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Dear Colleague

Consultation on the Coal Spillage Charge (CSC) and the Coal Spillage Reduction Investment Charge (CSRIC)

As part of the 2013 Periodic Review (PR13), Network Rail (NR) is responsible for the development of existing track access charges, including the CSC and CSRIC. The purpose of this letter is to seek your views in respect of the structure of the CSC and CSRIC in Control Period 5 (CP5)[1].

We are committed to working with stakeholders in order to develop track access charges in an open and transparent way. This consultation is an important part of the process and builds on the presentations that we delivered at the VTAC developments meeting setting out our proposed methodology[2] and emerging analysis[3].

As noted in our response to ORR's consultation on the variable usage charge and a freight specific charge[4], we recognise that rail freight operators face considerable competition from road hauliers and that road haulage enjoys simple charges and reasonable certainty about its costs. We believe that, as far as possible, rail freight pricing should strive to be simple and give as much certainty as is feasible to allow it to compete with roads. In considering changes to the rail freight regime, NR recognises that the freight community could view even discussions of changes as unsettling.

[1] Control Period 5; this is the regulatory period from 1 April 2014 – 31 March 2019.
[2] Network Rail presented its proposed methodology for developing the CSC and CSRIC in CP5 on 7 March 2012.
[3] Network Rail presented its emerging analysis in respect of the CSC and CSRIC on 30 May 2012.
[4] Available at: http://www.rail-reg.gov.uk/pr13/consultations/freight-charges.php

The remainder of this document is structured as follows:

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1. Wider context – the proposed freight-specific charge

As part of its May 2012 consultation on the variable usage charge and a freight-specific charge[5], ORR proposed introducing a new freight-specific charge intended to contribute to recovering the "freight avoidable costs"[6] not currently recovered through freight track access charges.

Because the cost impact of coal spillage on the network, recovered through the CSC, is a subset of total freight avoidable costs[7] there is a potential overlap between any freight-specific charge and development of the CSC for CP5. We thought that it would be helpful to clarify, as part of this consultation, how we propose managing the interaction between these two charges.

Our intention is to use the CSC cost estimate set out, below, to update the initial estimate of freight avoidable costs (including coal spillage costs) developed by L.E.K. Consulting[8] and to inform the level of any new freight-specific charge. This CSC cost estimate is likely to be refined over the course of the periodic review in light of consultation responses and updated cost and traffic data. We will set out our updated

[5] Consultation available at: Periodic review 2013 - Office of Rail Regulation
[6] Freight avoidable costs are the theoretical long-run annual average cost savings which would result from removing commercial freight traffic from the network in its entirety on a permanent basis.
[7] If, theoretically, there was no commercial freight traffic on the network, there would be no coal spillage and thus no adverse cost impact to NR.
[8] Available here: LEK reporting – estimated freight avoidable costs

coal spillage cost estimate when we conclude on this consultation to ORR by the end of March 2013.

Moreover, we note that because coal spillage costs are a subset of total freight avoidable costs, there could be scope for consolidating the CSC with any new freight-specific charge. We discuss this idea in more detail below. Ultimately, however, this would be a decision for ORR. We understand that ORR is due to conclude on whether a freight-specific charge should be introduced toward the end of December 2012. ORR has also not concluded yet on the initial estimate of freight avoidable costs developed by L.E.K. Consulting.

2. Background

The CSC and CSRIC are freight-specific track access charges that were introduced as part of the 2008 Periodic Review (PR08). They serve the following purposes:

- **CSC**: Recovers the cost impact of coal spillage on the network. For example, the cost of clean-up, delay minutes and reduced asset lives.

- **CSRIC**: Finances a fund that can be used to invest in equipment at coal terminals that aims to reduce coal spillage on the network.

Both charges are levied as a mark-up on the Variable Usage Charge (VUC) on freight traffic carrying coal. In 2011/12 NR's income from the CSC and CSRIC was £5m[9]. This equates to approximately 10% of total income from freight operators. The investment fund generated by the CSRIC in the first two years of CP4 amounted to approximately £295,000. Following industry consultation it was agreed that, due to the surplus funds available, the CSRIC would be discontinued for years three and four of CP4 and it appears likely that a similar proposal will result for year five. At present, there is approximately £85,000 remaining in the investment fund[10].

PR08 cost estimates

In PR08 NR estimated the cost impact of coal spillage[11]. This estimate was reviewed and refined by the independent reporter, Halcrow[12], before being reduced by ORR to

[9] NR 2011/12 Regulatory Accounts.
[10] Total fund receipts to date are £295,234.66; this has been used to fund 8 schemes at a cost of 209,749.75, resulting in a surplus of £85,484.91.
[11] Network Rail October 2007 Strategic Business Plan, supporting document, structure of charges, chapter 5. Available here: Network Rail - Strategic Business Plan 2007.
[12] Independent Reporter A, Reporter Mandate – Coal Dust Spillage Costs, Final Report. Available: PR08 consultants' reports.

reflect long-term steady state efficient costs[13]. A high-level summary of Halcrow's estimate of the cost impact of coal spillage is set out in Table 1, below:

Table 1: Halcrow PR08 cost estimate (2011/12 prices end CP4 efficiency)

Cost Category	**£**
Cost of clean up and delay minutes	245,364
Cost of Rail Vac on repeat points failure sites	664,170
Cost of point end service life reductions	1,208,114
Cost of Plain Line service life reductions	1,262,363
Total	**3,380,012**

The level of the CSRIC was set on a heuristic basis in PR08 with the aim of generating an investment fund of around £250,000 per annum (2009/10 prices)[14].

Annual review of charges

In PR08 ORR determined that an annual review mechanism should be incorporated into both the CSC and the CSRIC.

For the CSC it determined that at the end of each year, based on the variance in the number of points failures due to coal spillage relative to the 2007/08 baseline year, NR, in consultation with freight operators, should propose a change to the level of the CSC for the following year. If ORR considers NR's proposal to be appropriate, it will approve the proposed change and issue a notice to NR and freight operators informing them of this. The purpose of this adjustment mechanism was to incentivise freight operators to reduce coal spillage within the control period, the rationale being that less coal spillage should result in fewer points failures and, therefore, a reduction in the CSC rate.

A summary of the number of coal related points failures over time is set out in Table 2, below:

[13] ORR, Periodic review 2008, Determination of Network Rail's outputs and funding for 2009-14, page 302.
[14] ORR, Periodic review 2008, Determination of Network Rail's outputs and funding for 2009-14, page 304.

Table 2: Coal related points failure trend

Year	Relevant points failures
2007/08 (base year)	203
2009/10 (year 1 of CP4)	154
2010/11 (year 2 of CP4)	150
2011/12 (year 3 of CP4)	231
CP4 years 1-3 average[15]	**178**

In respect of the CSRIC, ORR determined that whilst NR should manage the investment fund, it is important that freight operators and other industry stakeholders are consulted when allocating money to projects. ORR also stated that due to the uncertainty around the number of coal loading points for which funding may be sought, after each financial year NR, in consultation with freight operators, should make a proposal in relation to the size of the fund and whether it should continue in the following year. ORR's role is to consider NR's proposal and approve it, if it considers it appropriate to do so. As noted above, the CSRIC was levied in the first 2 years of CP4 at which point, following consultation with freight operators, it was agreed that it should be discontinued in each of the following two years, due to the surplus funds available.

