Draft Determination consistent price lists: key assumptions and forecast income

Published 31 July 2018

Purpose

The purpose of this note is to set out the key assumptions which underpin the following Control Period 6 (CP6) price lists that we published on 31 July 2018, consistent with ORR's Draft Determination:

- Variable Usage Charge (VUC);
- Freight Specific Charge (FSC);
- Open Access Infrastructure Cost Charge (ICC);
- Electrification Asset Usage Charge (EAUC);
- Managed Station Long Term Charge (LTC);
- Franchised Station Long Term Charge (LTC); and

We also set out in this document our forecast income in CP6 from the, above, charges.

In addition, we explain the assumptions that underpin our proposed Distribution System Loss Factors for CP6, which will be used to charge metered train operators for their traction electricity consumption.

This note does not cover Fixed Track Access Charges (FTACs) that will be payable by franchised passenger operators in CP6. We are planning to publish a draft FTAC price list in mid-August and we will publish our assumptions and forecast CP6 income alongside this price list.

We encourage stakeholders to review these draft price lists in detail and if they identify any issues please send them to Regulatory.Economics@networkrail.co.uk by COP 28 September 2018. Where appropriate, we will then address these issues prior to publishing final price lists on 20 December 2018. Once we publish final prices in December 2018 it will not be possible to re-open these prices until CP7 (i.e. 1 April 2024). Therefore, we strongly encourage operators to take this opportunity to work with us and resolve any potential issues now.

The models used to produce these CP6 draft price lists have either been quality assured by Steer Davies Gleave or Arup. The Arup report has been published alongside the draft price lists and will be available on our website (here) imminently. The Steer Davies Gleave report will be shared shortly.

This note does not include an assessment of the impact of these draft price lists on the charges that different operator groups (e.g. franchised passenger, freight, and open access operators) will pay in CP6. ORR is responsible for assessing the impact of changes to train operator charges. It has already published impact assessments, consistent with its Draft Determination here, and will be updating these following its Final Determination.

If you would like to discuss any aspects of this note or the draft price lists please contact Aaren Healy (Aaren.Healy@networkrail.co.uk / 07730 359 537) or Ben Worley (Ben.Worley@networkrail.co.uk / 07801 900 424).

Background

The draft price lists published alongside this note are the result of lengthy engagement with stakeholders.

In December 2016, ORR published a consultation on the policy to be used to calculate charges and incentives in CP6 (available here). This was followed by ORR's conclusions, which were published in June 2017 (available here).

Following the publication of ORR's conclusions, we published a consultation on the detailed methodology for recalibrating variable and station charges for CP6 (available here). We published our conclusions in May 2018 (available here).

The draft price lists published alongside this note reflect our May 2018 conclusions. The only exception is for franchised station long term charges where the methodology reflects that described to members of RDG's PR18 Working Group in June 2018.

Variable Usage Charge (VUC)

This section sets out our forecast income through the VUC in CP6 and the key assumptions underpinning our draft CP6 VUC price list.

Key assumptions

We set out, below, the key assumptions which underpin our draft VUC price list and CP6 income forecast, consistent with ORR's Draft Determination:

- The increase in Freight, Charter, North Yorkshire Moors and West Coast Rail Jacobite VUC rates will be capped/phased-in during CP6. The VUC will be set so that in years 1 and 2 of CP6, total variable charges (including forecast VUC, EUAC, EC4T, the capacity charge and the coal spillage charge) will be held constant in real terms (i.e. equal to the final year of CP5) for these operator groups. The VUC will increase in year 1 to offset the fall in total variable charges due to the removal of the capacity charge and the coal spillage charge in CP6. In the final three years of CP6 each VUC rate will increase on a straight-line transition to full cost recovery by the end of Control Period 7 (CP7).

- No capping or phasing-in will apply to franchised operators nor to open access passenger operators. Franchised operators are 'held harmless' by their franchise agreements and the open access passenger operator group is not forecast to incur a material increase in their total variable charges in CP6 given the decision to remove the Capacity Charge.

- All VUC rates reflect the assumed maintenance and renewal (M&R) efficiency improvement of 8.4% included by Network Rail in its February 2018 Strategic Business Plan (SBP). If ORR were to make a higher efficiency assumption in its Final Determination than we did in our SBP, this would serve to reduce the level of VUC rates.

