



Delay Attribution Board
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Performance Data

Accuracy Code

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PERFORMANCE DATA ACCURACY CODE

Explanatory Note

This Explanatory note does not form part of this Code.

Part B of the Network Code requires Network Rail to operate a system for monitoring train performance and which, amongst other things, must accurately record the times at which trains arrive at, depart from or pass Recording Points, along with the difference between those times and the corresponding times published in the Working Timetable. The Performance Data Accuracy Code governs the interpretation of the phrase accurately record in that context. It also provides a mechanism for agreeing and notifying changes in standards, including the characteristics of Recording Points.

1 Definitions

1.1 In this Code, the following definitions apply except where the context requires a different meaning:-

"Accounting Period"	means one of Network Rail's 13 annual accounting periods;
"Automatic Point"	means a Recording Point which is not a Manual Point;
"Berthing Offset"	means, when a Timing is made at a location which is not itself the Recording Point, a quantity of time (in seconds), as an average across all services at that Recording Point, added to or deducted from the Timing as an adjustment to convert it to the time value added to or deducted from the Timing as an adjustment to convert it to the time value to be used in the corresponding Recording;
"Manual Point"	means a Recording Point at which timing is performed by a human agent;
"Margin Book"	means a collection of the characteristics of the Recording Points relevant to a particular Track Access Contract, as described in section 5;
"Monitoring Point"	means a Recording Point used to record the lateness of trains under the relevant Track Access Contract performance regime and which is described as a "monitoring point" in the Margin Book;

"Performance Monitoring"	means Network Rail's operation of the Performance Monitoring System;
"Recording"	(as a noun) means time data posted into TRUST or otherwise noted as the time at which a train arrives at, departs from or passes a Recording Point, as required by Part B of the Network Code;
"Recording Point"	means a point at which Network Rail measures and records time data of trains during Performance Monitoring;
"Systems Code"	means the document entitled the Code of Practice for the Management and Development of Railway Code Systems, required by the Network Rail's Network Licence;
"this Code"	means this Performance Data Accuracy Code, including its appendices;
"Time from NPL"	means time transmitted by the Anthorn VLF transmitter which serves as the United Kingdom's national time reference and which was formally known as Rugby Clock Time;
"Timing"	means (as a verb) reading a clock or (as a noun) the time read from a clock, in each case, whether the reading is made by a human agent or by automatic means; and
"Triggering Point"	means a location at which a train movement is physically detected at the start of the process of making a Timing at an Automatic Point;

1.2 This Code is incorporated into, and forms part of, the Network Code. Where the context admits, words and expressions defined in the Network Code, and the rules of interpretation set out in Network Code Condition A1.1, apply throughout this Code and references to the Network Code in such words, expressions and rules shall, in this document, be construed as references to this Code.

2 Aims

2.1 The aims of this Code are:-

- (a) to define the standards of measurements and Recording required for the Performance Monitoring System; and
- (b) to provide a process for managing the changes consequent on alterations in measurement and recording.