3. Combining the CSC with the proposed freight-specific charge

As set out above, as part of this consultation we thought that it would be helpful to clarify our view on managing the interaction between the CSC and the freight-specific charge proposed by ORR, including the potential for consolidating these charges.

As a point of principle, we believe that it is appropriate to continue to recover coal spillage costs from those who operate coal trains on the network. We do, however, consider that it is appropriate to review now whether the CSC continues to be the best mechanism for recovering these costs.

One benefit of continuing to recover coal spillage costs separately, through the CSC, is that the income received in this respect can be clearly identified thus aiding

[15] We have excluded the base year from our estimate of average annual coal in points failures because this year relates to CP3 rather than CP4.

transparency. However, in our opinion, it would still be possible to be transparent about the cost impact of coal spillage on the network (as we have sought to do as part of this consultation) in the event that it was deemed appropriate to recover coal spillage costs through the proposed freight-specific charge.

If a freight-specific charge were to be introduced, one might argue that it would be appropriate to recover coal spillage costs through this charge in order to simplify the charging structure. It would also be consistent with the fact that coal spillage costs are a 'freight avoidable cost', which is ORR's proposed cost methodology for setting any freight-specific charge. As noted above, we understand that ORR is due to conclude on whether a freight-specific charge should be introduced toward the end of December 2012.

We believe that a key consideration as to whether it would be appropriate to recover coal spillage costs through the proposed freight-specific charge, instead of the CSC, will be the segments of the freight market that ORR deems capable of paying the proposed new charge[16]. In its recent consultation, ORR was minded-to levy any new freight-specific charge on electricity supply industry coal (ESI coal) and was considering also levying the charge on coal transported for other purposes (coal other). If ORR determines that both of these market segments are capable of paying the proposed freight-specific charge, we believe that there would be merit in recovering coal spillage charge costs through this charge (i.e. increasing the respective mark-ups on ESI coal and coal other to take into account the cost impact of coal spillage). This would facilitate the continued recovery of coal spillage costs whilst simplifying the charging structure.

If, however, ORR were to determine that only one of the coal market segments (say, ESI coal) can bear any new freight-specific charge, we consider that it would continue to be appropriate to recover the cost impact of coal spillage from both market segments through a separate CSC. This approach would avoid recovering the same coal spillage costs through different track access charges which we believe would make the charging structure more, rather than less, complex. If ORR were to determine that a freight-specific charge should not be introduced in CP5, we propose continuing to recover coal spillage costs through the CSC.

Q1: What is your view on potentially recovering coal spillage costs through any new freight-specific charge, rather than a separate CSC?

[16] Consistent with relevant legislation, freight operators only pay a mark-up on variable costs where the market is deemed to be able to bear it.

4. PR13 initial cost estimates - CSC

Summary

As noted, above, in PR08 NR estimated the cost impact of coal spillage. This estimate was then reviewed and refined by the independent reporter, Halcrow, before being accepted by ORR. NR continues to incur costs in respect of coal spillage and believes that it remains appropriate to recover these costs from those who operate coal trains on the network.

When we presented our proposed methodology for re-calibrating the CSC at a previous VTAC meeting[17] we stated that, due to the materiality of the charge, we intended to review whether the assumptions applied in CP4 remain appropriate whilst continuing to draw heavily on the methodology established in PR08. Table 3, below, sets out an updated estimate of CP5 coal spillage costs.

Table 3: CP5 cost estimate (2011/12 prices end CP4 efficiency)

Cost Category	**£**
Cost of clean up and delay minutes	126,135
Cost of Rail Vac, Tube Cube and manual interventions	1,803,000
Cost of point end service life reductions	2,048,860
Cost of Plain Line service life reductions	1,673,010
Total	**5,651,005**

Below, we explain, in detail, how we have estimated each of the coal spillage cost categories set out in Table 3. We will update these costs estimates when we conclude to ORR in March 2013 to take account of the latest Strategic Business Plan (SBP) cost data and, where appropriate, any feedback from consultation responses.

Cost of clean up and delay minutes

Coal spillage on the network contributes to an increased number of points failures that in turn generate a requirement for NR to carry out remedial clean up activities.

[17] The VTAC meeting took place on 7 March 2012.

Furthermore, a proportion of these failures also cause us to incur delay minutes and Schedule 8 (S8)[18] payments to operators.

We have reviewed the assumptions applied in PR08 in relation to the clean up costs associated with points failures due to coal spillage. We consider that it is appropriate to retain the assumption that it costs £660[19] to remedy a coal related points failure that causes delay minutes. However, based on expert judgement, we propose increasing the cost of remedying a points failure that does not cause delay minutes from £320[20] to £500[21]. This reflects the fact that we consider that this activity also requires new ballast. We have applied the above clean up rates to the 178 points failures that we estimate (based on the first 3 years of CP4) occur, on average, due to coal spillage per annum (see Table 2 above). Of the 178 points failures we estimate, based on 2011/12 data[22], 45 result in delay minutes and thus total clean up costs of £96,200[23]. Also, based on 2011/12 data, we estimate that those points failures that cause delay minutes to be incurred would result in total S8 payments of £29,935[24]. We, therefore, estimate the total cost of clean up and delay minutes, due to coal spillage, to be £126,135 per annum. This cost estimate is summarised in Table 4, below:

Table 4: Summary of Schedule 8 payments and clean up costs

Estimated S8 payments (£)	29,935
Estimated clean up costs (£)	96,200
Total clean up and delay minute costs (£)	**126,135**

We note that DB Schenker has challenged what constitutes a relevant points failure. It has suggested that only points failures solely attributable to coal spillage should be included, rather than those where coal spillage is a contributory factor. We believe,

[18] The Schedule 8 performance regime in track access contracts of both passenger and freight train operators is one element of a wide range of factors that encourage NR and train operators continuously to improve performance.
[19] Comprised of 4 workers for 3 hours at £20/hour, plus materials (new ballast) at £90. This equates to £330. Doubled to allow for cost of supervision, planning, possessions costs, transport and disposal costs for contaminated ballast.
[20] Comprised of 4 workers for 2 hours at £20/hour. This equates to £160. Doubled to allow for cost of supervision, planning, possessions costs, transport and disposal costs for contaminated ballast.

