

LT&S (MAIN) IECC A

ECS REQUIREMENTS SPECIFICATION

Issue PU3

Controlled Copy No.

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Section 3. Signal Lists - interlocking names added (for completeness) where there are no signal identities required.

Section 4. Signalling Identities - interlocking names added (for completeness) where there are no signalling identities required.

Removal of 'AEA Technology Rail' from footnote.

Correlation of the following sections:

2.1. SDS1-Owned Berths - correlated with current LTSA data.

11. Stratford IECC - correlated with current LTSA data.

12. East Ham Depot Fringe Box - correlated with current LTSA data.

15. Barking Platform Train Announcer - correlated with current LTSA data.

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Removal of reference to duplication of links in Sections 4.1 and 5.1

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| DELTARAIL GROUP LTD | Name | Signature | Date |
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1 Introduction

1.1 DOCUMENT OVERVIEW

This document defines the ECS data requirements for LT&S IECC (Main) A.

The following information is supplied for each ECS link:

- Link characteristics
- TD berths transmitted and received
- Signalling items transmitted and received (where appropriate)
- Subsystems which will be informed of changes in remote link status

This document has been updated in readiness for ECS data changes arising from the West Ham Resignalling project. Information in *italics* represents the current known position and cannot be guaranteed to be accurate. It may change during the detailed design phase of the project.

1.2 ABBREVIATIONS

| | |
|-----------------|--------------------------------------|
| ARS | Automatic Routesetting Subsystem |
| CCF | Control Central of the Future |
| ECS | External Communications Subsystem |
| GWS | Gateway Subsystem |
| IDPM | IECC Data Preparation Manual |
| IECC | Integrated Electronic Control Centre |
| LT&S | London, Tilbury and Southend |
| SDS | Signalling Display Subsystem |
| TD | Train Descriptor |

1.3 RELATED DOCUMENTS

| | |
|-----------------------------------|-------------------------|
| IECC Applications Contents Manual | NR/SP/SIG/10040 Issue 8 |
| IDPM 1302 External Communications | SAO-IEC-HD-56 Issue 4.1 |

2 Berth Lists

The following sections have been created in order to list all berths that are known to, and used within LT&S (Main) IECC (A). These sections are referenced as necessary within the Remote Systems sections.

2.1 SDS1-OWNED BERTHS

The following berths are listed as allocated to SDS1.

2.1.1 Berths Controlled and Displayed by SDS1

The following list of berths are controlled and displayed by SDS1.

| | | | | | | | |
|------|------|------|------|------|------|------|------|
| 0105 | 0106 | 0107 | 0108 | 0112 | 0113 | 0115 | 0116 |
| 0117 | 0118 | 0119 | 0120 | 0122 | 0123 | 0124 | 0125 |
| 0126 | 0127 | 0128 | 0129 | 0130 | 0133 | 0137 | 0138 |
| 0139 | 0140 | 0141 | 0146 | 0147 | 0148 | 0149 | 0150 |
| 0153 | 0154 | 0155 | 0156 | 0157 | 0159 | 0160 | 0161 |
| 0162 | 0167 | 0168 | 0169 | 0170 | 0173 | 0174 | 0176 |
| 0177 | 0179 | 0180 | 0181 | 0182 | 0187 | 0188 | 0189 |
| 0190 | 0192 | 0193 | 0194 | 0195 | 0196 | 0198 | 0199 |
| 0202 | 0203 | 0204 | 0206 | 0209 | 0210 | 0211 | 0212 |
| 0213 | 0214 | 0216 | 0217 | 0221 | 0222 | 0509 | 0510 |
| 0511 | 0512 | 0516 | 0517 | 0518 | 0519 | 0521 | 0523 |
| 0524 | 0525 | 0526 | 0527 | 0528 | 0529 | 0530 | 0532 |
| 0533 | 0534 | 0535 | 0537 | 0538 | 0539 | 0540 | 0542 |
| 0604 | 0605 | 0610 | 0611 | 0615 | 0852 | 0853 | 0854 |
| 0857 | 0858 | 0859 | 0860 | 0862 | 0863 | 0900 | 0902 |
| 0903 | 0904 | 0907 | 0908 | 0909 | 0910 | 0911 | 0915 |
| 0916 | 0990 | 0991 | 0EH1 | 1019 | 1101 | 1103 | A101 |
| A103 | A505 | A507 | A851 | A906 | AP31 | AP32 | AP33 |
| AP34 | AP43 | AP44 | AP71 | AP72 | AP81 | AP82 | AP91 |
| B101 | B103 | B505 | B507 | B851 | B906 | B918 | B920 |
| BWJN | C101 | C103 | C505 | C507 | DA21 | DA22 | DA31 |
| DA32 | DA33 | DA34 | DA91 | DNSD | DNTH | EAST | EHEA |
| EHWE | F101 | F103 | F505 | F507 | F851 | F906 | L235 |
| LS11 | LS21 | LS22 | R101 | R103 | R505 | R507 | R851 |
| R906 | T906 | UPGD | UPSD | UPTH | UPTM | WTJN | RPDN |
| 0131 | 0132 | 0134 | 0136 | 0143 | 0145 | | |

2.1.2 Berths from Stratford IECC

The following berths are used by both Stratford IECC and LT&S (Main) IECC (A). They are requested by LT&S (Main) IECC (A) for use as one or more of the following:

- they are displayed on SDS1
- they are required as triggers or conditions for SDS1 stepping
- they are displayed on TD Maps
- they are required for ARS Collection Area information

| | | | | | | | |
|------|------|------|------|------|------|------|------|
| 0601 | BOWJ | L913 | L915 | L918 | L920 | L921 | L924 |
| U518 | UAPP | | | | | | |

2.1.3 Berths from LT&S (Loop) IECC (B)

The following berths are used by both LT&S (Loop) IECC (B) and LT&S (Main) IECC (A). They are requested by LT&S (Main) IECC (A) for use as one or more of the following:

- they are displayed on SDS1
- they are displayed on TD Maps
- they are required for ARS Collection Area information

| | | | | | | | |
|------|------|------|------|------|------|------|------|
| 0612 | 0616 | 0617 | 0618 | 0620 | 0622 | 0626 | 0627 |
| 0628 | 0629 | 0630 | 0631 | 0666 | 0667 | 0668 | 0669 |
| 0670 | 0671 | 0672 | 0673 | 0674 | 0675 | 0804 | 0807 |
| 0809 | 0813 | 0820 | 0821 | 0822 | 0823 | 0824 | 0825 |
| 0826 | 0827 | 0830 | 0831 | 0832 | 0834 | 0840 | 0842 |
| | | | | | | | |
| 0867 | 0868 | 0869 | 0920 | 1112 | 1113 | 1118 | 1120 |
| 1122 | 1124 | 1125 | 1127 | 1129 | 1130 | 1131 | 1133 |
| 1138 | 1142 | 1143 | 1145 | 1185 | 1186 | A869 | A874 |
| AP21 | AP22 | AP23 | AP24 | B874 | GAPP | 0865 | |

2.1.4 Cab Secure Radio

A requirement of the Cab Secure Radio system is that all LT&S berth information is transmitted via a single link from the LT&S Scheme. A further requirement is that the change is implemented with minimum effect on other IECC subsystems. Therefore, it was decided that all LT&S (Loop) IECC (B) berths not currently in LT&S (Main) IECC (A) data would be added to LT&S (Main) IECC (A) data so that all LT&S berths would be transmitted to the Cab Secure Radio system via a link from LT&S (Main) IECC (A).

The following is a list of those LT&S (Loop) IECC (B) berths added to LT&S (Main) IECC (A) data in order to implement the Cab Secure Radio system variation.

| | | | | | | | |
|------|------|------|------|------|------|------|------|
| 0619 | 0621 | 0625 | 0636 | 0637 | 0638 | 0639 | 0642 |
| 0643 | 0644 | 0645 | 0646 | 0647 | 0648 | 0649 | 0650 |
| 0651 | 0652 | 0653 | 0654 | 0656 | 0657 | 0658 | 0659 |
| 0660 | 0661 | 0662 | 0663 | 0664 | 0665 | 0680 | 0681 |
| 0684 | 0685 | 0686 | 0687 | 0688 | 0689 | 0690 | 0691 |
| 0692 | 0693 | 0695 | 0696 | 0698 | 0699 | 0700 | 0701 |
| 0702 | 0703 | 0704 | 0706 | 0707 | 0708 | 0711 | 0712 |
| 0713 | 0714 | 0715 | 0716 | 0717 | 0718 | 0719 | 0722 |
| 0723 | 0724 | 0725 | 0726 | 0728 | 0806 | 0808 | 0810 |
| 0882 | 0883 | 0885 | 0FE3 | 1115 | 1123 | 1135 | 1139 |
| 1162 | 1165 | 1166 | 1176 | 1177 | 1178 | 1192 | BAPP |
| BRKN | DDDY | DMSD | DNFT | F874 | GRSS | | OKDN |
| PFEX | PFSD | PGE1 | PGE2 | PITS | R874 | RSDN | SPEX |
| 0886 | 0888 | LG11 | LG12 | LG14 | LGSD | LSLG | RDLG |
| 715C | | | | | | | |

2.2 SDS2 BERTHS

The following berths are listed as allocated to SDS2.