3 Effects of the Code

- 3.1 This Code has no effect on:-
- (a) any safety-related obligations of any person; or
 - (b) any rights or obligations of Access Parties relating to data which are incorrect in a sense not contemplated in this Code (for example, in relation to the Recording of the cause of train delays and cancellations) or to have regard to other data where alternative evidence as to actual train performance is available.
- 3.2 Nothing in this Code entitles:-
- (a) any Access Party to abridge any process required under any Track Access Contract to implement any change;
 - (b) any person to abridge any process required under the Systems Code; or
 - (c) Network Rail to make any charge for any train movement to the extent that it has not in fact occurred.
- 3.3 In connection with any Track Access Contract, a Recording at a Recording Point which is based on a Timing (as opposed to recreated data) is accurate if:
- (a) it is made in an Accounting Period during which Network Rail achieves at that Recording Point the standards set out in this Code and the relevant Margin Book;
 - (b) in the case of an Automatic Point:-
 - (i) the automatic equipment is either of the same characteristics as was used at the Automatic Point on 31 March 1996, or is automatic equipment having a shorter response time (that is, a shorter delay between the first moment of the physical detection of a train movement and the making of the corresponding Timing, before the application of any Berthing Offset); and
 - (ii) a Berthing Offset (of magnitude set out in the Margin Book in respect of that Recording Point) is added to each Timing to convert it to the corresponding Recording.
- 3.4 If Network Rail omits or becomes aware that it is likely to omit to make a Timing of an event for a Recording, it must notify each affected Access Beneficiary as soon as it reasonably can. In respect of any day on which Network Rail gives such notice:-
- (a) each affected Access Beneficiary must as soon as it reasonably can supply in good faith all information available to that Access Beneficiary which is relevant to that Timing omitted on that day. Network Rail must use all appropriate information provided by the Access Beneficiary in creating a Recording related to the omitted Timing. Network Rail may disregard information provided by the Access Beneficiary if and to the extent that it is reasonable to do so owing to manifest error, failure of the Access Beneficiary to act in good faith or demonstrable bias; and
 - (b) if, having made use of appropriate information supplied by Access Beneficiaries, Network Rail still has omitted Recordings then Network Rail may use an appropriate procedure to interpolate or otherwise create Timings and related Recordings.
- 3.5 Recordings created under paragraph 3.4 must be agreed with the affected Access Beneficiary. If and to the extent that they are not agreed, then (subject to the provisions of the relevant Access Contract) either party may refer the failure to agree as a dispute for

resolution under section 10. Recordings agreed with the affected Access Beneficiary (or which are determined in accordance with such dispute resolution) are deemed accurate.

- 3.6 Recordings omitted in good faith which have not been created are nonetheless deemed accurate provided that Network Rail achieves the data completeness standard set out in the Access Beneficiary's Margin Book for the Recording Point in the relevant Accounting Period or on that day or otherwise applying under Appendix A, as the case may be.
- 3.7 Recordings at any Recording Point which are accurate in accordance with paragraphs 3.3, 3.4, or 3.6, when Network Rail has observed the obligation of good faith (see section 11) and except in the case of manifest error, constitute a sufficient discharge of all obligations on Network Rail under the Track Access Contract with respect to them, and none of those Recordings may be challenged.
- 3.8 If Recordings at a Recording Point are not accurate in accordance with paragraphs 3.3, 3.4, or, 3.6, or are manifestly in error or if Network Rail has not observed the obligation of good faith in relation to those Recordings, then Network Rail is at fault and those Recordings may be challenged. If agreement to correct such errors is not reached within 28 days, any affected party or parties may refer the matter as a dispute for resolution under section 9.
- 3.9 Recordings are presumed to be accurate unless:-
- (a) they are shown not to be; or
 - (b) in respect of Recordings at a particular Recording Point or a group or class of Recording Points, a review of standards achieved in the Performance Monitoring System carried out in accordance with the terms of section 7 throws doubt on the accuracy (in accordance with its meaning in the Code) of Recording there.

4 Characteristics of Recording Points and Other Standards

- 4.1 The Characteristics of a Recording Point include:-
- (a) its location;
 - (b) the category applicable to the Recording Point for the purposes of Appendix A;
 - (c) the technology employed to make Recordings at the Recording Point;
 - (d) any Berthing Offsets.
- 4.2 Appendix A sets out the data completeness standard which applies under this Code. Part A relates to the completeness standard which applies in respect of any Recording Points which are subject to a common mode failure. Part B relates to the standard which applies otherwise than in respect of common mode failures. The particular category of standard which Network Rail is required to meet at a particular Recording Point for a particular Track Access Contract under Part B is set out in the Margin Book related to that Access Contract.
- 4.3 Appendix B sets out the timing standard that applies under this Code. The category of timing standard for a Recording Point is determined by the technology usually employed for making Recordings there. Appendix B also sets out the Recording technologies allocates each to a category, and states the standard of timing that Network Rail is required to meet in that category.
- 4.4 For example, if a Manual Point is automated then the timing precision category at that point becomes blue. An Automatic Point that fails temporarily is still "usually" monitored automatically and its category does not change. An Automatic Point will not ordinarily be converted to a Manual Point on a permanent basis, but if it is, then Part G of the Network Code applies (see paragraph 6.1).