[21] Comprised of 4 workers for 2 hours at £20/hour, plus materials (new ballast) at £90. This equates to £250. Doubled to allow for cost of supervision, planning, possessions costs, transport and disposal costs for contaminated ballast.
[22] 2011/12 performance data represents the most recent full financial year. Calculating the cost of clean up and delay minutes as an average over the first 3 years of CP4 would require significant additional analysis which we consider is likely to be disproportionate (clean up and delay minutes represent approximately 2% of our initial estimate of the cost impact of coal spillage).
[23] Clean up costs calculation: (45*£660) + (133*£500) = £96,200.
[24] Assumes approximately 45 delay minutes per points failure and an average S8 payment rate of approximately £14 per delay minute.

however, that it is appropriate to base the re-calibration of the charge on points failures where coal spillage has been a contributory factor, rather than a determinant one. This approach is consistent with PR08 and is arguably less subjective than identifying whether each points failure would have occurred in the absence of coal spillage. We consider that points failures are a pragmatic proxy for the wider impact of coal spillage on the network and that assessments made in a trackside environment are bound to involve a degree of judgement.

Cost of Rail Vac, Tube Cube and manual interventions

In addition to the clean up costs described above, in PR08 it was assumed that Rail Vac was deployed at locations subject to repeat coal related points failures. Rail Vac equipment is around 20m long and is delivered to a siding or access point near to the coal spillage incident due to the fact that it can only travel to the site during possession. It is more powerful and easier to control than other methods, and can usually clear the contamination without requiring emptying (dependent on the level of coal spillage). We have reviewed this assumption, based on our actual experience of deployment in CP4, and do not consider that it accurately reflects the basis on which we deploy Rail Vac. We believe that a better approach would be to assume that Rail Vac is deployed where the level of coal contamination in the ballast is such that there is a loss in the integrity, resulting in repeated track geometry faults.

Based on our experience in CP4, we estimate that, on average, Rail Vac is deployed 26 times per annum in response to coal spillage. This estimate is based on the expert judgement of NR Route teams and can be broken down as follows:

- LNE deploys Rail Vac, on average, 12 times per annum; and
- Wales deploys Rail Vac, on average, 14 times per annum.

We have also reviewed the assumptions applied in PR08 in respect of the cost of deploying Rail Vac. Based on our experience in CP4, we believe that these assumptions should be updated. Specifically, we propose increasing the deployment cost for a weekend possession from £25,000 to £30,000[25]. Moreover, in CP4 it was assumed that 2 sets of points could be treated with Rail Vac during a weekend possession. Based on our experience in CP4, we propose refining this assumption to reflect the fact that typically only 1 set of points are treated during a possession. Taking into account these refinements, we estimate that, on average, the annual cost of deploying Rail Vac in relation to coal spillage is £780,000[26].

In addition to Rail Vac, we also use Tube Cube to treat coal spillage. Tube Cube is, essentially, a road rail machine which clears coal from point ends. It has to be

[25] The £30,000 cost estimate includes plant, possession, manpower and replacement ballast.
[26] £780,000= 26*£30,000

emptied off site and is significantly smaller than Rail Vac (a 1m cube). This is deployed when the level of coal spillage is not substantial enough to warrant the use of Rail Vac, but the manual effort is considerable. These costs were not recovered through the CSC in CP4 (this equipment was not available in PR08); however, we propose that they should be recovered through the charge in CP5. Based on our experience in CP4, we estimate that the cost of deploying the Tube Cube is £7,000[27] per incident and that the Tube Cube is deployed in response to coal spillage, on average, 14 times per annum (treating one set of points each time), resulting in a total annual cost of £98,000[28]. The deployment frequency is based on the expert judgement of NR Route teams and can be broken down as follows:

- LNE deploys Tube Cube, on average, 8 times per annum;
- East Midlands deploys Tube Cube, on average, 4 times per annum; and
- Scotland deploys Tube Cube, on average, 2 times per annum.

In some instances, it is not always possible to deploy a Rail Vac or Tube Cube machine and as a result we also carry out manual interventions. Like Tube Cube, these costs were not recovered through the CSC in CP4; however, we propose recovering them through the charge in CP5. Based on our experience in CP4, we estimate the cost of a manual intervention to remedy coal spillage is £3,700[29] per shift and that, on average, we will intervene 250 times per annum (treating one set of points each time), at a total annual cost of £925,000[30]. This estimate is based on the expert judgement of NR Route teams and can be broken down as follows:

- LNE use manual intervention, on average, 190 times per annum;
- East Midlands use manual intervention, on average, 4 times per annum;
- Scotland use manual intervention, on average, 31 times per annum;
- Western use manual intervention, on average, 8 times per annum; and
- LNW use manual intervention, on average, 17 times per annum.

[27] The £7,000 cost estimate includes the hire of plan of the plant, possession, manpower and replacement ballast.
[28] £98,000 = £7,000*14
[29] 8 person team for 10 hours at £20/hour doubled to include supervision and planning = £3,200, £500 for materials e.g Ballast, smalls (screws, clips etc) =£3,700.
[30] £925,000= £3,700*250

In summary, therefore, we estimate that, on average, we will treat 290 sets of points per annum through Rail Vac, Tube Cube or a manual intervention at a combined cost of £1,803,000[31].

Cost of point end service life reductions

In PR08 it was assumed that where coal spillage occurs it reduces the service life of a point end from 40 years to 31 years if the point end is not treated using Rail Vac (an asset life reduction of 22.5%), or from 40 years to 34 years if the point end is treated using Rail Vac (an asset life reduction of 15%).

Following a review of these assumptions with colleagues in Asset Management, we propose retaining the estimated reduction in the service life of point ends impacted by coal spillage (i.e. 15% and 22.5% for treated and untreated point ends respectively). However, we propose updating our cost estimate to reflect our approach to managing point ends on low criticality routes[32] in CP5. In CP5 we are aiming to extend the service life of point ends on low criticality routes through heavy refurbishment. Although this approach will require more maintenance, it is a lower whole-life cost solution. The cost of refurbishment is £67,000 per point end and we estimate that this will extend the average service life of a point end by 50% (i.e. from 40 years to 60 years). This adjustment serves to reduce the annual average depreciation cost as a result of coal spillage.

Therefore, taking into account our proposed approach to managing point ends on low criticality routes in CP5, we estimate that where coal spillage occurs it reduces the service life of an untreated point end from 60 years to 47 years (i.e. by 22.5%) and that of a treated point end from 60 years to 51 years (i.e. by 15%).

In PR08, a point end renewal rate of £435,000 (2006/07 prices and efficiency) formed the basis of the coal spillage cost estimate. We propose updating this to reflect the Initial Industry Plan (IIP) CP5 renewal rate of £485,000 and including a refurbishment cost of £67,000 (2011/12 prices end CP4 efficiency). This results in a total point end renewal and refurbishment cost of £552,000 (2011/12 prices end CP4 efficiency). Using this renewal and refurbishment cost estimate and the reduction in service life estimated, above, we estimate an annual depreciation cost per point end as a result of coal spillage of £1,624[33] and £2,545[34] (2011/12 prices end CP4 efficiency) respectively where the point end has and has not been treated using Rail Vac, Tube Cube or a manual intervention.