2.2.1 Berths Controlled and Displayed by SDS2

The following list of berths are controlled and displayed by SDS2.

| | | | | | | | |
|------|------|------|------|------|------|------|------|
| 0224 | 0225 | 0226 | 0227 | 0228 | 0229 | 0231 | 0232 |
| 0233 | 0234 | 0236 | 0237 | 0238 | 0239 | 0240 | 0241 |
| 0242 | 0243 | 0244 | 0245 | 0247 | 0248 | 0250 | 0251 |
| 0252 | 0253 | 0254 | 0255 | 0258 | 0259 | 0264 | 0265 |
| 0266 | 0267 | 0268 | 0269 | 0270 | 0271 | 0272 | 0273 |
| | | | | | | | |
| 0274 | 0275 | 0276 | 0279 | 0280 | 0281 | 0282 | 0283 |
| 0284 | 0285 | 0286 | 0287 | 0288 | 0289 | 0290 | 0291 |
| 0292 | 0293 | 0294 | 0295 | 0296 | 0297 | 0302 | 0303 |
| 0304 | 0305 | 0306 | 0307 | 0308 | 0309 | 0310 | 0311 |
| 0312 | 0315 | 0316 | 0317 | 0318 | 0319 | 0320 | 0323 |
| | | | | | | | |
| 0324 | 0325 | 0326 | 0327 | 0330 | 0331 | 0334 | 0335 |
| 0336 | 0337 | 0338 | 0339 | 0340 | 0341 | 0342 | 0343 |
| 0344 | 0345 | 0348 | 0349 | 0350 | 0351 | 0352 | 0353 |
| 0543 | 0544 | 0545 | 0547 | 0548 | 0550 | 0551 | 0555 |
| 0556 | 0557 | 0558 | 0559 | 0560 | 0565 | 0566 | 0568 |
| | | | | | | | |
| 0569 | 0571 | 0572 | 0575 | 0578 | 0583 | 0586 | 0587 |
| 0588 | 0590 | 0591 | 0738 | 0743 | 0930 | 1031 | 1032 |
| 1035 | 1053 | 1055 | A354 | A576 | A582 | A592 | A596 |
| AP41 | AP42 | B354 | B576 | B582 | B592 | B596 | BADN |
| BAUP | C354 | C576 | C582 | C596 | D354 | D592 | D596 |
| | | | | | | | |
| DA41 | DA41 | DA44 | DA51 | DA61 | DA62 | DA63 | DA64 |
| DA65 | F354 | F576 | F582 | F592 | F596 | PSUS | R354 |
| R576 | R582 | R592 | R596 | SBCE | SBCW | SBE1 | SBE2 |
| SBWE | STLH | | | | | | |

2.2.2 Berths from LT&S (Loop) IECC (B)

The following berths are used by both LT&S (Main) IECC (A) and LT&S (Loop) IECC (B).. They are requested by LT&S (Main) IECC (A) for use as one or more of the following:

- they are displayed on SDS2
- they are displayed on TD Maps
- they are required for ARS Collection Area information

| | | | | | | | |
|------|------|------|------|------|------|------|------|
| 0727 | 0729 | 0730 | 0731 | 0732 | 0733 | 0734 | 0737 |
| AP51 | AP52 | APA1 | | | | | |

3 Early Transmission and ARS Strike-In Berths

Any berth that is updated by a remote system, whose update needs to be known to ARS or any DIS, is an Early Transmission Berth. This list of berths is split into various DIS subsystems on an IECC as the data specifies which DIS each listed berth is sent to. The berths required by ARS (for strike-in purposes) used to be separately listed, but this is no longer done due to a code fault; now any such berth is included in the relevant DIS list (as the berths in the DIS list are sent to ARS anyway).

3.1 ARS STRIKE-IN BERTHS

Included within the Early Transmission Berths

3.2 EARLY TRANSMISSION BERTHS (ETBFOR) – WORKSTATION 1 (DIS1)

Early Transmission Berths for SDS1 are:

| | | | | | | | |
|------|------|------|------|------|------|------|------|
| 0601 | 0612 | 0616 | 0617 | 0618 | 0620 | 0622 | 0626 |
| 0668 | 0669 | 0670 | 0672 | 0804 | 0806 | 0807 | 0808 |
| 0810 | 0865 | 0867 | 0868 | 0900 | 0920 | 1019 | 1112 |
| 1113 | 1115 | 1118 | 1120 | 1122 | 1123 | 1124 | 1125 |
| 1127 | 1129 | 1130 | A874 | AP21 | AP22 | AP23 | AP24 |
| AP72 | BOWJ | GAPP | L913 | L915 | L918 | L920 | L921 |
| L924 | U518 | UAPP | | | | | |

3.3 EARLY TRANSMISSION BERTHS (ETBFOR) – WORKSTATION 2 (DIS2)

Early Transmission Berths for SDS2 are:

| | | | | | | | |
|------|------|------|------|------|------|------|------|
| 0588 | 0727 | 0729 | 0731 | 0733 | 0734 | 0737 | 1032 |
| 1053 | 1055 | AP51 | AP52 | APA1 | | | |

4 ECS Standby Computer Unit

4.1 OVERVIEW

This link operates on ports 1 and 7. It is a link between the Master and Standby computer units with **TD** type initialisation.

4.2 LINK CHARACTERISTICS

| Link Characteristics for ECS Standby Computer Unit | | | |
|--|----------------|---------------------------|----------------|
| Port(s) | 1 and 7 | Baud Rate | 19200 |
| Physical Name | P1, P7 | Time-out Period (seconds) | 0.1 |
| Area | IULM | Message Retry Count | 8 |
| Protocol | BR1810 | Message Retry Field Flag | Not Set |

4.3 BERTHS

Changes in the contents of all berths known to ECS will be transmitted by the Master ECS computer unit to the Standby ECS computer unit and vice-versa. The list of **all berths known to ECS** comprises:

- all remote berths known to ECS;
- all berths which are controlled by the IECC, the contents of which are sent to ECS on initialisation and change (i.e. all berths listed in the INFORM statement and the BERTHS section of the GWS input file);
- all dummy berths which represent remote links. (None required for LT&S)

4.4 SIGNALLING IDENTITIES

The change in state of all signals and latches listed below will be transmitted to the Standby ECS computer unit.

The order of the signalling items transmitted are as follows:

Address 00-0F

| Bit 1 | Bit 2 | Bit 3 | Bit 4 | Bit 5 | Bit 6 | Bit 7 | Bit 8 |
|----------|----------|----------|----------|----------|----------|----------|----------|
| LDANMNDN | LDANMNUP | LDNTHDN | LDNTHUP | LLADMND1 | LLADMNU1 | LLAUMND1 | LLAUMNU1 |
| LLEDMND1 | LLEDMNU1 | LLEUMND1 | LLEUMNU1 | LSDS2UPN | LSDS2UPP | LSDS3DBR | LSDS3UBR |
| LSHDMND1 | LSHDMNU1 | LSHUMND1 | LSHUMNU1 | LTLDNBR | LTLUPBR | LUPCDNBR | LUPCUPBR |
| LUPSDS2N | LUPSDS2P | LUPTFDN | LUPTFUP | LUUPMNDN | LUUPMNUP | S1002 | S1004 |
| S101 | S1029 | S103 | S1031 | S1032 | S1035 | S105 | S1053 |
| S1055 | S106 | S107 | S108 | S1101 | S1103 | S112 | S113 |
| S1145 | S1146 | S1147 | S115 | S116 | - | - | - |
| S1183 | S1185 | S1186 | S157 | S159 | S160 | S161 | S162 |
| S167 | S206 | S209 | S210 | S211 | S212 | S213 | S214 |
| S216 | S217 | S221 | S270 | S272 | S273 | S274 | S275 |

| Bit 1 | Bit 2 | Bit 3 | Bit 4 | Bit 5 | Bit 6 | Bit 7 | Bit 8 |
|-------|-------|-------|-------|-------|-------|-------|-------|
| S276 | S279 | S281 | S324 | S325 | S326 | S327 | S330 |
| S331 | S334 | S335 | S336 | S337 | S350 | S351 | S352 |
| S353 | S354 | S505 | S507 | S509 | S510 | S511 | S512 |
| S519 | S521 | S523 | S524 | S525 | S535 | S537 | S538 |
| S539 | S540 | S542 | S557 | S558 | S559 | S560 | S575 |
| S576 | S578 | S582 | S583 | S586 | S587 | S588 | S590 |

Address 10-1F

| Bit 1 | Bit 2 | Bit 3 | Bit 4 | Bit 5 | Bit 6 | Bit 7 | Bit 8 |
|----------|----------|---------|----------|----------|----------|----------|----------|
| S591 | S592 | S596 | S601 | S604 | S605 | S610 | S611 |
| S627 | S628 | S629 | S630 | S631 | S666 | S667 | S668 |
| S669 | S670 | S671 | S672 | S673 | S674 | S675 | S1157 |
| S737 | S738 | S743 | S813 | S851 | S852 | S853 | S865 |
| S867 | S868 | S869 | S874 | S902 | S903 | S904 | S906 |
| S907 | S908 | S909 | S920 | S930 | SSW3 | S821 | S826 |
| S622 | S807 | S809 | S820 | S822 | S824 | S1131 | S1133 |
| S1138 | S823 | S825 | S827 | S830 | S831 | S832 | S834 |
| S840 | S842 | S1142 | S1143 | - | - | - | - |
| R101A* | R101B | R103A* | R103B | R106A* | R106B* | R106C-1* | R106C-2* |
| R106D-1* | R106D-2* | R107 | R108 | R112A | R112B | R116 | R505A |
| R505B* | R507A | R507B* | R510A-1* | R510A-2* | R510B-1* | R510B-2* | R510C* |
| R510D* | R511 | R512 | R1002A* | R1002B* | R1002C | R1002D | R1004A |
| R1004B | R1004C* | R1004D* | - | - | - | - | - |
| - | - | - | - | - | - | - | - |
| - | L101TRS | L103TRS | L505TRS | L507TRS | R128 | R129A | R129B |