- The income forecast set out, above, reflects the forecast level of passenger traffic set out in our February 2018 SBP. However, the passenger traffic forecast has been updated slightly to correct issues subsequently identified by Network Rail and ORR. These generally relate to train services being assigned to the incorrect operators, rather than the overall level of forecast traffic in CP6.

- The freight traffic forecast is the same as that which underpinned our February 2018 SBP income forecast. However, it corrects the detailed freight traffic forecast provided to ORR on the SBP SharePoint site, which included a transposition error.

- All VUC rates have been published in 2017/18 prices and, therefore, will need to be uplifted 2019/20 prices prior to the start of CP6 to reflect the impact of inflation. The VUC income forecast, below, is also shown in 2017/18 prices.

- VUC rates reflect the methodology set out in our May 2018 charging conclusions document available here.

- This draft VUC price list is based on the assumed vehicle characteristics contained in the spreadsheet ("20170728 VUC vehicle characteristics spreadsheet v4.xlsx"), which has been published alongside this note. These vehicle characteristics have been shared previously with stakeholders as part of our July 2017 variable charges consultation, and May 2018 charges conclusion document. **We are once again asking stakeholders to review these assumed characteristics and provide us with any comments on their factual accuracy**. If these vehicle characteristics are incorrect it will mean that the associated VUC rate will also be incorrect. It will not be possible re-open these characteristics during CP6, therefore, it is important that stakeholders work with us now to address any issues and contact us by 28 September 2018.

Forecast CP6 income

The table, below, sets out our forecast income from VUCs in CP6. We have disaggregated this income by franchised passenger, freight and open access operator groups to make it easier for stakeholders to review.

Operator type (£m, 2017/18 prices)	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Franchised passenger	186.3	269.4	277.4	280.8	282.3	285.1
Freight	47.5	50.5	51.8	56.9	62.9	71.3
Open Access	1.9	2.6	2.6	2.6	2.6	2.6
Total	**235.7**	**322.5**	**331.8**	**340.3**	**347.8**	**359.0**

Freight Specific Charge (FSC)

This section sets out our forecast income through the FSC in CP6 and the key assumptions underpinning our draft CP6 FSC price list. These rates have been calculated by ORR, rather than Network Rail.

Key assumptions

We set out, below, the key assumptions which underpin our draft FSC price list and CP6 income forecast, consistent with ORR's Draft Determination:

- In CP5, we have charged freight operators a Freight Specific Charge and a Freight Only Line charge. For CP6, these two charges have been merged into a single charge, the Freight Specific Charge.

- In its Draft Determination, ORR proposed that Coal ESI, Iron Ore, Nuclear, and ESI Biomass are the only freight commodities that should be subject to the FSC in CP6. CP6 will be the first time that the FSC will be levied on Biomass (in CP5 the charge was restricted to Coal ESI, Iron Ore and Nuclear).

- The CP6 FSC rate for each commodity is calculated as a 5-year average of the following rates:

    - 2019/20 and 2020/21 rates equal to the sum of the CP5 2018/19 Freight Only Line (FOL) Charge and FSC rates. For Biomass, the rate has been set equal to 75% of the level of the average Variable Usage Charge (net of any Capacity Charge) rate levied on biomass traffic in CP5.

    - For 2021/22 to 2023/24 the sum of the 2018/19 FOL and FSC rate, minus the increase in the VUC for each commodity in each year of CP6. This approach means that CP6 FSC rates are lower than the sum of FOL and FSC rates in 2018/19 for Coal ESI, Iron Ore and Nuclear traffic. However, on average, freight operators will pay the same in CP6 through VUC and FSC, as they did in CP5 through VUC, FSC, FOL charge and the Capacity Charge.

- The income forecast set out, above, reflects the forecast level of freight traffic which also underpinned our February 2018 SBP income forecast. However, it corrects the detailed freight traffic forecast provided to ORR on the SBP SharePoint site, which included a transposition error.

- No adjustment for efficiency has been made when calculating CP6 FSC rates. The reason for this is that ORR has capped these charges based on how much the relevant freight commodities can afford to pay in CP6.