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[31] £1,803,000 = £780,000 + £98,000+£925,000

[32] Network Rail have classified all routes sections into one of five Criticality Bands, according to the amount of delay that an incident will cause, with 1 causing the most delay (generally the busiest sections) and 5 the least delay. The track policy is then tailored to each Criticality Band.

[33] £1,624 = (£552,000 renewal rate / 51 year asset life) – (£552,000 renewal rate / 60 year asset life)

[34] £2,545 = (£552,000 renewal rate / 47 year asset life) – (£552,000 renewal rate / 60 year asset life)

In order to estimate the cost impact of coal spillage on point end service lives it is also necessary to estimate the number of impacted point ends. To do this we adopted broadly the same approach as in PR08. The approach follows the steps, listed below:

- Estimate the average number of point ends per mile based on the national population of point ends and track miles (excluding sidings[35]). This approach results in an average value of 1.04 point ends per track mile[36].

- Consistent with the approach in PR08, assume that coal spillage from loading and unloading points is exhausted after 20 miles and 25 miles respectively.

- Multiply the estimated number of impacted track miles by the average number of point ends per mile. This gives rise to an estimate of 21 and 26 impacted point ends at loading and unloading locations respectively[37].

- Identify the number of coal loading and unloading points across the network where point ends will be impacted by coal spillage. In summary, we have identified 26 loading and 14 unloading locations[38]. A full list of these locations is set out in Annex B. We have sought to exclude loading and unloading locations that have either been mothballed or are expected to close prior to the commencement of CP5.

- Multiply the number of loading and unloading locations by the respective number of impacted point ends to estimate the total number of point ends impacted by coal spillage. This gives rise to a value of 910 point ends across the network[39].

Based on the, above, estimate of annual depreciation costs and number of affected point ends, we estimate the overall cost impact of reduced point end service lives, due to coal spillage, to be £2,048,860[40] (2011/12 prices end CP4 efficiency).

[35] We have excluded point ends that are wholly in sidings because these point ends are rarely renewed and present a very low service and safety risk.
[36] Based on 19,200 track miles and 20,095 point ends. This is higher than the CP4 estimate of 0.88 which appears to be based on total track miles (i.e. including sidings).
[37] This is higher than the CP4 estimate of 17 and 22 for loading and unloading locations respectively due to the higher estimate of point ends per track mile.
[38] In PR08 7 loading and 16 unloading locations were identified. We do not believe that the number of coal loading locations has increased from 7 to 26 in recent years, rather the number of locations identified in PR08 were underestimated.
[39] 910 = (26 loading locations*21 point ends) + (14 unloading locations* 26 point ends)
[40] £2,048,860 = (290 treated point ends*£1,624) + (620 untreated point ends*£2,545)

Cost of Plain Line service life reductions

In PR08 it was assumed that where coal spillage occurs it also reduces the service life of plain line track. Specifically, it was assumed that the service life reduces by 9% from 45 years to 41 years. Moreover, consistent with the point end assumptions, it was assumed that coal spillage from loading and unloading points is exhausted after 20 miles and 25 miles respectively.

We have reviewed these assumptions with colleagues in Asset Management and consider that it is appropriate to retain the estimated percentage reduction in plain line track service life (9%) where it is impacted by coal spillage. However, we propose refining our cost estimate to reflect our approach to managing plain line track on low criticality routes in CP5. In CP5 we are aiming to extend the service life of plain line track on low criticality routes through heavy refurbishment. Although this approach will require more maintenance, it is a lower whole-life cost solution. The cost of refurbishment is £230 per metre (2011/12 prices end CP4 efficiency) and we estimate that this will extend the average service life of plain line track by 50% (i.e. from 45 years to 67.5 years). This adjustment serves to reduce the annual average depreciation cost as a result of coal spillage.

We have also reviewed the plain line track renewal rate of £743 per metre (2006/07 prices and efficiency) applied in PR08 and propose updating this to reflect the IIP renewal rate of £679 per metre (2011/12 prices end CP4 efficiency). Combining this with the refurbishment rate of £230 per metre results in a total plain line track renewal and refurbishment cost of £909 per metre (2011/12 prices end CP4 efficiency).

Like for points ends, we consider that the PR08 assumption that coal spillage from loading and unloading points is exhausted after 20 miles and 25 miles respectively should be retained for CP5.

Based on the plain line track renewal and refurbishment cost of £909 per metre (2011/12 prices end CP4 efficiency) and a service life of 67.5 years (reducing by 9% to 62 years when impacted by coal spillage), we estimate a renewal rate per mile of £1,462,894[41] and an annual depreciation cost per mile of £1,923[42]. We have multiplied this depreciation cost by the 870 plain line track miles estimated to be impacted coal spillage at coal loading and unloading locations in order to estimate a network wide depreciation cost of £1,673,010[43].

[41] £1,462,894 = £909 per metre * 1,609.344 metres per mile.
[42] £1,923 = (£1,462,894 / 62 years) – (£1,462,894 / 67.5 years)
[43] £1,673,010 = £1,923*870 track miles. 870 track miles is the sum of 20 miles in respect of each of the 26 loading locations and 25 miles in respect of each of the 14 unloading locations.

Q2: What is your view on the methodology and assumptions that we have applied in order to initially estimate coal spillage costs?

Q3: Do you have any comments on our initial list of coal loading and unloading points set out in Annex B?

5. PR13 initial cost estimates - CSRIC

As noted above, in PR08 the level of the CSRIC, and thus the investment fund, was set on a heuristic basis with the aim of generating £250,000 per annum (2009/10 prices). However, in the first 2 years of CP4[44] the CSRIC generated an investment fund of approximately £295,000, of which approximately £85,000 remains available to be allocated to schemes which aim to reduce coal spillage on the network.

We consider that where wagon cleaning equipment, financed by the investment fund, has been installed at coal loading points it has contributed to a reduction in coal spillage on the network (see Annex C for a complete list of locations where cleaning equipment has been installed). However, due to the installation of cleaning equipment at the busiest coal loading locations (e.g. Port of Immingham) and the surplus funds currently available, we propose discontinuing the CSRIC in CP5, consistent with the last 3 years on CP4. We also understand that it is likely that future fitment of cleaning equipment beyond the life of the CSRIC will result from power generators stipulating that it is a requirement of future coal supply contracts with individual coal terminals and supply points.

Subject to the surplus funds available at the end of CP4 being in excess of £1,000 (the minimum cost of installing cleaning equipment in CP4), we also propose rolling-forward the remaining investment fund into CP5. We believe that our proposed approach would serve to simplify the current charging structure, eliminate the disproportionate transaction costs associated with reviewing the CSRIC annually (discussed in more detail below), and potentially retain a small fund for continued investment in wagon cleaning equipment. In the event that the investment fund is less than £1,000 at the end of CP4, or is not fully utilised by the end of CP5, we propose rebating the remaining funds between those operators who have incurred the CSRIC, in proportion to their respective contributions. This approach would be consistent with the current rebate mechanism as set out in paragraph 2.8.3 of the model freight track access contract (See Annex D).

