/>		Installer Confirmation: <input type="checkbox"/>	
Authority/Employer:		Installer:	
Employer's Rep.:		Installer's Rep.:	
Title:		Title:	
Date:		Date:	