Address 20-2F

| Bit 1 | Bit 2 | Bit 3 | Bit 4 | Bit 5 | Bit 6 | Bit 7 | Bit 8 |
|----------|---------|----------|----------|--------|--------|--------|----------|
| R130A | R130B | R149A(M) | R149B(S) | R154 | R155A | R155B | R156A(M) |
| R156B(S) | R157A* | R157B(M) | R516 | R517A | R517B | R518A | R518B |
| R519A | R519B | R900A(M) | R1011 | R1012A | R1012B | R1015 | R1019A |
| R1019B | R1020 | S128 | S129 | S130 | - | - | S149 |
| S154 | S155 | S156 | - | S516 | S517 | S518 | - |
| S900 | S1011 | S1012 | S1015 | S1019 | S1020 | SEH3 | - |
| - | - | R159 | R160 | R161* | R162 | R167A | R167B |
| R168* | R521A | R521B | R523* | R524 | R525 | R526* | R601A |
| R601B | R604 | R605 | R610A | R610B | R611A | R611B | R611C |
| R612 | R615 | R804 | R902A | R902B | R903 | R904 | R906 |
| R907A | R907B | R908A | R908B | R909A | R909B | R1101A | R1101B |
| R1103A | R1103B | R1104A | R1104B | - | - | - | - |
| - | S168 | - | - | - | - | S526 | - |
| - | - | - | - | S612 | S615 | S804 | - |
| - | - | - | - | - | - | - | - |
| S1104 | L906TRS | R169 | R170A | R170B | R173 | R174 | R176A |

Address 30-3F

| Bit 1 | Bit 2 | Bit 3 | Bit 4 | Bit 5 | Bit 6 | Bit 7 | Bit 8 |
|-------|-------|-------|-------|-------|-------|-------|----------|
| R176B | R177 | R180 | R193A | R193B | R194A | R194B | R527 |
| R528 | R529A | R529B | R532A | R532B | R532C | R533A | R533B |
| R534A | R534B | R910A | R910B | R911 | R915A | R915B | R916 |
| S169 | S170 | S173 | S174 | S176 | S177 | S180 | S193 |
| S194 | S527 | S528 | S529 | S532 | S533 | S534 | S910 |
| S911 | S915 | S916 | R209 | R211* | R212 | R213A | R213B |
| R213C | R214* | R216A | R216B | R217 | R222 | R535A | R535B |
| R537* | R538A | R538B | R539A | R539B | R540* | R542 | R851A(M) |

| | | | | | | | |
|----------|--------|--------|-------|---------|---------|--------|-------|
| R851B(S) | R852A | R852B | R852C | R853 | R857A | R857B | R858 |
| R859 | R860A* | R860B* | R990 | R991 | - | - | - |
| - | - | - | - | S222 | - | - | - |
| - | - | - | - | - | - | S857 | S858 |
| S859 | S860 | S990 | S991 | L851TRS | L858TRS | R233A | R233B |
| R236A | R236B | R238 | R243 | R244 | R251A* | R251B* | R252 |
| R253 | R254A* | R254B* | R543A | R543B | R544A | R544B | R545 |
| R547A* | R547B* | R548A | R548B | R550 | R551A | R551B | R555 |

Address 40-4F

| Bit 1 | Bit 2 | Bit 3 | Bit 4 | Bit 5 | Bit 6 | Bit 7 | Bit 8 |
|----------|--------|----------|---------|---------|---------|----------|----------|
| R556A* | R556B* | S233 | S236 | S238 | S243 | S244 | S251 |
| S252 | S253 | S254 | S543 | S544 | S545 | S547 | S548 |
| S550 | S551 | S555 | S556 | L548TRS | L551TRS | R271 | R272 |
| R273* | R274 | R275A | R275B | R276A* | R276B* | R276C* | R276D* |
| R557A* | R557B* | R558A | R558B | R559A | R559B | R560A* | R560B* |
| R560C* | R560D* | R560E(S) | R734 | R737 | R738 | R743A(M) | R743B(M) |
| R743C(S) | R930 | R1029A | R1029B | R1031A | R1031B | R1032A | R1032B |
| R1035 | S271 | R276E(S) | - | - | - | - | - |
| - | - | - | S734 | - | - | - | - |
| - | - | - | - | L738TRS | L930TRS | R303A* | R303B* |
| R304 | R305 | R306A* | R306B* | R308 | R565A* | R565B* | R566A |
| R566B | R568 | R569A | R569B | R571 | R572A* | R572B* | S303 |
| S304 | S305 | S306 | S308 | S565 | S566 | S568 | S569 |
| S571 | S572 | L566TRS | L569TRS | R325 | R327A* | R327B* | R327C* |
| R327D* | R330A | R330B | R331 | R334* | R575A* | R575B* | R575C* |
| R575D* | R576A | R576B | R578A | R578B | R582A | R582B | R583A |

Address 50-59

| Bit 1 | Bit 2 | Bit 3 | Bit 4 | Bit 5 | Bit 6 | Bit 7 | Bit 8 |
|----------|------------|------------|----------|----------|----------|----------|-------------|
| R583B | R586A* | R586B* | - | - | - | - | - |
| - | - | - | - | - | - | L576TRS | L582TRS |
| R351A(M) | R351B(M) | R351C(S) | R352A | R352B | R353A* | R353B* | R353C* |
| R354A(S) | R354B(M) | R354C(M) | R587A(M) | R587B(S) | R588B(M) | R588C(M) | R590 |
| R591A* | R591B* | R591C* | R592A(S) | R592B(M) | R592C(M) | R596A(S) | R596B(M) |
| R596C(M) | R1053A | R1053B | R1053C | R1055A | R1055B | R1055C | R1401 |
| R1410 | R1501 | RUR01 | RUR03 | RUR05/06 | RUR07 | RUR09/10 | RUR11/12/13 |
| RUR14/15 | RUR16/17 | L4012REL | L4001Y | LR156Y | LR1015Y | LR1020Y | LR2043/44 |
| LFENFIRE | LAR2153/54 | LDR2153/54 | LAR2161 | LDR2161 | LSW3 | L354TRS | L592TRS |
| L596TRS | - | - | - | - | - | - | - |

The following table details the meshed routes (indicated by a * in the above tables). The meshed route is set when any of the individual route items are set.

| Meshed Route | Individual Route Items | | |
|--------------|------------------------|------------|--|
| R101A | R101A-1 | R101A-2 | |
| R103A | R103A-1 | R103A-2 | |
| R106A | R106A(M) | R106A(C) | |
| R106B | R106B(M) | R106B(C) | |
| R106C-1 | R106C-1(M) | R106C-1(C) | |
| R106C-2 | R106C-2(M) | R106C-2(C) | |
| R106D-1 | R106D-1(M) | R106D-1(C) | |
| R106D-2 | R106D-2(M) | R106D-2(C) | |
| R505B | R505B-1 | R505B-2 | |
| R507B | R507B-1 | R507B-2 | |
| R510A-1 | R510A-1(M) | R510A-1(C) | |
| R510A-2 | R510A-2(M) | R510A-2(C) | |

| Meshed Route | Individual Route Items | | |
|--------------|------------------------|------------|---------|
| R510B-1 | R510B-1(M) | R510B-1(C) | |
| R510B-2 | R510B-2(M) | R510B-2(C) | |
| R510C | R510C(M) | R510C(C) | |
| R510D | R510D(M) | R510D(C) | |
| R1002A | R1002A-1 | R1002A-2 | |
| R1002B | R1002B-1 | R1002B-2 | |
| R1004C | R1004C-1 | R1004C-2 | |
| R1004D | R1004D-1 | R1004D-2 | |
| R157A | R157A(M) | R157A(W) | |
| R161 | R161(M) | R161(C) | |
| R168 | R168(M) | R168(W) | R168(C) |
| R523 | R523(M) | R523(C) | |
| R526 | R526(M) | R526(C) | |
| R211 | R211(M) | R211(C) | |
| R214 | R214(M) | R214(W) | R214(C) |
| R537 | R537(M) | R537(C) | |
| R540 | R540(M) | R540(C) | |
| R860A | R860A(M) | R860A(W) | |
| R860B | R860B(M) | R860B(W) | |
| R251A | R251A(M) | R251A(C) | |
| R251B | R251B(M) | R251B(C) | |
| R254A | R254A(M) | R254A(C) | |
| R254B | R254B(M) | R254B(C) | |
| R547A | R547A(M) | R547A(C) | |
| R547B | R547B(M) | R547B(C) | |
| R556A | R556A(M) | R556A(C) | |
| R556B | R556B(M) | R556B(C) | |
| R273 | R273(M) | R273(C) | |
| R276A | R276A(M) | R276A(C) | |
| R276B | R276B(M) | R276B(C) | |
| R276C | R276C(M) | R276C(C) | |
| R276D | R276D(M) | R276D(C) | |
| R557A | R557A(M) | R557A(C) | |
| R557B | R557B(M) | R557B(C) | |
| R560A | R560A(M) | R560A(C) | |
| R560B | R560B(M) | R560B(C) | |
| R560C | R560C(M) | R560C(C) | |
| R560D | R560D(M) | R560D(C) | |
| R303A | R303A(M) | R303A(C) | |
| R303B | R303B(M) | R303B(C) | |
| R306A | R306A(M) | R306A(C) | |
| R306B | R306B(M) | R306B(C) | |
| R565A | R565A(M) | R565A(C) | |
| R565B | R565B(M) | R565B(C) | |
| R572A | R572A(M) | R572A(C) | |
| R572B | R572B(M) | R572B(C) | |
| R327A | R327A(M) | R327A(C) | |
| R327B | R327B(M) | R327B(C) | |
| R327C | R327C(M) | R327C(C) | |
| R327D | R327D(M) | R327D(C) | |
| R334 | R334(M) | R334(C) | |
| R575A | R575A(M) | R575A(C) | |
| R575B | R575B(M) | R575B(C) | |
| R575C | R575C(M) | R575C(C) | |
| R575D | R575D(M) | R575D(C) | |

| Meshed Route | Individual Route Items | | |
|---------------------|-------------------------------|----------|--|
| R586A | R586A(M) | R586A(C) | |
| R586B | R586B(M) | R586B(C) | |
| R353A | R353A(M) | R353A(C) | |
| R353B | R353B(M) | R353B(C) | |
| R353C | R353C(M) | R353C(C) | |
| R591A | R591A(M) | R591A(C) | |
| R591B | R591B(M) | R591B(C) | |
| R591C | R591C(M) | R591C(C) | |

4.5 LINK STATUS

Changes in the status of remote links will be transmitted to SDS1 and SDS2.