[44] Following industry consultation it was agreed that the CSRIC would be discontinued for the remainder of CP4 due to the surplus funds available.

We note that if, following consultation, it was considered appropriate to retain the CSRIC for CP5 we would have more information, compared to CP4, which could inform the appropriate level of the charge. Specifically, considerations in this respect are likely to include the CP4 'burn rate', surplus funds currently available and forecast future demand. Our initial analysis indicates that, taking into account the above factors, the maximum level on any investment fund in CP5 could be in the region of £70,000 per annum[45].

Q4: What is your view on our proposal to discontinue the CSRIC in CP5?

Q5: What is your view on the appropriate size of an annual investment fund in the event that it was considered appropriate to retain the CSRIC for CP5?

6. Variance in coal spillage costs in CP5 versus CP4

Table 5, below, compares our initial estimate of coal spillage costs in CP5 with the respective estimates in CP4:

Table 5: Variance in coal spillage costs in CP5 versus CP4 (2011/12 prices end CP4 efficiency)

	CP5 (£)	CP4 (£)	Variance (£)
Cost of Points Failures (clean up and delay minutes)	126,135	245,364	(119,229)
Cost of Rail Vac, Tube Cube and Manual Interventions	1,803,000	664,170	1,138,830
Cost of point end service life reductions	2,048,860	1,208,114	840,746
Cost of Plain Line service life reductions	1,673,010	1,262,363	410,647
Total	**5,651,005**	**3,380,012**	**2,270,993**

Considering the different cost categories in aggregate, our initial cost estimates indicate a material increase in coal spillage costs in CP5 relative to CP4. As set out in Table 5, above, the three cost categories primarily responsible for this increase are:

1. cost of Rail Vac, Tube Cube and Manual Intervention;
2. cost of point end service life reductions; and

[45] £70,000 is the annual average 'burn rate' in CP4. Calculated as £209,749.75 (funds invested in the first 3 years of CP4) divided by 3 (the relevant years of the control period). On the basis that cleaning equipment has already been installed at the primary candidate coal loading locations, and coal traffic volumes are expected to decline in CP5, we consider that this value could represent a maximum annual average fund.

3. costs of plain line service life reductions.

Tube Cube was not available in PR08 when the CP4 coal spillage cost estimate was developed. Therefore, the proposed inclusion of these costs for CP5 serves to increase our estimate of the cost impact of coal spillage on the network. Moreover, the CP4 cost estimate did not explicitly include the cost associated with manual interventions which we propose including for CP5, hence, also serving to increase the CP5 cost estimate. Rail Vac costs were included in CP4, however, this equipment had only recently been introduced and thus figures in relation to the frequency and cost of deployment were more uncertain. For CP5, we estimate that Rail Vac is deployed less frequently than in CP4 but at a higher unit cost per incident. The net impact is an increase in Rail Vac costs of approximately 20%.

A key driver of the cost increases in respect of point ends and plain line track service life reductions is the increase in the number of identified coal loading and unloading points and, therefore, associated track miles and point ends estimated to be impacted by coal spillage. For CP5 we have identified a total of 40 coal loading and unloading points, 17 more than in CP4. We do not believe that the number of coal loading and unloading points has increased to this extent between CP4 and CP5, rather some loading/unloading were omitted in CP4, resulting in the level of the charge being understated. The full list of coal loading and unloading points that form the basis of our initial cost estimate are set out in Annex B. We would welcome any feedback on this list in response to consultation question 3, above.

7. Estimating CP5 coal spillage charge rate

Using our estimate of the cost impact of coal spillage, set out in Table 3, we can initially estimate a CSC rate for CP5. We have estimated this charge rate based on forecast coal traffic (both ESI coal and coal other) in 2014/15 (year 1 of CP5), which is shown in Figure 1, below. Specifically, we divided our estimate of the cost impact of coal spillage by forecast 2014/15 coal traffic, which gives rise to a rate of 74.21[46] pence per 1000 gross tonne miles (2011/12 prices end CP4 efficiency).

[46] 74.21 pence per KGTM = £5,651,005 / 7,614,839 (1000 gross tonne miles)

Figure 1: Network Rail forecast coal tonnage

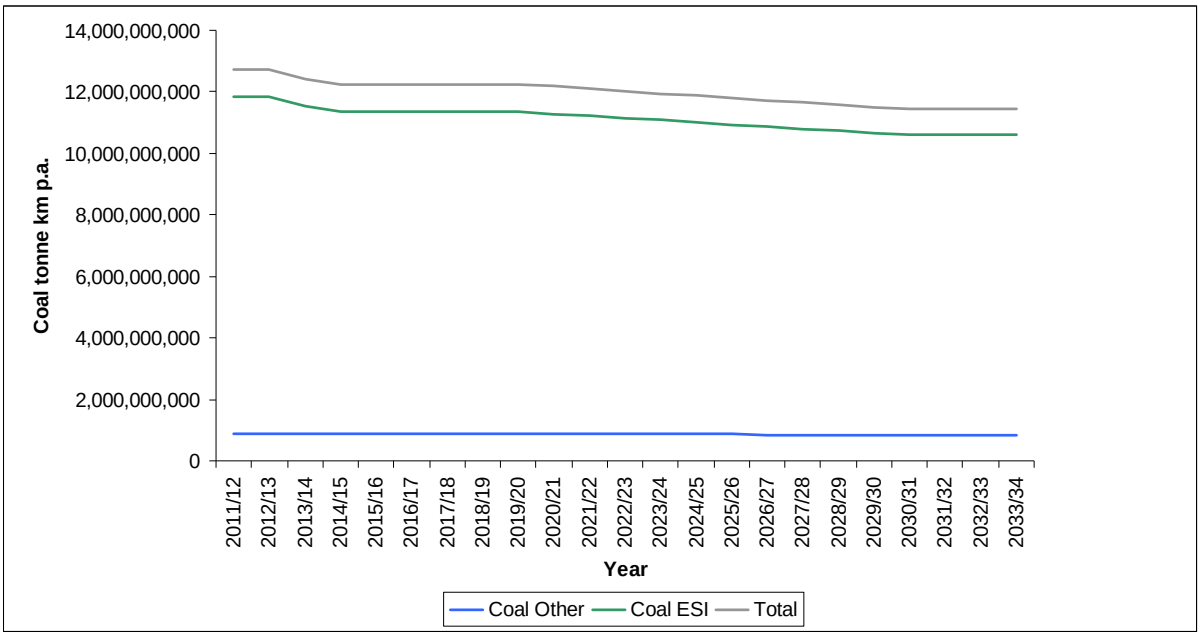


Table 6, below, compares this rate with the CP4 rate (after adjusting for price bases and efficiency).