- 4.5 Network Rail must on request supply to any Access Beneficiary a statement of the characteristics of any Recording Point relevant to that Access Beneficiary, or of changes to those characteristics, within a reasonable time and on payment of its reasonable charges.

5 Margin Books

- 5.1 For each Track Access Contract, Network Rail must compile a Margin Book setting out the characteristics of each Recording Point relevant to that Access Contract. For each Recording Point, Network Rail must state in the Margin Book whether it is a Monitoring Point for the purposes of Appendix A and what category of data completeness standards applies. Network Rail must supply a copy of the Margin Book to the relevant Access Beneficiary without charge at the commencement of the Track Access Contract.

- 5.2 Network Rail and the Access Beneficiary must seek to agree the Margin Book and any changes made to it from time to time. If and to the extent that they do not agree within 28 days from the date of the Access Beneficiary being supplied with a copy of the first Margin Book under paragraph 5.1 or a revised Margin Book under paragraph 5.3 then either party may refer the failure to agree as a dispute for resolution under section 9. Agreement of the Margin Book specifically signifies that the relevant Access Parties are content that:-

- (a) the Margin Book covers all the Recording Points appropriate to the Track Access Contract;
- (b) the Recording Points are correctly described as being, or as not being, Monitoring Points;
- (c) the data completeness categories to which the Recording Points are allocated are appropriate having regard to the circumstances at that time; and
- (d) the Margin Book contains no gross or obvious errors.

- 5.3 Notwithstanding any agreement of the Margin Book, either party may at any time notify the other of:-

- (a) an error in the Margin Book;
- (b) any Recording Point becoming or ceasing to be a Monitoring Point; or
- (c) any different data completeness category becoming applicable

and request that the Margin Book be amended.

In the event that agreement to amend the Margin Book cannot be reached within 28 days of the notification, the matter may be referred as a dispute for resolution under section 9.

If agreement to amend the Margin Book is reached or it is determined by dispute resolution that the Margin Book should be amended, then Network Rail must amend the Margin Book appropriately within 28 days of agreement or the determination of the dispute process. The amendments will take effect from the time at which the error or requirement for change was notified.

- 5.4 The minimum category of data completeness standard to which each Recording Point in a Margin Book must be allocated is determined as follows:-

- (a) If the Recording Point is not a Monitoring Point, the category is Silver.
- (b) Monitoring Points should be distributed across the three categories, Silver, Gold and Super Gold, having regard to:
 - (i) the relative significance of the financial effect of biased missing data at that Monitoring Point in the performance regime;

- (ii) the practicability of achieving the completeness with the recording technology at the Recording Point, including the cost and practicability of upgrading the technology; and
- (iii) any other importance of the Monitoring Point, for example, in connection with any obligation to a PTE.

If there are many Monitoring Points (for example, 20 or more), a fair distribution might be achieved by estimating the financial effect of biased missing data at each point, and assigning those with the largest individual financial effects which together contribute one-third of the total financial effects as Super Gold, the next one-third as Gold and the remainder as Silver. If there are few Monitoring Points, then the proportion in higher categories may be greater.

- c) Any Recording Point which is described as a Charter Destination Point in the Track Access Contract must be placed in at least the Gold category even if paragraph 5.4 (b) otherwise suggests the Silver category.

5.5 If the characteristics of any Recording Point change, Network Rail must update each Margin Book and provide revisions or supplements to the relevant Access Party. Before making any change to the characteristics of the Recording Point, Network Rail must notify each affected Access Beneficiary.

6 Changes to Characteristics of Recording Points

6.1 Any change to a lower category of timing standard applicable to a Recording Point is a material change to the operation of the Network for the purposes of Part G of the Network Code.