- All FSC rates have been published in 2017/18 prices and, therefore, will need to be uplifted 2019/20 prices prior to the start of CP6 to reflect the impact of inflation. The FSC income forecast, below, is also shown in 2017/18 prices.

Forecast CP6 income

The table, below, sets out our forecast income from FSC in CP6. We have disaggregated this income by the relevant freight commodities to make it easier for stakeholders to review.

Operator type (£m, 2017/18 prices)	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Coal ESI	0.2	0.0	0.0	0.0	0.0	0.0
Iron Ore	0.2	0.2	0.2	0.2	0.2	0.2
Nuclear	0.6	0.6	0.6	0.6	0.6	0.7
Biomass	0.0	1.7	1.9	2.1	2.3	2.6
Total	**1.0**	**2.5**	**2.7**	**2.9**	**3.2**	**3.5**

Open Access Infrastructure Cost Charge (ICC)

This section sets out our forecast income from the ICC that ORR proposes levying on new interurban open access services in CP6, and the key assumptions underpinning our draft CP6 ICC price list.

Key assumptions

We set out, below, the key assumptions which underpin our draft ICC price list and CP6 income forecast, consistent with ORR's Draft Determination:

- We are not currently forecasting any income associate with this charge in CP6 because no new open access services are included in our SBP traffic forecast, on the basis that these services are not sufficiently certain yet. Also, as noted, above, all rates currently shown on the draft price list have a rate of £0.

- The only rates shown on the draft price list are for existing Grand Central, Hull Trains, Eurostar and Heathrow Express services. A rate of £0 is applicable to these services, reflecting ORR's proposal that ICCs should only apply to new entrant interurban open access services in CP6.

- Other 'minor' open access services (e.g. North Yorkshire Moors and West Coast Rail Jacobite services) have been purposely excluded from this price on the basis that ORR has proposed that these operators should not be subject to ICCs in CP6.

- No adjustment for efficiency has been made when calculating CP6 open access ICC rates. The reason for this is that ORR has set open access ICC rates at £4/train mile based on what it considers that interurban open access operators can afford to pay in CP6.

- ORR has not yet confirmed which market segment each open access Service Code on the price list belongs to (e.g. interurban or other). Therefore, this column is shown as 'TBC' on the draft price list.

- All ICC rates have been published in 2017/18 prices and, therefore, will need to be uplifted 2019/20 prices prior to the start of CP6 to reflect the impact of inflation. The ICC income forecast, below, is also shown in 2017/18 prices.

- **We request that stakeholders review the list of Service Codes shown on the draft ICC price and let us know if they identify any issues with this list**. For example, any existing open

access service codes which have been omitted in error, or any services codes on the list that are no longer used. Please contact us to inform us of any errors by 28 September 2018.

Forecast CP6 income

The table, below, sets out our forecast income through open access ICCs in CP6.

Operator type (£m, 2017/18 prices)	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Open Access	0.0	0.0	0.0	0.0	0.0	0.0

Electrification Asset Usage Charge (EAUC)

This section sets out our forecast income through the EAUC in CP6 and the key assumptions underpinning our draft CP6 EAUC price list.

Key assumptions

We set out, below, the key assumptions which underpin our draft EAUC price list and CP6 income forecast, consistent with ORR's Draft Determination:

- All EAUC rates reflect the assumed maintenance and renewal (M&R) efficiency improvements included by Network Rail in its February 2018 Strategic Business Plan (SBP). For electrification and fixed plant asset maintenance, this was c. 7.5% and for electrification and fixed plant asset renewal this was c. 11.3%. If ORR were to make a higher efficiency assumption in its Final Determination than we did in our SBP, this would serve to reduce the level of EAUC rates.

- The income forecast set out, below, reflects (for CP6) the forecast level of passenger traffic set out in our February 2018 SBP. However, the passenger traffic forecast has been updated slightly to correct issues subsequently identified by Network Rail and ORR. These generally relate to train services being assigned to the incorrect operators, rather than the overall level of forecast traffic in CP6.

- The freight traffic forecast (for CP6) is the same as that which underpinned our February 2018 SBP income forecast. However, it corrects the detailed freight traffic forecast provided to ORR on the SBP SharePoint site, which included a transposition error.