5 LT&S (Loop) IECC (B)

5.1 OVERVIEW

This link operates on ports 2 and 8. It is a link to LT&S (Loop) IECC (B) with **TD** type initialisation.

5.2 LINK CHARACTERISTICS

| Link Characteristics for LT&S (Loop) IECC (B) | | | |
|---|----------------|---------------------------|----------------|
| Port(s) | 2 and 8 | Baud Rate | 9600 |
| Physical Name | P2, P8 | Time-out Period (seconds) | 0.1 |
| Area | LTSL | Message Retry Count | 3 |
| Protocol | BR1810 | Message Retry Field Flag | Not Set |

5.3 BERTHS

Changes in the contents of all berths known to LT&S (Loop) ECS will be transmitted to LT&S (Main) ECS. Changes in the contents of all berths known to LT&S (Main) ECS will be transmitted to LT&S (Loop) ECS.

The berths received from LT&S (Loop) ECS are listed in Sections 2.1.3, 2.1.4 and 2.2.2.

Note: Berth 1032 is controlled by LT&S (Main) IECC but it is listed as being received from LT&S (Loop) IECC. This is because this berth is required as an ARS Strike-In berth and therefore must be listed as received from a remote system.

5.4 SIGNALLING IDENTITIES

The change in state of all signals and latches listed below will be transmitted to LT&S (Loop) ECS.

The order of the signalling items transmitted are as follows:

Address 00-0F

| Bit 1 | Bit 2 | Bit 3 | Bit 4 | Bit 5 | Bit 6 | Bit 7 | Bit 8 |
|----------|----------|----------|----------|----------|----------|----------|----------|
| S101 | S103 | S105 | S106 | S107 | S108 | S112 | S113 |
| S115 | S116 | S505 | S507 | S509 | S510 | S511 | S512 |
| S1002 | S1004 | - | - | - | - | - | - |
| S1101 | S1103 | S601 | S604 | S605 | S610 | S902 | S906 |
| S908 | S159 | S521 | S160 | S523 | S904 | S907 | S161 |
| S524 | S162 | S909 | S611 | S525 | S167 | S157 | S519 |
| S903 | LDNTHDN | LDNTHUP | LUPTFDN | TUPTFUP | - | - | - |
| S206 | S209 | S210 | S211 | S212 | S213 | S214 | S216 |
| S217 | S221 | S537 | S538 | S539 | S540 | S851 | S852 |
| S853 | S542 | S535 | LDANMNDN | LDABMNUP | LUUPMNUP | LUUPMNDN | LUPSDS2N |
| LUPSDS2P | LSDS2UPP | LSDS2UPN | LUPCUPBR | LUPCDNBR | - | - | - |

| Bit 1 | Bit 2 | Bit 3 | Bit 4 | Bit 5 | Bit 6 | Bit 7 | Bit 8 |
|----------|----------|----------|----------|----------|----------|----------|----------|
| S1029 | S1031 | S1032 | S1035 | S270 | S272 | S273 | S274 |
| S275 | S276 | S279 | S557 | S558 | S559 | S560 | - |
| S737 | S738 | S743 | S930 | S281 | LLADMNE1 | LLADMNU1 | LLAUMNU1 |
| LLAUMND1 | LLEDMND1 | LLEDMNU1 | LLEUMNU1 | LLEUMND1 | - | - | - |
| S324 | S325 | S326 | S327 | S330 | S331 | S334 | S335 |

Address 10-13

| Bit 1 | Bit 2 | Bit 3 | Bit 4 | Bit 5 | Bit 6 | Bit 7 | Bit 8 |
|----------|---------|----------|----------|-------|-------|-------|-------|
| S336 | S337 | S576 | S578 | S582 | S583 | S586 | S575 |
| LSHDMND1 | SHDMNU1 | LSHUMNU1 | LSHUMND1 | - | - | - | - |
| S1053 | S1055 | S351 | S352 | S353 | S354 | S587 | S588 |
| S591 | S592 | S596 | S590 | SSW3 | S350 | - | - |

The change in state of all signals and latches listed below will be received by LT&S (Main) ECS from LT&S (Loop) ECS.

The order of the signalling items received are as follows:

Address 00-07

| Bit 1 | Bit 2 | Bit 3 | Bit 4 | Bit 5 | Bit 6 | Bit 7 | Bit 8 |
|-------|-------|-------|---------|---------|----------|----------|-------|
| S666 | S667 | S669 | S670 | S671 | S672 | S673 | S674 |
| S675 | S865 | S867 | S869 | S874 | S920 | S868 | S668 |
| S1183 | S1185 | S1186 | LTLDNBR | LTLUPBR | LSDS3DBR | LSDS3UBR | - |
| S627 | S628 | S629 | S630 | S631 | S813 | S821 | S826 |
| S1145 | S1146 | S1147 | S1157 | - | - | - | - |
| S622 | S807 | S809 | S820 | S822 | S824 | S1131 | S1133 |
| S1138 | S823 | S825 | S827 | S830 | S831 | S832 | S834 |
| S840 | S842 | S1142 | S1143 | - | - | - | - |

5.5 LINK STATUS

Changes in the status of remote links will be transmitted to SDS1 and SDS2.

6 Control Centre of the Future

6.1 OVERVIEW

This link operates on port 6. It is a link to the Control Centre of the Future (CCF) with **TD** type initialisation.

6.2 LINK CHARACTERISTICS

| Link Characteristics for CCF | | | |
|------------------------------|---------------|---------------------------|-------------|
| Port(s) | 6 | Baud Rate | 9600 |
| Physical Name | P6 | Time-out Period (seconds) | 2 |
| Area | CCOF | Message Retry Count | 3 |
| Protocol | BR1810 | Message Retry Field Flag | Set |

6.3 BERTHS

Changes in the contents of all berths known to LT&S (Main) ECS will be transmitted to CCF.

An EXCEPT statement has been included due to the addition of the Cab Secure Radio system, since these berths are already transmitted by LT&S (Loop) ECS to CCF. Therefore, the berths in Section 2.1.4 are included in the remote system file under an "ALL EXCEPT" statement.

All berths transmitted to CCF are prefixed by "**UR**", (i.e. UR----)

e.g. 0618 is transmitted as UR0618

No berth information is transmitted by CCF to ECS.

6.4 SIGNALLING IDENTITIES

No signalling identities are transmitted to CCF.

6.5 LINK STATUS

Changes in the status of remote links will be transmitted to SDS1 and SDS2.

7 SPARE LINK

7.1 OVERVIEW

This ECS remote link operates from port 17 and is a spare link.

7.2 LINK CHARACTERISTICS

| Link Characteristics for TRUST Unit 1 | | | |
|---------------------------------------|--------|---------------------------|------|
| Port(s) | 17 | Baud Rate | 1200 |
| Physical Name | PH | Time-out Period (seconds) | 2 |
| Area | SPA1 | Message Retry Count | 3 |
| Protocol | BR1810 | Message Retry Field Flag | Set |

7.3 BERTHS

For successful compilation, the following berth is transmitted:

BAUP

No berths are received on this link.

7.4 SIGNALLING IDENTITIES

No signalling identities are transmitted to this link.

7.5 LINK STATUS

No link status is available from the ECS.

8 SPARE LINK

8.1 OVERVIEW

This ECS remote link operates from port 14 and is a spare link.

8.2 LINK CHARACTERISTICS

| Link Characteristics for TRUST Unit 2 | | | |
|---------------------------------------|--------|---------------------------|------|
| Port(s) | 14 | Baud Rate | 1200 |
| Physical Name | PE | Time-out Period (seconds) | 2 |
| Area | SPA2 | Message Retry Count | 3 |
| Protocol | BR1810 | Message Retry Field Flag | Set |

8.3 BERTHS

For successful compilation, the following berth is transmitted:

BAUP

No berths are received on this link.

8.4 SIGNALLING IDENTITIES

No signalling identities are transmitted to this link.

8.5 LINK STATUS

No link status is available from the ECS.

9 Stratford IECC

9.1 OVERVIEW

This link operates on port 13. It is a link to Stratford IECC with **TD** type initialisation.