6.2 If a change to characteristics of a Recording Point comprises:-

- (a) a change of category in Table A or Table B;
- (b) a change in the requirements of a standard;
- (c) a change in the magnitude of Berthing Offset; or
- (d) a change within TRUST or any other part of the Performance Monitoring System of the units in which time Recordings are held,

and there are reasonable grounds for believing there to be a financial impact on a Performance Regime in a Track Access Contract, then the potentially affected Access Party shall be entitled to notify the other that it wishes to negotiate with a view to neutralising that financial impact. Notification may take place at any time but any financial impact that may have occurred before the start of the Accounting Period in which the notification is given will stand without neutralisation (unless the parties agree otherwise). If the parties do not within 28 days after notification reach agreement on the need to neutralise a financial effect or how to neutralise it, then either party may refer the dispute for resolution under section 9.

So, if a SMART box is introduced to replace manual Recording at a Recording Point, then the category for the timing precision standard will change from, orange to blue. If computations in accordance with the performance regime will show a different compensation payment when Recordings of the higher precision expected from SMART box is used (all other things being equal), then that is a financial effect and Network Rail or the Access Beneficiary may require negotiation on neutralising it. Typically, adjustments will need to be made to the performance regime itself, but it is open to the parties to agree any other mechanism with a view to achieving that effect.

- 6.3 If a change is not such as described in paragraph 6.3 then neither Access Party has a right under this Code to require negotiation to neutralise a financial effect.
- For example, if the means of Recording at a particular Recording Point is manual Recording, and a change of personnel leads to an improvement in the precision of timing there, but it continues to be done manually, then no-one has a right to require negotiation to neutralise the financial effect, even if the more precise timings give rise to higher or lower compensation payments under a performance regime.
- 6.4 Once agreement is reached on a way to neutralise the financial effect of a change, or a decision is reached through dispute resolution, it is binding on the parties. One party alone cannot demand further negotiation on neutralisation, but it may take place if the relevant other Access Party agrees.
- 6.5 If the agreement or decision described in paragraph 6.4 requires or is equivalent to an amendment to a Track Access Contract, such an amendment may take effect only in accordance with the process for amending Access Contracts as published by the ORR. A proposed amendment cannot be implemented until ORR's approval has been obtained.
- 6.6 Parties to each Track Access Contract must seek to limit negotiations to neutralise financial effects to not more than 2 in any one year; but there may be more if changes to Recording technology occur more frequently or other circumstances require it. Parties must try to identify likely financial effects during consultation on the annual proposals for improving standards.

7 Review of Standards in the Performance Monitoring System

- 7.1 Refer to Appendix C for graphical representation of the berthing offset change process. Refer to Appendix D for the template Recording Point Change Request (RPCR) Form Parts A&B.
- 7.2 An Access Beneficiary may, at any time, request Network Rail to examine and where necessary propose a change to a Berthing Offset at a Recording Point, provided that there are reasonable grounds for such a request. Network Rail must give fair consideration to such a request and any consequent examination of a Berthing Offset must take place within 28 days of receipt of the request unless exceptional circumstances dictate otherwise. If Network Rail declines to consider any request under this paragraph or the timescale for examination of a Berthing Offset cannot be agreed, the relevant Access Beneficiary may refer the matter for resolution under section 10.
- 7.3 Network Rail may propose a change to a Berthing Offset at a Recording Point at any time, provided that there are reasonable grounds for such a proposal.
- 7.4 Where a change to a Berthing Offset at a Recording Point is proposed under paragraphs 7.2 or 7.3, Network Rail shall notify each affected Access Beneficiary of that proposed change
- 7.5 Each affected Access Beneficiary must respond to a notice issued by Network Rail under paragraph 7.4, within 28 days. Any Access Beneficiary that does not respond within 28 days will be deemed to have accepted the contents of such a notice.
- 7.6 Where the Recording Point in question is not a Monitoring Point in the Track Access Contract of any affected Access Beneficiary, the following shall apply:-

- (a) Where there is unanimous agreement, or agreement from a sufficient number of affected Access Beneficiaries to represent a majority of services at that Recording Point, Network Rail shall be entitled to make the alterations; or
- (b) Where there is unanimous disagreement, or the level of agreement fails to meet the requirements of paragraph 7.6(a), Network Rail shall not be entitled to make the alterations.

