The General Managers (OL),
All Indian Railways.

Sub.: New Wagon Numbering System.

As you are aware, monitoring and liquidating overdue arrears of rolling stock is a focus area in the interest of safety of train operations. However, some of the Railways have reported difficulty in ascertaining the age of wagons where the manufacturer’s plate is missing. Also, computerization of wagon data is becoming cumbersome with development of various versions in a category e.g. BG bogie open wagons BOXN, BOXNHS, BOXNA, BOXNCR and BOXNLW are being clubbed together by the computer cell and shown as BOXN in the holding.

To overcome the above-mentioned problems and to facilitate computerization of the wagon data base, a new wagon numbering system has been evolved in consultation with zonal railways, RDSO and C&IS directorate of the Board.

As per the new scheme, the wagon number shall consist of 11 digits. First two digits will indicate ‘Type of Wagon’. Next two digits will indicate ‘Owning Railway’. Next two digits will indicate ‘Year of Manufacture’. Next four digits will indicate ‘Individual Wagon Number’ and the last digit will be a ‘Check digit’.

<table>
<thead>
<tr>
<th>Type of Wagon</th>
<th>Owning Rly</th>
<th>Year of Manufacture</th>
<th>Individual Wagon Number</th>
<th>Check Digit</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1 C2</td>
<td>C3 C4</td>
<td>C5 C6</td>
<td>C7 C8 C9 C10 C11</td>
<td></td>
</tr>
</tbody>
</table>

The codification scheme and procedure of calculating check digit may be seen in the enclosed Annexure. For clarification, two examples have also been worked out.

However, for the convenience in normal day-to-day use, type of wagons would be stenciled alphabetically also. For example, Northern Railway owned BOXNHS wagon no. 4567 manufactured in 2003 would be stenciled as

BOXNHS 12030345679
5. Above mentioned new wagon numbering scheme should be adopted for all newly manufactured wagons, whose marking particulars are issued by the zonal railways/CONCOR after the receipt of this letter.

Please acknowledge and confirm compliance.

21/7/83

(A. K. PUTHIA)
Executive Director, Mech. Engg. (Frt.)

Copy to:
1. CME(OL)/All Indian Railways -- for information and necessary action please.
2. COM/All Indian Railways -- for information and necessary action please.
3. GGM(Tech.)/CONCOR -- for information and necessary action please.
4. EDTT(M),ED(C&IS),EDRS(S), Railway Board for information & necessary action please.
5. ED(I&L)/RDSO -- to please ensure that wagons owned by private parties also follow the above numbering scheme henceforth.
ANNEXURE

NEW WAGON NUMBERING SCHEME-2003

1.0 As per the new scheme, the wagon number shall consist of 11 digits. First two digits will indicate ‘Type of Wagon’ Next two digits will indicate ‘Owning Railway’. Next two digits will indicate ‘Year of Manufacture’. Next four digits will indicate ‘Individual Wagon Number’ and the last digit will be a ‘Check digit’.

<table>
<thead>
<tr>
<th>Type of wagon</th>
<th>Owning Rly</th>
<th>Year of manufacture</th>
<th>Individual Wagon Number</th>
<th>Check Digit</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1 C2</td>
<td>C3 C4</td>
<td>C5 C6</td>
<td>C7 C8 C9 C10</td>
<td>C11</td>
</tr>
</tbody>
</table>

2.0 TYPE OF WAGON CODES (C1.C2)

i) Open Wagon -  
Code allotted 10 to 29

- BOXN 10
- BOXNHA 11
- BOXNHS 12
- BOXNCR 13
- BOXNLW 14
- BOXNB 15
- BOXNF 16
- BOXNG 17
- BOY 18
- BOST 19
- BOXNAL 20

ii) Covered Wagon -  
Code allotted 30 to 39

- BCNA 30
- BCNAHS 31
- BCCNR 32

iii) Tank Wagon -  
Code allotted 40 to 54

- BTPN 40
- BTPNHS 41
- BTPGLN 42
- BTALN 43
- BTCS 44
- BTPH 45
- BTAP 46

iv) Flat Wagon -  
Code allotted 55 to 69

- BRNA 55
- BRNAHS 56
- BFNS 57
- BOMN 58
- BRSTH 59
BFAT — 60
BLCA — 61
BLCB — 62

v) Hopper Wagon
BOBYN — 70
BOBYNHS — 71
BOBRN — 72
BOBRNHS — 73
BOBRAL — 74

vi) Well Wagon
BWTB — 80

vii) Brake Van
BVZC — 85
BVZI — 86

3.0 OWNERSHIP (RAILWAYS') CODES (C3,C4):

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of Railways</th>
<th>Numerical codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Central Railway</td>
<td>01</td>
</tr>
<tr>
<td>2</td>
<td>Eastern Railway</td>
<td>02</td>
</tr>
<tr>
<td>3</td>
<td>Northern Railway</td>
<td>03</td>
</tr>
<tr>
<td>4</td>
<td>North East Railway</td>
<td>04</td>
</tr>
<tr>
<td>5</td>
<td>Northeast Frontier Railway</td>
<td>05</td>
</tr>
<tr>
<td>6</td>
<td>Southern Railway</td>
<td>06</td>
</tr>
<tr>
<td>7</td>
<td>South Eastern Railway</td>
<td>07</td>
</tr>
<tr>
<td>8</td>
<td>Western Railway</td>
<td>08</td>
</tr>
<tr>
<td>9</td>
<td>South Central Railway</td>
<td>09</td>
</tr>
<tr>
<td>10</td>
<td>East Central Railway</td>
<td>10</td>
</tr>
<tr>
<td>11</td>
<td>North Western Railway</td>
<td>11</td>
</tr>
<tr>
<td>12</td>
<td>East Coast Railway</td>
<td>12</td>
</tr>
<tr>
<td>13</td>
<td>North Central Railway</td>
<td>13</td>
</tr>
<tr>
<td>14</td>
<td>South East Central Railway</td>
<td>14</td>
</tr>
<tr>
<td>15</td>
<td>South Western Railway</td>
<td>15</td>
</tr>
<tr>
<td>16</td>
<td>West Central Railway</td>
<td>16</td>
</tr>
<tr>
<td>17</td>
<td>Wagons owned by CONCOR</td>
<td>25</td>
</tr>
<tr>
<td>18</td>
<td>Wagons owned by other private parties</td>
<td>26</td>
</tr>
<tr>
<td>19</td>
<td>Wagons owned by Defence</td>
<td>34</td>
</tr>
</tbody>
</table>