Table 6: Variance in coal spillage charge rate in CP5 versus CP4 (pence per KGTM 2011/12 prices end CP4 efficiency)

CP5 coal spillage charge rate (2011/12 prices end CP4 efficiency)	CP5	CP4	Variance
Coal ESI	74.21	33.47	40.74
Coal Other	74.21	33.47	40.74

The CP5 rate is materially higher than the CP4 rate because the estimated total cost impact of coal spillage has significantly increased (see Table 5 above) and coal traffic is forecast to decline. It should be noted that the above charge rates are shown at end CP4 efficiency, and CP5 charge rates are likely to incorporate ORR's long-run efficiency overlay that would serve to reduce the charge rate.

Q6: What is your view on how we have initially estimated the CP5 CSC rate?

8. Annual review of charges in CP5

CSC

As noted above, at present, we are required to review the CSC on an annual basis and propose a change to the CSC rate based on the variance in the number of points failures due to coal spillage in the most recent year relative to the 2007/08 baseline year.

Whilst we understand the rationale for incorporating the annual review mechanism into the CSC in PR08, based on our experience in CP4 we propose removing it for CP5.

One of the key reasons that we are proposing this is that we believe the obligation to review the charge on an annual basis imposes a disproportionate administrative burden on the industry. This view was echoed by stakeholders when we discussed the charge at a previous VTAC meeting. As noted above, income from the coal spillage charge equates to approximately 10% of the income that we receive from freight operators, yet, unlike other track access charges, the CSC rate is not set for the duration of the control period. Instead, following the conclusion of each financial year NR is required to:

1. Identify the number of points failures attributable to coal spillage.

2. Compare the number of points failures to those in the baseline year (2007/08).

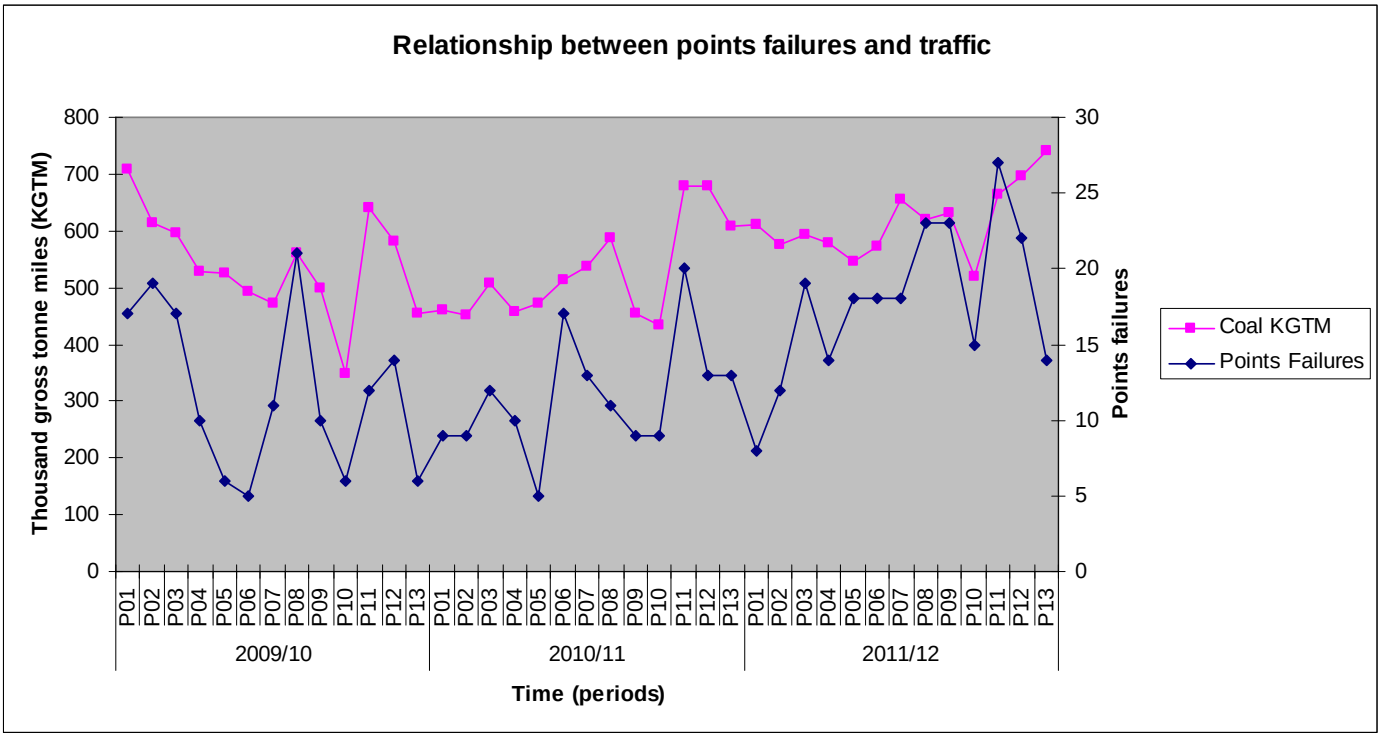
3. Notify train operators and ORR in writing of the number of relevant points failures and the variance from the baseline year.

4. In consultation with operators endeavour to agree a variation to the coal spillage charge rate or that no variation is required.

5. Notify ORR of a proposed variation to the CSC rate, if appropriate.

Following the submission by NR of the proposed variation to the CSC rate, if appropriate, ORR will determine to vary the CSC rate for the next financial year. If ORR determines a variation to the rate NR is required to issue operators a statement showing the necessary adjustments. The relevant extract from Schedule 7 of the model freight track access contract setting out this process in more detail is provided in Annex D of this document.

We also consider that the current annual adjustment methodology is flawed and that this supports our proposal to no longer review the charge on an annual basis in CP5. Specifically, we note that the annual adjustment methodology only takes into account the variance in coal related points failures and does not consider the variance in coal traffic volumes. Our analysis in CP4 indicates that coal related points failures broadly follow the trend in coal traffic volumes, see below:



A consequence in CP4 of not taking into account the trend in coal traffic volumes in the annual adjustment of the CSC rate has been that when the number of coal related points failures decline, driven to a large extent by the fall in coal traffic volumes, the CSC rate has also been reduced[47]. We do not consider this to be appropriate because it results in a discount on the CSC rate due to declining traffic volumes rather than a genuine reduction in the rate of coal spillage per wagon on the network. This approach results in NR not recovering the full costs of coal spillage because in addition to receiving less access charge revenue due to the decline in coal traffic volumes (the CSC is levied on a thousand gross tonne mile basis), we

[47] In years 2 and 3 of CP4 CSC rates were reduced by 24% and 26% respectively as a result of a reduction in coal related points failures which appear to be, to a large extent, driven by a decline in coal traffic volumes. The CSC rate is likely to increase in year 4 of CP4 (relative to the charge rate in year 3) reflecting the growth in coal related points failures which also appear, to a large extent, to be driven by coal traffic volumes. ORR's determination does not permit the adjusted CSC rate to exceed, in real terms, the CSC rate in year 1 of CP4.

also receive less income as a result of the lower CSC rate (which in theory should be independent of traffic volumes and reflect the rate of coal spillage per wagon on the network).