7.7 Within 7 days following the deadline for the receipt of responses, Network Rail shall, having taken due notice of such responses; issue a notice of the decision to each affected Access Beneficiary.

7.8 Within 14 days following receipt of such a notice, any affected Access Beneficiary that does not agree with its contents may refer the matter for resolution under section 10.

8 Review of Standards in the Performance Monitoring System

8.1 Network Rail must at least once in each year review the standards of measurement and Recording achieved in the Performance Monitoring System. Network Rail must aim to carry out the review at about the same time each year. In formulating the terms for the review, Network Rail should give adequate consideration to the materiality of data to each individual affected Access Party.

8.2 Following the review, Network Rail must publish to the Delay Attribution Board a report of its review and any proposals it may have for improving standards in the following year. In formulating any such proposals, Network Rail should give adequate consideration to the materiality of data inaccuracy to each of the Access Parties.

8.3 The report must include an assessment of the standards in measurement and Recording achieved across the Network over the previous year. This may be done by reference to a suitable sample of the Recording Points.

8.4 Following publication of the report, the Delay Attribution Board shall be entitled to consult on the contents of the report and any proposals for improving standards. The Board shall be entitled to require Network Rail to take account of reasonable modifications (including additional proposals) suggested by the respondents.

9 Revision to the Code

9.1 Any Track Access Party may propose amendments to this Code in accordance with Condition B2.5.1 of the Network Code.

10 Dispute Resolution

10.1 The Access Dispute Resolution Rules apply to this Code, save that, in the first instance; any dispute shall be referred to the Delay Attribution Board for guidance. Where either party does not accept the guidance of the Board, the procedure set out in paragraph 10.2 shall be followed.

10.2 Following receipt of guidance from the Delay Attribution Board, any Access Party not satisfied with such guidance may invoke dispute resolution under the Access Dispute Adjudication Rules.

11 Good Faith

11.1 The obligation of good faith set out in Condition 1.5 of Part A of the Network Code applies in respect of this Code.

11.2 Amongst other things, good faith requires all Access Parties:-

- (a) to strive to achieve zero bias in Recordings;
- (b) to be fair and honest when interpolating or otherwise creating Recordings (after a failure to make a Timing); and
- (c) not to conceal any Timing actually made, or unfairly and deliberately to omit to make any Timing or Recording.

11.3 All Access Parties must request, and Network Rail must make, changes to characteristics of Recording Points in good faith. All such changes must be fair and equitable and not discriminate unduly between participants in the railway industry.

APPENDIX A -DATA COMPLETENESS STANDARD

In this Appendix, “common mode failure” means a failure that affects both train performance and Recording (such as signalling failure); “other failure” means a failure that affects Recording but not train performance (such as failure of a Recording device); and “completeness” is the ratio of the number of Timings actually made to the number that would have been made if there had been no omissions.

Planned downtime agreed between affected parties is not treated as a failure, and the Timings not made on that account are not treated as omissions.

Part A – Common Mode Failures

On any day during which a common mode failure occurs or persists, data for each failed individual Monitoring Point is identified in Margin Book, and each failed Recording Point which is designed as a Character Destination Point in a relevant Track Access Contract, must be created to the following level of completeness: 98%.

Data need not be created under this Part A for other Recording Points subject to a common mode failure.

Part B – Other Failures

For all other days in an Accounting Period taken together (that is, excluding in respect of any Recording Point which is a monitoring Point or is designated as a Charter Destination Point in a relevant Track Access Contract, days on which that Recording Point is subject to a common-mode failure):

Category	Completeness at each Recording Point (%)	For the average of all Recording Points of a category in a Margin Book, the number of days in which Completeness is less than 50% is not to exceed
SUPER GOLD	98	1
GOLD	97	1
SILVER	95 (Note 1)	2

Note 1: If there is a failure of any equipment at a Specified Point which is not a Monitoring Point or a Charter Destination Point as a result of which Timings are missed, then the Silver category of completeness in Part 2 is reduced to 85% for the relevant Accounting Period. This is intended to allow priority to be given to the collection of data at the commercially more important points.

APPENDIX B: TIMING STANDARD

Category	Technology	Standard at each Recording Point over an Accounting Period		Average of all Recording Points of a category in a single Margin Book over an Accounting period
		Bias equal to or less than	Scatter	Bias equal to or less than
Blue	Automatic (SMART)	± 1 sec	100% within ± 1 sec of zero error	± 1 sec
Orange	Manual	± 10 secs	90% within ± 60 secs of zero error	± 10 secs

The above table **is subject to the following:-**

Relationship to Time from NPL

“-” Indicates an understatement of lateness. For example, if a clock at Recording Point runs 3 seconds slow in comparison to Time from NPL, a train arriving at that Recording Point at 12.00 and 3 seconds by Time from NPL will be timed at 12.00 and nil seconds. Accordingly for the purposes of Table B, that Timing is regarded as having an error of minus 3 seconds.

Bias

The bias at Recording Point is the sum of all the errors, divided by the number of timings. The average bias at several Recording Points is the sum of the individual errors divided by the sum of the number of timings.

Category Blue

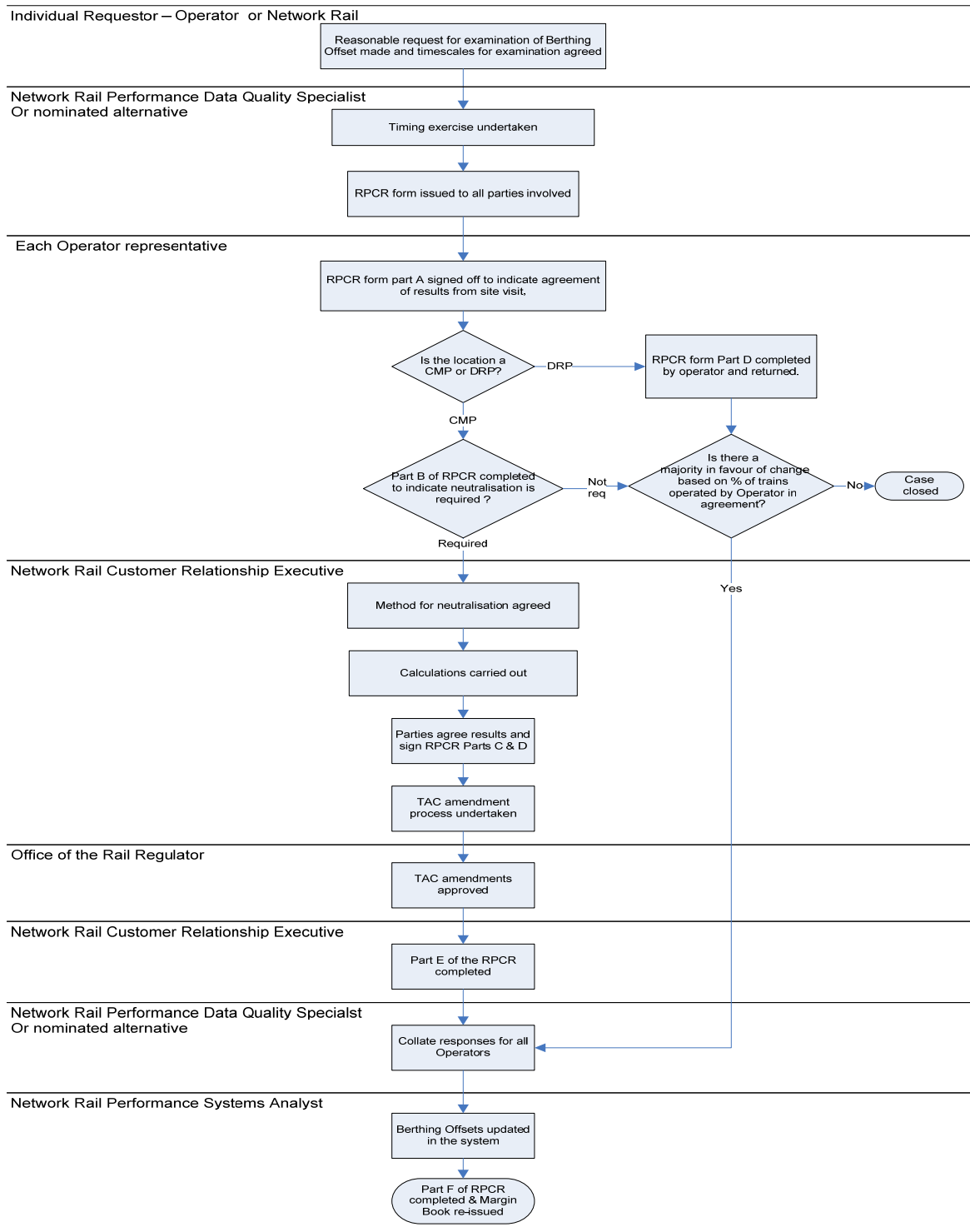
The error is the difference between the Timing and Time from NPL at the moment when the Timing is made for use in the Recording.