4.0 YEAR OF MANUFACTURE CODE (C5,C6):

This will consist of last two digits of the year of manufacture. For example, wagon manufacture in 2016 will have code 16.

5.0 INDIVIDUAL WAGON No. (C7,C8,C9,C10):

This will be running serial number from 0001 to 9999. Numbers 0001 to 0999 will be departmental stock and 1000 to 9999 will be for other traffic stock. This will be running number
irrespective of year. For departmental, after 9999, the number will begin from 0001. For others, after 9999, the number will begin from 1000.

The series will not change with type of wagon. For example, on ECR if 1001 is BOXNHS, next wagon which may be BCNHS will be 1002.

6.0 **CHECK DIGIT** — Method of calculation

The ‘Check Digit’ for each wagon is calculated using a six-step algorithm based on ten digit wagon number arrived at as indicated below.

<table>
<thead>
<tr>
<th>Type of wagon</th>
<th>Railway Code</th>
<th>Year of manufacture</th>
<th>Individual Wagon Number</th>
<th>Check Digit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C1 C2</td>
<td>C3 C4</td>
<td>C5 C6</td>
<td>C7 C8 C9 C10</td>
</tr>
</tbody>
</table>

Step – 1  Starting from the left, add all the Characters in the even position.

\[ S_1 = C_2 + C_4 + C_6 + C_8 + C_{10} \]

Step – 2  Multiply the sum by 3 to get 3S1

Step – 3  Starting from the left, add all the Characters in the odd position.

\[ S_2 = C_1 + C_3 + C_5 + C_7 + C_9 \]

Step – 4  Add the sum of step 2 to the sum of step 3 to get S4= 3S1 + S2

Step – 5  Round this total up to the next multiple of 10.

Step – 6  The check digit is the number required to be added to round up to the next multiple of 10

*Note: If the total in S4 is already a multiple of 10, then the check digit is 0.

7.0 **EXAMPLES**:

7.1

<table>
<thead>
<tr>
<th>Type of wagon</th>
<th>Railway Code</th>
<th>Year of manufacture</th>
<th>Individual Wagon Number</th>
<th>Check Digit</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOXNHS</td>
<td>N Rly.</td>
<td>2003</td>
<td>0 3 4 5 6 7 9</td>
<td></td>
</tr>
</tbody>
</table>

Step – 1  Starting from the left, add all the Characters in the even position.

\[ S_1 = 2 + C_4 + C_6 + C_8 + C_{10} \]

Step – 2  Multiply the sum by 3 to get 3S1

\[ 3S_1 = 3 \times 20 = 60 \]

Step – 3  Starting from the left, add all the Characters in the odd position.

\[ S_2 = C_1 + C_3 + C_5 + C_7 + C_9 \]

\[ S_2 = 1 + 0 + 0 + 4 + 6 = 11 \]
Step - 4 Add the sum of step 2 to the sum of step 3 to get $S_4 = 3S_1 + S_2$

$S_4 = 60 + 11 = 71$

Step - 5 Round this total ($S_4$) up to the next multiple of 10.

$71 + 9 = 80$

Step - 6 The check digit is the number required to be added to round up to the next multiple of 10. **Check digit is 9**

Therefore, the wagon number will be stenciled as:

BOXNHS

12030345679

### 7.2

<table>
<thead>
<tr>
<th>Type of wagon</th>
<th>Railway Code</th>
<th>Year of manufacture</th>
<th>Individual Wagon Number</th>
<th>Check Digit</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 1</td>
<td>1 0</td>
<td>1 6</td>
<td>9 5 2 1</td>
<td>5</td>
</tr>
<tr>
<td>BCNAHS</td>
<td>EC Rly.</td>
<td>2016</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Step - 1 Starting from the left, add all the Characters in the even position.

$S_1 = C_2 + C_4 + C_6 + C_8 + C_{10}$

$S_1 = 1 + 0 + 6 + 5 + 1 = 13$

Step - 2 Multiply the sum by 3 to get $3S_1$

$3S_1 = 3 \times 13 = 39$

Step - 3 Starting from the left, add all the Characters in the odd position

$S_2 = C_1 + C_3 + C_5 + C_7 + C_9$

$S_2 = 3 + 1 + 1 + 9 + 2 = 16$

Step - 4 Add the sum of step 2 to the sum of step 3 to get $S_4 = 3S_1 + S_2$

$S_4 = 39 + 16 = 55$

Step - 5 Round this total ($S_4$) up to the next multiple of 10.

$55 + 5 = 60$

Step - 6 The check digit is the number required to be added to round up to the next multiple of 10. **Check digit is 5**

Therefore, the wagon number will be stenciled as:

BCNAHS

31101695215

*Note: If the total $S_4$ is already a multiple of 10, then the check digit is 0.*

(A.K. PUTHIA)

Executive Director, Mech. Engg. (Fr.)