Q7: What is your view on our proposal to cease adjusting the CSC rate annually in CP5 based on the number of coal related points failures?

CSRIC

As noted above, we are also required to consult with freight operators in relation to the allocation of the investment fund generated by the CSRIC and whether the charge should continue in the following year. The relevant extract from Schedule 7 of the model freight track access contract is also set out in Annex D.

Like the CSC, whilst we understand why the annual review mechanism was incorporated into the CSRIC in PR08, we believe that this process places a disproportionate administrative burden on the industry. If the CSRIC were to continue in CP5, we believe that there would be considerable merit in not reviewing the level of charge on an annual basis. An alternative approach could involve setting the level of the charge for the duration of CP5 taking into account the CP4 'burn rate', surplus funds available and forecast future demand.

However, as noted above, we propose that the CSRIC is discontinued in CP5 and thus the industry transaction costs associated with discharging the fund would be removed.

Q8: What is your view on our proposal that if the CSRIC were to be levied in CP5 there would be considerable merit in setting the level of the charge for the duration of the control period?

Q9: Do you have any other comments?

9. Next steps

Set out, above, and in Annex A are our consultation questions in relation to this work. We would welcome responses to these questions and comments on the detail of this letter more generally by **close of play 8 February 2013**. We intend to publish responses to this consultation letter on our website, therefore, request that you make clear if any part of your response is confidential.

Please address responses by post to:

Ben Worley
Senior Regulatory Economist
Network Rail
Kings Place
90 York Way
London, N1 9AG

Or by email to: Ben.Worley@networkrail.co.uk

We will also discuss this consultation in more detail with stakeholders at the industry VTAC meeting on 11 January. If you would like to attend this meeting please do not hesitate to contact me using the email address, above.

Following careful consideration of consultation responses we aim to conclude on this consultation by the end of March 2013. Our conclusion will be in the form of a letter to ORR, which we will publish on our website. When we conclude to ORR we will refine the assumptions included in our estimate of coal spillage costs to be consistent with those in our Strategic Business Plan (SBP) which is also due to be published in January 2013.

Following the receipt of feedback from ORR on our proposal, as part of its draft determination (or the wider periodic review process), we will continue to refine our analysis, where appropriate.

If you would like to discuss any aspect of this letter please do not hesitate to contact me.

Yours sincerely

Ben Worley
Senior Regulatory Economist

Annex A: Summary of consultation questions

Q1: What is your view on potentially recovering coal spillage costs through any new freight-specific charge, rather than a separate CSC?

Q2: What is your view on the methodology and assumptions that have applied in order to initially estimate coal spillage costs?

Q3: Do you have any comments on our initial list of coal loading and unloading points set out in Annex B?

Q4: What is your view on our proposal to discontinue the CSRIC in CP5?

Q5: What is your view on the appropriate size on an annual investment fund assuming that it was considered appropriate to retain the CSRIC for CP5?

Q6: What is your view on how we have initially estimated the CP5 CSC rate?

Q7: What is your view on our proposal to cease adjusting the CSC rate annually in CP5 based on the number of coal related points failures?

Q8: What is your view on our proposal that if the CSRIC were to be levied in CP5 there would be considerable merit in setting the level of the charge for the duration of the control period?

Q9: Do you have any other comments?

Annex B: List of coal loading and unloading points

#	***Location***	***Location type***
1	Aberthaw	Power station
2	Uskmouth	Power station
3	Longannet	Power station
4	Port of Hull	Port
5	Ferrybridge	Power station
6	Drax	Power station
7	West Burton	Power station
8	Cottam	Power station
9	Port of Liverpool	Port
10	Ellesmere port	Port
11	Ratcliffe	Power station
12	Fiddlers Ferry	Power station
13	Rugeley	Power station
14	Didcot [expected to close]	Power station
15	Avonmouth (Bennets) industrial coal	Loading point
16	Avonmouth (BBHT)	Loading point
17	Avonmouth (Portbury)	Port
18	Port of Newport	Port
19	Hunterston	Port
20	Immingham	Port
21	Port of Tyne	Port
22	Redcar port	Port
23	Ayrshire opencast (Killoch)	Loading point
24	Ayrshire opencast (Chalmerston [re-opened 2012])	Loading point
25	Ayrshire opencast (New Cumnock)	Loading point
26	Ayrshire opencast (Ravenstruther)	Loading point
27	Earls Seat	Loading point
28	Northumbrian opencast (Butterwell)	Loading point
29	Northumbrian opencast (Widdrington)	Loading point
30	Wales opencast (Cwmbargoed)	Loading point
31	Wales opencast (Onllwyn)	Loading point
32	Wales opencast (Cwmgwrach)	Loading point
33	Wales opencast (Gwaun-Cae-Gurwen)	Loading point
34	Yorkshire / Notts deep mines (Kellingley).	Loading point
35	Yorkshire / Notts deep mines (Thoresby).	Loading point
36	Yorkshire / Notts deep mines (Hatfield)	Loading point
37	Daw Mill deep mine	Loading point
38	Scunthorpe (Tata) - industrial coal	Delivery point
39	Hope (Lafarge) - industrial coal	Delivery point
40	Lackenby - industrial coal	Delivery point

Annex C: List of locations where cleaning equipment has been installed

#	**Location**	**Investment (£)**
1	Port of Blyth	36,961.90
2	ABP Immingham NCB Line 1	35,958.47
3	ABP Immingham Reception Sidings Arrival Line	30,815.21
4	Bristol Port Company - Avonmouth	29,550.00
5	Bristol Port Company - Portbury	29,550.00
6	Port of Tyne	25,104.17
7	Aberthaw	14,460.00
8	ABP Newport	6,350.00
9	Onllwyn	1,000.00
	Total	**209,749.75**

Annex D: Extract from Schedule 7 of the model freight track access contract

2.11 Coal Spillage Charge

2.11.1 The Coal Spillage Charge Rate in respect of each Coal Vehicle used in a Service shall be the coal spillage charge rate per KGTM set out in the Track Usage Price List (as such rate may be adjusted in accordance with paragraph 2.7.2, the "**Baseline Coal Spillage Charge Rate**") until it is varied in accordance with this paragraph 2.11, provided that the Coal Spillage Charge Rate as so varied shall never exceed the Baseline Coal Spillage Charge Rate.

2.11.2 If a Coal Spillage Charge Variation Notice is issued by ORR, the Coal Spillage Charge Rate shall be varied in accordance with that Coal Spillage Charge Variation Notice.

2.11.3 Within 28 days of the last day of each Financial Year (other than any Financial Year ending on or prior to 31 March 2009), Network Rail shall:

(a) identify the number of points failures attributable to coal spillage that have occurred during that Financial Year (each a "**Relevant Points Failure**");

(b) compare the number of Relevant Points Failures with the number of Baseline Points Failures; and

(c) notify the Train Operator and ORR in writing of:

(i) the number of Relevant Points Failures; and

(ii) the difference (whether positive or negative) between the Baseline Points Failures and the Relevant Points Failures.