- All EAUC rates have been published in 2017/18 prices and, therefore, will need to be uplifted 2019/20 prices prior to the start of CP6 to reflect the impact of inflation. The EAUC income forecast, below, is also shown in 2017/18 prices.

- EAUC rates reflect the methodology set out in our May 2018 charging conclusions document available here.

Forecast CP6 income

The table, below, sets out our forecast income through from EAUCs in CP6. We have disaggregated this income by franchised passenger, freight and open access operator groups to make it easier for stakeholders to review.

Operator type (£m, 2017/18 prices)	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Franchised passenger	18.7	21.1	22.3	24.7	25.1	25.7
Freight	0.4	0.5	0.5	0.5	0.5	0.6
Open Access	0.1	0.1	0.1	0.1	0.1	0.1
Total	**19.2**	**21.7**	**23.0**	**25.3**	**25.8**	**26.4**

Managed Station Long Term Charge (LTC)

This section sets out our forecast income from Managed Station Long Term Charges in CP6 and the key assumptions underpinning our draft CP6 Managed Station Long Term Charges price list.

Key assumptions

We set out, below, the key assumptions which underpin our draft Managed Station Long Term Charges price list and CP6 income forecast, consistent with ORR's Draft Determination:

- All Managed Station Long Term Charges reflect the assumed maintenance and renewal (M&R) efficiency improvements contained in Network Rail in its February 2018 Strategic Business Plan (SBP). The efficiency assumptions are:
    - Managed station operational property maintenance and repair: c. 2.5%;
    - Managed station operational property renewals: c. 9.4%;
    - Station Information and Security System (SISS) maintenance and repair: c. 7.6%; and
    - SISS renewals: c. 30.9%.

If ORR were to make a higher efficiency assumption in its Final Determination than we did in our SBP, this would serve to reduce the level of Managed Station Long Term Charges.

- All Managed Station Long Term Charges have been published in 2017/18 prices and, therefore, will need to be uplifted 2019/20 prices prior to the start of CP6 to take account of inflation. The Managed Station Long Term Charge income forecast, below, is also shown in 2017/18 prices.

- Managed Station Long Term Charges reflect the methodology set out in our May 2018 charging conclusions document available here.

- At Paddington Station, the Managed Station Long Term Charge cannot be recovered from Heathrow Express due to their unique contractual arrangement. Instead, Heathrow Express pay a singular access charge covering both track and station access charges. The forecast income that we expect to receive through Managed Station Long Term Charges at Paddington Station has been adjusted to reflect the proportion that is not, consequently, recovered through this charge.

Forecast CP6 income

The table, below, sets out our forecast income through Managed Station Long Term Charges in CP6.

(£m, 2017/18 prices)	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Managed station LTC	**37.5**	**67.8**	**67.8**	**67.8**	**67.8**	**67.8**

Franchised Station Long Term Charge (LTC)

This section sets out our forecast income from Franchised Station Long Term Charges in CP6 and the key assumptions underpinning our draft CP6 Franchised Station Long Term Charges price list.

Key assumptions

We set out, below, the key assumptions which underpin our draft Franchised Station Long Term Charges price list and CP6 income forecast, consistent with ORR's Draft Determination:

- All Franchised Station Long Term Charges reflect the assumed maintenance and renewal (M&R) efficiency improvements contained in Network Rail in its February 2018 Strategic Business Plan (SBP). The efficiency assumptions are:
    - Franchised station operational property maintenance and repair: c. 2.5%;
    - Franchised station operational property renewals: c. 9.4%;
    - Station Information and Security System (SISS) maintenance and repair: c. 7.6%; and
    - SISS renewals: c. 30.9%.

If ORR were to make a higher efficiency assumption in its Final Determination than we did in our SBP, this would serve to reduce the level of Franchised Station Long Term Charges.

- All Franchised Station Long Term Charges have been published in 2017/18 prices and, therefore, will need to be uplifted 2019/20 prices prior to the start of CP6 to take account of the impact of inflation. The Franchised Station Long Term Charge income forecast, below, is also shown in 2017/18 prices.

- Franchised Station Long Term Charges reflect the methodology described at RDG's PR18 Working Group on 18 June 2018 (slides from that meeting are available here) and described in the annex to this note.

- Stations have been categorised according to estimates of the number of daily entries into the station. The criteria are shown, below. This is the same criteria that is used to categorise stations for the purposes of the depreciated replacement cost valuation of the rail network for inclusion in DfT's group accounts. Estimates of the number of entries and exits per annum for each station are taken from ORR's estimate of station usage, available here.

Category	Daily Entries Range
A	13K+
B	5-13K
C	2.5-5K
D	1.2-2.5K
E	0.3-1.2K
F	0-0.3K

- There are twelve stations where data on entries is unavailable. Expert judgement has been used to categorise these stations.

Forecast CP6 income

The table, below, sets out our forecast income through Franchised Station Long Term Charges in CP6. Network Rail charges the Franchised Station Long Term Charge for a station to the Station Facility Owner, who then passes on some of this cost to other operators who call at the station. We do not have information on which operators call at each franchised station and, therefore, cannot forecast the impact on different operator types.

(£m, 2017/18 prices)	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Franchised station LTC	125.4	166.7	166.7	166.7	166.7	166.7

Distribution System Loss Factors (DSLFs)

This section sets out our proposed Distribution System Loss Factors for CP6.

Key assumptions

We set out, below, the key assumptions which underpin our proposed DSLFs for CP6. Comparable figures for CP5 can be found in appendix 3 of the Traction Electricity Rules, available here.

- The Distribution System Loss Factors shown, below, have been calculated consistent with the methodology consulted on here and further described here.

Proposed DSLFs for CP6

ESTA	Description	CP6 DSLF: AC	CP6 DSLF: DC
M	Merseyside	N/A	0.1113
N	Midland Main Line	0.0279	N/A
O	London Tilbury and Southend	0.0264	N/A
P	Great Eastern	0.0272	0.1113
Q	West Anglia	0.0428	N/A
R	East Coast Main Line South	0.0230	0.1113
A	East Coast Main Line Central	0.0303	N/A
B	East Coast Main Line North	0.0548	N/A
C	East Coast Main Line Leeds	0.0409	N/A

S	**Scotland Glasgow**	**0.0424**	**N/A**
D	**Scotland East**	**0.0462**	**N/A**
E	**Scotland North and West**	**0.0311**	**N/A**
F	**Scotland WCML**	**0.0356**	**N/A**
T	**West Coast Main Line South**	**0.0295**	**0.1113**
G	**West Coast Main Line Central**	**0.0362**	**N/A**
H	**West Coast Main Line Midlands**	**0.0299**	**N/A**
J	**West Coast Main Line North**	**0.0361**	**N/A**
U	**Southern**	**N/A**	**0.1113**
V	**Great Western (soon to be renamed 'Western East')**	**0.0119**	**N/A**
I	**Western (soon to be renamed 'Western West')**	**0.0254**	**N/A**
K (soon to be renamed '3')	**South Wales**	**0.0254**	**N/A**

Please note, an entry of N/A in the AC or DC column means that the ESTA in question does not have infrastructure of that type.

Annex 1: Description of Franchised Station Long Term Charge Methodology

Purpose

The purpose of this annex is to explain the methodology that is used to calculate the draft Franchised Station Long Term Charges for CP6 that are published alongside this note.

Methodology

1. Take the forecast of post-efficient route-level annual average franchised station operational property maintenance, repair and renewal (MRR) expenditure for CP6.

2. Allocate (1) to individual franchised stations in a route based on long-term annual equilibrium cost (the amount that we expect we would have to spend, on average, to preserve asset condition).

   An estimate of long-term annual equilibrium cost for operational property assets exists for all individual franchised stations (with a small number of exceptions where a station has just recently opened). These estimates are used to calculate averages for each combination of route and station category, which are then used to allocate route-level operational property MRR expenditure to individual franchised stations.

3. Take the forecast of route-level annual average franchised station Station Information and Security System (SISS) MRR over CP6 and allocate to relevant individual franchised stations in a route based on their share of the relevant route's annual average SISS renewal cost over 35 years.

4. There are some third party SISS contracts that only apply to certain stations. Where a third party SISS contract covers multiple stations, these costs are allocated to individual stations based on each station's share of those stations' annual average SISS renewal cost over 35 years.

5. Add (2), (3) and (4) to calculate the total long-term charge for each franchised station.