Category Orange

The error is the difference between the Recording and the Time from NPL of the corresponding event.

The bias at each Recording Point, and the average bias of all Recording Points of a category in a single Margin Book, shall be the underlying long-term biases and not biases over a single Accounting Period. In relation to trains stopping at Recording Point, the event which is the subject of the Timing is the train coming to a stand at that Recording Point.

APPENDIX C - PROCESS FOR AMENDING BERTHING OFFSETS



1 If at any stage the process is rejected, please go to the previous relevant step.

APPENDIX D - RECORDING POINT CHANGE REQUEST FORM (RPCR)

Part A		Description of Change				
LOCATION:		Status: CMP/DRP <i>(delete as required)</i>				
STANOX:		Monitoring Date/s				
Description of and Reason for Change:		CALCULATION OF BERTH OFFSET IN SECONDS				
Platform	Offset Calculation For:	Type	Berth Step		New Berth Offset <i>(is a change proposed?)</i>	Existing Berth Offset
Name of Train Operator Consulted:						
Proposed Times Approved / Rejected <i>(Delete as appropriate)</i>			Signed: For Train Operator		Date:	
Comments:						
<i>Has a reply been received within 28 days of issue accepting findings of the audit</i>						Yes/No
<i>Note if location is a DRP and changes proposed in section A are agreed, then go straight to section D</i>						
Part B		TOC Neutralisation request - CMP's only (if applicable)				
Is neutralisation required?			Delete as appropriate			
Operator response		Yes/No	NR response		Yes/No	
<i>Has an agreement been reached to undertake re-benchmarking?</i>						Yes/No
Agreed By:			Signed: For Train Operator		Date:	
Agreed By:			Signed For Lead Route Customer Relationship Executive		Date:	
If neutralisation has not been undertaken please state why;						
Part C		Train Operator neutralisation output (CMP's only)				
Completed after neutralisation undertaken (where requested)						
Name of Train Operator Consulted:						
Approved / Rejected			Signed:		Date:	

(Delete as appropriate)

For Train Operator

Comments:

Part D Train Operator agreement of changes

The above changes have been agreed as valid and can be updated in the system

Signed:
For Train Operator

Date:

Part E Network Rail Confirmation of Agreement for Change

To be completed once all consultation undertaken and agreement reached

The above changes have been agreed with all affected Train Operators and, where appropriate, any recalibrations approved by the ORR.

Signed:
Route Performance Manager

Date:

Part F Confirmation of Change

The above changes were entered into the appropriate Margin Books and, where applicable, the Berthing Offsets altered.

At:
Signed:
Performance Systems Analyst

Date:

HQ Reference Number:

Has a new copy of the Margin Book (or page(s) if it is loose leaf) been issued to the relevant parties?

Yes/No Delete as appropriate