9.2 LINK CHARACTERISTICS

| Link Characteristics for Stratford IECC | | | |
|---|---------------|---------------------------|-------------|
| Port(s) | 13 | Baud Rate | 1200 |
| Physical Name | PD | Time-out Period (seconds) | 2 |
| Area | STRT | Message Retry Count | 3 |
| Protocol | BR1810 | Message Retry Field Flag | Set |

9.3 BERTHS

Changes in the contents of the following berths will be transmitted to Stratford IECC:

| | | | | | | | |
|------|------|------|------|------|------|------|------|
| 0105 | 0106 | 0107 | 0108 | 0112 | 0113 | 0115 | 0116 |
| 0117 | 0118 | 0119 | 0120 | 0122 | 0123 | 0124 | 0125 |
| 0126 | 0127 | 0128 | 0129 | 0130 | 0133 | 0132 | 0140 |
| 0146 | 0148 | 0150 | 0154 | 0176 | 0177 | 0179 | 0181 |
| 0187 | 0189 | 0193 | 0195 | 0199 | 0203 | 0209 | 0211 |
| 0213 | 0509 | 0510 | 0511 | 0512 | 0516 | 0517 | 0529 |
| 0532 | 0538 | 0604 | 0605 | 0610 | 0611 | 0612 | 0615 |
| 0616 | 0617 | 0804 | 0900 | 0902 | 0908 | 0909 | 0910 |
| 0911 | 0915 | 0916 | 1101 | 1103 | A101 | A103 | A505 |
| A507 | A906 | F906 | L235 | L918 | L924 | R101 | R103 |
| R505 | R507 | R906 | T906 | UAPP | | | |

Note: there are a number of berths which are currently in Upminster IECC A (and are sent to Stratford IECC) but are no longer received by Stratford IECC.

All berths transmitted to Stratford IECC have their first character changed to “**U**”, (i.e. U---)

e.g. 0105 is transmitted as U105

Berths that do not follow this standard are listed below with the value on the right within the brackets being the transmitted identity.

| | | | | | |
|--------|--------|--------|--------|--------|--------|
| { 0604 | 0604 } | { 1101 | 1101 } | { 1103 | 1103 } |
| { A101 | A101 } | { A103 | A103 } | { A505 | A505 } |
| { A507 | A507 } | { A906 | 0906 } | { F906 | 0906 } |
| { L235 | L235 } | { L918 | 0918 } | { L924 | 0924 } |

| | | | | | | | |
|--------|--------|--|--------|--------|--|--------|--------|
| { R101 | R101 } | | { R103 | R103 } | | { R505 | R505 } |
| { R507 | R507 } | | { R906 | R906 } | | { T906 | T906 } |
| {UAPP | UAPP} | | | | | | |

Changes in the contents of the following berths will be received from Stratford IECC:

| | | | | | | | |
|------|------|------|------|------|------|------|------|
| 0601 | BOWJ | L913 | L915 | L918 | L921 | L924 | U518 |
| UAPP | L920 | | | | | | |

The following berths will need converting from what is transmitted by Stratford IECC, to a form that can be used by LT&S (Main) IECC (A). The right hand value within the brackets is the received berth name.

| | | | | |
|--------|--------|--|--------|--------|
| { L918 | 0918 } | | { L924 | 0924 } |
|--------|--------|--|--------|--------|

9.4 SIGNALLING IDENTITIES

No signalling identities are transmitted to Stratford IECC.

9.5 LINK STATUS

Changes to the status of the remote links will be transmitted to SDS1.

10 East Ham Depot Fringe Box

10.1 OVERVIEW

This link operates on ports 3 and 9. It is a link to East Ham Depot Fringe Box with **TD** type initialisation.

10.2 LINK CHARACTERISTICS

| Link Characteristics for East Ham Depot Fringe Box | | | |
|--|------------------|---------------------------|----------------|
| Port(s) | 3 & 9 | Baud Rate | 1200 |
| Physical Name | P3, P9 | Time-out Period (seconds) | 2 |
| Area | EEMU | Message Retry Count | 3 |
| Protocol | BR1810 | Message Retry Field Flag | Not Set |

10.3 BERTHS

Changes in the contents of the following berths will be transmitted to East Ham Depot Fringe Box:

| | | | | | | | |
|------|------|------|------|------|------|------|------|
| 0133 | 0137 | 0139 | 0141 | 0147 | 0149 | 0150 | 0153 |
| 0154 | 0155 | 0156 | 0157 | 0160 | 0162 | 0168 | 0170 |
| 0174 | 0176 | 0180 | 0182 | 0188 | 0190 | 0524 | 0526 |
| 0528 | 0530 | 0532 | 0610 | 0612 | 0804 | 0900 | 0904 |
| 0908 | 0910 | 0916 | 0EH1 | 1019 | 0143 | 0145 | 0131 |

Changes in the contents of the following berths will be received from East Ham Depot Fringe Box:

0900 1019

10.4 SIGNALLING IDENTITIES

No signalling identities are transmitted by East Ham Depot Fringe Box.

10.5 LINK STATUS

Changes to the status of the remote links will be transmitted to SDS1.

11 Shoeburyness East Fringe Box

11.1 OVERVIEW

This link operates on ports 4 and 10. It is a link to Shoeburyness East Fringe Box with **TD** type initialisation.

11.2 LINK CHARACTERISTICS

| Link Characteristics for Shoeburyness East Fringe Box | | | |
|---|-------------------|---------------------------|----------------|
| Port(s) | 4 & 10 | Baud Rate | 1200 |
| Physical Name | P4, PA | Time-out Period (seconds) | 2 |
| Area | SEMU | Message Retry Count | 3 |
| Protocol | BR1810 | Message Retry Field Flag | Not Set |

11.3 BERTHS

Changes in the contents of the following berths will be transmitted to Shoeburyness East Fringe Box:

| | | | | | | | |
|------|------|------|------|------|------|------|------|
| 0352 | 0353 | 0590 | 0591 | 1053 | 1055 | A354 | A592 |
| A596 | B354 | B592 | B596 | C354 | C596 | | |

Changes in the contents of the following berths will be received from Shoeburyness East Fringe Box:

| | |
|------|------|
| 1053 | 1055 |
|------|------|

11.4 SIGNALLING IDENTITIES

Changes in the contents of the following signalling identities will be transmitted to Shoeburyness East Fringe Box:

| | | | | | | | |
|-------|------|------|------|------|------|------|-------|
| S352 | S353 | S354 | S590 | S591 | S592 | S596 | S1053 |
| S1055 | | | | | | | |

11.5 LINK STATUS

Changes to the status of the remote links will be transmitted to SDS2.

12 Shoeburyness West Fringe Box

12.1 OVERVIEW

This link operates on ports 5 and 11. It is a link to Shoeburyness West Fringe Box with **TD** type initialisation.

12.2 LINK CHARACTERISTICS

| Link Characteristics for Shoeburyness West Fringe Box | | | |
|---|-------------------|---------------------------|----------------|
| Port(s) | 5 & 11 | Baud Rate | 1200 |
| Physical Name | P5, PB | Time-out Period (seconds) | 2 |
| Area | SWMU | Message Retry Count | 3 |
| Protocol | BR1810 | Message Retry Field Flag | Not Set |

12.3 BERTHS

Changes in the contents of the following berths will be transmitted to Shoeburyness West Fringe Box:

| | | | | | | | |
|------|------|------|------|------|------|------|------|
| 0337 | 0339 | 0341 | 0343 | 0345 | 0349 | 0351 | 0353 |
| 0588 | 0590 | 0591 | DA65 | | | | |

Changes in the contents of the following berths will be received from Shoeburyness West Fringe Box:

0588

12.4 SIGNALLING IDENTITIES

Changes in the contents of the following signalling identities will be transmitted to Shoeburyness West Fringe Box:

| | | | | | | | |
|------|------|------|------|------|------|------|------|
| S337 | S339 | S341 | S343 | S345 | S349 | S350 | S351 |
| S352 | S353 | S587 | S590 | S591 | SSW3 | | |

12.5 LINK STATUS

Changes to the status of the remote links will be transmitted to SDS2.

13 Barking Platform Train Announcer

13.1 OVERVIEW

This link operates on port 16. It is a link to the Barking Platform Train Announcer with **TD** type initialisation.

13.2 LINK CHARACTERISTICS

| Link Characteristics for Barking Platform Train Announcer | | | |
|---|---------------|---------------------------|----------------|
| Port(s) | 16 | Baud Rate | 1200 |
| Physical Name | PG | Time-out Period (seconds) | 2 |
| Area | BKPL | Message Retry Count | 3 |
| Protocol | BR1810 | Message Retry Field Flag | Not Set |

13.3 BERTHS

Changes in the contents of the following berths will be transmitted to the Barking Platform Train Announcer:

| | | | | | | | |
|------|------|------|------|------|------|------|------|
| 0140 | 0141 | 0146 | 0147 | 0148 | 0149 | 0150 | 0153 |
| 0154 | 0155 | 0156 | 0157 | 0159 | 0160 | 0161 | 0162 |
| 0167 | 0168 | 0169 | 0170 | 0173 | 0174 | 0176 | 0180 |
| 0519 | 0521 | 0523 | 0524 | 0525 | 0526 | 0527 | 0528 |
| 0529 | 0530 | 0601 | 0604 | 0605 | 0610 | 0611 | 0612 |
| 0615 | 0804 | 0902 | 0903 | 0904 | 0907 | 0908 | 0909 |
| 0910 | 0911 | 0915 | 0916 | 1101 | 1103 | DA21 | DA22 |
| F906 | L913 | L915 | L920 | L924 | R906 | 0143 | 0145 |
| 0136 | 0138 | | | | | | |

No berth information is transmitted by the Barking Platform Train Announcer.

13.4 SIGNALLING IDENTITIES

No signalling identities are transmitted by the Barking Platform Train Announcer.

13.5 LINK STATUS

Changes to the status of the remote links will be transmitted to SDS1.

14 Cab Secure Radio System

14.1 OVERVIEW

This link operates on port 12. It is a link to the Cab Secure Radio System with **RECALL** type initialisation.

14.2 LINK CHARACTERISTICS

| Link Characteristics for the Cab Secure Radio System | | | |
|--|--------|---------------------------|------|
| Port(s) | 12 | Baud Rate | 1200 |
| Physical Name | PC | Time-out Period (seconds) | 0.5 |
| Area | CSRL | Message Retry Count | 3 |
| Protocol | BR1810 | Message Retry Field Flag | Set |

14.3 BERTHS

Changes in the contents of all berths known to LT&S (Main) ECS, EXCEPT berth U518, will be transmitted to the Cab Secure Radio system.

Berth U518 is not transmitted because it is not displayed on any TD Block Schematic. It is a Stratford IECC berth required by LT&S (Main) SDS1 as a trigger for the step to LT&S (Main) IECC (A) berth 0518. Therefore, berth U518 is specified in the remote system file under an "ALL EXCEPT" statement.

Berths RPDN and BAPP are transmitted as 0617 and 0862 respectively.

{ RPDN 0617 } { BAPP 0862 }

No berth information is transmitted by the Cab Secure Radio system.

14.4 SIGNALLING IDENTITIES

No signalling identities are transmitted by the Cab Secure Radio system.

14.5 LINK STATUS

Changes to the status of the remote links will be transmitted to SDS1 and SDS2.

15 SMART PC 1

15.1 OVERVIEW

This link operates on port 15. It is a link to SMART PC 1 with **ETB** type initialisation.

15.2 LINK CHARACTERISTICS

| Link Characteristics for SMART PC 1 | | | |
|-------------------------------------|---------------|---------------------------|-------------|
| Port(s) | 15 | Baud Rate | 9600 |
| Physical Name | PF | Time-out Period (seconds) | 2 |
| Area | SMT1 | Message Retry Count | 3 |
| Protocol | BR1810 | Message Retry Field Flag | Set |

15.3 BERTHS

Changes in the contents of all berths known to LT&S (Main) ECS will be transmitted to SMART PC 1.

An EXCEPT statement has been included due to the addition of the Cab Secure Radio system, since these berths are already transmitted by LT&S (Loop) ECS to SMART PC 1. Therefore, the berths in Section 2.1.4 are included in the remote system file under an "ALL EXCEPT" statement.

Berth GAPP cannot be sent as UAPP as this berth name is already used within Stratford IECC. To overcome this, GAPP is renamed and transmitted as UGAP

i.e. {GAPP UGAP}

No berth information is transmitted by SMART PC 1.

15.4 SIGNALLING IDENTITIES

Changes in the status of the following signalling items are transmitted to SMART PC 1:

Address 00-0F

| Bit 1 | Bit 2 | Bit 3 | Bit 4 | Bit 5 | Bit 6 | Bit 7 | Bit 8 |
|----------|----------|----------|----------|----------|----------|----------|----------|
| R101A* | R101B | R103A* | R103B | R106A* | R106B* | R106C-1* | R106C-2* |
| R106D-1* | R106D-2* | R107 | R108 | R112A | R112B | R116 | R505A |
| R505B* | R507A | R507B* | R510A-1* | R510A-2* | R510B-1* | R510B-2* | R510C* |
| R510D* | R511 | R512 | R1002A* | R1002B* | R1002C | R1002D | R1004A |
| R1004B | R1004C* | R1004D* | S101 | S103 | S106 | S107 | S108 |
| S112 | S116 | S505 | S507 | S510 | S511 | S512 | S1002 |
| S1004 | L101TRS | L103TRS | L505TRS | L507TRS | R128 | R129A | R129B |
| R130A | R130B | R149A(M) | R149B(S) | R154 | R155A | R155B | R156A(M) |
| R156B(S) | R157A* | R157B(M) | R516 | R517A | R517B | R518A | R518B |
| R519A | R519B | R900A(M) | R1011 | R1012A | R1012B | R1015 | R1019A |
| R1019B | R1020 | S128 | S129 | S130 | - | - | S149 |
| S154 | S155 | S156 | S157 | S516 | S517 | S518 | S519 |

| | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|
| S900 | S1011 | S1012 | S1015 | S1019 | S1020 | SEH3 | - |
| - | - | R159 | R160 | R161* | R162 | R167A | R167B |
| R168* | R521A | R521B | R523* | R524 | R525 | R526* | R601A |
| R601B | R604 | R605 | R610A | R610B | R611A | R611B | R611C |

Address 10-1F

| Bit 1 | Bit 2 | Bit 3 | Bit 4 | Bit 5 | Bit 6 | Bit 7 | Bit 8 |
|----------|---------|--------|--------|-------|-------|--------|----------|
| R612 | R615 | R804 | R902A | R902B | R903 | R904 | R906 |
| R907A | R907B | R908A | R908B | R909A | R909B | R1101A | R1101B |
| R1103A | R1103B | R1104A | R1104B | S159 | S160 | S161 | S162 |
| S167 | S168 | S521 | S523 | S524 | S525 | S526 | S601 |
| S604 | S605 | S610 | S611 | S612 | S615 | S804 | S902 |
| S903 | S904 | S906 | S907 | S908 | S909 | S1101 | S1103 |
| S1104 | L906TRS | R169 | R170A | R170B | R173 | R174 | R176A |
| R176B | R177 | R180 | R193A | R193B | R194A | R194B | R527 |
| R528 | R529A | R529B | R532A | R532B | R532C | R533A | R533B |
| R534A | R534B | R910A | R910B | R911 | R915A | R915B | R916 |
| S169 | S170 | S173 | S174 | S176 | S177 | S180 | S193 |
| S194 | S527 | S528 | S529 | S532 | S533 | S534 | S910 |
| S911 | S915 | S916 | R209 | R211* | R212 | R213A | R213B |
| R213C | R214* | R216A | R216B | R217 | R222 | R535A | R535B |
| R537* | R538A | R538B | R539A | R539B | R540* | R542 | R851A(M) |
| R851B(S) | R852A | R852B | R852C | R853 | R857A | R857B | R858 |

Address 20-2F

| Bit 1 | Bit 2 | Bit 3 | Bit 4 | Bit 5 | Bit 6 | Bit 7 | Bit 8 |
|----------|--------|----------|--------|---------|---------|----------|----------|
| R859 | R860A* | R860B* | R990 | R991 | S209 | S211 | S212 |
| S213 | S214 | S216 | S217 | S222 | S535 | S537 | S538 |
| S539 | S540 | S542 | S851 | S852 | S853 | S857 | S858 |
| S859 | S860 | S990 | S991 | L851TRS | L858TRS | R233A | R233B |
| R236A | R236B | R238 | R243 | R244 | R251A* | R251B* | R252 |
| R253 | R254A* | R254B* | R543A | R543B | R544A | R544B | R545 |
| R547A* | R547B* | R548A | R548B | R550 | R551A | R551B | R555 |
| R556A* | R556B* | S233 | S236 | S238 | S243 | S244 | S251 |
| S252 | S253 | S254 | S543 | S544 | S545 | S547 | S548 |
| S550 | S551 | S555 | S556 | L548TRS | L551TRS | R271 | R272 |
| R273* | R274 | R275A | R275B | R276A* | R276B* | R276C* | R276D* |
| R557A* | R557B* | R558A | R558B | R559A | R559B | R560A* | R560B* |
| R560C* | R560D* | R560E(S) | R734 | R737 | R738 | R743A(M) | R743B(M) |
| R743C(S) | R930 | R1029A | R1029B | R1031A | R1031B | R1032A | R1032B |
| R1035 | S271 | S272 | S273 | S274 | S275 | S276 | S557 |
| S558 | S559 | S560 | S734 | S737 | S738 | S743 | S930 |

Address 30-3F

| Bit 1 | Bit 2 | Bit 3 | Bit 4 | Bit 5 | Bit 6 | Bit 7 | Bit 8 |
|----------|----------|----------|---------|---------|---------|---------|---------|
| S1029 | S1031 | S1032 | S1035 | L738TRS | L930TRS | R303A* | R303B* |
| R304 | R305 | R306A* | R306B* | R308 | R565A* | R565B* | R566A |
| R566B | R568 | R569A | R569B | R571 | R572A* | R572B* | S303 |
| S304 | S305 | S306 | S308 | S565 | S566 | S568 | S569 |
| S571 | S572 | L566TRS | L569TRS | R325 | R327A* | R327B* | R327C* |
| R327D* | R330A | R330B | R331 | R334* | R575A* | R575B* | R575C* |
| R575D* | R576A | R576B | R578A | R578B | R582A | R582B | R583A |
| R583B | R586A* | R586B* | S325 | S327 | S330 | S331 | S334 |
| S575 | S576 | S578 | S582 | S583 | S586 | L576TRS | L582TRS |
| R351A(M) | R351B(M) | R351C(S) | R352A | R352B | R353A* | R353B* | R353C* |

| | | | | | | | |
|----------|----------|----------|----------|----------|----------|----------|-------------|
| R354A(S) | R354B(M) | R354C(M) | R587A(M) | R587B(S) | R588B(M) | R588C(M) | R590 |
| R591A* | R591B* | R591C* | R592A(S) | R592B(M) | R592C(M) | R596A(S) | R596B(M) |
| R596C(M) | R1053A | R1053B | R1053C | R1055A | R1055B | R1055C | S351 |
| S352 | S353 | S354 | S587 | S588 | S590 | S591 | S592 |
| S596 | S1053 | S1055 | SSW3 | L354TRS | L592TRS | L596TRS | R1401 |
| R1410 | R1501 | RUR01 | RUR03 | RUR05/06 | RUR07 | RUR09/10 | RUR11/12/13 |

Address 40-41

| Bit 1 | Bit 2 | Bit 3 | Bit 4 | Bit 5 | Bit 6 | Bit 7 | Bit 8 |
|----------|------------|------------|---------|---------|---------|----------|-----------|
| RUR14/15 | RUR16/17 | L4012REL | L4001Y | LR156Y | LR1015Y | LR1020Y | LR2043/44 |
| LFENFIRE | LAR2153/54 | LDR2153/54 | LAR2161 | LDR2161 | LSW3 | R276E(S) | - |

The following table details the meshed routes (indicated by a * in the above tables). The meshed route is set when any of the individual route items are set.

| Meshed Route | Individual Route Items | | |
|--------------|------------------------|------------|---------|
| R101A | R101A-1 | R101A-2 | |
| R103A | R103A-1 | R103A-2 | |
| R106A | R106A(M) | R106A(C) | |
| R106B | R106B(M) | R106B(C) | |
| R106C-1 | R106C-1(M) | R106C-1(C) | |
| R106C-2 | R106C-2(M) | R106C-2(C) | |
| R106D-1 | R106D-1(M) | R106D-1(C) | |
| R106D-2 | R106D-2(M) | R106D-2(C) | |
| R505B | R505B-1 | R505B-2 | |
| R507B | R507B-1 | R507B-2 | |
| R510A-1 | R510A-1(M) | R510A-1(C) | |
| R510A-2 | R510A-2(M) | R510A-2(C) | |
| R510B-1 | R510B-1(M) | R510B-1(C) | |
| R510B-2 | R510B-2(M) | R510B-2(C) | |
| R510C | R510C(M) | R510C(C) | |
| R510D | R510D(M) | R510D(C) | |
| R1002A | R1002A-1 | R1002A-2 | |
| R1002B | R1002B-1 | R1002B-2 | |
| R1004C | R1004C-1 | R1004C-2 | |
| R1004D | R1004D-1 | R1004D-2 | |
| R157A | R157A(M) | R157A(W) | |
| R161 | R161(M) | R161(C) | |
| R168 | R168(M) | R168(W) | R168(C) |
| R523 | R523(M) | R523(C) | |
| R526 | R526(M) | R526(C) | |
| R211 | R211(M) | R211(C) | |
| R214 | R214(M) | R214(W) | R214(C) |
| R537 | R537(M) | R537(C) | |
| R540 | R540(M) | R540(C) | |
| R860A | R860A(M) | R860A(W) | |
| R860B | R860B(M) | R860B(W) | |
| R251A | R251A(M) | R251A(C) | |
| R251B | R251B(M) | R251B(C) | |
| R254A | R254A(M) | R254A(C) | |
| R254B | R254B(M) | R254B(C) | |
| R547A | R547A(M) | R547A(C) | |
| R547B | R547B(M) | R547B(C) | |
| R556A | R556A(M) | R556A(C) | |
| R556B | R556B(M) | R556B(C) | |

| Meshed Route | Individual Route Items | | |
|--------------|------------------------|----------|--|
| R273 | R273(M) | R273(C) | |
| R276A | R276A(M) | R276A(C) | |
| R276B | R276B(M) | R276B(C) | |
| R276C | R276C(M) | R276C(C) | |
| R276D | R276D(M) | R276D(C) | |
| R557A | R557A(M) | R557A(C) | |
| R557B | R557B(M) | R557B(C) | |
| R560A | R560A(M) | R560A(C) | |
| R560B | R560B(M) | R560B(C) | |
| R560C | R560C(M) | R560C(C) | |
| R560D | R560D(M) | R560D(C) | |
| R303A | R303A(M) | R303A(C) | |
| R303B | R303B(M) | R303B(C) | |
| R306A | R306A(M) | R306A(C) | |
| R306B | R306B(M) | R306B(C) | |
| R565A | R565A(M) | R565A(C) | |
| R565B | R565B(M) | R565B(C) | |
| R572A | R572A(M) | R572A(C) | |
| R572B | R572B(M) | R572B(C) | |
| R327A | R327A(M) | R327A(C) | |
| R327B | R327B(M) | R327B(C) | |
| R327C | R327C(M) | R327C(C) | |
| R327D | R327D(M) | R327D(C) | |
| R334 | R334(M) | R334(C) | |
| R575A | R575A(M) | R575A(C) | |
| R575B | R575B(M) | R575B(C) | |
| R575C | R575C(M) | R575C(C) | |
| R575D | R575D(M) | R575D(C) | |
| R586A | R586A(M) | R586A(C) | |
| R586B | R586B(M) | R586B(C) | |
| R353A | R353A(M) | R353A(C) | |
| R353B | R353B(M) | R353B(C) | |
| R353C | R353C(M) | R353C(C) | |
| R591A | R591A(M) | R591A(C) | |
| R591B | R591B(M) | R591B(C) | |
| R591C | R591C(M) | R591C(C) | |

Changes in the status of the following signalling items are received from SMART PC 1:

None

15.5 LINK STATUS

Changes in the status of remote links will be transmitted to SDS1 and SDS2.

16 SMART PC 2

16.1 OVERVIEW

This link operates on port 18. It is a links to SMART PC 2 with **ETB** type initialisation.

16.2 LINK CHARACTERISTICS

| Link Characteristics for SMART PC 2 | | | |
|-------------------------------------|---------------|---------------------------|-------------|
| Port(s) | 18 | Baud Rate | 9600 |
| Physical Name | PI | Time-out Period (seconds) | 2 |
| Area | SMT2 | Message Retry Count | 3 |
| Protocol | BR1810 | Message Retry Field Flag | Set |

16.3 BERTHS

Changes in the contents of all berths known to LT&S (Main) ECS will be transmitted to SMART PC 2.

An EXCEPT statement has been included due to the addition of the Cab Secure Radio system, since these berths are already transmitted by LT&S (Loop) ECS to SMART PC 2. Therefore, the berths in Section 2.1.4 are included in the remote system file under an "ALL EXCEPT" statement.

Berth GAPP cannot be sent as UAPP as this berth name is already used within Stratford IECC. To overcome this, GAPP is renamed and transmitted as UGAP

i.e. {GAPP UGAP}

No berth information is transmitted by SMART PC 2.

16.4 SIGNALLING IDENTITIES

Changes in the status of the following signalling items are transmitted to SMART PC 2:

Address 00-0F

| Bit 1 | Bit 2 | Bit 3 | Bit 4 | Bit 5 | Bit 6 | Bit 7 | Bit 8 |
|----------|----------|----------|----------|----------|----------|----------|----------|
| R101A* | R101B | R103A* | R103B | R106A* | R106B* | R106C-1* | R106C-2* |
| R106D-1* | R106D-2* | R107 | R108 | R112A | R112B | R116 | R505A |
| R505B* | R507A | R507B* | R510A-1* | R510A-2* | R510B-1* | R510B-2* | R510C* |
| R510D* | R511 | R512 | R1002A* | R1002B* | R1002C | R1002D | R1004A |
| R1004B | R1004C* | R1004D* | S101 | S103 | S106 | S107 | S108 |
| S112 | S116 | S505 | S507 | S510 | S511 | S512 | S1002 |
| S1004 | L101TRS | L103TRS | L505TRS | L507TRS | R128 | R129A | R129B |
| R130A | R130B | R149A(M) | R149B(S) | R154 | R155A | R155B | R156A(M) |
| R156B(S) | R157A* | R157B(M) | R516 | R517A | R517B | R518A | R518B |
| R519A | R519B | R900A(M) | R1011 | R1012A | R1012B | R1015 | R1019A |
| R1019B | R1020 | S128 | S129 | S130 | - | - | S149 |
| S154 | S155 | S156 | S157 | S516 | S517 | S518 | S519 |

| | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|
| S900 | S1011 | S1012 | S1015 | S1019 | S1020 | SEH3 | - |
| - | - | R159 | R160 | R161* | R162 | R167A | R167B |
| R168* | R521A | R521B | R523* | R524 | R525 | R526* | R601A |
| R601B | R604 | R605 | R610A | R610B | R611A | R611B | R611C |

Address 10-1F

| Bit 1 | Bit 2 | Bit 3 | Bit 4 | Bit 5 | Bit 6 | Bit 7 | Bit 8 |
|----------|---------|--------|--------|-------|-------|--------|----------|
| R612 | R615 | R804 | R902A | R902B | R903 | R904 | R906 |
| R907A | R907B | R908A | R908B | R909A | R909B | R1101A | R1101B |
| R1103A | R1103B | R1104A | R1104B | S159 | S160 | S161 | S162 |
| S167 | S168 | S521 | S523 | S524 | S525 | S526 | S601 |
| S604 | S605 | S610 | S611 | S612 | S615 | S804 | S902 |
| S903 | S904 | S906 | S907 | S908 | S909 | S1101 | S1103 |
| S1104 | L906TRS | R169 | R170A | R170B | R173 | R174 | R176A |
| R176B | R177 | R180 | R193A | R193B | R194A | R194B | R527 |
| R528 | R529A | R529B | R532A | R532B | R532C | R533A | R533B |
| R534A | R534B | R910A | R910B | R911 | R915A | R915B | R916 |
| S169 | S170 | S173 | S174 | S176 | S177 | S180 | S193 |
| S194 | S527 | S528 | S529 | S532 | S533 | S534 | S910 |
| S911 | S915 | S916 | R209 | R211* | R212 | R213A | R213B |
| R213C | R214* | R216A | R216B | R217 | R222 | R535A | R535B |
| R537* | R538A | R538B | R539A | R539B | R540* | R542 | R851A(M) |
| R851B(S) | R852A | R852B | R852C | R853 | R857A | R857B | R858 |

Address 20-2F

| Bit 1 | Bit 2 | Bit 3 | Bit 4 | Bit 5 | Bit 6 | Bit 7 | Bit 8 |
|----------|--------|----------|--------|---------|---------|----------|----------|
| R859 | R860A* | R860B* | R990 | R991 | S209 | S211 | S212 |
| S213 | S214 | S216 | S217 | S222 | S535 | S537 | S538 |
| S539 | S540 | S542 | S851 | S852 | S853 | S857 | S858 |
| S859 | S860 | S990 | S991 | L851TRS | L858TRS | R233A | R233B |
| R236A | R236B | R238 | R243 | R244 | R251A* | R251B* | R252 |
| R253 | R254A* | R254B* | R543A | R543B | R544A | R544B | R545 |
| R547A* | R547B* | R548A | R548B | R550 | R551A | R551B | R555 |
| R556A* | R556B* | S233 | S236 | S238 | S243 | S244 | S251 |
| S252 | S253 | S254 | S543 | S544 | S545 | S547 | S548 |
| S550 | S551 | S555 | S556 | L548TRS | L551TRS | R271 | R272 |
| R273* | R274 | R275A | R275B | R276A* | R276B* | R276C* | R276D* |
| R557A* | R557B* | R558A | R558B | R559A | R559B | R560A* | R560B* |
| R560C* | R560D* | R560E(S) | R734 | R737 | R738 | R743A(M) | R743B(M) |
| R743C(S) | R930 | R1029A | R1029B | R1031A | R1031B | R1032A | R1032B |
| R1035 | S271 | S272 | S273 | S274 | S275 | S276 | S557 |
| S558 | S559 | S560 | S734 | S737 | S738 | S743 | S930 |

Address 30-3F

| Bit 1 | Bit 2 | Bit 3 | Bit 4 | Bit 5 | Bit 6 | Bit 7 | Bit 8 |
|----------|----------|----------|---------|---------|---------|---------|---------|
| S1029 | S1031 | S1032 | S1035 | L738TRS | L930TRS | R303A* | R303B* |
| R304 | R305 | R306A* | R306B* | R308 | R565A* | R565B* | R566A |
| R566B | R568 | R569A | R569B | R571 | R572A* | R572B* | S303 |
| S304 | S305 | S306 | S308 | S565 | S566 | S568 | S569 |
| S571 | S572 | L566TRS | L569TRS | R325 | R327A* | R327B* | R327C* |
| R327D* | R330A | R330B | R331 | R334* | R575A* | R575B* | R575C* |
| R575D* | R576A | R576B | R578A | R578B | R582A | R582B | R583A |
| R583B | R586A* | R586B* | S325 | S327 | S330 | S331 | S334 |
| S575 | S576 | S578 | S582 | S583 | S586 | L576TRS | L582TRS |
| R351A(M) | R351B(M) | R351C(S) | R352A | R352B | R353A* | R353B* | R353C* |

| | | | | | | | |
|----------|----------|----------|----------|----------|----------|----------|-------------|
| R354A(S) | R354B(M) | R354C(M) | R587A(M) | R587B(S) | R588B(M) | R588C(M) | R590 |
| R591A* | R591B* | R591C* | R592A(S) | R592B(M) | R592C(M) | R596A(S) | R596B(M) |
| R596C(M) | R1053A | R1053B | R1053C | R1055A | R1055B | R1055C | S351 |
| S352 | S353 | S354 | S587 | S588 | S590 | S591 | S592 |
| S596 | S1053 | S1055 | SSW3 | L354TRS | L592TRS | L596TRS | R1401 |
| R1410 | R1501 | RUR01 | RUR03 | RUR05/06 | RUR07 | RUR09/10 | RUR11/12/13 |

Address 40-41

| Bit 1 | Bit 2 | Bit 3 | Bit 4 | Bit 5 | Bit 6 | Bit 7 | Bit 8 |
|----------|------------|------------|---------|---------|---------|----------|-----------|
| RUR14/15 | RUR16/17 | L4012REL | L4001Y | LR156Y | LR1015Y | LR1020Y | LR2043/44 |
| LFENFIRE | LAR2153/54 | LDR2153/54 | LAR2161 | LDR2161 | LSW3 | R276E(S) | - |

The following table details the meshed routes (indicated by a * in the above tables). The meshed route is set when any of the individual route items are set.

| Meshed Route | Individual Route Items | | |
|--------------|------------------------|------------|---------|
| R101A | R101A-1 | R101A-2 | |
| R103A | R103A-1 | R103A-2 | |
| R106A | R106A(M) | R106A(C) | |
| R106B | R106B(M) | R106B(C) | |
| R106C-1 | R106C-1(M) | R106C-1(C) | |
| R106C-2 | R106C-2(M) | R106C-2(C) | |
| R106D-1 | R106D-1(M) | R106D-1(C) | |
| R106D-2 | R106D-2(M) | R106D-2(C) | |
| R505B | R505B-1 | R505B-2 | |
| R507B | R507B-1 | R507B-2 | |
| R510A-1 | R510A-1(M) | R510A-1(C) | |
| R510A-2 | R510A-2(M) | R510A-2(C) | |
| R510B-1 | R510B-1(M) | R510B-1(C) | |
| R510B-2 | R510B-2(M) | R510B-2(C) | |
| R510C | R510C(M) | R510C(C) | |
| R510D | R510D(M) | R510D(C) | |
| R1002A | R1002A-1 | R1002A-2 | |
| R1002B | R1002B-1 | R1002B-2 | |
| R1004C | R1004C-1 | R1004C-2 | |
| R1004D | R1004D-1 | R1004D-2 | |
| R157A | R157A(M) | R157A(W) | |
| R161 | R161(M) | R161(C) | |
| R168 | R168(M) | R168(W) | R168(C) |
| R523 | R523(M) | R523(C) | |
| R526 | R526(M) | R526(C) | |
| R211 | R211(M) | R211(C) | |
| R214 | R214(M) | R214(W) | R214(C) |
| R537 | R537(M) | R537(C) | |
| R540 | R540(M) | R540(C) | |
| R860A | R860A(M) | R860A(W) | |
| R860B | R860B(M) | R860B(W) | |
| R251A | R251A(M) | R251A(C) | |
| R251B | R251B(M) | R251B(C) | |
| R254A | R254A(M) | R254A(C) | |
| R254B | R254B(M) | R254B(C) | |
| R547A | R547A(M) | R547A(C) | |
| R547B | R547B(M) | R547B(C) | |
| R556A | R556A(M) | R556A(C) | |
| R556B | R556B(M) | R556B(C) | |

| Meshed Route | Individual Route Items | | |
|--------------|------------------------|----------|--|
| R273 | R273(M) | R273(C) | |
| R276A | R276A(M) | R276A(C) | |
| R276B | R276B(M) | R276B(C) | |
| R276C | R276C(M) | R276C(C) | |
| R276D | R276D(M) | R276D(C) | |
| R557A | R557A(M) | R557A(C) | |
| R557B | R557B(M) | R557B(C) | |
| R560A | R560A(M) | R560A(C) | |
| R560B | R560B(M) | R560B(C) | |
| R560C | R560C(M) | R560C(C) | |
| R560D | R560D(M) | R560D(C) | |
| R303A | R303A(M) | R303A(C) | |
| R303B | R303B(M) | R303B(C) | |
| R306A | R306A(M) | R306A(C) | |
| R306B | R306B(M) | R306B(C) | |
| R565A | R565A(M) | R565A(C) | |
| R565B | R565B(M) | R565B(C) | |
| R572A | R572A(M) | R572A(C) | |
| R572B | R572B(M) | R572B(C) | |
| R327A | R327A(M) | R327A(C) | |
| R327B | R327B(M) | R327B(C) | |
| R327C | R327C(M) | R327C(C) | |
| R327D | R327D(M) | R327D(C) | |
| R334 | R334(M) | R334(C) | |
| R575A | R575A(M) | R575A(C) | |
| R575B | R575B(M) | R575B(C) | |
| R575C | R575C(M) | R575C(C) | |
| R575D | R575D(M) | R575D(C) | |
| R586A | R586A(M) | R586A(C) | |
| R586B | R586B(M) | R586B(C) | |
| R353A | R353A(M) | R353A(C) | |
| R353B | R353B(M) | R353B(C) | |
| R353C | R353C(M) | R353C(C) | |
| R591A | R591A(M) | R591A(C) | |
| R591B | R591B(M) | R591B(C) | |
| R591C | R591C(M) | R591C(C) | |

Changes in the status of the following signalling items are received from SMART PC 2:

None

16.5 LINK STATUS

Changes in the status of remote links will be transmitted to SDS1 and SDS2.

17 C2C

17.1 OVERVIEW

This link operates on port 19. It is a link to C2C with **ETB** type initialisation.

17.2 LINK CHARACTERISTICS

| Link Characteristics for C2C | | | |
|------------------------------|---------------|---------------------------|-------------|
| Port(s) | 19 | Baud Rate | 9600 |
| Physical Name | PJ | Time-out Period (seconds) | 2 |
| Area | LICC | Message Retry Count | 3 |
| Protocol | BR1810 | Message Retry Field Flag | Set |

17.3 BERTHS

Changes in the contents of all berths known to LT&S (Main) ECS will be transmitted to C2C.

No berth information is transmitted by C2C.

17.4 SIGNALLING IDENTITIES

No signalling identities are transmitted to C2C.

17.5 LINK STATUS

Changes in the status of remote links will be transmitted to SDS1 and SDS2.