*2.8.3 2.11.4 If, in any Financial Year (other than the Financial Year ending on 31 March 2009), the number of Relevant Points Failures exceeds or is less than the number of Baseline Points Failures by, in each case, an amount equal to or greater than 5% of the number of Baseline Points Failures (a "**Points Failure Variation**"), within 84 days of the last day of that Financial Year Network Rail shall, in consultation with the Train Operator and all other freight train operators whose access agreement in respect of track includes a provision similar to this paragraph 2.11:*

2.8.3 (a) endeavour to agree either:

2.8.3 (i) a variation to the Coal Spillage Charge Rate (provided that any such variation to the Coal Spillage Charge Rate does not cause the Coal Spillage Charge Rate to exceed the Baseline Coal Spillage Charge Rate); or

2.8.3 (ii) that no variation to the Coal Spillage Charge Rate is required; and

2.8.3 (b) if agreement is reached in accordance with paragraph 2.11.4(a), notify ORR in writing (with a copy to the Train Operator) either:

2.8.3 (i) that no variation is required to the Coal Spillage Charge Rate; or

2.8.3 (ii) of the level of the proposed variation to the Coal Spillage Charge Rate.

2.8.3 2.11.5 If, within the 84 day period specified in paragraph 2.11.4, Network Rail is unable to reach agreement as to the proposed variation to the Coal Spillage Charge Rate with the Train Operator and all other freight train operators whose access agreement in respect of track includes a provision similar to this paragraph 2.11, Network Rail shall nonetheless notify ORR in writing (with a copy to the Train Operator) either:

2.8.3 (a) of the variation to the Coal Spillage Charge Rate that Network Rail considers ought to be made in respect of the Points Failure Variation (provided that such proposed variation does not cause the Coal Spillage Charge Rate to exceed the Baseline Coal Spillage Charge Rate); or

2.8.3 (b) that Network Rail considers that no change is required to the Coal Spillage Charge Rate,

2.8.3 in each case taking into account the representations of those freight train operators who have responded to Network Rail's consultation on this matter.

2.11.6 Any notification to ORR pursuant to either of paragraphs 2.11.4 or 2.11.5 shall be supported by such information and evidence (including any freight train operators' representations, reporters' audit and data from sampling trays) as ORR may require to determine whether or not to approve the proposed variation (if any) to the Coal Spillage Charge Rate or to make an alternative determination as to the level of the variation (if any) to the Coal Spillage Charge Rate.

2.11.7 Promptly following the service of a Coal Spillage Charge Variation Notice under this paragraph 2.11, and in order to give effect to any variation to the Coal Spillage Charge Rate specified in that Coal Spillage Charge Variation Notice in accordance with paragraph 2.11.2, Network Rail shall issue to the Train Operator a statement showing the necessary adjustments to:

(a) any invoices and credit notes already issued; and

(b) any payments already made,

1.1..1 in each case in respect of the Coal Spillage Charge.

2.8.3 2.11.8 Any statement issued by Network Rail pursuant to paragraph 2.11.7 shall be accompanied by an adjusting invoice (which shall be payable by the Train Operator within 28 days) or credit note.

2.12 Coal Spillage Reduction Investment Charge

2.8.3 2.12.1 If a CSR Variation Notice is issued by ORR, the Coal Spillage Reduction Investment Charge Rate shall be varied in accordance with that CSR Variation Notice.

2.8.3 2.12.2 The purpose of the Coal Spillage Reduction Investment Charge is to enable Network Rail to fund capital investments to reduce coal spillage on the

2.8.3 2.12.3 Within 28 days of the end of each Financial Year, Network Rail shall provide the Train Operator and ORR with details of:

(a) the total amount received by Network Rail from all freight train operators during that Financial Year in respect of the Coal Spillage Reduction Investment Charge (the "FY CSR Fund");

(b) the aggregate amount of funding distributed by Network Rail during that Financial Year to reduce coal spillage on the Network (each a "Coal Spillage Investment"); and

(c) the balance (if any) of the FY CSR Fund after:

(i) adding the Total CSR Fund Balance for the previous Financial Year if such Total CSR Fund Balance for the previous Financial Year has been carried forward in accordance with paragraph 2.12.4(a); and

(ii) deducting the capital cost of any Coal Spillage Investments made during that Financial Year,

(the "**Total CSR Fund Balance**").

2.8.3 2.12.4 Within 56 days of the last day of each Financial Year Network Rail shall, following consultation with the Train Operator and all other freight train operators whose access agreement in respect of track includes a provision similar to this paragraph 2.12, notify the Train Operator and ORR in writing:

(a) whether it wishes to carry forward the Total CSR Fund Balance for application to Coal Spillage Investments in the then current Financial Year; and

(b) whether it considers that the Coal Spillage Reduction Investment Charge should continue to be payable in the then current Financial Year and, if so, whether it considers that any adjustment should be made to the Coal Spillage Reduction Investment Charge Rate.

2.8.3 2.12.5 *Network Rail's notice pursuant to paragraph 2.12.4 shall be accompanied by such information and supporting evidence (including any freight train operators' representations and details of any Coal Spillage Investments proposed for the then current Financial Year) as ORR may require to determine whether or not:*

(a) the Total CSR Fund Balance should be carried forward for application in the then current Financial Year; and

(b) the Coal Spillage Reduction Investment Charge should continue to be payable in the then current Financial Year and, if so, whether or not any adjustment should be made to the Coal Spillage Reduction Investment Charge Rate.

2.8.3 2.12.6 *If ORR determines that the Total CSR Fund Balance should not be carried forward and ORR issues a CSR Variation Notice to that effect, the Train Operator shall be entitled to a rebate of amounts paid by the Train Operator in respect of the Coal Spillage Reduction Investment Charge (a "CSR Rebate"). The amount of the CSR Rebate payable to the Train Operator shall be an amount which, when expressed as a percentage of the Total CSR Fund Balance, is equal to the proportion borne by the Train Operator's total contribution to the Total CSR Fund.*

2.8.3 2.12.7 *If ORR determines that the Total CSR Fund Balance should be carried forward and ORR issues a CSR Variation Notice to that effect, Network Rail*

2.8.3 2.12.8 Promptly following service of a CSR Variation Notice under this paragraph 2.12, and in order to give effect to the variation to the Coal Spillage Reduction Investment Charge Rate and/or CSR Rebate specified in that CSR Variation Notice, Network Rail shall issue to the Train Operator a statement showing the necessary adjustments to:

(a) any invoices and credit notes already issued; and

(b) any payments already made,

in each case in respect of the Coal Spillage Reduction Investment Charge.

2.8.3 2.12.9 Any statement issued by Network Rail pursuant to paragraph 2.12.8 shall be accompanied by an adjusting invoice (which shall be payable by the Train Operator within 28 days) or credit

Annex E: Coal photos

Cleaning equipment at Onllwyn:

Coal spillage at Pontefract west junction: