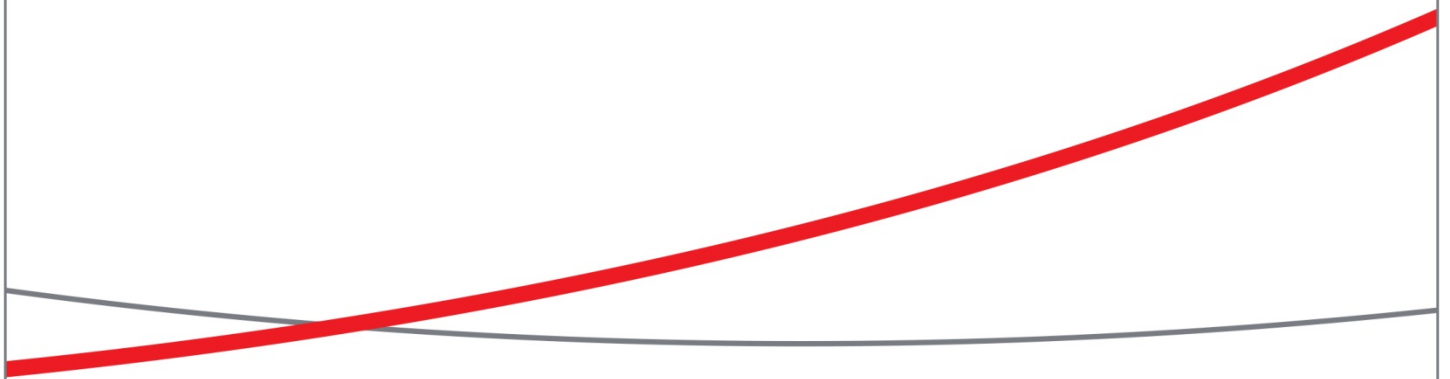


Department for Transport

Technical Advice to the HS1 Government's Representative

Review of the International Stations' CP2 Proposals

August 2014



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Executive Summary

As required by the Concession and Leases Agreement, HS1 Ltd has been preparing Lifecycle Reports (LCRs) for each International Station and have released these and associated supporting documents and files in April 2014 in order to enable the Government's Representative to form an early view prior to formal submission on 30 June 2014. Within two months of the date of receipt of the formally submitted LCRs, the Government Representative is required to provide HS1 Ltd with a written response to the submission, indicating:

- whether the Government's Representative does or not approve the LCRs; and
- if the Government's Representative does not approve the LCRs, to state the reasons for not approving these.

The Government's Representative would only be able to withhold approval of the LCRs if they do not comply with the requirements described in the HS1 Concession and Leases for the International Stations.

A review has been undertaken to assess the appropriateness of the assumptions, processes and tools, used by HS1 Ltd for the development of the Asset Management Strategy (AMS), LCRs and supporting financial models.

A number of inadequacies were identified against the HS1 Concession and Leases Agreement. That is, HS1 Ltd has a total of 60 obligations relating to the LCRs, AMS and associated financial models. HS1 Ltd was found to be fully compliant to 15 and partially compliant to 29 of its obligations while 16 non-compliances were also identified.

Over 100 comments and associated recommendations as well as several minor observations were collated as part of the review; 10 key recommendations were identified and the DfT has been advised to provide these to HS1 Ltd for further consideration and/or action.

At the point of completing the review of the CP2 Package released in April 2014, the following recommendations were made to the DfT:

Overarching Recommendation I: The Government Representative should not approve the CP2 Package released by HS1 Ltd in April 2014 because HS1 Ltd does not fully comply with all the requirements in the HS1 Concession and Leases Agreement.

Overarching Recommendation II: The Government Representative should provide HS1 Ltd with a copy of this report because it is considered that it contains the reasons for not approving the CP2 Package and request that HS1 Ltd revise the AMS, LCRs and LCC/LTC models using the key and other recommendations described here in.

The DfT has not approved the CP2 package of documents that was released in April 2014; instead it has requested that HS1 Ltd revise the CP2 package. HS1 Ltd provided responses to agreed actions and submitted revised documents on 30 June and subsequently on 28 July (dated 01 August). HS1 Ltd's actions were verified and a comparison was made of HS1 Ltd's compliance as it has evolved over time but also as assessed based on the documents released in April 2014 and those submitted in late July 2014. It is noted that HS1 Ltd is fully compliant with 41 of its obligations and partially compliant with 19 of its obligations, while

ID	Clause	Section Title	Jun 14	Aug 14
1	5.1	Life Cycle Reports	Partially	Fully
2	5.2.1 - a	Life Cycle Reports: Works undertaken and costs incurred	Partially	Fully
3	5.2.1 - b	Life Cycle Reports: Works undertaken and costs incurred	Partially	Fully
4	5.2.1 - c	Life Cycle Reports: Works undertaken and costs incurred	Fully	Fully
5	5.2.1 - d	Life Cycle Reports: Works undertaken and costs incurred	Fully	Fully
6	5.2.1 - e	Life Cycle Reports: Works undertaken and costs incurred	Fully	Fully
7	5.2.1 - f	Life Cycle Reports: Works undertaken and costs incurred	Fully	Fully
8	5.2.1 - g	Life Cycle Reports: Works undertaken and costs incurred	Partially	Partially
9	5.2.1 - h	Life Cycle Reports: Works undertaken and costs incurred	Fully	Fully
10	5.2.2 - a	Life Cycle Reports: Works undertaken and costs incurred	Partially	Partially
11	5.2.2 - b	Life Cycle Reports: Works undertaken and costs incurred	Partially	Partially
12	5.2.2 - c	Life Cycle Reports: Works undertaken and costs incurred	Partially	Fully
13	5.2.4 - a	Life Cycle Reports: Forecast Life Cycle Works	Partially	Partially
14	5.2.4 - b	Life Cycle Reports: Forecast Life Cycle Works	Partially	Partially
15	5.2.4 - c	Life Cycle Reports: Forecast Life Cycle Works	Fully	Fully
16	5.2.4 - d	Life Cycle Reports: Forecast Life Cycle Works	Partially	Fully
17	5.2.5 - a	Life Cycle Reports: Forecast Life Cycle Works	Partially	Fully
18	5.2.5 - b	Life Cycle Reports: Forecast Life Cycle Works	Partially	Fully
19	5.2.5 - c	Life Cycle Reports: Forecast Life Cycle Works	Partially	Fully
20	5.2.6 - a	Life Cycle Reports: Deferrals	Partially	Partially
21	5.2.6 - b	Life Cycle Reports: Deferrals	Not at al	Partially
22	5.2.6 - c (i)	Life Cycle Reports: Deferrals	Not at al	Fully
23	5.2.6 - c (ii)	Life Cycle Reports: Deferrals	Not at al	Partially
24	5.2.6 - d	Life Cycle Reports: Deferrals	Not at al	Partially
25	5.2.6 - e	Life Cycle Reports: Deferrals	Not at al	Fully
26	5.2.7	Life Cycle Reports: Distribution of Life Cycle Works Savings	Not at al	Fully
27	5.2.8	Life Cycle Reports: Adjustments to Available Life Cycle Funds	Not at al	Fully
28	5.2.9	Life Cycle Reports: Long Term Charge	Partially	Fully
29	5.2.10 - a	Life Cycle Reports: Long Term Charge	Partially	Fully
30	5.2.10 - b	Life Cycle Reports: Long Term Charge	Fully	Fully
31	5.2.11 - a	Life Cycle Reports: Long Term Charge	Fully	Fully
32	5.2.11 - b	Life Cycle Reports: Long Term Charge	Partially	Fully
33	5.2.12	Life Cycle Reports: Modifications to the AMS and the Life Cycle Budget	Fully	Fully
34	5.2.13	Life Cycle Reports: General	Partially	Fully
35	4.1	Asset Management Strategy	Partially	Fully
36	Annex 1 - 1	Scope	Fully	Fully
37	Annex 1 - 2	Station Elements	Fully	Fully
38	Annex 1 - 3a	Life Cycle Works	Partially	Partially
39	Annex 1 - 3b	Life Cycle Works	Partially	Fully
40	Annex 1 - 4	Performance Monitoring	Partially	Fully
41	Annex 1 - 5a	Life Cycle Budget: Expenditure	Partially	Fully
42	Annex 1 - 5b	Life Cycle Budget: Expenditure	Partially	Fully
43	Annex 1 - 5c	Life Cycle Budget: Expenditure	Partially	Fully
44	Annex 1 - 5a	Life Cycle Budget: Revenues	Partially	Fully
45	Annex 1 - 5b	Life Cycle Budget: Revenues	Partially	Fully
46	Annex 1 - 5c	Life Cycle Budget: Revenues	Partially	Fully
47	Annex 1 - 5	Life Cycle Budget: Cashflow	Partially	Fully
48	Annex 1 - 6	Financial Model	Fully	Fully
49	Annex 1 - 6a	Financial Model	Fully	Fully
50	Annex 1 - 6b	Financial Model	Not at al	Partially
51	Annex 1 - 6c	Financial Model	Not at al	Partially
52	Annex 1 - 6d	Financial Model	Not at al	Partially
53	Annex 1 - 6e	Financial Model	Not at al	Partially
54	Annex 1 - 7	Long Term Charge	Fully	Fully
55	Annex 1 - 7a	Long Term Charge	Fully	Fully
56	Annex 1 - 7b	Long Term Charge	Not at al	Partially
57	Annex 1 - 7bi	Long Term Charge	Not at al	Partially
58	Annex 1 - 7bii	Long Term Charge	Not at al	Partially
59	Annex 1 - 7biii	Long Term Charge	Not at al	Partially
60	Annex 1 - 7biv	Long Term Charge	Not at al	Partially

no non compliances were identified. It is considered that the partial compliances should not impact DfT's decision with regards to the approval of the LCRs and CP2 package of documents. However, HS1 Ltd should strive for full compliance against all its obligations in the near future.

The concluding recommendations made for DfT's consideration are:

Concluding Recommendation 1: The Government Representative should approve the revised LCR's and AMS submitted by HS1 Ltd, dated 01 August 2014, provided that HS1 Ltd agrees to address the partial compliances to their obligations before the start of CP2 (See Key Recommendations No. 2, 9, 11 and 12 in Table 14) and the other recommendations listed in Table 14, as appropriate.

Concluding Recommendation 2: The Government Representative should consider undertaking an interim review, at an appropriate time during CP2, to assess whether HS1 Ltd is making sufficient progress against some or all of the recommendations listed in Table 14 and has achieved full compliance against all of its obligations.

Abbreviations

AMS	Asset Management Strategy
BCIS	Building Cost Information Service
BPS	Basis Points
CP	Control Period
CP1	Control Period 1 (April 2010 – March 2015)
CP2	Control Period 2 (April 2015 – March 2020)
D	Deleted
DfT	Department for Transport
HS1	High Speed 1
L	Long Term Charge
LCC	Life Cycle Cost
LCR	Life Cycle Report
LTC	Long Term Charge
ORR	Office of Rail Regulation
Q	See Qx
Qx	Qualifying expenditure
ROI	Return On Investment
SAC	Station Access Conditions
SoS	Secretary of State
TOC	Train Operating Company

1 Introduction

1.1 General

This report has been prepared for the Department for Transport under an on-going commission for the provision of Technical Advice to the HS1 Government's Representative. The report presents the findings and recommendations from the review of the International Stations' Control Period 2 (CP2) package released in April 2014. The CP2 package includes the Asset Management Strategy (AMS), Life Cycle Reports (LCRs), associated Life Cycle Cost (LCC), and Long Term Charge (LTC) models and supporting documentation. The findings of the verification review, which assessed whether the agreed actions undertaken by HS1 Ltd satisfactorily addressed the deficiencies identified during the review, are included in subsequent sections of this report. The verification review also took into account the stakeholders' comments received during DfT's Consultation in July 2014. Concluding recommendations as well as a statement relating to the endorsement of the CP2 package are also contained in this report.

1.2 Background

HS1 Ltd was awarded a 30 year Concession Agreement in 2010 by the Secretary of State (SoS) for Transport to operate and maintain the high speed route (infrastructure and stations) from St Pancras International in London to the Channel Tunnel boundary (108km). The SoS remains the freeholder of the route including the International Stations at St Pancras, Stratford, Ebbsfleet, and Ashford.

The route is used by international and domestic passenger services and freight. The Office of Rail Regulation (ORR) regulates the track and infrastructure on the route. The Government's Representative, from the Department for Transport (DfT), regulates the stations and sets the necessary charges based upon an AMS and LCRs submitted by HS1 Ltd. International train operators and domestic train operators pay a long term charge (LTC) to use the stations.

As required by the Concession and Leases Agreement, HS1 Ltd has been preparing LCRs for each International Station. An interim review of the evolving AMS and LCRs was undertaken during the last quarter of 2013. Following a stakeholder consultation in early 2014, HS1 Ltd has released a revised version of the documents on 07 April 2014 in order to enable the Government's Representative to form an early view; prior to formal submission. The documents were formally submitted on 30 June 2014, which included a number of amendments, addressing identified deficiencies. The DfT undertook a stakeholders' consultation in July 2014 in relation to its draft decision concerning the LCRs approval. The documents were revised, following the first of a two stage verification review, and resubmitted on 1 August 2014. The second stage of the verification review took place in early August.

The Government Representative is required to provide HS1 Ltd with a written response to the formally submitted LCRs no later than 31 August 2014, indicating:

- whether the Government's Representative does or not approve the LCRs; and
- if the Government's Representative does not approve the LCRs, to state the reasons for not approving these.

The Government's Representative would only be able to withhold approval of the LCRs if they do not comply with the requirements described in the HS1 Concession and Leases for the International Stations.

As with previous reviews, i.e. review of the AMS in 2012 and the interim review of the LCRs in late 2013, the DfT appointed EC Harris to act as technical advisors for the final review of the CP2 proposals, which commenced in late April 2014.

1.3 Objectives

The objectives of the commission are to:



- support the DfT in their assessment to determine if the LCRs submitted by HS1 Ltd are sufficient to deliver effective asset management and are in line with the AMS and HS1 Ltd.'s duties under the Concession;
- critically assess the CP2 package, i.e. AMS, LCRs, LCC and LTC models, against HS1 Ltd.'s contractual obligations and recognised good practice, where possible;
- consider and/or challenge the inputs, definitions and assumptions which underpin the financial models; and
- verify that HS1 Ltd have undertaken agreed actions for addressing any identified deficiencies resulting from the previous and the latest review and also from the stakeholders' consultation(s).

1.4 Scope

The scope of work covered is to:

- Critically assess the AMS, LCRs for the four International Stations and review the LCC models and the financial model used to determine the LTC, and to refer to any other associated documentation.
- Determine if the LCRs, the associated LCC/LTC models:
 - contain the appropriate renewal activities
 - enable the effective delivery of asset management activities
 - align with the latest AMS
 - align with HS1 Ltd.'s General Duty under the Concession
 - comply with Schedule 10, Annex 1 of the HS1 Lease
 - align with recognised good asset management practice
- Verify whether any deficiencies or issues that impact the LCR's previously identified, i.e. during the 2012 AMS review and the interim 2013 LCRs review, have been adequately addressed.
- Assess whether the comments provided by stakeholders during consultation(s) have been adequately addressed.
- Assess and challenge the appropriateness of the definitions and assumptions underpinning the financial models, particularly the application of the renewals definition.
- Identify and recommend, as appropriate, any aspects that should be improved or expanded in accordance with the HS1 Concession and Leases Agreement or industry good practice.
- Produce a report [this report] highlighting identified deficiencies, omissions or errors in the available documentation, models, etc., including an overview of the findings and recommendations alongside the proposed timeframe for addressing these.
- Facilitate a limited number of meetings for familiarisation to the CP2 package documentation and in particular the financial models, and to present/discuss findings and recommendations.



Source: <http://stpncras.com/tourists/>

The following are outside the scope of this commission:

- Detailed site visits, examinations and/or intrusive surveys of any aspect of the four International Stations.
- Assessment of the condition, life expectancy, and replacement cost of the station individual assets or components.
- Validation of station plans or specific asset items and quantities.
- Detailed review of HS1 Ltd.'s Asset Management Policy and Asset Information Strategy.
- Review of any documents that are not associated with the International Stations.
- Assessment of the impact of the review findings on the HS1 Ltd business case.
- A detailed and full listing of omissions and errors in the draft LCC/LTC models, LCRs, and AMS.
- A detailed functionality review of the LCC/LTC models.
- An audit of the LCC/LTC models for completeness of content, accuracy and adequacy of the structure.
- A detailed review of maintenance and repair activities contained in the financial models.
- Checking for consistency of the approach, assumptions and cost allocations across financial models used for assets other than Stations and/or for activities other than renewals.

1.5 Report Layout

The layout of this report is summarised in Table 1.

Table 1 – Report Layout

Section	Description
2. Methodology	Describes the approach adopted for undertaking the review of the CP2 package of documents.
3. Review Findings and Recommendations	Summarises the key findings from the review and groups these into a number of themes. Key recommendations are provided against each theme.
4. Verification Review Findings and Recommendations	Summarises the findings and recommendations from the verification review of the revised CP2 package.
5. Summary and	Provides a summary of conclusions and recommendations from both the review of the CP2 package released in April 2014 as well as those derived from the verification review of the revised CP2 package submitted on 30 June and re-submitted on 1 August 2014.
Appendices	Provide supporting information

2 Methodology

2.1 Overview

This section describes the approach adopted for the review of the CP2 package of documents. This was undertaken in the five steps listed below and described in more detail in subsequent sections:

- Step 1 – Information Collation and Knowledge Share
- Step 2 – Comments Template and Compliance Matrix
- Step 3 – Assessment of the CP2 Package
- Step 4 – Feedback Sessions and Workshops
- Step 5 – Verification Review

2.2 Step 1 – Information Collation and Knowledge Share

A number of documents and other files were received that enabled the current review to be undertaken and these are listed in Appendix A. Relevant documents and other files from previous reviews are also listed in Appendix A as they were also referred to during this review. The column titled 'When Received' in Appendix A indicates in which review period (year) each listed document was provided.

The review, which commenced in late April 2014, mainly focused on the International Stations' AMS, LCRs and LCC/LTC models technical content, with other associated documents also used to inform our understanding, including the Asset Information Strategy as well as historical versions AMS, LCRs and LCC/LTC models which were provided during previous reviews.

Furthermore, we sought to understand the assumptions and methods used in the development of the CP2 package and how this evolved since the interim review was undertaken in 2013. To enhance our understanding and ensure that we fully utilise the knowledge and experience of both the DfT and HS1 Ltd we attended a small number of knowledge share workshops and maintained an on-going dialogue with both organisations.

2.3 Step 2 – Comments Template and Compliance Matrix

To enable the consistent capturing of comments and observations resulting from the review, the comments and observations template shown in Figure 1 was developed and populated.

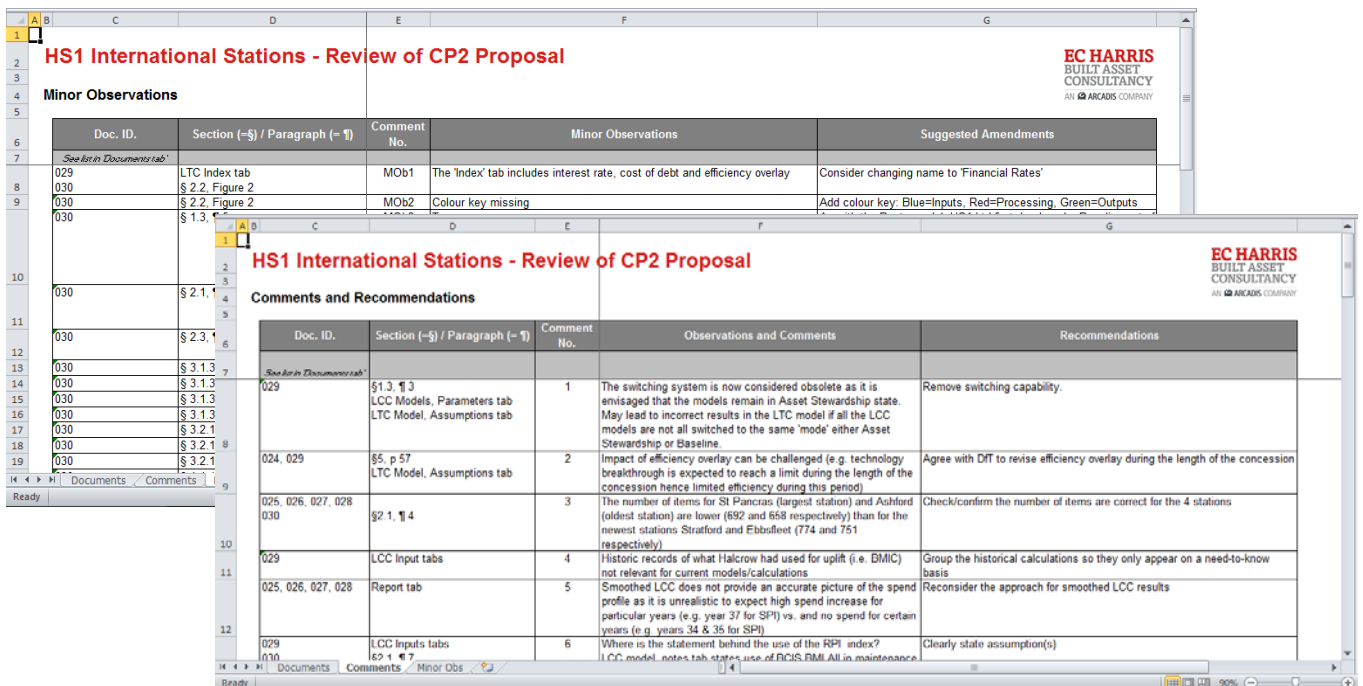


Figure 1 – Comments and Observations Template Screenshot

The comments and observations template is comprised of the following parts:

- Documents – provides a list of the documents received, which are also listed in **Appendix A**.
- Comments – provides a list of the review findings, observations and associated recommendations.
- Minor Observations – provides a list of low impact findings and suggested amendments.

The compliance matrix shown in Figure 2 was also used to capture HS1 Ltd.'s level of compliance, i.e. 'Fully Compliant'; 'Partially Compliant'; or 'Not Compliant', against each of the obligations listed in Schedule 10, Clause 5 and Annex 1 of the Concession and Leases Agreement.

Class	Section Title	Detail	Period the class refers to	Compliance	EC Harris Review Doc ID / Section / Paragraph	HS1 Ltd's Matrix Doc ID / Section / Paragraph	Comments	Recommended Action
5.1	Life Cycle Reports	The Tenant shall submit a Life Cycle Report to the Government's Representative for each Station no later than nine (9) months prior to the end of each Review Period.	CP2	Partially	034, 035, 036, 037 All LCRs	034, 035, 036, 037 document(s)	Subject to all other comments.	Address recommendations below, as appropriate
5.2	Life Cycle Reports	Each Life Cycle Report shall, in respect of each Station, include: Works undertaken and costs incurred	CP1	Partially	034, 035, 036, 037	034, 035, 036, 037	Detailed description of works for Ashford but short summary for other three stations especially Ebbwfließ.	Provide more detailed description of the Life Cycle Works carried out during CP1 for all stations particularly Ebbwfließ. This should be similar to the descriptions provided for Ashford.
5.2.1-a	Life Cycle Reports	The Life Cycle Works carried out by the Tenant (or that it is anticipated will have been carried out by the end of the current Review Period).	CP1	Partially	034, 035, 036, 037	034, 035, 036, 037	3.2.15	Provide more detailed description of the Life Cycle Works carried out during CP1 for all stations particularly Ebbwfließ. This should be similar to the descriptions provided for Ashford.
5.2.1-b	Life Cycle Reports	The Available Life Cycle Funds at the end of each Financial Year (or the anticipated Available Life Cycle Funds by the end of the last Financial Year in the current Review Period).	CP1	Partially	034, 035, 036, 037	034, 035, 036, 037	3.2.15	Why consider re-running the LTC model with now known closing balances for 2013/14 was not used (because it was not known at the time of production)? The difference do not appear to be significant and so may not be used to impact the CP2/LTC values. [Also see separate EC Harris analysis]
5.2.1-c	Life Cycle Reports	The Life Cycle Works Cost (or anticipated Life Cycle Works Cost by the end of the current Review Period).	CP1	Fully	034, 035, 036, 037	034, 035, 036, 037	4.1.2.1	Add Table 7 in the Stratford LCR
5.2.1-d	Life Cycle Reports	The Deferred Life Cycle Works Savings (if any) approved in previous Life Cycle Reports.	Period before CP1 (not valid)	Fully	034, 035, 036, 037	034, 035, 036, 037	5.1.3	Could state that there was no review period prior to CP1 and so no Deferred Life Cycle Works Savings were (or could have been) approved in previous LCRs.
5.2.1-e	Life Cycle Reports	The Life Cycle Works Savings (if any) brought forward from previous Review Periods.	Period before CP1 (not valid)	Fully	034, 035, 036, 037	034, 035, 036, 037	11.8.5.2	Could state that there was no review period prior to CP1 and so no Life Cycle Works Savings were brought forward.
5.2.1-f	Life Cycle Reports	The effect of any Relevant Changes of Law that have occurred during the Review Period.	CP1	Fully	034, 035, 036, 037	034, 035, 036, 037	3.2.2, 3.2.3, 3.2.4	3.2.4 4.2.5
5.2.1-g	Life Cycle Reports	An analysis of breakdown frequency and the performance of the Elements of the Station which were identified in the Asset Management Strategy as being monitored by the Tenant.	CP1	Partially	034, 035, 036, 037	034, 035, 036, 037	3.3	Statistics in 3.3.1 only for 2012/2013 (except Ashford)
5.2.1-h	Life Cycle Reports	The revenue and expenses (if any) undertaken by the Station Operator in order that it discharged its Safety Obligations in respect of the Station but which were not identified in the current Life Cycle Report ("Station Safety Works").	CP1	Fully	034, 035, 036, 037	034, 035, 036, 037	3.1.4, 3.1.5, 3.1.3	It is clearly stated in the LCRs that no such works were undertaken
5.2.2	Life Cycle Reports	In respect of the current Review Period's progress report, comparison and reconciliation by reference to the current Life Cycle Report approved for the current Review Period.	CP1	Partially	034, 035, 036, 037	034, 035, 036, 037	3.1.3	This current review period is CP1; the LCRs were assessed against clause 5.2.2 v.c

Figure 2 – Compliance Matrix Template Screenshot

Irrespective of the compliance level assigned, the relevant document and section from the reviewed documents is stated against each of the obligations as identified by the review. This can be compared to the relevant document and section as identified by HS1 Ltd in its own compliance matrix contained in the documentation provided for the review. Comments and recommendations were provided particularly against those obligations that have been assigned 'Partially Compliant'; or 'Not Compliant' ratings.

2.4 Step 3 – Assessment of the CP2 Package

Based on our previous experience in supporting DfT in this type of review, our knowledge and in-depth understanding of good asset management practice, as well as the requirements set out in the HS1 Concession and Leases Agreement, we assessed the appropriateness of the assumptions, processes and tools used by HS1 Ltd for the development of the CP2 package.

Comments were provided where inadequacies have been identified against each requirement along with proposed recommendation(s) and these are presented in subsequent sections of this report (See Section 3).

2.5 Step 4 – Feedback Sessions and Workshops

A small number of short sessions were hosted every fortnight, which enabled sharing the emerging findings with the DfT as the review was progressing. In addition, these sessions acted as a forum where additional documentation required and clarification(s) for successfully completing the review could be requested.

In early June 2014, a workshop was facilitated in order to discuss the findings and recommendations with the DfT and HS1 Ltd and agree the necessary actions and timeframes. The previously populated compliance matrix, associated comments and recommendations was used as the main discussion medium during the workshop. This was updated following the workshop and was issued to the DfT and HS1 Ltd for further consideration and/or action. In addition to the compliance matrix, a number of key issues (reported in Section 3) were also discussed during the early June workshop and HS1 Ltd agreed to consider these and provide further information and/or explanation which would aid the review.

A second workshop was held in late June; prior to the formal submission of the CP2 package of documents. This was attended by a representation from DfT and HS1 Ltd. The purpose of the workshop was to assess progress against the agreed actions and to establish a realistic timeframe for achieving any that remained outstanding. Further clarification was provided where this was considered necessary.

The DfT run a stakeholder consultation during which consultees were invited to comment of DfT's draft decision for the approval of the CP2 package. The consultation was open from 2 to 23 July 2014. The DfT hosted a stakeholders' workshop on 14 July 2014 where HS1 Ltd presented a summary of the changes made to the CP2 package between the April release and the June formal submission. The EC Harris project team presented a previous version (i.e. version 8) of this report to the workshop attendees and also the findings in relation to the 30 June submission, including outstanding actions (at that point in time). The workshop attendees had the opportunity to ask questions on both presentations. The DfT referred to their consultation document¹⁰⁶⁷¹ and its alignment with EC Harris report and invited the attendees views on the questions asked therein. All consultees formal responses were received on 23 July 2014 and all comments were given due consideration.

2.6 Step 5 – Verification Review

HS1 Ltd had the opportunity to address the actions agreed under Section 2.5 above and the revised CP2 documents were submitted on 30 June 2014 (addressing some of the agreed actions) and 28 July 2014 (dated 1 August 2014; addressing most of the outstanding actions). A second two stage review was undertaken in order to verify and confirm that highlighted deficiencies were adequately addressed, in early July and early August 2014, respectively. The populated comments and observations template and the compliance matrix described in Section 2.3 were used to record HS1 Ltd.'s responses to the agreed actions and also to record the outcome of the verification review. Documents received after 1 August 2014 were excluded from the verification review.

A final meeting was held with the DfT in order to discuss the verification findings and EC Harris final report and recommendations in advance of DfT publishing their final decision.

A final statement relating to the endorsement of the CP2 package of documents is included in Section 5.3.3 of this report.

3 Review Findings and Recommendations

3.1 Overview

This section summarises the key findings from the review of the CP2 package of documents released in April 2014, and groups these into a number of themes. Recommendations are provided against each theme. The themes cover the following:

- Reclassified Life Cycle & Maintenance Activities
- Top 10 Most Expensive Items by Station
- Cost Rates
- On-costs
- Inflation Rate and Profile
- Efficiency Overlay Profile
- Approach to Expenditure Smoothing
- Escrow Accounts Balance
- Environment & Energy Initiatives
- Renewals Acceleration, Deferral and Omissions
- Retail Contribution to LTC

Appendix B contains specific comments against HS1 Ltd.'s obligations while other individual comments on specific parts of the released documentation are included in **Appendix C**. **Appendix D** contains some minor observations on specific parts of the released documentation. Recommendations and/or suggested amendments are provided against each individual comment in the Appendices.

Appendix E contains a summary of HS1 Ltd.'s evolution of compliance against their obligations as it was captured during different reviews (i.e. 2012, 2013 and 2014).

3.2 Reclassified Life Cycle & Maintenance Activities

Each of the station elements listed in the LCC models are assigned one of three categories:

- "L" – Long Term Charge (LTC) / renewal activities
- "Q" – Qualifying Expenditure (Qx), which covers operations, maintenance and repair
- "D" – Deleted elements

These categories were used to keep track of changes that occurred during the various iterations of the LCC models.

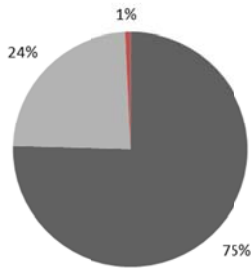
It is noted that a large proportion of elements were moved from "L" to "Q" as presented in Figure 3, Figure 4, Figure 5, and Figure 6. Two pie charts are shown for each station, titled:

- Interim Review Suggestion – summarises the suggested proportion of L / Q / D activities/items as challenged during the 2013 interim review of the CP2 package; and
- HS1 Response – summarises the proportion of L / Q / D activities/items contained in the April 2014 version of the LCC models.

For St Pancras International Station the "L" elements decreased from 75% to 35% whilst "Q" elements increased from 24% to 54%. For Stratford International Station the "L" elements decreased from 77% to 44% whilst "Q" elements increased from 18% to 38%. For Ebbsfleet International Station the "L" elements decreased from 77% to 53% whilst "Q" elements increased from 17% to 40%. For Ashford International Station the "L" elements decreased from 69% to 38% whilst "Q" elements increased from 27% to 55%.

The reclassification of activities/items from the "L" to the "Q" categories is one of the factors contributing to the proposed reduction of the LTC. Stakeholders, and in particular the Train Operating Companies (TOCs), may find this approach [and set of assumptions] preferable as Qx activities are charged when they actually occur. Although, collection of the LTC is unavoidable in order to ensure that future asset renewal activities can be appropriately funded, long-term predictions are inherently associated with future uncertainty. The current and previous reviews enable interrogating the assumptions, processes and tools that underpin the development of the LCCs/LCRs and associated LTC. In addition, the LTC level is reviewed regularly, e.g. formally every 5 years, although the mechanism exists for formal interim reviews to be instigated, if the need for this arises.

Interim Review Suggestion



HS1 Response as of 7 Apr. 14

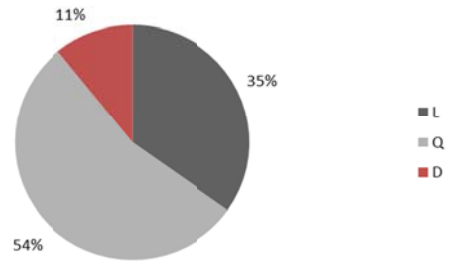
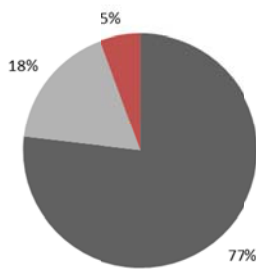


Figure 3 – St Pancras International Activities Reclassification

Interim Review Suggestion



HS1 Response as of 7 Apr. 14

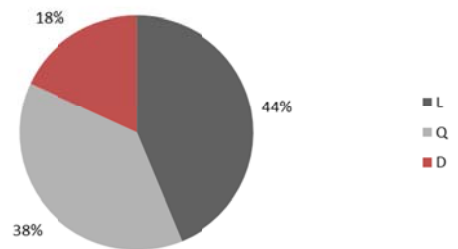
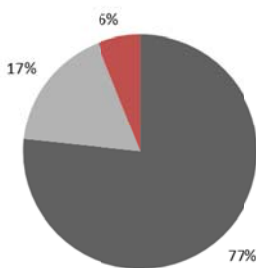


Figure 4 – Stratford International Activities Reclassification

Interim Review Suggestion



HS1 Response as of 7 Apr. 14

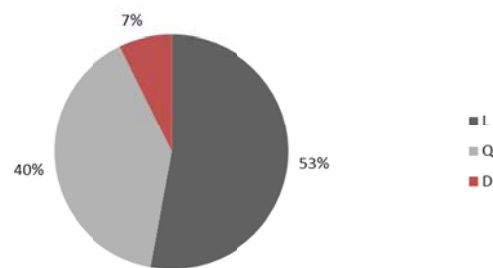
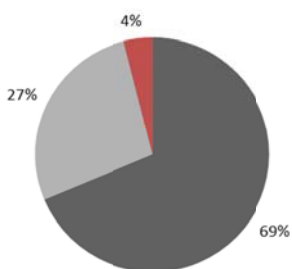


Figure 5 – Ebbsfleet International Activities Reclassification

Interim Review Suggestion



HS1 Response as of 7 Apr. 14

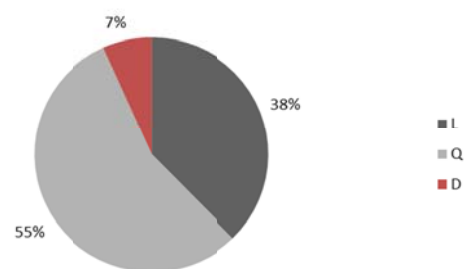


Figure 6 – Ashford International Activities Reclassification

There may be a small number of inconsistencies in the LCC models in terms of elements which are assigned an “L” or “Q”. One such example is shown in Figure 7 where “2HR1.03 Fire Resistant Doors Replace seals” has 14 different rows in the LCC model for St Pancras. 5 rows are “Q” elements and 9 others rows are “L” but have the same cycle summary (Commencing yr 7 Repeating on 10 year cycle) and the same percentage replacement per event (50%). Also 4 rows have a cost rate of £30 whilst the other 10 rows have a cost rate of £60.

Another example is included in Figure 8 where “3C2.03 Suspended ceilings Metal tile suspended ceiling, exposed suspension grid, acoustic insulation” has 5 different rows with the same cycle summary (Commencing yr 0 Repeating on 1 year cycle at 1%) and the same percentage replacement per event (1%). All entries have the same cost rate.

Ranking by total (50 year) LTC	Location	Description	Works	Cycle summary	G&T Cost Rate Q2 2013
UnRanked	St Pancras - Common Facilities	2HR1.03 Fire Resistant Doors Replace seals	replace	Q - Commencing yr 7 Repeating on 10 year cycle at 50%	£30
UnRanked	St Pancras - Common Facilities	2HR1.03 Fire Resistant Doors Replace seals	replace	Q - Commencing yr 7 Repeating on 10 year cycle at 50%	£30
UnRanked	St Pancras - Common Facilities	2HR1.03 Fire Resistant Doors Replace seals	replace	Q - Commencing yr 7 Repeating on 10 year cycle at 50%	£60
UnRanked	St Pancras - Platforms	2HR1.03 Fire Resistant Doors Replace seals	replace	Q - Commencing yr 7 Repeating on 10 year cycle at 50%	£60
UnRanked	St Pancras - Platforms	2HR1.03 Fire Resistant Doors Replace seals	replace	Q - Commencing yr 7 Repeating on 10 year cycle at 50%	£60
229	St Pancras Cat A	2HR1.03 Fire Resistant Doors Replace seals	replace	L - Commencing yr 7 Repeating on 10 year cycle at 50%	£60
183	St Pancras Cat A	2HR1.03 Fire Resistant Doors Replace seals	replace	L - Commencing yr 7 Repeating on 10 year cycle at 50%	£30
202	St Pancras Cat A	2HR1.03 Fire Resistant Doors Replace seals	replace	L - Commencing yr 7 Repeating on 10 year cycle at 50%	£60
219	St Pancras Cat B	2HR1.03 Fire Resistant Doors Replace seals	replace	L - Commencing yr 7 Repeating on 10 year cycle at 50%	£60
230	St Pancras Cat D	2HR1.03 Fire Resistant Doors Replace seals	replace	L - Commencing yr 7 Repeating on 10 year cycle at 50%	£60
182	St Pancras Cat D	2HR1.03 Fire Resistant Doors Replace seals	replace	L - Commencing yr 7 Repeating on 10 year cycle at 50%	£30
235	St Pancras Cat D	2HR1.03 Fire Resistant Doors Replace seals	replace	L - Commencing yr 7 Repeating on 10 year cycle at 50%	£60
207	St Pancras Fabric Variation July 2010	2HR1.03 Fire Resistant Doors Replace seals	replace	L - Commencing yr 7 Repeating on 10 year cycle at 50%	£60
217	St Pancras Fabric Variation July 2010	2HR1.03 Fire Resistant Doors Replace seals	replace	L - Commencing yr 7 Repeating on 10 year cycle at 50%	£60

Figure 7 – Extract from St Pancras International LCC | Inconsistent “L” & “Q” items

Ranking by total (50 year) LTC	Location	Description	Works	Cycle summary	G&T Cost Rate Q2 2013
UnRanked	Ashford - Common Zone First	3C2.03 Suspended ceilings Metal tile suspended ceiling	Replace missing/damaged tiles	Q - Commencing yr 0 Repeating on 1 year cycle at 1%	£ 35
UnRanked	Ashford - Common Zone Ground	3C2.03 Suspended ceilings Metal tile suspended ceiling	Replace missing/damaged tiles	Q - Commencing yr 0 Repeating on 1 year cycle at 1%	£ 35
UnRanked	Ashford - Common Zone Service	3C2.03 Suspended ceilings Metal tile suspended ceiling	Replace missing/damaged tiles	Q - Commencing yr 0 Repeating on 1 year cycle at 1%	£ 35
113	Ashford - International Zone First	3C2.03 Suspended ceilings Metal tile suspended ceiling	Replace missing/damaged tiles	L - Commencing yr 0 Repeating on 1 year cycle at 1%	£ 35
UnRanked	Ashford - International Zone Ground	3C2.03 Suspended ceilings Metal tile suspended ceiling	Replace missing/damaged tiles	Q - Commencing yr 0 Repeating on 1 year cycle at 1%	£ 35

Figure 8 – Extract from Ashford International LCC | Inconsistent “L” & “Q” items

Recommendation 1: Investigate possible inconsistencies in the designation of elements with the same description and cycle summary and ensure they are allocated to the ‘correct’ activity (L/Q).

3.3 Top 10 Most Expensive Items by Station

The top 10 items for each station, ranked in terms of total life cycle activities cost over the 45 year evaluation period are listed in Table 2, Table 3, Table 4, and Table 5. These are key items representing up to 45% of the expenditure and thus should continue to be focused upon and be monitored going forward, as part of regular reviews. HS1 Ltd provided a listing of the top 50 items in their LCC models. It is noted that CCTV & CIS Systems represent the highest combined spend for each individual station across the 45 year period, ranging from circa £2m at Ashford to circa £6m at Stratford & Ebbsfleet and circa £42m at St Pancras.

Table 2 – St Pancras International Top 10 Items | Total LCC for all Station Assets = £219,188,104

Rank	Description	Basic cost per event (£)	Total cost per event (£)	Total LCC cost over 45 years (£)	Ratio ¹
1	5.L Complete Security/CCTV/Access Control	3,472,777	5,834,265	29,171,325	13.31%
2	5.M Special Installations CIS Complete	1,524,744	2,561,570	12,807,850	5.84%
3	3A1.17 Steel and glass wall cladding	8,250,000	12,457,500	12,457,500	5.68%
4	5.M Special Installations_ Specialist DATA?COMMS Installations	3,553,539	5,969,946	11,939,891	5.45%
5	2C2.14 Roof Covering Glazing	3,839,852	6,182,162	6,182,162	2.82%
6	5.J Lift and Conveyor Installations_TRAVELATOR Travelator Comments: Verified	3,575,000	6,006,000	6,006,000	2.74%
7	5.L Communications and Security Installations_ Communications and Security Installations Infrastructure	1,722,928	2,894,519	5,789,038	2.64%
8	5.M Special Installations_ Specialist BMS Installations; controls	1,685,145	2,831,044	5,662,087	2.58%
9	5.M Special Installations_ Specialist BMS Installations	1,072,365	1,801,573	5,404,720	2.47%
10	5.H Electrical Installations_POWER UPS (Asset Reg Qts)	334,172	538,017	4,842,152	2.21%
				100,262,725	45.74%

Table 3 – Stratford International Top 10 Items | Total LCC for all Station Assets = £38,708,227

Rank	Description	Basic Cost per event (£)	Total cost per event (£)	Total LTC cost over 45 years (£)	Ratio
1	2F1.07 Windows Curtain walling	1,236,634	1,805,486	1,805,486	4.66%
2	Complete CCTV, Intruder and Access Control Installation	169,506	269,515	1,347,573	3.48%
3	CIS Screens and Systems	169,337	269,246	1,346,231	3.48%
4	Complete CCTV, Intruder and Access Control Installation	169,202	269,030	1,345,152	3.48%
5	CIS Screens and Systems	163,249	259,566	1,297,828	3.35%
6	2C2.14 Roof Covering , glazed	797,880	1,284,587	1,284,587	3.32%
7	Complete Passenger Lift Installation	768,800	1,199,328	1,199,328	3.10%
8	Complete CCTV, Intruder and Access Control Installation (full system replacement)	107,491	160,161	800,807	2.07%
9	Complete Escalator Installation	450,000	715,500	715,500	1.85%
10	Control Panels	153,760	229,102	687,307	1.78%
				11,829,799	30.57%

¹ Ratio = Total LCC cost over 45 years LCC / Total LCC for all Station Assets

Table 4 – Ebbsfleet International Top 10 Items | Total LCC for all Station Assets = £41,437,580

Rank	Description	Basic Cost per event (£)	Total cost per event (£)	Total LCC cost over 45 year (£)	Ratio ²
1	Complete CCTV, Intruder and Access Control	230,740	368,030	1,840,149	4.44%
2	2F1.07 Windows Curtain walling	1,236,634	1,805,486	1,805,486	4.36%
3	CIS Systems	225,541	359,738	1,798,690	4.34%
4	CIS Systems	190,067	303,156	1,515,780	3.66%
5	Complete Escalator Installation	450,000	717,750	1,435,500	3.46%
6	Complete Escalator Installation	450,000	717,750	1,435,500	3.46%
7	2C2.14 Roof Covering Covering, glazed	880,720	1,417,959	1,417,959	3.42%
8	2C2.14 Roof Covering Covering, glazed	768,450	1,237,205	1,237,205	2.99%
9	Platform Luminaires	328,250	523,559	1,047,118	2.53%
10	Complete CCTV, Intruder and Access Control	119,157	178,140	890,698	2.15%
				14,424,085	34.81%

Table 5 – Ashford International Top 10 Items | Total LCC for all Station Assets = £36,057,832

Rank	Description	Basic Cost per event (£)	Total cost per event (£)	Total LCC cost over 45 years (£)	Ratio
1	CCTV System	260,583	402,601	2,013,007	5.58%
2	2F1.07 Windows Curtain walling	1,144,178	1,727,709	1,727,709	4.79%
3	Link bridge to car park painting	374,890	521,097	1,563,291	4.34%
4	Aluminium standing seam roof	846,995	1,321,311	1,321,311	3.66%
5	Platform canopy roof	772,600	1,127,996	1,127,996	3.13%
6	Link bridge to platform painting	400,000	556,000	1,112,000	3.08%
7	Lift	630,000	1,017,450	1,017,450	2.82%
8	Boiler	310,605	479,885	959,769	2.66%
9	3A1.17 Steel and glass wall cladding	639,804	934,114	934,114	2.59%
10	Control Panels	192,200	296,949	890,847	2.47%
				12,667,494	35.12%

3.4 Cost Rates

The cost rates represent labour and material only for undertaking a work activity. However, the cost rates are not broken down to their constituent parts and a detailed specification of different activities has not been provided, thus making it difficult, in general, to assess/conclude whether specific cost rates are appropriate. Nevertheless, some observations are contained in the following paragraphs.

Some items with the same description have different rates. For example, in Figure 9 element “2HR1.01 Fire Resistant Doors Ironmongery” at St Pancras has 17 rows with the same description but with rates varying between £100 and £7,200. No explanation has been provided with regards to why the rates used are different for seemingly the same items. Also there is no explanation with regards to why the cycle summary is different.

² Ratio = Total LCC cost over 45 years LCC / Total LCC for all Station Assets

Similarly in Figure 10 element "2H1.07 Metal/Glazed door" at St Pancras has 7 rows with the same description but rates between £1,500 and £2,500. No explanation has been provided with regards to why rates are different for seemingly the same items.

Description	Works	Cycle summary	G&T Cost Rate Q2 2013
2HR1.01 Fire Resistant Doors Ironmongery	replace	L - Commencing yr 17 Repeating on 20 year cycle at 25%	£600
2HR1.01 Fire Resistant Doors Ironmongery	replace	L - Commencing yr 17 Repeating on 20 year cycle at 25%	£900
2HR1.01 Fire Resistant Doors Ironmongery	replace	L - Commencing yr 17 Repeating on 20 year cycle at 25%	£7,200
2HR1.01 Fire Resistant Doors Ironmongery	replace	L - Commencing yr 17 Repeating on 20 year cycle at 25%	£100
2HR1.01 Fire Resistant Doors Ironmongery	replace	L - Commencing yr 7 Repeating on 20 year cycle at 25%	£900
2HR1.01 Fire Resistant Doors Ironmongery	replace	L - Commencing yr 7 Repeating on 20 year cycle at 25%	£900
2HR1.01 Fire Resistant Doors Ironmongery	replace	L - Commencing yr 7 Repeating on 20 year cycle at 25%	£650
2HR1.01 Fire Resistant Doors Ironmongery	replace	L - Commencing yr 7 Repeating on 20 year cycle at 25%	£600
2HR1.01 Fire Resistant Doors Ironmongery	replace	L - Commencing yr 7 Repeating on 20 year cycle at 25%	£900
2HR1.01 Fire Resistant Doors Ironmongery	replace	L - Commencing yr 7 Repeating on 20 year cycle at 25%	£900
2HR1.01 Fire Resistant Doors Ironmongery	replace	L - Commencing yr 7 Repeating on 20 year cycle at 25%	£900
2HR1.01 Fire Resistant Doors Ironmongery	replace	L - Commencing yr 7 Repeating on 20 year cycle at 25%	£600
2HR1.01 Fire Resistant Doors Ironmongery	replace	L - Commencing yr 7 Repeating on 20 year cycle at 25%	£600
2HR1.01 Fire Resistant Doors Ironmongery	replace	L - Commencing yr 7 Repeating on 20 year cycle at 25%	£600
2HR1.01 Fire Resistant Doors Ironmongery	replace	L - Commencing yr 7 Repeating on 20 year cycle at 25%	£600
2HR1.01 Fire Resistant Doors Ironmongery	replace	L - Commencing yr 7 Repeating on 20 year cycle at 25%	£900
2HR1.01 Fire Resistant Doors Ironmongery	replace	L - Commencing yr 7 Repeating on 20 year cycle at 25%	£900

Figure 9 – Extract from St Pancras International LCC | Inconsistent Cost Rates

Description	Works	Cycle summary	G&T Cost Rate Q2 2013
2H1.07 Metal/Glazed door	replace	L - Commencing yr 37 Repeating on 40 year cycle at 100%	£2,500
2H1.07 Metal/Glazed door	replace	L - Commencing yr 37 Repeating on 40 year cycle at 100%	£2,500
2H1.07 Metal/Glazed door	replace	L - Commencing yr 37 Repeating on 40 year cycle at 100%	£1,500
2H1.07 Metal/Glazed door	replace	L - Commencing yr 37 Repeating on 40 year cycle at 100%	£2,500
2H1.07 Metal/Glazed door	replace	L - Commencing yr 37 Repeating on 40 year cycle at 100%	£1,500
2H1.07 Metal/Glazed door	replace	L - Commencing yr 37 Repeating on 40 year cycle at 100%	£1,500
2H1.07 Metal/Glazed door	replace	L - Commencing yr 37 Repeating on 40 year cycle at 100%	£2,500

Figure 10 – Extract from St Pancras International LCC | Inconsistent Cost Rates

Location	Description	Works	Quantity	Unit	G&T Cost Rate Q2 2013
St Pancras - Common Facilities	3A1.09 Ceramic Tiling - inc backing	replace	831	m2	£59
St Pancras - Common Facilities	3B.01 Ceramic Tiling - inc backing	replace	277	m2	£59
St Pancras - Common Facilities	6A2.07 Surface Treatment Tarmacam or reinforced concrete roads including all	replace	4447	m2	£180
St Pancras - External	2C2.14 Roof Covering Glazing	replacce	8807	m2	£545
St Pancras - External	2C2.24 Lead flashings	replace	1	m	£600,000
St Pancras Cat A	3A1.09 Ceramic Tiling - inc backing	replace	9	m2	£59
St Pancras Cat B	3A1.09 Ceramic Tiling - inc backing	replace	384	m2	£59
St Pancras Cat B	3B.01 Ceramic Tiling - inc backing	replace	20.67	m2	£59
St Pancras Cat D	3A1.09 Ceramic Tiling - inc backing	replace	3442	m2	£59
St Pancras Cat D	3B.01 Ceramic Tiling - inc backing	replace	544.7	m2	£59
St Pancras Station	5.A Sanitary Appliances_ Sanitary Appliances Infrastructure Comments:	replace	107683	m2	£1

Figure 11 – Extract from St Pancras International LCC | Selection of Work Descriptions and Cost Rates

Figure 11 shows a selection of work descriptions and associated rates, extracted from the St Pancras LCC model.

The highest rate used is £600,000 per meter for lead flashings. Our database indicates a labour and material rate in the range of £70-85 per m² for the installation of lead flashings.

The lowest rate is £1 per m² for sanitary appliances which seems low but the assumptions behind it have not been provided.

Other values in between the highest and lowest rates were selected at random and for ceramic tiling a rate of £59 per m² is used. Our database (2014 prices) indicates a labour and material rate in the range of £40-50 per m² for the installation of ceramic tiles.

A rate of £180 per m² is used for surface treatment (including all earthworks, drainage, pavements lighting, signs, fencing and safety barriers). The comparable rate in our database for labour and material is of £265 per m².

For roof glazing a rate of £545 per m² is used. Our database indicates a labour and material rate in the range of £625 - 700 per m² for the installation of roof glazing.

Overall the descriptions provided against cost rates are very short. A detailed explanation of how these rates were derived was not provided but they are a fundamental input to all calculations. Some, if not all, may well be justified and understood by HS1 Ltd, but enhancing the description provided would be beneficial to the DfT and other interested parties.

Recommendation 2: Ensure correct unit rates are applied in the LCC models. Enhance descriptions and provide a detailed explanation of how each of the rates was derived.

3.5 On-costs

One of the recommendations of the 2013 interim review of the CP2 package was to 'revisit on-costs remove duplications and errors, enhance descriptions provided and ensure correct application in the LCC models'.

The assumptions behind the derivation of the on-costs are stated in the report titled: 'HS1 International Stations CP2 LTC Review'^[024] and the models user guide^[030]. A small number of minor errors may still exist in the LCC models in relation to the application of some of the on-costs.

For example, Figure 12, two line items remain in the St Pancras LCC to cover access to the Barlow Roof but the 'access cost' on-cost is switched on in error. Also it is unclear, based on the stated assumptions whether the heritage on-cost should be applied to the scaffolding allowance items and to the line item(s) that contain the work activities associated with the Barlow Roof. Another example is the application of access cost to scaffolding items at Ashford as shown in Figure 13. Based on the stated assumptions it is unclear whether the disposal on-cost should be applied to the scaffolding items.

Description	Basic Cost of Element	Access Costs	Heritage
2CR2.13 Scaffolding Allowance 40 yrs	£ 202,561	£ 10,128	£ 20,256
2CR2.14 Scaffolding Allowance 30 yrs	£ 615,664	£ 30,783	£ 61,566

Figure 12 – Extract from St Pancras International LCC | Application of On-cost

Description	Basic Cost per event	Access Costs	Disposal Scrap (inc Stripout)
2E.27 Scaffolding; mobile cradle for facade maintenance	£ 15,000	£ 750	£ 1,050
2E.27 Scaffolding; mobile cradle for facade maintenance	£ 15,000	£ 750	£ 1,050

Figure 13 – Extract from Ashford International LCC | Application of On-cost

HS1 Ltd conducted an on-cost benchmarking exercise and a summary of the results collated are shown in Table 6. At total on-cost percentage level the HS1 Ltd lower band (60%) is similar to the benchmark (61%). At individual on-cost percentage level the Indirect Cost and PEO Cost are above the benchmarks while Further Detailing and Contingency are below benchmarks. Table 7 shows the total percentage on-cost per event as applied in the LCC models for each station. The total on-cost per event at St Pancras is 62% which is similar to the benchmark. This ranges between 47% and 49% for the other stations and it is below the benchmark.

Table 6 – On Cost Benchmarking Results ^[024]

On-Costs	Benchmark	HS1 Ltd (Lower Range)	HS1 Ltd (Upper Range)
Further Detailing	10%	5%	7%
Indirect Cost	25%	38%	46%
PEAO Cost	16%	17%	20%
Contingency	10%	0%	0%
Total	61%	60%	73%

Table 7 – On Cost applied in the LCC models

On-Costs	St Pancras (per event)	Stratford (per event)	Ebbfleet (per event)	Ashford (per event)
Total cost per event (£)	147,606,792	27,227,926	27,724,639	37,449,712
[Total] Basic cost per event (£)	91,278,055	18,361,353	18,563,535	25,443,185
Total On-Cost per event (£)	56,328,737	8,866,573	9,161,104	12,006,527
Total On-Cost per event (%)	62%	48%	49%	47%

Recommendation 3: Address any remaining errors that may still exist in the LCC models in relation to the application of on-costs.

3.6 Inflation Rate and Profile

In the LTC model an inflation rate is applied annually and this rate is flat throughout the length of the evaluation period. In the documentation provided it is unclear which, if any, professional body or similar source was used for the inflation forecast. In addition, an explanation was not provided with regards to why this rate should remain constant.

The escrow account is likely to be directly impacted by the inflation rate and is very sensitive to change in its value (e.g. 100 BPS³ change in inflation rate could increase LCC costs by circa £150k at St Pancras).

Recommendation 4: Provide the underlying source of the inflation forecasted values used. If this source is not deemed to be appropriate it may result to calculation changes being required in the LTC models.

3.7 Efficiency Overlay Profile

In the LTC model an efficiency overlay percentage is applied annually and this percentage is flat throughout the length of the evaluation period. This could be extremely challenging, especially if prices rise. It is acknowledged that a lot of uncertainty is associated with such long term predictions. However, it is unlikely that the efficiency overlay will remain flat throughout the life of the concession as technology for instance, is likely to reach a peak and then plateau, thus decreasing efficiency gains.

It is appreciated that the opportunity exists to review the overlay at five-yearly intervals but in order to capture and address any short term risks, 'informal' annual reviews should, if not already, be undertaken.

Consideration may be given to systematically running sensitivity analysis or scenario testing to aid understanding the cost of uncertainty and associated asset related risk. To achieve future generation(s) of the financial models may need to be enhanced to support this type of analysis.

³ BPS are Basis Points (100 BPS = 1%)

Recommendation 5: More frequent informal reviews (e.g. annually) of the efficiency overlay may be more beneficial in capturing and assessing short term risks.

3.8 Approach to Expenditure Smoothing

In the LCC models the elemental costs are smoothed by spreading each year's calculated works costs 30:40:30 over the three years from the preceding year to the following year. This seems quite a simplistic method of smoothing which does not actually result in a smoother expenditure profile overall. As shown in Figure 14 forecast expenditure peaks, especially in the latter years still remain, resulting in huge jump(s) in the required funding.

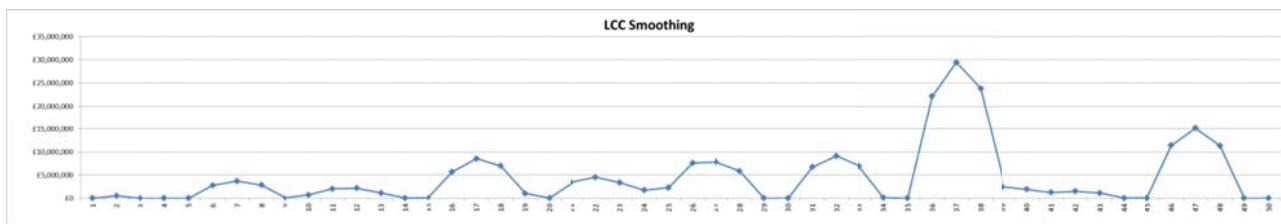


Figure 14 – St Pancras International Smoothed LCC Profile

An alternative approach to smoothing should be considered reflecting for example how projects are likely to be phased, e.g. some assets may need to be renewed within a year depending on their criticality and condition while renewals on other assets could be extended for a period longer than 3 years.

Recommendation 6: Consider adopting an alternative approach to smoothing expenditure profiles.

3.9 Escrow Accounts Balance

The LTC model uses the actual escrow accounts balance for the first three years in CP1, i.e. FY 10/11, 11/12, and 12/13, which reflects the available information at the time the models were built and/or calculated. However, the actual balance of the escrow accounts for FY 13/14 is now known. Table 8 shows the actual funds in each of the escrow accounts on 31 March 2014 (see column titled: Actual balance on 31/03/2014). The column titled: Total on 31/03/2014, comprises the actual funds in the escrow accounts plus the sum invested in December 2013. The remaining columns of the table show the difference between the actual fund and the amount forecast by the LTC model. The negative amounts in Table 8 indicate that the actual fund or account balance is lower than forecast. Table 9 shows the difference in the annuity value between using the actual and forecast escrow account balance. The difference may not be considered significant, however since the latest balance is now known this should be used to calculate the LTC model.

Table 8 – Escrow Accounts Balance: Actual vs. Forecast (31/03/14)

Station	Actual balance on 31/03/2014	Sum invested in Dec 2013	Total on 31/03/2014 (Excluding ROI)	LTC Model forecast of closing balance 13/14	Difference between actual balance and model forecast
Stratford	£472,297.76	£2,052,931.84	£2,525,229.60	£2,603,280.60	-£78,051.00
St Pancras	£3,547,199.66	£6,345,236.01	£9,892,435.67	£10,550,915.45	-£658,479.78
Ebbsfleet	£634,929.00	£2,367,019.03	£3,001,948.03	£3,090,412.74	-£88,464.71
Ashford	£1,932,260.21	£928,433.22	£2,860,693.43	£2,584,480.37	£276,213.06
	£6,586,686.63	£11,693,620.10	£18,280,306.73	£18,829,089.16	-£548,782.43

Table 9 – Difference in annuity between actual and forecast escrow account balance

Station	Annuity using forecast escrow balance of Mar 2014 (Real, 2013/14 prices, £k)	Annuity using actual escrow balance of Mar 2014 (Real, 2013/14 prices, £k)	Difference between actual and forecast annuity (£k)
Stratford	£650.76	£652.49	-£1.73
St Pancras	£3,811.98	£3,827.07	-£15.09
Ebbsfleet	£685.52	£687.48	-£1.96
Ashford	£679.07	£671.87	£7.20
			-£11.58

Recommendation 7: The actual balance of the escrow accounts for FY 13/14 is now known and this should be used to calculate the LTC model.

3.10 Environment & Energy Initiatives

The AMS as well as the LCRs list a small number of common activities across all four stations, including forthcoming environment and energy initiatives, and specifically state the following:

“Environment and energy initiatives: These include (1) lamp exchange from conventional to LED, (2) upgrade of air conditioning fan units to direct drive, and (3) re-engineering of existing main air conditioning units to incorporate recirculation facility.”

Other than the above statement, no further details are provided with regards to this initiative and so it is unclear if or how it is included in evaluating the LCCs for each station. It is likely that implementation of this initiative would have an impact on both the LCC and LTC; however, due to the limited information, it was not possible to determine how significant (or not) this would be.

Recommendation 8: Provide an explanation as to whether or not environment and energy initiatives have been considered and if so state the financial impact associated with their implementation.

3.11 Renewals Acceleration, Deferral, and Omissions

The obligations of the concession require the LCC and LTC models to be able to analyse the effect of “any acceleration, deferral or permanent omission of any renewals and/or replacements at the Station”. The purpose of this analysis is to be able to model the implications of a spend variance in a given year on future years of the control period and/or life cycle period, by reforecasting spend. This will help to inform all parties on the amount of funds that will need to be withdrawn from the Escrow in future years. At present, neither the LCC nor the LTC models have the functionality to do this, i.e. use actuals to reforecast spend for the remainder of the control period or life cycle period.

It is considered possible to ‘manually’ calculate the impact of renewals accelerations, deferrals and omissions and even additions, although this may be somewhat cumbersome. The process for ‘manually’ calculating the variance should be described in the LCRs. In future, the models should be adapted to allow the user to input actuals for a given control period, and allow the reforecast of expenditure for subsequent years. This should also demonstrate the impact on the LTC and drawdowns required from the Escrow account and allow both HS1 Ltd and the DfT to have better visibility of the implications of “any acceleration, deferral or permanent omission of any renewals and/or replacements” on future years in order to budget more efficiently.

Note: This issue was raised as non-compliance during the 2012 and 2013 reviews.

Recommendation 9: For the CP2 submission the process for ‘manually’ calculating the variance should be described in the LCRs. However, the LCC/LTC models should be revised in the near future (by the start of CP2) so as to undertake monitoring of acceleration / deferrals / omissions throughout control periods in a more automated way.

3.12 Retail Contribution to LTC

In an earlier version of the LTC model ^[058], i.e. for CP1, the annuity calculation was based on the assumption that retailers would pay 11.8% of the annual lifecycle costs. Figure 15, extracted from earlier LCRs for St Pancras ^[010, 059] summarises the CP1 LTC model outputs and includes a line for retail contribution. Neither the 2013 nor the current versions of the LTC model include contribution from retail.

Schedule 10 Annex 1: 6 Financial Model of available lifecycle funds				
	11/12	12/13	13/14	14/15
	£k	£k	£k	£k
Available Lifecycle funds b/f	-	5,751	8,517	12,026
Initial funding	1,927	-	-	-
LTC:				
Receipt from TOCs	4,050	4,259	4,376	4,496
Less: reasonable costs (7.5%)	-283	-297	-305	-314
Retail contribution	505	532	546	561
	4,273	4,493	4,617	4,744
Lifecycle works costs	-551	-1,918	-1,384	-1,468
Income on escrow	103	191	275	371
Distribution of Lifecycle works savings				
Available Lifecycle funds c/f	5,751	8,517	12,026	15,673

Table 4: High level outputs for the F&G financial model for St Pancras International for CP1

Figure 15 – Extract from Previous LCRs ^[010, 059] Showing a Line Item for Retail Contributions

An explanation as to why retail contribution was included in the CP1 LTC and excluded in the CP2 LTC has not been provided in the assumptions included in the documentation released in April 2014.

Note: This issue was also queried in the 2013 review and also one of the TOCs commented during the consultation in early 2014 that contributions should be made by all parties that use the stations. It is appreciated that currently, no contractual arrangements are in place with retailers for collecting LTC contributions.

Recommendation 10: An explanation as to why retail contribution was included in the CP1 LTC and excluded in the CP2 LTC should be provided.

4 Verification Review Findings and Recommendations

This section summarises the findings and recommendations from the verification review of the revised CP2 package of documentation received on or before 31 July 2014. It is divided in the following:

- Section 4.1 – HS1 Ltd.'s Responses to Key Issues (previously described in Section 3)
- Section 4.2 – HS1 Ltd.'s Compliance Actions
- Section 4.3 – Stakeholders' Consultation Comments

Note: Documents received after 1 August 2014 were excluded from the verification review.

4.1 HS1 Ltd.'s Responses to Key Issues

Section 3 of his report summarised the key findings from the review which were grouped into a number of themes. HS1 Ltd had the opportunity to consider the recommendations provided against each theme and their responses and/or associated actions are summarised in the following sections. Our view, comments and suggested further actions as well as the status of each recommendation are stated using the following convention:

The previous recommendation under this theme was:

Recommendation No.: Recommendation Text

Status

HS1 Ltd.'s response was....

Our current view and further comments are...

Suggested future action(s), if required, are...

4.1.1 Reclassified Life Cycle & Maintenance Activities

The previous recommendation under this theme was:

Recommendation 1: Investigate possible inconsistencies in the designation of elements with the same description and cycle summary and ensure they are allocated to the 'correct' activity (L/Q).

Outstanding

At the time of writing this report, a response or other statement was not received by HS1 Ltd relating to the above recommendation. It would be helpful to DfT if HS1 Ltd would provide a suitable explanation at the earliest opportunity.

4.1.2 Cost Rates

The previous recommendation under this theme was:

Recommendation 2: Ensure correct unit rates are applied in the LCC models. Enhance descriptions and provide a detailed explanation of how each of the rates was derived.

Partially Complete

HS1 Ltd explained that the current design of the LCC models means that certain line items have a similar title but legitimately have different costs associated with them; i.e. there is no delineation of similar types of asset that are either of different scale or in different locations. The LCC models include some information about the location of assets, but this is an element of functionality that HS1 Ltd is committed to improving in the near future. To provide further confidence in the LCC models, HS1 Ltd has provided further descriptions of the lifecycle activities^[073] and assets location for similarly labelled elements. These descriptions were provided for the works that are forecast to be undertaken within CP2 only.

The "In depth description" provided is helpful but not considered to fully address the issue of items of similar description having a different cost rate. There are a number of such instances listed in Figure 16; for

example “Internal fire door ironmongery replacement - wooden glazed doors” has two different rates: £900 and £600. The reason for this is not immediately apparent by just referring to the description provided. Not replicated in Figure 16, is the associated location provided against these two specific items which appears to differ, i.e. St Pancras Cat B and St Pancras Cat C, but it is not clear and/or it was not stated what these mean.

R	S
In depth description	Rate
Painting scheme for the main Barlow Shed truss	
Coping and parapet repair at roof level	
Replace window seals on the deck extension	
Internal fire door ironmongery replacement - deck extension	900
Internal fire door ironmongery replacement - Barlow shed	900
Internal fire door ironmongery replacement - automatic doors in glazed screen deck extension	650
Internal fire door ironmongery replacement - metal glazed doors deck extension	600
Internal fire door ironmongery replacement - glazed doors in glazed screens - deck extension	900
Internal fire door ironmongery replacement of seals - automatic doors in glazed screen deck extension	
Internal fire door ironmongery replacement of seals - metal glazed doors deck extension	
Internal fire door ironmongery replacement of seals - glazed doors in glazed screens	
Internal fire door ironmongery replacement - fire resistant doors to WC lobby - deck extension	900
Internal fire door ironmongery replacement of seals - fire resistant doors to WC lobby - deck extension	
Internal fire door ironmongery replacement - wooden glazed doors - Barlow shed upper	900
Internal fire door ironmongery replacement - fire resistant doors to WC lobby - deck extension	600
Internal fire door ironmongery replacement wooden glazed doors - Barlow shed upper	600
Internal fire door ironmongery replacement - metal glazed doors Barlow shed	600
Internal fire door ironmongery replacement - wooden glazed doors- Barlow shed upper	600
Internal fire door ironmongery replacement of seals - automatic doors in glazed screen deck extension	
Internal fire door ironmongery replacement of seals - metal glazed doors Barlow shed	
Internal fire door ironmongery replacement of seals - wooden glazed doors - Barlow shed	
Internal fire door ironmongery replacement - automatic doors in glazed screen barlow shed	900
Internal fire door ironmongery replacement - wooden glazed doors - Barlow shed	900
Internal fire door ironmongery replacement of seals - automatic doors in glazed screen barlow shed	
Internal fire door ironmongery replacement of seals - fire resistant doors to WC lobby - deck extension	
Carpet tile replacement - control rooms and offices	
Vinyl replacement - to plant rooms	
Baby change vanity unit replacement - toilets for customer facing areas	
UPS unit replacement in all station equipment rooms	
Complete replacement of the CCTV / Access control / backbone system	
Complete replacement of CIS / PIP and backbone system	

Figure 16 – Extract from Enhanced Life Cycle Works Descriptions for CP2^[073] | St Pancras

Consideration should be given to capturing a three level location description to ensure that the location (i.e. where the item is) can be more precisely identified. This will become increasingly important going forward as individual items (currently modelled as a group) may in practice be subsequently replaced at different times e.g. due to varying degradation or condition. It is therefore suggested that the location ‘attributes’ shown in Figure 17 and described below should be adopted:

- Location (as is currently included in the LCC models, e.g. St Pancras)
- Sub-Location (a bit more specific than ‘Location’, for example “Barlow Shed”)
- Detailed location (e.g. where in Barlow Shed?; and with reference to drawings)

In addition for modelling purposes (e.g. analysis) it might be helpful to create a unique reference label for each item.

The information provided in Figure 16 was re-arranged as presented in Figure 17 (i.e. adding the columns titled ‘Location’, ‘Sub-Location’, and ‘Detailed Location’) and this indicated that some sub-locations are missing; these are indicated as a question mark ‘?’. It is also unclear if “Deck extension” is indeed a location or a work activity or neither.

BCIS element	LCC model description	Location	Sub-Location ?	Detailed Location ?
2AR.03	Painting	St Pancras - External	Barlow Shed	More specific location ?
2E.1	External Enclosing Walls - ground level	St Pancras - External	Roof	More specific location ?
2F.1	External windows	St Pancras - Platforms	Deck extension ?	More specific location ?
2HR1.01	Fire Resistant Doors Ironmongery	St Pancras - Platforms	Deck extension ?	More specific location ?
2HR1.01	Fire Resistant Doors Ironmongery	St Pancras - Platforms	Barlow Shed	More specific location ?
2HR1.01	Fire Resistant Doors Ironmongery	St Pancras Cat A	Deck extension ?	More specific location ?
2HR1.01	Fire Resistant Doors Ironmongery	St Pancras Cat A	Deck extension ?	More specific location ?
2HR1.01	Fire Resistant Doors Ironmongery	St Pancras Cat A	Deck extension ?	More specific location ?
2HR1.03	Fire Resistant Doors Replace seals	St Pancras Cat A	Deck extension ?	More specific location ?
2HR1.03	Fire Resistant Doors Replace seals	St Pancras Cat A	Deck extension ?	More specific location ?
2HR1.03	Fire Resistant Doors Replace seals	St Pancras Cat A	?	More specific location ?
2HR1.01	Fire Resistant Doors Ironmongery	St Pancras Cat B	Deck extension ?	More specific location ?
2HR1.03	Fire Resistant Doors Replace seals	St Pancras Cat B	Deck extension ?	More specific location ?
2HR1.01	Fire Resistant Doors Ironmongery	St Pancras Cat B	Barlow Shed	Barlow shed upper ?
2HR1.01	Fire Resistant Doors Ironmongery	St Pancras Cat C	Deck extension ?	More specific location ?
2HR1.01	Fire Resistant Doors Ironmongery	St Pancras Cat C	Barlow Shed	Barlow shed upper ?
2HR1.01	Fire Resistant Doors Ironmongery	St Pancras Cat C	Barlow Shed	More specific location ?
2HR1.01	Fire Resistant Doors Ironmongery	St Pancras Cat D	Barlow Shed	Barlow shed upper ?
2HR1.03	Fire Resistant Doors Replace seals	St Pancras Cat D	Deck extension ?	More specific location ?
2HR1.03	Fire Resistant Doors Replace seals	St Pancras Cat D	Barlow Shed	More specific location ?
2HR1.03	Fire Resistant Doors Replace seals	St Pancras Cat D	Barlow Shed	More specific location ?
2HR1.01	Fire Resistant Doors Ironmongery	St Pancras Cat D	Barlow Shed	More specific location ?
2HR1.01	Fire Resistant Doors Ironmongery	St Pancras Cat D	Barlow Shed	More specific location ?
2HR1.03	Fire Resistant Doors Replace seals	St Pancras Fabric Variation July 2010	Barlow Shed	More specific location ?
2HR1.03	Fire Resistant Doors Replace seals	St Pancras Fabric Variation July 2010	Deck extension ?	More specific location ?
3B.09	Carpet Tiles	St Pancras Fabric Variation July 2010	Control Rooms and Offices	More specific location ?
3B.24	Viny - general	St Pancras Fabric Variation July 2010	Plant rooms	More specific location ?
5A.1	Sanitary Appliances sanitary Baby Change - Vanity	St Pancras Station	?	Toilets for customer facing areas ?
5H.2	Electrical installations power UPS	St Pancras Station	?	Station equipment rooms ?
5L	Complete security / CCTV / access control	St Pancras Station	All	More specific location ?
5L	Special installations CIS complete	St Pancras Station	All	More specific location ?
6B.1	Line marking	St Pancras - Common Facilities	?	Various ?

Figure 17 – Suggested Three Level Location Descriptions

Some good examples where work activities are clear are included in Figure 18, e.g. the asset(s) belong to the 'water installations' group, are located in 'common facilities' and have comprehensible description(s) of what exactly will be replaced under the 'In depth description' column.

BCIS element	LCC model description	In depth description
5D	Water installations - common facilities	Replace the refrigerant chilled water and condenser water pipe system
5D.1	Water installations - common facilities	Replace the water treatment electromagnetic water softener

Figure 18 – Extract from Enhanced Life Cycle Works Descriptions for CP2^[073] | Stratford – Good Work Descriptions

Conversely, in Figure 19, the asset(s) belong to the 'Vanity units, roll holders and mirrors' group, which was already included in the LCC models. The only addition under the 'In depth description' column is their locations, e.g. 'international ground floor toilets'. It is not clear what work will be undertaken by just referring to the description provided under the 'In depth description' column.

BCIS element	LCC model description	In depth description
4A1.20	Vanity units, roll holders and mirrors	Vanity units, roll holders and mirrors - international ground floor toilets
4A1.20	Vanity units, roll holders and mirrors	Vanity units, roll holders and mirrors - international mezzanine floor toilets
4A1.20	Vanity units, roll holders and mirrors	Vanity units, roll holders and mirrors - ground (common area) floor toilets
4A1.20	Vanity units, roll holders and mirrors	Vanity units, roll holders and mirrors - mezzanine (common) floor toilets
4A1.20	Vanity units, roll holders and mirrors	Vanity units, roll holders and mirrors - domestic mezzanine floor toilets
4A1.20	Vanity units, roll holders and mirrors	Vanity units, roll holders and mirrors - domestic mezzanine floor toilets

Figure 19 – Extract from Enhanced Life Cycle Works Descriptions for CP2^[073] | Stratford – Unclear Work Descriptions

When reviewing the file containing the Enhanced Life Cycle Works Descriptions for CP2^[073], it was noted that the LCC spend for CP2, does not align with the LTC annuity (e.g. St Pancras has a major LCC spend of

£9.2m in year 2 and no spend in year 1, 3 and 5; the annuity being £3.8m, approximately £7.6m would be received in year 2). It is recognised that the purpose of the LTC model is to enable a 'fair' annuity level to be calculated. Furthermore, it is anticipated that the CP2 delivery plan that HS1 Ltd is committed to producing should provide a more realistic and detailed 5-year look ahead that may well address the seeming misalignment between funds received and anticipated expenditure.

In summary the 'In depth descriptions' provided by HS1 Ltd are useful, however, to aid comprehension, consideration should be given to enhancing the descriptions of some items in the near future as follows:

- What is the individual item, its basic dimensions and material type (e.g. internal door, 1.8 x 0.7 m, wood)?
- Where is the item (e.g. 3-level location as above with reference to drawings)?
- What is the work (e.g. replace an asset or part of an asset)?

4.1.3 On-costs

The previous recommendation under this theme was:

Recommendation 3: Address any remaining errors that may still exist in the LCC models in relation to the application of on-costs.

Closed

HS1 Ltd confirmed that a number of steps were undertaken to ensure that the on-cost percentages are both at the right level, and are applied correctly in the LCC models.

The on-cost percentage levels and associated assumptions were derived using expert input from all parties involved in the review through a series of workshops. HS1 Ltd used historical information where this was available, but due to the relatively young age of the assets there was limited experience available that could be used to calibrate the on-cost assumptions. HS1 Ltd have committed to tracking actual out-turns going forward (within the enhanced asset management system, currently under development) and will use this information in future reviews.

The checks that HS1 Ltd has undertaken to ensure that the on-cost values are applied correctly in the LCC models include:

- Numerous line-by-line reviews of the models – including detailed checks of the on-costs and all other assumptions – by HS1 Ltd personnel. This has involved feeding through the changes to the on-costs (for example, the move from the baseline model to the asset stewardship approach) and checking that the changes drive consistent results in the LTC calculated.
- Line-by-line reviews and self-audit by HS1 Ltd.'s modelling consultant, including varying lines in specific ways to check that the changes to the end results matched the expected model calculation.
- An independent audit by AECOM designed to test whether the model processes information in the manner in which it was designed to do. This did not involve a review of every single cell in the model but a standard audit methodology was applied to spot-check key assumptions.

It is considered that HS1 Ltd has adopted suitable processes to check and ensure their work is correct, however, as indicated in Section 3.5 a small proportion of errors, perceived as being insignificant, may still remain. As such it is important that HS1 Ltd undertake regular reviews of this and other assumptions.

4.1.4 Inflation Rate and Profile

The previous recommendation under this theme was:

Recommendation 4: Provide the underlying source of the inflation forecasted values used. If this source is not deemed to be appropriate it may result to calculation changes being required in the LTC models.

Closed

HS1 Ltd stated that their inflation assumption is based on triangulation from a variety of external forecasts and is consistent with the RPI assumption that HS1 have used within the PR14 process. Since the modelling is based on a 45 year forecast, small variation in actual RPI does not materially alter the proposed annuity. The actual RPI will be very likely different to this forecast during CP2 but any variation will be reflected in what HS1 Ltd actually collects from the operators and the allowance it will get to spend on the renewals in nominal terms.

This approach is considered appropriate but as with all assumptions this also should be regularly reviewed.

4.1.5 Efficiency Overlay Profile

The previous recommendation under this theme was:

Recommendation 5: More frequent informal reviews (e.g. annually) of the efficiency overlay may be more beneficial in capturing and assessing short term risks.

Future Action

HS1 Ltd acknowledges that the efficiency target they have set, following their engagement with the TOCs in early 2014, will be challenging.

Efficiencies achieved (or not achieved) should be monitored and regularly reported and where necessary any underlying forecast assumptions reviewed and/or revised, as appropriate. A robust variance analysis methodology and analysis capability would be instrumental in the success of such reviews.

4.1.6 Approach to Expenditure Smoothing

The previous recommendation under this theme was:

Recommendation 6: Consider adopting an alternative approach to smoothing expenditure profiles.

Future Action

HS1 Ltd agreed that their approach of smoothing every element over 3 years (30% - 40% - 30%) is simplistic and not sufficiently targeted to the nature of each asset. However, as it was not material to the main goal which is to set the sustainable level of LTC across the 45 year review period, it was decided not to change this during the review. However, as part of the suite of improvements to their asset management system HS1 Ltd intends to review and improve their approach to smoothing such that it is more asset or project specific. This may include tailoring the analysis to the two different purposes of the LTC process: (i) to set the level of the long-term funding requirements on a smoothed basis over the next 45/50 years (i.e. the LTC amount); and (ii) the specific set of works / projects that are being proposed for the following 5 years.

It is considered appropriate to delay the possible revision of the approach to expenditure smoothing until after the review. However, it would be prudent to implement any modelling functionality enhancements, and an agreed detailed 5 year plan, well ahead of the commencement of CP2, e.g. by February 2015.

4.1.7 Escrow Accounts Balance

The previous recommendation under this theme was:

Recommendation 7: The actual balance of the escrow accounts for FY 13/14 is now known and this should be used to calculate the LTC model.

Closed

HS1 Ltd explained the previously identified difference (see Section 3.9) in the escrow balance was due to the fact that it collects LTC payments in arrears. The balances as at 31 March 2014 would not reflect the period 13 payment which, whilst due, would not have been paid into the escrow accounts at the time the calculation was made. The forecast figures in the LTC model have accrued for this payment, even though it has not been actually received.

It is considered that the above clarification sufficiently explains the discrepancy previously identified and no further action is required.

4.1.8 Environment & Energy Initiatives

The previous recommendation under this theme was:

Recommendation 8: Provide an explanation as to whether or not environment and energy initiatives have been considered and if so state the financial impact associated with their implementation.

Partially Complete

HS1 Ltd explained that no speculative overlays were applied for future changes, and that the relevant line items reflect any known current or future initiatives. HS1 Ltd added that the replacement of lights with LEDs

is reflected in the cost rates used in the models, which is based on a current analysis and understanding of the cost of such items.

Although it is accepted those replacement costs were included where these are known, it is not clear if the financial or other impacts including benefits/dis-benefits resulting from environmental initiatives is analysed and/or understood. For example, the use of LEDs may be associated with initial replacement cost that may be higher but the long term benefit is that LEDs last longer before they would need to be replaced compared to conventional lights. Also LEDs are typically associated with the long term benefit of reduced energy consumption. As such it is considered good practice to formally analyse and/or report the cost(s)/benefit(s) of adopting such initiatives to ensure that it is indeed appropriate that they are adopted or prove otherwise.

4.1.9 Renewals Acceleration, Deferral and Omissions

The previous recommendation under this theme was:

Recommendation 9: For the CP2 submission the process for 'manually' calculating the variance should be described in the LCRs. However, the LCC/LTC models should be revised in the near future (by the start of CP2) so as to undertake monitoring of acceleration / deferrals / omissions throughout control periods in a more automated way.

Future Action

HS1 Ltd explained that during CP1 the variance analysis, i.e. the impact of renewals acceleration, deferrals and omissions, was complicated by:

- the lack of granularity and clarity in the F&G models, which were established prior to sale of HS1 Ltd and formed the basis of the current LTC charges. The development of the models did not follow the same robust process as the current review; and
- the change of the SAC involving reclassification of some works from LTC to Qx. Meaning that the original F&G plans used to calculate the current LTC to operators is no longer appropriate as a baseline, even though technically the Lease requirements set it as such. There is no category within the variance analysis envisaged by the Lease that caters for this change.

HS1 Ltd have shown forecast and actual spend in CP1, as well as a forecast of spend in the final year of CP1 based on their plans. Recently HS1 Ltd have done works that have been on-budget or slightly cheaper. In other cases, planned works were not undertaken – either because of the impact of the SAC changes mentioned above, or because HS1 Ltd.'s understanding of the asset and its requirements has changed. All works have been undertaken so as to comply with their obligations and the Life Cycle Purpose. Any deferrals / permanent omissions are not considered to compromise the performance of the station assets, and this is reflected in the operational data and availability.

HS1 Ltd did not undertake any Adjustments to Available Life Cycle Funds.

Given the circumstances of CP1 and the fundamental review of the models / approach, HS1 Ltd is not seeking a share of the Life Cycle Works Savings. Further, the share to which HS1 Ltd is eligible will be reviewed as part of ongoing discussions around the treatment of the escrow account, including allocation of risk. This work is being undertaken in conjunction with DfT, ORR and the TOCs.

HS1 Ltd considers that the CP2 proposals are a firm basis for variance analysis going forward and have stated that by the start of CP2, HS1 Ltd will have the methodology and processes in place to complete this analysis going forward. In summary this will involve:

- Producing a methodology paper and agree the proposed approach by November 2014.
- Develop [and test] a tool that would enable the agreed methodology to be implemented by March 2015
- Run analysis as a business as usual activity and report to DfT, April 2015 onwards.

It is considered appropriate to delay development of the methodology and associated tools for variance analysis until after the CP2 review. However, it would be prudent to implement this as a business as usual activity, well ahead of the commencement of CP2, e.g. by February 2015.

4.1.10 Retail Contribution to LTC

The previous recommendation under this theme was:

Recommendation 10: An explanation as to why retail contribution was included in the CP1 LTC and excluded in the CP2 LTC should be provided.

Closed

HS1 Ltd stated that there is no contractual basis for the inclusion of a retail contribution to the LTC and so this has not been part of the proposals for CP2 onwards. The table in the 2012 LCR that includes a line for 'retail contribution' is a hang-over from the pre-sale structure of the F&G model which assumed that there would be both a retail contribution and a 7.5% deduction payable to HS1 Ltd for 'reasonable costs'. Neither was reflected in the contractual framework and so has not been reported in this way subsequent to the 2012 report, nor has there been any retail contribution to the LTC. Strictly speaking HS1 Ltd should have not reported in that way in 2012 and were in error using the pre-sale model template, which was corrected in subsequent documents.

The explanation provided with regards to the inclusion / exclusion of the retail contribution to the LTC is considered appropriate. However, TOCs are of the opinion that LTC contributions should be collected by all those that use the International Stations (also see Section 4.34.2).

4.2 HS1 Ltd.'s Compliance Actions

HS1 Ltd also had the opportunity to address the agreed actions listed against each obligation in the compliance matrix, included in [Appendix B](#). The EC Harris project team has undertaken a two stage verification review of the CP2 package submitted on the 30 June 2014 and that re-submitted on 01 August 2014. The findings of the verification review are included in [Appendix B](#), listed in the column(s) titled 'EC Harris Verification Comments (Round 1)' for the 30 June submission and 'EC Harris Verification Comments (Round 2)' for the 01 August submission. The compliance level against each of the obligations was revised to reflect the completed actions in the 30 June 2014 submission and subsequently the 01 August 2014 submission.

HS1 Ltd has a total of 60 obligations to fulfil. At the end of the second stage of the verification review HS1 Ltd was found to be fully compliant against 41 obligations and partially compliant against 19 of its obligations. None of the partial compliances are considered to have a significant impact on the DfT's decision to approve the CP2 Package, although it is anticipated that HS1 Ltd should strive to achieve full compliance against all their obligations in the near future. Suggested actions for achieving full compliance are included in [Appendix B](#) along with the proposed timeframe of February 2015. Although there are 19 partial compliances, only 4 actions are required and these include:

- Complete full trend analysis of breakdown frequencies and performance of the monitored station elements (see obligation 5.2.1 - g)
- Produce CP2 delivery plan which should include detailed proposals for carrying out the forecast lifecycle works (see obligation 5.2.4 - a)
- Enhance lifecycle works descriptions as stated in Section 4.1.2 (see obligations 5.2.4-b and Annex 1-3a); **Note:** This is the same as the previous **Recommendation 2** marked as **Partially Complete** (see Section 4.1.2).
- Develop variance analysis methodology and enhance associated model functionality. Implement as a business as usual activity as described in Section 4.1.9 (various obligations); **Note:** This is the same as the previous **Recommendation 9** marked as **Future Action** [Required] (see Section 4.1.9).

HS1 Ltd also had the opportunity to address some of the comments included in [Appendix C](#) and provided responses to these alongside the 30 June 2014 submission. These were assessed as part of the first stage of the verification review and verification comments and the suggested actions status is provided in [Appendix C](#). An update was not provided with the 01 August 2014 submission and therefore the status of the suggested actions was not re-assessed and part of the second stage of the verification review.

Similarly, none of the minor observations listed in [Appendix D](#) were revisited or assessed during the verification review.

4.3 Stakeholders' Consultation Comments

Formal responses were received as a result of the stakeholders' consultation with regards to DfT's draft decision for the approval of the CP2 package. All comments received were given due consideration. With only one exception, the great majority of the suggestions received could not be directly attributed to non-compliances against HS1 Ltd.'s Lease obligations. This exception related to the development and implementation of a suitable variance analysis methodology, which was discussed in preceding sections of this report (See Sections 3.11, 4.1.9, 4.2).

In addition, stakeholders made a number of 'good practice' suggestions that HS1 Ltd and/or DfT (as appropriate) may wish to explore in the near future. These include:

- Explore the potential for retailers making LTC contributions as it is considered that contributions for Stations renewals should be made from all those that use and/or benefit from them.
- Address lack of provision for enhancements within SACs ahead of the CP3 review and explain how enhancements will be dealt with, if they are required, in CP2.
- Explore the Network Rail High Speed Management Fee which is out of line with that agreed in the recent PR14 process undertaken by the ORR.
- Undertake close and regular monitoring of the top ten most expensive items, including revision of the costs and/or life span assumptions (as necessary) to ensure that LTC is appropriately funded.
- Undertake review on an interim basis and fully justify any removal and/or reduction of the declared efficiency target. **Note:** This is the same as the previous **Recommendation 5** marked as **Future Action [Required]** (see Section 4.1.5).

In addition consultees welcomed the 'good practice' activities that HS1 Ltd has already committed to undertaking, and these include:

- Six monthly reporting on progress against the plan and updated future plans, including a revision of the line of sight⁴ document and responses to emerging issues TOCs identify.
- Move away from a fixed period and adopt a rolling 40-year view in terms of ensuring asset stewardship and achieving the Life Cycle Purpose
- Enhance the asset management planning/modelling capability including a review of how station assets can be specified more clearly, understanding the drivers of degradation, and collecting the 'right' data to ensure the optimal asset interventions can be identified over time.
- Undertake a review and clearly define the asset condition and other hand back requirements at the end of the HS1 Concession; this is likely to involve more sophisticated understanding of how asset condition is classified and we define and measured.
- Ensure there is greater integration between LTC and Qx items so that whole-life cost optimization can be achieved; similar or identical interventions shouldn't fall into different categories.
- Already moving to a five-year forecast of Qx to improve transparency and assist operators with their understanding of these important cost areas over time.

⁴ The purpose of HS1 Ltd.'s line of sight workstream is to develop initiatives to improve passenger experience, through consulting its customers.

5 Summary and Conclusions

5.1 Overview

This section provides a summary of the conclusions and recommendations from both the review of the CP2 package released in April 2014 as well as those derived from verifying the agreed actions and the review of the revised CP2 package, submitted on 30 June 2014 and re-submitted on 01 August 2014.

5.2 Review of CP2 Package

5.2.1 Summary and Conclusions

A review has been undertaken to assess the appropriateness of the assumptions, processes and tools used by HS1 Ltd for the development of the CP2 package released in April 2014 (see documents listed in [Appendix A](#)).

Over 100 specific comments and associated recommendations were collated as part of this review and these are included in [Appendix B](#), [C](#) and [D](#). A total of 10 key recommendations were identified in Section 3 and these are listed in Section 5.2.2 for ease of reference.

A number of inadequacies were identified against the obligations contained in the HS1 Concessions and Leases Agreement and these are summarised in Table 10 below. A more detailed compliance matrix is included in [Appendix B](#) where partial compliances and non-compliances are mapped against individual comments and associated recommendations.

Table 10 shows that HS1 Ltd has a total of 60 obligations that are applicable during the development of the CP2 package. When reviewing the CP2 package released in April 2014, HS1 Ltd was found to be fully compliant to 15 and partially compliant to 29 of its obligations while 16 non-compliances were also identified.

Table 10 – Summary of Compliance to Obligations set out in Schedule 10: Clause 5 & Annex 1

ID	Clause	Section Title	Jun-14
1	5.1	Life Cycle Reports	Partially
2	5.2.1 - a	Life Cycle Reports: Works undertaken and costs incurred	Partially
3	5.2.1 - b	Life Cycle Reports: Works undertaken and costs incurred	Partially
4	5.2.1 - c	Life Cycle Reports: Works undertaken and costs incurred	Fully
5	5.2.1 - d	Life Cycle Reports: Works undertaken and costs incurred	Fully
6	5.2.1 - e	Life Cycle Reports: Works undertaken and costs incurred	Fully
7	5.2.1 - f	Life Cycle Reports: Works undertaken and costs incurred	Fully
8	5.2.1 - g	Life Cycle Reports: Works undertaken and costs incurred	Partially
9	5.2.1 - h	Life Cycle Reports: Works undertaken and costs incurred	Fully
10	5.2.2 - a	Life Cycle Reports: Works undertaken and costs incurred	Partially
11	5.2.2 - b	Life Cycle Reports: Works undertaken and costs incurred	Partially
12	5.2.2 - c	Life Cycle Reports: Works undertaken and costs incurred	Partially
13	5.2.4 - a	Life Cycle Reports: Forecast Life Cycle Works	Partially
14	5.2.4 - b	Life Cycle Reports: Forecast Life Cycle Works	Partially
15	5.2.4 - c	Life Cycle Reports: Forecast Life Cycle Works	Fully
16	5.2.4 - d	Life Cycle Reports: Forecast Life Cycle Works	Partially
17	5.2.5 - a	Life Cycle Reports: Forecast Life Cycle Works	Partially
18	5.2.5 - b	Life Cycle Reports: Forecast Life Cycle Works	Partially
19	5.2.5 - c	Life Cycle Reports: Forecast Life Cycle Works	Partially
20	5.2.6 - a	Life Cycle Reports: Deferrals	Partially
21	5.2.6 - b	Life Cycle Reports: Deferrals	Not at all
22	5.2.6 - c (i)	Life Cycle Reports: Deferrals	Not at all
23	5.2.6 - c (ii)	Life Cycle Reports: Deferrals	Not at all
24	5.2.6 - d	Life Cycle Reports: Deferrals	Not at all
25	5.2.6 - e	Life Cycle Reports: Deferrals	Not at all
26	5.2.7	Life Cycle Reports: Distribution of Life Cycle Works Savings	Not at all
27	5.2.8	Life Cycle Reports: Adjustments to Available Life Cycle Funds	Not at all
28	5.2.9	Life Cycle Reports: Long Term Charge	Partially
29	5.2.10 - a	Life Cycle Reports: Long Term Charge	Partially
30	5.2.10 - b	Life Cycle Reports: Long Term Charge	Fully
31	5.2.11 - a	Life Cycle Reports: Long Term Charge	Fully
32	5.2.11 - b	Life Cycle Reports: Long Term Charge	Partially
33	5.2.12	Life Cycle Reports: Modifications to the AMS and the Life Cycle Budget	Fully
34	5.2.13	Life Cycle Reports: General	Partially
35	4.1	Asset Management Strategy	Partially
36	Annex 1 - 1	Scope	Fully
37	Annex 1 - 2	Station Elements	Fully
38	Annex 1 - 3a	Life Cycle Works	Partially
39	Annex 1 - 3b	Life Cycle Works	Partially
40	Annex 1 - 4	Performance Monitoring	Partially
41	Annex 1 - 5a	Life Cycle Budget: Expenditure	Partially
42	Annex 1 - 5b	Life Cycle Budget: Expenditure	Partially
43	Annex 1 - 5c	Life Cycle Budget: Expenditure	Partially
44	Annex 1 - 5a	Life Cycle Budget: Revenues	Partially
45	Annex 1 - 5b	Life Cycle Budget: Revenues	Partially
46	Annex 1 - 5c	Life Cycle Budget: Revenues	Partially
47	Annex 1 - 5	Life Cycle Budget: Cashflow	Partially
48	Annex 1 - 6	Financial Model	Fully
49	Annex 1 - 6a	Financial Model	Fully
50	Annex 1 - 6b	Financial Model	Not at all
51	Annex 1 - 6c	Financial Model	Not at all
52	Annex 1 - 6d	Financial Model	Not at all
53	Annex 1 - 6e	Financial Model	Not at all
54	Annex 1 - 7	Long Term Charge	Fully
55	Annex 1 - 7a	Long Term Charge	Fully
56	Annex 1 - 7b	Long Term Charge	Not at all
57	Annex 1 - 7bi	Long Term Charge	Not at all
58	Annex 1 - 7bii	Long Term Charge	Not at all
59	Annex 1 - 7biii	Long Term Charge	Not at all
60	Annex 1 - 7biv	Long Term Charge	Not at all

5.2.2 Key Recommendations

Comments were provided against each of HS1 Ltd.'s obligations along with proposed recommendations. The detailed comments and associated recommendations are included in [Appendix B](#), [C](#) and [D](#) while key recommendations are listed in Table 11 below. A suggested timeframe for addressing these is also provided.

Table 11 – Summary of Key Recommendations

No.	Key Recommendation	Section	When?
1	Investigate possible inconsistencies in the designation of elements with the same description and cycle summary and ensure they are allocated to the 'correct' activity (L/Q).	3.2	June 2014
2	Ensure correct unit rates are applied in the LCC models. Enhance descriptions and provide a detailed explanation of how each of these rates has been derived.	3.4	June 2014
3	Address any remaining errors that may still exist in the LCC models in relation to the application of on-costs.	3.5	June 2014
4	Provide the underlying source of the inflation forecasted values used. If this source is not deemed to be appropriate it may result to calculation changes being required in the LTC models.	3.6	June 2014
5	More frequent informal reviews (e.g. annually) of the efficiency overlay may be more beneficial in capturing and assessing short term risks.	3.7	During CP2
6	Consider adopting an alternative approach to smoothing expenditure profiles.	3.8	During CP2
7	The actual balance of the escrow accounts for FY 13/14 is now known and this should be used to calculate the LTC model.	3.9	June 2014
8	Provide an explanation as to whether or not environment and energy initiatives have been considered and if so state the financial impact associated with their implementation.	3.10	June 2014
9	For the CP2 submission the process for 'manually' calculating the variance should be described in the LCRs. However, the LCC/LTC models should be revised in the near future (by the start of CP2) so as to undertake monitoring of acceleration / deferrals / omissions throughout control periods in a more automated way.	3.11	June 2014 During CP2
10	An explanation as to why retail contribution was included in the CP1 LTC and excluded in the CP2 LTC should be provided.	3.12	June 2014

5.2.3 Overarching Recommendations to the DfT

In mid June 2014, i.e. the point of completing the review of the CP2 package released in April 2014, given the specific inadequacies listed in [Appendix B](#) and key issues summarised in Table 10 the recommendations below were put forward to the DfT. It is noted that these recommendations do not take into account any changes that HS1 Ltd has undertaken to the CP2 package prior to its formal submission/re-submission to the DfT. The concluding recommendations to the DfT, taking into account verification of any agreed actions undertaken by HS1 Ltd, is included in Section 5.3.3.

Overarching Recommendation I: The Government Representative should not approve the CP2 Package released by HS1 Ltd in April 2014 because HS1 Ltd does not fully comply with all the requirements in the HS1 Concession and Leases Agreement.

Overarching Recommendation II: The Government Representative should provide HS1 Ltd with a copy of this report because it is considered that it contains the reasons for not approving the CP2 Package (released in April 2014) and request that HS1 Ltd revise the AMS, LCRs and LCC/LTC models using the key and other recommendations described here in.

5.3 Verification Review

5.3.1 Summary and Conclusions

The DfT has not approved the CP2 package of documents that was released in April 2014; instead it has requested that HS1 Ltd revise the CP2 package as per the key recommendations listed in Table 11 (see Section 5.2.2) and the agreed actions contained in [Appendix B](#). As well as revising the CP2 package of documents HS1 Ltd has provided responses to the agreed actions and these are included in [Appendix B](#) under the columns with headings '*HS1 Ltd Confirmed Actions*' and '*HS1 further additions / changes 25 July 2014*'. HS1 Ltd's actions were verified and the relevant verification comments and findings are also included in [Appendix B](#).

Table 12 provides a summary of the status of the actions taken to address the key recommendations listed in Table 11. It is noted that one action is outstanding while a few are partially complete and some future actions are required. However, it is not considered that the status of these actions against the key recommendations would have a significant impact on the DfT's decision for the approval of the CP2 package.

Table 13 provides a summary of HS1 Ltd.'s compliance against its obligations. It also provides a comparison of HS1 Ltd.'s compliance as assessed based on the CP2 package of documentation released in April 2014 (compliance reported in early June 2014) and the revised package submitted in early August 2014. It is noted that no non-compliances were found. In addition, HS1 Ltd was found to be fully compliant against 41 obligations and partially compliant against 19 of its obligations. None of the partial compliances are considered to have a significant impact on the DfT's decision to approve the CP2 package, although it is anticipated that HS1 Ltd should strive to achieve full compliance against all their obligations in the near future. Suggested actions for achieving full compliance against each obligation are included in [Appendix B](#) along with the proposed timeframe. Although there are 19 partial compliances, only 4 actions are required as previously mentioned in Section 4.2. These and are listed alongside all recommended actions suggested at the end of the verification review in Section 5.3.2.

The proposed 'good practice' suggestions resulting from the stakeholders' consultation which took place in July 2014 as well as 'good practice' activities that HS1 Ltd has already committed to undertaking were previously mentioned in Section 4.3. These and are listed alongside all recommended actions suggested at the end of the verification review, whether associated with obligation(s) or 'good practice' in Section 5.3.2.

Table 12 – Summary of Key Recommendations Status based on the Revised CP2 Package

No.	Key Recommendation	Section	Status
1	Investigate possible inconsistencies in the designation of elements with the same description and cycle summary and ensure they are allocated to the 'correct' activity (L/Q).	4.1.1	Outstanding
2	Ensure correct unit rates are applied in the LCC models. Enhance descriptions and provide a detailed explanation of how each of these rates has been derived.	4.1.2	Partially Complete
3	Address any remaining errors that may still exist in the LCC models in relation to the application of on-costs.	4.1.3	Closed
4	Provide the underlying source of the inflation forecasted values used. If this source is not deemed to be appropriate it may result to calculation changes being required in the LTC models.	4.1.4	Closed
5	More frequent informal reviews (e.g. annually) of the efficiency overlay may be more beneficial in capturing and assessing short term risks.	4.1.5	Future Action
6	Consider adopting an alternative approach to smoothing expenditure profiles.	4.1.6	Future Action
7	The actual balance of the escrow accounts for FY 13/14 is now known and this should be used to calculate the LTC model.	4.1.7	Closed
8	Provide an explanation as to whether or not environment and energy initiatives have been considered and if so state the financial impact associated with their implementation.	4.1.8	Partially Complete
9	The LCC/LTC models should be revised in the near future (by the start of CP2) so as to undertake monitoring of acceleration / deferrals / omissions throughout control periods in a more automated way.	4.1.9	Future Action
10	An explanation as to why retail contribution was included in the CP1 LTC and excluded in the CP2 LTC should be provided.	4.1.10	Closed

Table 13 – Summary of Compliance to Obligations set out in Schedule 10: Clause 5 & Annex 1

ID	Clause	Section Title	Jun-14	Aug-14
1	5.1	Life Cycle Reports	Partially	Fully
2	5.2.1 - a	Life Cycle Reports: Works undertaken and costs incurred	Partially	Fully
3	5.2.1 - b	Life Cycle Reports: Works undertaken and costs incurred	Partially	Fully
4	5.2.1 - c	Life Cycle Reports: Works undertaken and costs incurred	Fully	Fully
5	5.2.1 - d	Life Cycle Reports: Works undertaken and costs incurred	Fully	Fully
6	5.2.1 - e	Life Cycle Reports: Works undertaken and costs incurred	Fully	Fully
7	5.2.1 - f	Life Cycle Reports: Works undertaken and costs incurred	Fully	Fully
8	5.2.1 - g	Life Cycle Reports: Works undertaken and costs incurred	Partially	Partially
9	5.2.1 - h	Life Cycle Reports: Works undertaken and costs incurred	Fully	Fully
10	5.2.2 - a	Life Cycle Reports: Works undertaken and costs incurred	Partially	Partially
11	5.2.2 - b	Life Cycle Reports: Works undertaken and costs incurred	Partially	Partially
12	5.2.2 - c	Life Cycle Reports: Works undertaken and costs incurred	Partially	Fully
13	5.2.4 - a	Life Cycle Reports: Forecast Life Cycle Works	Partially	Partially
14	5.2.4 - b	Life Cycle Reports: Forecast Life Cycle Works	Partially	Partially
15	5.2.4 - c	Life Cycle Reports: Forecast Life Cycle Works	Fully	Fully
16	5.2.4 - d	Life Cycle Reports: Forecast Life Cycle Works	Partially	Fully
17	5.2.5 - a	Life Cycle Reports: Forecast Life Cycle Works	Partially	Fully
18	5.2.5 - b	Life Cycle Reports: Forecast Life Cycle Works	Partially	Fully
19	5.2.5 - c	Life Cycle Reports: Forecast Life Cycle Works	Partially	Fully
20	5.2.6 - a	Life Cycle Reports: Deferrals	Partially	Partially
21	5.2.6 - b	Life Cycle Reports: Deferrals	Not at all	Partially
22	5.2.6 - c (i)	Life Cycle Reports: Deferrals	Not at all	Fully
23	5.2.6 - c (ii)	Life Cycle Reports: Deferrals	Not at all	Partially
24	5.2.6 - d	Life Cycle Reports: Deferrals	Not at all	Partially
25	5.2.6 - e	Life Cycle Reports: Deferrals	Not at all	Fully
26	5.2.7	Life Cycle Reports: Distribution of Life Cycle Works Savings	Not at all	Fully
27	5.2.8	Life Cycle Reports: Adjustments to Available Life Cycle Funds	Not at all	Fully
28	5.2.9	Life Cycle Reports: Long Term Charge	Partially	Fully
29	5.2.10 - a	Life Cycle Reports: Long Term Charge	Partially	Fully
30	5.2.10 - b	Life Cycle Reports: Long Term Charge	Fully	Fully
31	5.2.11 - a	Life Cycle Reports: Long Term Charge	Fully	Fully
32	5.2.11 - b	Life Cycle Reports: Long Term Charge	Partially	Fully
33	5.2.12	Life Cycle Reports: Modifications to the AMS and the Life Cycle Budget	Fully	Fully
34	5.2.13	Life Cycle Reports: General	Partially	Fully
35	4.1	Asset Management Strategy	Partially	Fully
36	Annex 1 - 1	Scope	Fully	Fully
37	Annex 1 - 2	Station Elements	Fully	Fully
38	Annex 1 - 3a	Life Cycle Works	Partially	Partially
39	Annex 1 - 3b	Life Cycle Works	Partially	Fully
40	Annex 1 - 4	Performance Monitoring	Partially	Fully
41	Annex 1 - 5a	Life Cycle Budget: Expenditure	Partially	Fully
42	Annex 1 - 5b	Life Cycle Budget: Expenditure	Partially	Fully
43	Annex 1 - 5c	Life Cycle Budget: Expenditure	Partially	Fully
44	Annex 1 - 5a	Life Cycle Budget: Revenues	Partially	Fully
45	Annex 1 - 5b	Life Cycle Budget: Revenues	Partially	Fully
46	Annex 1 - 5c	Life Cycle Budget: Revenues	Partially	Fully
47	Annex 1 - 5	Life Cycle Budget: Cashflow	Partially	Fully
48	Annex 1 - 6	Financial Model	Fully	Fully
49	Annex 1 - 6a	Financial Model	Fully	Fully
50	Annex 1 - 6b	Financial Model	Not at all	Partially
51	Annex 1 - 6c	Financial Model	Not at all	Partially
52	Annex 1 - 6d	Financial Model	Not at all	Partially
53	Annex 1 - 6e	Financial Model	Not at all	Partially
54	Annex 1 - 7	Long Term Charge	Fully	Fully
55	Annex 1 - 7a	Long Term Charge	Fully	Fully
56	Annex 1 - 7b	Long Term Charge	Not at all	Partially
57	Annex 1 - 7bi	Long Term Charge	Not at all	Partially
58	Annex 1 - 7bii	Long Term Charge	Not at all	Partially
59	Annex 1 - 7biii	Long Term Charge	Not at all	Partially
60	Annex 1 - 7biv	Long Term Charge	Not at all	Partially

5.3.2 Key Recommendations at the end of the Verification Review

The verification review assessed HS1 Ltd.'s responses to key issues presented in Section 3 of this report; confirmed whether agreed actions, especially those relating to obligations compliance, were adequately addressed; and took into account stakeholders' comments received during DfT's consultation. Detailed verification comments are included in Section 4 and Appendix B. Table 14 lists all recommendations as at the end of the verification review, and includes previous recommendations (as stated in Section 3 and 5.2.2) that are not yet completed and also suggestions from the recent stakeholders' consultation and items that HS1 Ltd has already committed to undertaking; this is indicated under the 'Status' column. Each recommendation is assigned a type, i.e. either linked to an obligation that HS1 Ltd must fulfil or marked as a 'good practice' consideration. A suggested timeframe for achieving these recommendations is also provided.

Table 14 – Key Recommendations at the end of the Verification Review

No.	Key Recommendation	Section	Status	Type	When?
1	Investigate possible inconsistencies in the designation of elements with the same description and cycle summary and ensure they are allocated to the 'correct' activity (L/Q).	4.1.1	Outstanding	Good Practice	Feb 2015
2	Ensure correct unit rates are applied in the LCC models. Enhance descriptions and provide a detailed explanation of how each of these rates has been derived.	4.1.2	Partially Complete	Obligation	Feb 2015
3	See Table 12 recommendation previously addressed				
4	See Table 12 recommendation previously addressed				
5	More frequent informal reviews (e.g. annually) of the efficiency overlay may be more beneficial in capturing and assessing short term risks.	4.1.5	Future Action	Good Practice	Apr 2015 onwards
	Undertake review on an interim basis and fully justify any removal and/or reduction of the declared efficiency target.	4.3	Stakeholders' Suggestion		
6	Consider adopting an alternative approach to smoothing expenditure profiles.	4.1.6	Future Action	Good Practice	Feb 2015
7	See Table 12 recommendation previously addressed				
8	Provide an explanation as to whether or not environment and energy initiatives have been considered and if so state the financial impact associated with their implementation.	4.1.8	Partially Complete	Good Practice	Feb 2015
9	The LCC/LTC models should be revised so as to support undertaking the monitoring of acceleration, deferrals, and omissions throughout control periods in a more automated way.	4.1.9	Future Action	Obligation	Feb 2015
10	See Table 12 recommendation previously addressed				
11	Complete full trend analysis of breakdown frequencies and performance of the monitored station elements	4.2	Future Action	Obligation	Feb 2015
12	Produce CP2 delivery plan which should include detailed proposals for carrying out the forecast lifecycle works	4.2	Future Action	Obligation	Feb 2015

No.	Key Recommendation	Section	Status	Type	When?
13	Explore the potential for retailers making LTC contributions as it is considered that contributions for Stations renewals should be made from all those that use and/or benefit from them.	4.3	Stakeholders' Suggestion	Good Practice	Apr 2015
14	Address lack of provision for enhancements within SACs ahead of the CP3 review and explain how enhancements will be dealt with, if they are required, in CP2.	4.3	Stakeholders' Suggestion	Good Practice	Dec 2015
15	Explore the Network Rail High Speed Management Fee which is out of line with that agreed in the recent PR14 process undertaken by the ORR.	4.3	Stakeholders' Suggestion	Good Practice	Apr 2015
16	Undertake close and regular monitoring of the top ten most expensive items, including revision of the costs and/or life span assumptions (as necessary) to ensure that LTC is appropriately funded.	4.3	Stakeholders' Suggestion	Good Practice	Apr 2015 onwards
17	Six monthly reporting on progress against the plan and updated future plans, including a revision of the line of sight document and responses to emerging issues TOCs identify.	4.3	HS1 Ltd.'s Commitment	Good Practice	Apr 2015 onwards
18	Move away from a fixed period and adopt a rolling 40-year view in terms of ensuring asset stewardship and achieving the Life Cycle Purpose	4.3	HS1 Ltd.'s Commitment	Good Practice	Apr 2015 onwards
19	Enhance the asset management planning/modelling capability including a review of how station assets can be specified more clearly, understanding the drivers of degradation, and collecting the 'right' data to ensure the optimal asset interventions can be identified over time.	4.3	HS1 Ltd.'s Commitment	Good Practice	Feb 2015
20	Undertake a review and clearly define the asset condition and other hand back requirements at the end of the HS1 Concession; this is likely to involve more sophisticated understanding of how asset condition is classified and we define and measured.	4.3	HS1 Ltd.'s Commitment	Good Practice	Feb 2015
21	Ensure there is greater integration between LTC and Qx items so that whole-life cost optimization can be achieved; similar or identical interventions shouldn't fall into different categories.	4.3	HS1 Ltd.'s Commitment	Good Practice	Feb 2015
22	Already moving to a five-year forecast of Qx to improve transparency and assist operators with their understanding of these important cost areas over time.	4.3	HS1 Ltd.'s Commitment	Good Practice	Feb 2015

5.3.3 Concluding Recommendations to the DfT

On completion of the verification review of the revised CP2 Package dated 01 August 2014 (received on 28 July 2014) the following concluding recommendations are made for DfT's consideration:

Concluding Recommendation 1: The Government Representative should approve the revised LCR's and AMS submitted by HS1 Ltd, dated 01 August 2014, provided that HS1 Ltd agrees to address the partial compliances to their obligations before the start of CP2 (See Key Recommendations No. 2, 9, 11 and 12 in Table 14) and the other recommendations listed in Table 14, as appropriate.

Concluding Recommendation 2: The Government Representative should consider undertaking an interim review, at an appropriate time during CP2, to assess whether HS1 Ltd is making sufficient progress against some or all of the recommendations listed in Table 14 and has achieved full compliance against all of its obligations.

Appendices

Appendix A – List of Documents & Files

ID	Title	File Name / Ref.	Version	Doc. Date	When Received
001	Lifecycle Methodology and Assumptions International Stations	HS1 Lifecycle Methodology and Assumptions Halcrow Issue v1.1 12 Sept 2013.pdf	1.1	12 Sep 2013	2013 Interim Review
002	HS1 LCC Ashford International Station Halcrow 12 Sept 2013	HS1 LCC Ashford International Station Halcrow 12 Sept 2013.xlsb	1	12 Sep 2013	2013 Interim Review
003	HS1 LCC Ebbsfleet International Station Halcrow 12 Sept 2013	HS1 LCC Ebbsfleet International Station Halcrow 12 Sept 2013.xlsb	1	12 Sep 2013	2013 Interim Review
004	HS1 LCC St Pancras International Station Halcrow 12 Sept 2013	HS1 LCC St Pancras International Station Halcrow 12 Sept 2013.xlsb	1	12 Sep 2013	2013 Interim Review
005	HS1 LCC Stratford International Station Halcrow 12 Sept 2013	HS1 LCC Stratford International Station Halcrow 12 Sept 2013.xlsb	1	12 Sep 2013	2013 Interim Review
006	HS1 LTC Halcrow 12 Sept 2013	HS1 LTC Halcrow 12 Sept 2013.xlsm	1	12 Sep 2013	2013 Interim Review
007	HS1 Asset Management Strategy International Stations	HS1 Asset Management Strategy - International Stations Halcrow Issue v1 9 18 Sept 2013 Final Clean.pdf	1.5	Sep 2013	2013 Interim Review
008	Lifecycle Report Ashford International Station	HS1 Lifecycle Report - Ashford International Station Halcrow Issue v0 11 18 Sept (Final).pdf	0.9	18 Sep 2013	2013 Interim Review
009	Lifecycle Report Ebbsfleet International Station	HS1 Lifecycle Report - Ebbsfleet International Station Halcrow Issue v0 10 18 Sept (Final).pdf	0.7	18 Sep 2013	2013 Interim Review
010	Lifecycle Report St Pancras International Station	HS1 Lifecycle Report - St Pancras International Station Halcrow Issue v0 8 18 Sept (Final).pdf	0.5	18 Sep 2013	2013 Interim Review
011	Lifecycle Report Stratford International Station	HS1 Lifecycle Report - Stratford International Station Halcrow Issue v0 10 18 Sept (Final).pdf	0.7	18 Sep 2013	2013 Interim Review
012	HS1 International Stations CP2 LTC Review	HS1 Slides Halcrow 12 Sept 2013.pdf	-	12 Sep 2013	2013 Interim Review
013	How the DfT will consider the submission by HS1 Ltd regarding the LTC for the International Stations	130701 DfT consideration of the CP2 documents submitted by HS1 Ltd.doc	-	-	2013 Interim Review

ID	Title	File Name / Ref.	Version	Doc. Date	When Received
014	The allocation of HS1 Ltd costs between route, stations and unregulated for CP2	Outline of HS1 Ltd cost allocation approach for CP2 2013 09 10 version_FINAL_ORR COMMENTS.docx	-	10 Sep 2013	2013 Interim Review
015	Lifecycle Cost and Long Term Charge Methodology and Assumptions International Stations	HS1 LCC and LTC Methodology and Assumptions Halcrow Issue v2.1 - 3rd Oct 2013.pdf	2.1	03 Oct 2013	2013 Interim Review
016	HS1 LCC Ashford International Station Halcrow 03 Oct 2013	HS1 LCC Ashford International Station Halcrow 03 Oct 2013.xlsb	2	03 Oct 2013	2013 Interim Review
017	HS1 LCC Ebbsfleet International Station Halcrow 03 Oct 2013	HS1 LCC Ebbsfleet International Station Halcrow 03 Oct 2013.xlsb	2	03 Oct 2013	2013 Interim Review
018	HS1 LCC St Pancras International Station Halcrow 03 Oct 2013	HS1 LCC St Pancras International Station Halcrow 03 Oct 2013.xlsb	2	03 Oct 2013	2013 Interim Review
019	HS1 LCC Stratford International Station Halcrow 03 Oct 2013	HS1 LCC Stratford International Station Halcrow 03 Oct 2013.xlsb	2	03 Oct 2013	2013 Interim Review
020	HS1 LTC Halcrow 03 Oct 2013	HS1 LTC Halcrow 03 Oct 2013.xlsm	2.2	03 Oct 2013	2013 Interim Review
021	HS1 International Stations CP2 LTC Review	HS1 Slides Halcrow 3 Oct 2013 v2.4.pdf	2.4	03 Oct 2013	2013 Interim Review
022	Schedule 10 - Provisions relating to Station Repair and Renewal	Schedule 10 for GR tender.doc	-	-	Applicable to all reviews
023	HS1 Asset Management Strategy International Stations	Stations Asset Management Strategy - Final 07082012.pdf	Draft J Final	13 Jul 2012	Document endorsed during 2012 Review
024	HS1 International Stations CP2 LTC Review	1_Station_LTC_Review_-_7_April_2014.pdf		07 Apr 2014	2014 Review
025	2a_SPI_-_LCC_Model	2a_SPI_-_LCC_Model.xlsb	12	14 Mar 2014	2014 Review
026	2b_Stratford_-_LCC_Model	2b_Stratford_-_LCC_Model.xlsb	12	14 Mar 2014	2014 Review
027	2c_Ebbsfleet_-_LCC_Model	2c_Ebbsfleet_-_LCC_Model.xlsb	12	14 Mar 2014	2014 Review
028	2d_Ashford_-_LCC_Model.xlsb	2d_Ashford_-_LCC_Model.xlsb	12	14 Mar 2014	2014 Review
029	2e_LTC_Annuity_Model.xlsm	2e_LTC_Annuity_Model.xlsm	12.3	28 Mar 2014	2014 Review

ID	Title	File Name / Ref.	Version	Doc. Date	When Received
030	HS1 Stations Life Cycle Cost and Long Term Charge Models User Guide	2f_LCC.LTC_Model_User_Guide[1].docx	-	31 Jan 2014	2014 Review
031	HS1 Ltd Asset Management Policy (Control Period 2)	3_Asset_Policy.pdf	-	27 Feb 2014	2014 Review
032	Asset Management Strategy International Stations (DRAFT)	4_Asset_Management_Strategy[1].pptx	-	07 Apr 2014	2014 Review
033	Asset Information Strategy International Stations (DRAFT)	5_Asset_Information_Strategy.ppt	-	07 Apr 2014	2014 Review
034	St Pancras International Station Lifecycle Report (DRAFT)	6a_St_Pancras_LCR.ppt	-	07 Apr 2014	2014 Review
035	Stratford International Station Lifecycle Report (DRAFT)	6b_Stratford_-_LCR.ppt	-	07 Apr 2014	2014 Review
036	Ebbsfleet International Station Lifecycle Report (DRAFT)	6c_Ebbsfleet_-_LCR.ppt	-	07 Apr 2014	2014 Review
037	Ashford International Station Lifecycle Report (DRAFT)	6d_Ashford_-_LCR.ppt	-	07 Apr 2014	2014 Review
038	St Pancras Ground Floor Station Plan	7a(i)_SPI_-_Ground_Floor.pdf / 100-DQX-HISP1-00001-03	-	12 Feb 2014	2014 Review
039	St Pancras Mezzanine Floor Station Plan	7a(ii)_SPI_-_Mezzanine_Level.pdf/100-DQX-HISP1-00002-01	-	24 Dec 2013	2014 Review
040	St Pancras Platform Level Station Plan	7a(iii)_SPI_-_Platform_Level.pdf/100-DQX-HISP1-00003-01	-	24 Dec 2013	2014 Review
041	St Pancras Roof Level Station Plan	7a(iv)_SPI_-_Roof_Level.pdf/100-DQX-HISP1-00005-01	-	24 Dec 2013	2014 Review
042	St Pancras Substructure Level Station Plan	7a(v)_SPI_-_Sub_Structure.pdf/100-DQX-HISP1-00004-01	-	24 Dec 2013	2014 Review
043	Stratford Station Concourse Level Station	7b(i)_Stratford_-_Concourse.pdf/230-DQX-HISP1-	-	12 Feb 2014	2014 Review

ID	Title	File Name / Ref.	Version	Doc. Date	When Received
	Plan	00002-02			
044	Stratford Station Mezzanine Level Station Plan	7b(ii)_Stratford_-_Mezzanine_Level.pdf/230-DQX-HISP1-00003-01	-	20 Dec 2013	2014 Review
045	Stratford Station Platform Level Station Plan	7b(iii)_Stratford_-_Platform_Level.pdf/230-DQX-HISP1-00001-01	-	20 Dec 2013	2014 Review
046	Ebbsfleet International Station Concourse Level Station Plan	7c(i)_Ebbsfleet_-_Concourse_Level.pdf/340-DQX-HISP1-00002-02	-	12 Feb 2014	2014 Review
047	Ebbsfleet International Station Mezzanine Level Station Plan	7c(ii)_Ebbsfleet_-_Mezzanine_Level.pdf/340-DQX-HISP1-00003-02	-	12 Feb 2014	2014 Review
048	Ebbsfleet International Station Platform Level Station Plan	7c(iii)_Ebbsfleet_-_Platform_Level.pdf/340-DQX-HISP1-00001-01	-	20 Dec 2013	2014 Review
049	Ashford Station Concourse Level Station Plan	7d(i)_Ashford_-_Concourse_Level.pdf/430-DQX-HISP1-00002-02	-	12 Feb 2013	2014 Review
050	Ashford Station First Floor Level Station Plan	7d(ii)_Ashford_-_First_Floor_level.pdf/430-DQX-HISP1-00003-02	-	12 Feb 2014	2014 Review
051	Ashford Station Service Floor Level Station Plan	7d(iv)_Ashford_-_Service_Floor_Level.pdf/430-DQX-HISP1-00004-01	-	20 Dec 2013	2014 Review
052	HS1 Long Term Charges Model Audit	8_Aecom_Model_Audit	-	10 Feb 2014	2014 Review
053	EIL Response to HS1 - Stations CP2 LTC Review2	140402 CONFIDENTIAL - EIL Response to HS1 - Stations CP2 LTC Review2.pdf	-	02 Apr 2014	2014 Review
054	140402 EIL Annex 1	140402 EIL Annex 1.xls	-	-	2014 Review
055	CK to GF HS1 re CP2 LTC Review 28Feb14	CK to GF HS1 re CP2 LTC Review 28Feb14.pdf	-	28 Feb 2014	2014 Review
056	2012 Asset Management Annual Statement for HS1 International Stations - Network Rail (High Speed) Ltd	2013 station AMAS B.PDF	DRAFT B	Apr 2013	2014 Review
057	2012/13 Asset Management Annual Statement for Ashford International Station	Ashford - Asset Management Annual Statement (final) - 2012 2013.doc	Rev 1	Apr 2013	2014 Review

ID	Title	File Name / Ref.	Version	Doc. Date	When Received
058	LTC for DfTv2	LTC for DfTv2.xlsx		05 Aug 2010	2012 Review
059	Stations Infrastructure St. Pancras Life Cycle Report	Life Cycle Report for HS1 St Pancras International Station 2012 Draft I 11052012.pdf	Draft I Final	11 May 2012	2012 Review
060	HS1 International Stations CP2 LTC Review	Stations LTC Review_30 June 2014 submission to DfT_SUBMITTED.pptx		30 Jun 2014	2014 Review
061	Asset Management Strategy International Stations	Asset Management Strategy_30 June 2014 submission	-	30 Jun 2014	2014 Review
062	Asset Information Strategy International Stations	Asset Information Strategy_30 June 2014 submission.pptx	-	30 Jun 2014	2014 Review
063	Ashford International Station Lifecycle Report	Ashford International LCR_30 June 2014 submission.pptx	-	30 Jun 2014	2014 Review
064	Stratford International Station Lifecycle Report	Stratford International LCR_30 June 2014 submission.pptx	-	30 Jun 2014	2014 Review
065	St Pancras International Station Lifecycle Report	St Pancras International LCR_30 June 2014 submission.pptx	-	30 Jun 2014	2014 Review
066	Ebbsfleet International Station Lifecycle Report	Ebbsfleet International LCR_30 June 2014 submission.pptx	-	30 Jun 2014	2014 Review
067	DfT: HS1 Control Period 2 – Stations Review Draft Decision	CP2 review - DfT draft decision - FINAL.pdf	-	2 July 2014	2014 Review
068	Asset Management Strategy International Stations	Asset Management Strategy_1 August 2014 submission.pptx	-	1 Aug 2014 [28 July 2014] ⁵	2014 Review
069	Ashford International Station Lifecycle Report	Ashford International LCR_1 August 2014 submission.pptx	-	1 Aug 2014 [28 July 2014]	2014 Review
070	Ebbsfleet International Station Lifecycle Report	Ebbsfleet International LCR_1 August 2014 submission.pptx	-	1 Aug 2014 [28 July 2014]	2014 Review

⁵ The date that appears on the document is different to the date of issue. The date of issue is provided in square brackets. This applies to the references with number 068 – 073.

ID	Title	File Name / Ref.	Version	Doc. Date	When Received
071	St Pancras International Station Lifecycle Report	St Pancras International LCR_1 August 2014 submission.pptx	-	1 Aug 2014 [28 July 2014]	2014 Review
072	Stratford International Station Lifecycle Report	Stratford International LCR_1 August 2014 submission.pptx	-	1 Aug 2014 [28 July 2014]	2014 Review
073	Enhanced Life Cycle Works Descriptions for CP2	Station LCC review July 2014 v0 3.xlsx	-	1 Aug 2014 [28 July 2014]	2014 Review

Appendix B – Compliance Matrix

HS1 International Stations - Review of CP2 Proposal



Compliance to Obligations set out in Schedule 10 - Clause 5 and Annex 1

CP2 Item	Section	Detail	Permitted by clause	Compliance	EC Harris Review	HS1 LCRs Matrix	Common s (June 2014)	Recommended Action	When	HS1 LCR Comments	EC Harris Review on Common s (Round 1)	Compliance	HS1 further additions / changes 25 Jun 2014	EC Harris Review on Common s (Round 2)	Compliance	Impact Approval	Action required to achieve full compliance	When
5.1	Life Cycle Reports	The Tenant shall submit a Life Cycle Report to the Government's Representative for each Station no later than nine (9) months prior to the end of each Review Period.	CP2	Partially	034, 035, 036, 037	All LCRs	034, 035, 036, 037	Whole document(s)	Subject to all other comments.	Address recommendations below, as appropriate	30-Jun	Comments addressed as set out below and reflected in documents to be submitted	Address issues in highlighted lines	Partially				The LCRs were released in April 2014, formally submitted on 30 June 2014 and resubmitted on 01 August 2014
5.2	Life Cycle Reports	Each Life Cycle Report shall, in respect of each Station, include: Works undertaken and costs incurred	CP1	Fully				The current review period is CP1; the LCRs are assessed against clauses 5.2.1(a-h) in respect of the works undertaken and costs incurred										
5.2.1-a	Life Cycle Reports	The Life Cycle Works carried out by the Tenant (or that it anticipates will have been carried out by the end of the current Review Period);	CP1	Partially	034, 035, 036, 037	3.1,2	034, 035, 036, 037	3.1,2	Detailed description of works for Ashford but short summary for other three stations especially Ebbsfleet.	Provide more detailed description of the Life Cycle Works carried out during CP1 for all stations particularly Ebbsfleet. This should be similar to the descriptions provided for Ashford.	30-Jun	Updated descriptions provided. However it is noted that it is appropriate that more detail is provided for Ashford as this is where the majority of the spend has occurred. At other stations both the forecast and actual spend is very low.	Updates were undertaken in the St Pancras and Ebbsfleet LCRs. No changes found in the Stratford LCR. The Ashford LCR did not require any changes.	Fully				
5.2.1-b	Life Cycle Reports	The Available Life Cycle Funds at the end of each Financial Year (or the anticipated Available Life Cycle Funds by the end of the last Financial Year in the current Review Period);	CP1	Partially	034, 035, 036, 037	3.2.1,5	034, 035, 036, 037	3.2.1,5	All LCRs and LTC model include actual/forecast Available Lifecycle Funds for CP1 and beyond. The actual balance, which is now known for 2013/14 was not used (because it was not known at the time of production); the differences do not appear to be significant and so may not impact the CP2 LTC value.	May consider re-running the LTC model with new known closing balance for 2013/14.	30-Jun	Addressed issue of forecast vs. actual balance separately. Included statement in LCRs that these are both consistent and hence the forecast balance has been used in calculating LTC.	It is confirmed that HS1 Ltd has provided a satisfactory explanation in a separate paper. All stated amendments do appear in all LCRs.	Fully				
5.2.1-c	Life Cycle Reports	The Life Cycle Works Cost of anticipated Life Cycle Works Cost by the end of the current Review Period;	CP1	Fully	034, 035, 036, 037	Table 7 in 3.2.1, Table 15 in 4.1.2.1 and Appendix E	034, 035, 036, 037	4.1.2.1	Table 15 in 4.1.2.1 for last two years of CP1; Table 7 for the first 3 years of CP1 and Appendix E for all years in CP1	Add Table 7 in the Stratford LCR								
5.2.1-d	Life Cycle Reports	The Deferred Life Cycle Works Savings (if any) approved in previous Life Cycle Reports;	CP1	Fully	034, 035, 036, 037	5.1.3	034, 035, 036, 037	5.1.3	Agree with difference between actual vs. forecast in 5.1.3, however there was no previous review period prior to CP1 and so no Deferred Life Cycle Works Savings could have been approved in previous LCRs.	Could state that there was no review period prior to CP1 and so no Deferred Life Cycle Works Savings were (or could have been) approved in previous LCRs.								
5.2.1-e	Life Cycle Reports	The Life Cycle Works Savings (if any) brought forward from previous Review Periods;	CP1	Fully	034, 035, 036, 037	5.1.4, 5.2	034, 035, 036, 037	5.1.4, 5.2	5.1 is listed deferrals & permanent omissions. This clause requires Life Cycle Works Savings brought forward from previous Review Periods. Savings means undertaking forecast work at a lower cost than planned. However, there was no review period prior to CP1.	Could state that there was no review period prior to CP1 and so no Life Cycle Works Savings were brought forward.								
5.2.1-f	Life Cycle Reports	The effect of any Relevant Changes of Law that have occurred during the Review Period;	CP1	Fully	034, 035, 036, 037	3.2.3, 3.2.4, 3.2.5	034, 035, 036, 037	3.2.4 & 4.2.5	3.2.4 refers to changes in law during CP1; included in LCRs 3.2.3 apart from Ebbsfleet which is 3.2.4 (wrongly numbered). 4.2.5 for anticipated future changes in law (required under 5.2.4 - c below) within 4.2.5.2 at CP1 but is 4.2.3.2 for the other three stations.	Could amend report(s) matrix (Appendix A) to correct reference								
5.2.1-g	Life Cycle Reports	An analysis of breakdown requirements and the performance of the Elements of the Station which were identified in the Asset Management Strategy as being monitored by the Tenant.	CP1	Partially	034, 035, 036, 037	3.3	034, 035, 036, 037	3.3	Statistics in 3.3.1 only for 2012/2013 (except Ashford)	Element performance trend analysis during CP1 required	Apr-15	Now added to LCRs to say that this will be included by the start of CP2 as part of the Delivery Plan. This will form the baseline for future analysis.	Extra years added to section 3.3	Partially	No	Complete full trend analysis of breakdown frequencies and performance of identified elements.	Feb-15	
5.2.1-h	Life Cycle Reports	The renewals and replacements (if any) undertaken by the Station Operator in order that it discharged its Safety Obligations in respect of the Station but which were not identified in the current Life Cycle Report ("Station Safety Works").	CP1	Fully	034, 035, 036, 037	3.1,4	034, 035, 036, 037	3.1,4	It is clearly stated in the LCRs that no such works were undertaken									
5.2.2	Life Cycle Reports	In respect of the current Review Period a progress report, comparison and reconciliation by reference to the Life Cycle Report approved for the current Review Period.	CP1	Fully					The current review period is CP1; the LCRs were assessed against clauses 5.2.2(a-c)									
5.2.2-a	Life Cycle Reports	The Life Cycle Works actually completed to date against those anticipated giving the reasons for any differences;	CP1	Partially	034, 035, 036, 037	3.1,2 & 3.2.1	034, 035, 036, 037	3.2.1	Limited work descriptions provided with no reason for differences	Provide more detailed description of the Life Cycle Works carried out / will be carried out during CP1. Explain the reasons for the differences. Is the change in SAC to only reason for cost variation?	Apr-15	Statement in section 5.1 around variance analysis - consistent with the separate note provided on this subject and associated discussions. Functionality to be in place for start of CP2 with a defined programme.	Reasons were given (relevant sections include 3.2 and 5.1) explaining why this comparison is not possible and these relate to the change in approach, refreshed models, and changes in the SAC. The explanation provided in the separate note was superior to what is contained in the LCRs. The explanation provided is sufficient, however, partial compliance remains against this obligation as the LCR does not include a list of restructured Life Cycle Works cost costs for CP1.	Partially	No	Develop variance analysis methodology and enhance associated model functionality	Feb-15	
5.2.2-b	Life Cycle Reports	The Life Cycle Works Cost incurred to date against those anticipated giving the reasons for any differences;	CP1	Partially	034, 035, 036, 037	3.2.1, 3.1, 2 and Appendix E	034, 035, 036, 037	3.2.1	Expenditure variance given at elemental or group level with generic reasons only	Explain the reasons for the differences	Apr-15	Statement in section 5.1 around variance analysis - consistent with the separate note provided on this subject and associated discussions. Functionality to be in place for start of CP2 with a defined programme.	As above but in relation to Life Cycle Costs	Partially	No	Develop variance analysis methodology and enhance associated model functionality	Feb-15	
5.2.2-c	Life Cycle Reports	The Life Cycle Works Savings achieved to date against those anticipated;	CP1	Partially	034, 035, 036, 037	3.2.1,3	034, 035, 036, 037	3.2.1	A table is included to the end of 2012/2013; but insufficient detail to determine if the stated amounts relate directly to Life Cycle Works Saving. This means the amount that represents the net saving to the Tenant from carrying out Life Cycle Works to the relevant Element of the Station for less than the corresponding amount identified for such Life Cycle Works; e.g. planned to replace a fire door for £200 but replaced it for £100; the net saving is £100.	A clear statement on savings (or no savings) to the end of CP1 is required.	Apr-15	Clear statement in section 5.1 that no savings are being sought by HS1 Ltd. Consistent with separate discussions.	Statement made in sections 3.2.1.3 and 5.2. No savings can be determined the change in approach, refreshed models, etc. and no savings are sought.	Fully				
5.2.3	Life Cycle Reports	A summary of the following up to the end of the previous Review Period for each Element of the Station of: 5.2.3-a Life Cycle Reports the aggregate amount of the Life Cycle Works Cost; 5.2.3-b Life Cycle Reports the aggregate amount of the Deferred Life Cycle Works Savings (if any); and 5.2.3-c Life Cycle Reports the aggregate amount of the Life Cycle Works Savings (if any).	CP1	Fully					There was no previous Review Period for the current Review Period. Hence the LCRs were not assessed against clause 5.2.3(a-c)									
5.2.4	Life Cycle Reports	Forecast Life Cycle Works in respect of the next Review Period	CP2	Partially	034, 035, 036, 037	4.2.1	034, 035, 036, 037	4.2	Further details required with regards to how HS1 Ltd intends to carry out the work in CP2 including required notices, consents, approvals, etc. Alternatively HS1 Ltd may choose to make a future promise to produce a detailed 5 year plan.	New section 4.2.4 setting out general approach to securing consents etc. and undertaking work. Reference to further detail in the CP2 delivery plan to be released following the commencement of CP2.	Apr-15	The process of planning and implementing project work has been briefly described in section 4.2.3 / 4.2.4. However, the LCRs do not contain detailed proposals for the carrying out of the Forecast Life Cycle Works. Therefore compliance is not as partial but this is unlikely to impact the approval of the LCRs as HS1 Ltd are planning to produce a CP2 delivery plan.	Partially	No	Produce CP2 delivery plan which should include detailed proposals for carrying out the Forecast Life Cycle Works	Feb-15		
5.2.4-a	Life Cycle Reports	The Forecast Life Cycle Works Cost;	CP2	Partially	034, 035, 036, 037	4.2.2.1	034, 035, 036, 037	4.2	Subject to cost verification	As separately discussed, statement that by end of July we will add clarification detail to the line items that are similar that have spend in CP2.	31-Jun	Not yet assessed, subject to HS1 Ltd action	Emailed separately. When approved will be added to the LCC models, as appropriate	Partially	No	Enhance life cycle works descriptions as per separate note.	Feb-15	
5.2.4-b	Life Cycle Reports	The effect of any Relevant Changes of Law that will occur during the Review Period;	CP2	Fully	034, 035, 036, 037	4.2.2.2	034, 035, 036, 037	4.2	Table 20 in the Ebbsfleet and Stratford reports; this is missing from the other two reports	Add missing tables/sections in relevant LCRs	30-Jun	We show this detail in section 4.1.2.3 (and 4.1.2.2 for Stratford). This was included in the 7 April versions.	This obligation requires the forecast amount of Available Life Cycle Funds at the end of each Financial Year in CP2 to be stated. Section 4.1.2.3 of the June LCRs for St Pancras and Ashford show the Available Life Cycle Funds for the remainder of CP1. The April versions had the same issue. Compliance was not assessed as it is considered that HS1 Ltd has not addressed this action	Fully				
5.2.4-c	Life Cycle Reports	The forecast amount of Available Life Cycle Funds at the end of each Financial Year;	CP2	Partially	034, 035, 036, 037	4.2.2.3	034, 035, 036, 037	4.2	Section 4.2.2.2 appears to be missing from all four reports. Section 4.2.2.3 is missing in SP1 report	Add missing tables/sections in relevant LCRs	30-Jun	We show this detail in section 4.1.2.3 (and 4.1.2.2 for Stratford). This was included in the 7 April versions.	This obligation requires the forecast amount of Available Life Cycle Funds at the end of each Financial Year in CP2 to be stated. Section 4.1.2.3 of the June LCRs for St Pancras and Ashford show the Available Life Cycle Funds for the remainder of CP1. The April versions had the same issue. Compliance was not assessed as it is considered that HS1 Ltd has not addressed this action	Fully				
5.2.5	Life Cycle Reports	In respect of the remainder of the Life Cycle Period summary of any changes to: 5.2.5-a Life Cycle Reports the Forecast Life Cycle Works to be undertaken in each subsequent Review Period and Overhang Period in respect of each Element of the Station; 5.2.5-b Life Cycle Reports the Forecast Life Cycle Works Cost in each subsequent Review Period and Overhang Period in respect of each Element of the Station; and 5.2.5-c Life Cycle Reports a forecast of the amount of Available Life Cycle Funds for each subsequent Review Period and Overhang Period;	CP2	Partially	029	LTC model	034, 035, 036, 037	4.1	This is not described in section 4.1 of the LCRs but the analysis is included in the CP3 onwards	Include a description of the life cycle works that will be undertaken from CP3 onwards	30-Jun	New 4.3 showing works	Life cycle works not described but cost profile provided sufficient with cross reference to LCC/LTC models.	Fully				
5.2.6	Life Cycle Reports	Deferrals of any Life Cycle Works that are identified in the Asset Management Strategy as being required in the Review Periods and/or Overhang Periods following the Review Period in which the Life Cycle Report is produced; and/or the distribution of any Deferred Life Cycle Works Saving pursuant to paragraph 7.1, which shall include: 5.2.6-a Life Cycle Reports the distribution of any Deferred Life Cycle Works Saving pursuant to paragraph 7.1, which shall include: 5.2.6-b Life Cycle Reports the forecast reduction in the Long Term Charge, the LTC and the Tenant's Share arising from paragraph 5.2.6(a); and/or 5.2.6-c Life Cycle Reports the forecast reduction in the Long Term Charge, the LTC and the Tenant's Share arising from paragraph 5.2.6(b);	CP2	Partially	034, 035, 036, 037	5.1	034, 035, 036, 037	5.1	Changes in definitions of O&M/LTC resulting in the move of activities are not deferrals; duplicated assets, assets owned by 3rd parties and car park assets are not permanent omissions - they were errors. A deferral should refer to a genuine LC activity which was previously planned but will be delayed. Similarly an omission is about genuine LC activity which was previously planned but will not take place. Cost variation due to erroneous definitions/records should be stated as such. Some of these were already discussed in Ref. 024 (1_Station_LTC_Review_7_April_2014).	Revise Section 5.1	30-Jun	Covered as part of a revised section 5.1	The revised section explains why undertaking this type of analysis has been challenging and makes a future promise for improving the analysis capability. Statements made in section 5.1, can be accepted as sufficient explanation for now but full compliance can be only attributed once future actions are closed.	Partially	No	Develop variance analysis methodology and enhance associated model functionality	Feb-15	
5.2.6-d	Life Cycle Reports	The forecast reduction in the Long Term Charge, the LTC and the Tenant's Share arising from paragraph 5.2.6(a);	CP2	Partially	034, 035, 036, 037	5.1.3	034, 035, 036, 037	5.1.3	Sections 5.2 and 5.3 missing. NB: If filters are deferral (as 5.1.1.1 or 5.1.1.2) there should be a lifecycle saving	Add missing Section 5.2	30-Jun	Covered as part of a revised section 5.1	As verification comment against obligation 5.2.6 - a above	Partially	No	Develop variance analysis methodology and enhance associated model functionality	Feb-15	
5.2.6-e	Life Cycle Reports	The forecast reduction in the Long Term Charge, the LTC and the Tenant's Share arising from paragraph 5.2.6(b);	CP2	Partially	034, 035, 036, 037	not found	034, 035, 036, 037	5.1.3	Not stated	A clear statement such as that described by this obligation is required in all LCRs	30-Jun	Covered as part of a revised section 5.1	Statement included and considered sufficient	Fully				
5.2.6-f	Life Cycle Reports	The forecast reduction in the Long Term Charge, the LTC and the Tenant's Share arising from paragraph 5.2.6(a);	CP2	Partially	034, 035, 036, 037	not found	034, 035, 036, 037	n.a.	Not stated	A description is required relating to the effect of the deferrals in 5.1.1.2	30-Jun	Covered as part of a revised section 5.1	As verification comment against obligation 5.2.6 - a above	Partially	No	Develop variance analysis methodology and enhance associated model functionality	Feb-15	
5.2.6-g	Life Cycle Reports	The forecast reduction in the Long Term Charge, the LTC and the Tenant's Share arising from paragraph 5.2.6(a);	CP2	Partially	034, 035, 036, 037	not found	034, 035, 036, 037	5.2	Sections 5.2 and 5.3 missing	Add missing Sections 5.2 & 5.3	30-Jun	Covered as part of a revised section 5.1	As verification comment against obligation 5.2.6 - a above	Partially	No	Develop variance analysis methodology and enhance associated model functionality	Feb-15	
5.2.6-h	Life Cycle Reports	The forecast reduction in the Long Term Charge, the LTC and the Tenant's Share arising from paragraph 5.2.6(b);	CP2	Partially	034, 035, 036, 037	not found	034, 035, 036, 037	5.2	Sections 5.2 and 5.3 missing but included in the analysis within the LTC model	Add missing Sections 5.2 & 5.3	30-Jun	Covered as part of a revised section 5.1	The reduction in the LTC resulted from the major revision of models/assumptions and the adoption of the stewardship approach mainly. Stated no savings share.	Fully				
5.2.7	Life Cycle Reports	The Tenant's proposals for any distribution of any Life Cycle Works Saving pursuant to paragraph 7.2, identifying the amount of the Life Cycle Works Saving, the reduction in the Long Term Charge, the LTC and the Tenant's Share, setting out the reasons why the Tenant considers such distribution should be made and providing all relevant supporting information.	CP2	Partially	034, 035, 036, 039	not found	034, 035, 036, 037	5.2	Sections 5.2 and 5.3 missing	Add missing Sections 5.2 & 5.3	30-Jun	Covered as part of a revised section 5.1	Stated that due to fundamental changes in the models/approach it is difficult to calculate savings and no share is sought.	Fully				
5.2.8	Life Cycle Reports	Adjustments to Available Life Cycle Funds made pursuant to paragraph 6.4.4 in the current Review Period (or anticipated to be made prior to the end of the current Review Period) and the arrangements (if any) which the Tenant has implemented and/or proposes to implement in order to mitigate the likelihood that any of the circumstances described in paragraph 5.4.7(a) to (c) will occur ("Adjustment Arrangements").	CP2	Partially	034, 035, 036, 039	not found	034, 035, 036, 037	5.3	Sections 5.2 and 5.3 missing	Add missing Sections 5.2 & 5.3	30-Jun	Covered as part of a revised section 5.1	Stated no adjustments to the available lifecycle funds. The LTC model includes a calculation of the available lifecycle funds for the entire evaluation period.	Fully				

HS1 International Stations - Review of CP2 Proposal



Compliance to Obligations set out in Schedule 10 - Clause 5 and Annex 1

CP2 Item	Section	Detail	Per of the clause	Comp. ans? (June 2014)	Doc. ID	Section Paragraph	Doc. ID	Section Paragraph	Common s (June 2014)	Recommended Ac. on	When	HS1 LCC Com. mod Ac. ons	EC Harris' Ver. rat on Common s (Round 1)	Comp. ans? (Aug 2014)	HS1 for her add. sions / changes 25 Ju. y 2014	EC Harris' Ver. rat on Common s (Round 2)	Comp. ans? (Aug 2014)	Impacts Approva?	Ac. on required to achieve uil compliance	When by
5.2.9	Life Cycle Reports	Long Term Charge is a description of any arrangements the Tenant has reached with Users pursuant to the terms of the Station Access Agreement to modify the LTC.	CP2	Partially	034, 035, 036, 039	5.4, 5.2, 5.2, 5.2	034, 035, 036, 037	5.4.2 and 5.4.3	In section 5.4 for SP and 5.2 for other stations. Describes what the changes are but makes no statement on arrangements reached with users.	A description is required relating to the arrangements reached with users.	30-Jun	Statement included in section 5.2.3	Statement included in section 5.2.3 considered sufficient	Fully						
5.2.10	Life Cycle Reports	any proposal by the Tenant for a modification to the LTC to increase.	CP2	CP2 Package assessed against clauses 5.2.10 a - b																
5.2.10-a	Life Cycle Reports	any increased Life Cycle Costs which it has funded in accordance with paragraph 6.4, and/or	CP1	Partially	034, 035, 036, 039	5.4, 5.2, 5.2, 5.2	034, 035, 036, 037	5.4.2 and 5.4.3	5.4.2.3 for SP and 5.2.2.4 for three other stations	Would be useful to clarify state whether any Increased Life Cycle Costs (in CP1) has been funded (or not) in accordance with paragraph 6.4 [of Schedule 10].	30-Jun	Statement included in section 5.2.2.4	Statement included in section 5.2.2.4	Fully						
5.2.10-b	Life Cycle Reports	any costs which it has suffered or incurred in connection with the Station Operator carrying out Station Safety Works in the current Review Period;	CP1	Fully	034, 035, 036, 039	5.4, 5.2, 5.2, 5.2	034, 035, 036, 037	5.4.2 and 5.4.3	No such costs incurred is clearly stated, in 5.4.2.3 for SP and 5.2.2.4 for the other three stations.											
5.2.11	Life Cycle Reports	any proposal by the Tenant for a modification to the LTC (other than pursuant to a proposal in paragraphs 5.2.6(b), 5.2.7, 5.2.9 or 5.2.10) to take effect from the beginning of the next Review Period.	CP2	CP2 Package assessed against clauses 5.2.11 a - b																
5.2.11-a	Life Cycle Reports	setting out the reasons why the Tenant considers that such modifications should be made and providing all relevant supporting information; and	CP2	Fully	034, 035, 036, 039	5.4, 5.2, 5.2, 5.2	034, 035, 036, 037	5.4.2 and 5.4.3		Suggest check all cross-references to paragraphs										
5.2.11-b	Life Cycle Reports	In the case of a modification resulting from a Relevant Change of Law, confirming that the Tenant has notified each User of the Relevant Change of Law and of its assessment of the amount of the modification, and provided Users with such information as they shall reasonably require, in a form and amount of detail which is sufficient to enable Users to make a proper assessment of the effect of the Relevant Change of Law and of the Tenant's assessment; and	CP2	Partially	034, 035, 036, 039	5.4, 5.2, 5.2, 5.2	034, 035, 036, 037	5.4.2 and 5.4.3	This is 5.2 in stations other than SP.	It would be useful to have a statement even if it is to state that there are no modifications due to change in law.	30-Jun	Statement included in section 5.2.2.5	Statement included in section 5.2.2.5	Fully						
5.2.12	Life Cycle Reports	Modifications to the Asset Management Strategy and the Life Cycle Budget the Tenant's proposals for any modifications to the Asset Management Strategy (including the Life Cycle Budget) that are required to reflect its proposals in respect of the matters set out in paragraphs 5.2.1 to 5.2.11 above and/or to ensure that the Asset Management Strategy continues to satisfy the requirements set out in Annex 1 to this schedule; and	CP2	Fully	034, 035, 036, 039	5.5, 5.3, 5.3, 5.3	034, 035, 036, 037	5.5	Other than SP this appears in section 5.3 of the LCRs											
5.2.13	Life Cycle Reports	General such further details in respect of the matters described in paragraphs 5.2.1 to 5.2.11 as may be reasonably required by the Government's Representative.	CP2	Partially	034, 035, 036, 039	5.6, 5.4, not found	034, 035, 036, 037	5.6	5.6 in SP but 5.4 for Stratford and nothing for Ebbsfleet and Ashford	See all other comments above & below	30-Jun	Consistent section 5.4 included in all LCRs	Section 5.4 is indeed included in all LCRs. This obligation is marked a partial until the other obligations in yellow highlights are discussed/addressed. Once the issues associated with those are closed, this obligation can be changed to full compliance.	Partially						
4.1	Asset Management Strategy	The Tenant shall prepare an Asset Management Strategy for each Station which, in each case, complies with the requirements set out in Annex 1 to this schedule.	50 years	Partially	032	Entire document	032	Whole document	Subject to all other comments above and below	Address recommendations below, as appropriate	30-Jun		Address issues in highlighted lines	Partially						
Annex 1 - 1	Scope	The Strategy shall consider only the renewals and replacement of the Station, Maintenance and repair activities shall be excluded.	50 years	Fully	032	Various, including 1.4, 2.6, etc.	032													
Annex 1 - 2	Station Elements	The Strategy shall identify each of the elements of the Station which will need to be renewed and/or replaced during the Life Cycle Period. Unless the parties agree otherwise the elements of the Station shall comprise:	50 years	Fully	032	1.5 & Appendix C	032	1.5 & Appendix C	Asset quantities were not validated											
Annex 1 - 3	Life Cycle Works	The Strategy shall describe, in reasonable detail: the renewal and/or replacements works which will need to be undertaken in relation to each of the elements of the Station in order for the Tenant to comply with its obligations under clauses 4.3.1 and 4.14 and the Life Cycle Purpose to be achieved; and the anticipated year in the Life Cycle Period when such works should be undertaken in order for the Tenant to comply with its obligations under clauses 4.3.1 and 4.14 and the Life Cycle Purpose to be achieved.	50 years	CP2 Package assessed against clauses 3 a - b of Annex 1																
Annex 1 - 3a	Life Cycle Works	the renewal and/or replacements works which will need to be undertaken in relation to each of the elements of the Station in order for the Tenant to comply with its obligations under clauses 4.3.1 and 4.14 and the Life Cycle Purpose to be achieved; and the anticipated year in the Life Cycle Period when such works should be undertaken in order for the Tenant to comply with its obligations under clauses 4.3.1 and 4.14 and the Life Cycle Purpose to be achieved.	50 years	Partially	032	4.2.3, 4.3.3, 4.4.3 and 4.5.3 and LCC Models	032	3.3.2	The LCC model includes activities that have been moved to Oa but these do not impact any of the proposed LCC/LTC levels. Oa analysis is undertaken using a different methodology. References appear in the document on Oa and non-Oa but these are for completeness. The main focus of the document is LC activities.	Describe LC activities in a bit more detail	30-Jun	As above	Please clarify what 'As above' refers to. Note that this action/obligation relates to the Asset Management Strategy. Compliance not assessed as clarification is sought.	Not assessed	Replicated information from the LCRs in section 4 of the AMS	Section 4.1.7 was added to cover the issues relating to variance analysis. However, this obligation requires a description of the lifecycle works in the entire evaluation period. The relevant sub-sections previously stated were not updated.	Partially	No	Enhance life cycle works descriptions as per separate note	Feb-15
Annex 1 - 3b	Life Cycle Works	the renewal and/or replacements works which will need to be undertaken in relation to each of the elements of the Station in order for the Tenant to comply with its obligations under clauses 4.3.1 and 4.14 and the Life Cycle Purpose to be achieved; and the anticipated year in the Life Cycle Period when such works should be undertaken in order for the Tenant to comply with its obligations under clauses 4.3.1 and 4.14 and the Life Cycle Purpose to be achieved.	50 years	Partially	032	4.2.4.1	032	3.3.2	Table 14 includes annual CP2 forecast for SP but there is no annual breakdown for the other stations. However this is included in the LCC/LTC models.	Add similar Table for other stations	30-Jun	Section 4.2.2.1 and reference to LCC models where the detail is shown.	No section 4.2.2.1 was found in the Asset Management Strategy. Compliance was not assessed as it is considered that this action has not been addressed.	Not assessed	Replicated information from the LCRs in section 4 of the AMS	Added graphs showing expenditure in CP2, stated lifecycle budget and cross references to LCC models for each station over the 50 years section 4.2, 4.3, 4.4 and 4.5.	Fully			
Annex 1 - 4	Performance Monitoring	The Strategy shall identify those elements of the Station for which the Tenant will monitor breakdown frequencies and gather performance data.	50 years	Partially	032	4.2.2, 4.5.2, 4.4.2, 4.5.2	032	3.1.3 & Appendices E & H	The LCC model includes activities that have been moved to Oa but these do not impact any of the proposed LCC/LTC levels. Oa analysis is undertaken using a different methodology. References appear in the document on Oa and non-Oa but these are for completeness. The main focus of the document is LC activities.	A full list of Station elements that will be monitored for faults, breakdown or other performance attributes, is required. Also see comments against clause 5.2.1 - 1 above.	30-Jun	Section 3.3.1 of LCRs	Since this comment was made a copy of the latest AMAS was provided. It is confirmed that the performance trends mentioned in sections 4.2.2, 4.3.2, 4.4.2, 4.5.2 of the Asset Management Strategy are reported for M&E systems, building fabric, communication and data systems, and lifts, escalators and travelators. These categories are slightly different to Ashford but it is not necessary to revise section 4.5.2 of the Asset Management Strategy. For clarity, it is suggested that the cross reference 'Section 3.1.3 & Appendices E & H' against this obligation in Appendix A of the AMS should be replaced with 'Sections 4.2.2, 4.3.2, 4.4.2, 4.5.2'. Other errors may exist in the compliance matrix and these are indicated in preceding columns in this table.	Fully	Compliance references not yet updated, but will be by 29 July					
Annex 1 - 5	Life Cycle Budget: Expenditure	The Strategy shall for each of the works identified in paragraph 3 above, contain:	50 years	CP2 Package assessed against clauses 5 a - c of Annex 1																
Annex 1 - 5a	Life Cycle Budget: Expenditure	an estimate of the costs of carrying out such works;	50 years	Partially	025, 026, 027, 028, 029	Not in the AMS but fully covered in the LTC model	032	3.3.2.1 & 3.3.3.1	Life cycle budget means the amount to fund the Life Cycle Works during the Life Cycle Period. Life Cycle Period means the period of fifty (50) years commencing on 1 April 2011. Sections 3.3.2.1 & 3.3.3.1 of the Asset Management Strategy only cover CP1 and CP2. However, the LCC/LTC models cover the Life Cycle Period.	State the Life Cycle Budget	30-Jun	Included in section 4.3	Not found in the Asset Management Strategy. Compliance was not assessed as it is considered that this action has not been addressed.	Not assessed	Replicated information from the LCRs in section 4 of the AMS	Added graphs showing expenditure in CP2, stated lifecycle budget and cross references to LCC models for each station over the 50 years section 4.2, 4.3, 4.4 and 4.5.	Fully			
Annex 1 - 5b	Life Cycle Budget: Expenditure	a statement of the assumptions, including those in respect of inflation and interest rates, which the Tenant has used in preparing the cost estimates; and	50 years	Partially	032	various	032	4.1.3	4.1.3 only covers some of the adopted assumptions; there are various other sections in the AMS covering assumptions, e.g. 2.2.2, 2.3.2, 2.3.5, etc. Also the LCC/LTC models and associated user guide have assumptions listed.	Assumptions should be listed in a single place for ease of reference; this may take the form of adding cross references to the Compliance matrix in Appendix A. A reference must be made to the underlying source of the inflation rate, e.g. has inflation been based on Oxford Economics RPI forecast? or similar source?	30-Jun	Addressed as per discussion around inflation	Please state in section 4.1.3 of the Asset Management Strategy why inflation is set at 2.75%. Compliance was not assessed as section 4.1.3 of the Asset Management Strategy has not been revised. It is noted that assumptions remain in different places in the documentation/models provided.	Not assessed	Explanation from overall summary slides added to section 4.1.3	Confirmed explanation added in section 4.1.3	Fully			
Annex 1 - 5c	Life Cycle Budget: Expenditure	an explanation, in reasonable detail, of the principal components of the cost estimates (including any management fees or contingencies) and the factors on which the cost estimates are based.	50 years	Partially	033	Appendix J Appendix I	032	Appendix J	Appendix J of the AMS only lists the on-cost but no explanation is provided. Appendix I of the user guide provides a more detailed description of the assumptions relating to on-costs.	Assumptions should be listed in a single place for ease of reference; this may take the form of adding cross references to the Compliance matrix in Appendix A.	30-Jun	Included in summary slides and separate discussions / documents provided to EC Harris.	Compliance was not assessed as the AMS was not amended.	Not assessed	Appendix J replaced with more detailed explanation of on-costs as included in the summary slides (and consistent with information in the user guide)	Confirmed Appendix J was updated	Fully			
Annex 1 - 6	Life Cycle Budget: Revenues	The Strategy shall contain for each Financial Year of the Life Cycle Period an estimate of:	50 years	CP2 Package assessed against clauses 5 a - c of Annex 1																
Annex 1 - 6a	Life Cycle Budget: Revenues	the Long Term Charge which will be received by the Tenant in relation to the Station;	50 years	Partially	032	3.3.2.2 & 3.3.3.2 LTC Model	032	3.3.2.2 & 3.3.3.2	The AMS covers the LTC in CP2, but the LTC model contains the analysis over the Life Cycle Period.	Required for each Financial Year of the Life Cycle Period	30-Jun	The exec summary sets the LTC. The point of the LTC is that it is set to be the same for the remainder of the period.	The exec summary of the AMS does not state the LTC. Accept the point that LTC is to be the same annuity but considering this point please explain what does Table 12 in the Asset Management Strategy show? Compliance was not assessed as clarification is sought.	Not assessed	Replicated information from the LCRs in section 4 of the AMS. New table 12 inserted to clarify treatment of LTC amounts	Confirmed Table 12 was added to cover CP2 and can be set as full compliance in combination with the calculations in the LTC model and Section 3.5.	Fully			
Annex 1 - 6b	Life Cycle Budget: Revenues	any income which will be received by the Tenant pursuant to the escrow arrangements in relation to the Station; and	50 years	Partially	032	Section 4.3, 3.3.2.3 & 3.3.3.3 LTC Model	032	3.3.2.3 & 3.3.3.3	Limited to CP1 and CP2	Required for all period beyond CP2	30-Jun	Reference to LTC model included within section 4.3	Compliance was not assessed as the Asset Management Strategy was not amended.	Not assessed	Included within a new section 3.5	Confirmed Section 3.5 added covering income and escrow balances over life-cycle	Fully			
Annex 1 - 6c	Life Cycle Budget: Revenues	a statement of the assumptions, including those in respect of inflation and interest rates, which the Tenant has used in preparing the estimates of the Long Term Charge and investment income.	50 years	Partially	032	various user guide	032	Appendix J	Appendix J only lists the on-costs but does not provide any assumptions there are various other sections in the AMS covering assumptions, e.g. 2.2.2, 2.3.2, 2.3.5, etc. Also the LCC/LTC models and associated user guide have assumptions listed.	Assumptions should be listed in a single place for ease of reference; this may take the form of adding cross references to the Compliance matrix in Appendix A. A reference must be made to the underlying source of the inflation rate, e.g. has inflation been based on Oxford Economics RPI forecast? or similar source?	30-Jun	As above - set out in summary slides, etc.	Compliance was not assessed as the Asset Management Strategy was not amended.	Not assessed	Compliance references not yet updated, but will be by 29 July	The assumptions section (4.1.3) in the AMS has been updated	Fully			
Annex 1 - 7	Life Cycle Budget: Cashflow	The Strategy shall include an analysis of the forecast cashflows of the revenues and expenditures described above and identify any potential shortfalls between forecast revenues and forecast expenditures.	50 years	Partially	029	LTC Model	032	3.3.2.3 & 3.3.3.3	Fully covered in the LTC model but no statement made in the AMS, this statement	Statement required in the AMS to cover the entire evaluation period (45 years)	30-Jun	Provided reference to the LTC model	Compliance was not assessed as the Asset Management Strategy was not amended.	Not assessed	Included within a new section 3.5	Confirmed Section 3.5 added covering income and escrow balances over life-cycle	Fully			
Annex 1 - 8	Financial Model	The Strategy shall include a financial model and supporting explanatory documentation which enables the parties to determine in relation to the Station:	50 years	Fully	029	LTC Model	029	Financial Model												
Annex 1 - 8a	Financial Model	the Available Life Cycle Funds in a Financial Year;	50 years	Fully	029	LTC Model	032	3.3.2.3 & 3.3.3.3												
Annex 1 - 8b	Financial Model	the financial effect of any acceleration, deferral or permanent omission of any renewals and/or replacements at the Station;	50 years	No at all	029	LTC Model	032	4.1.5	Section 4.1.5 states the intention to enhance the models as part implementing a new asset management information system.	It is considered that this type of analysis can still be undertaken by changing the relevant parameters and 're-running' the current model(s). A brief description of the 're-run' process that can be employed would cover this obligation.	Apr-15	As above, capability will be developed for CP2 as detailed in separate notes / discussions.	Please include a note in the Asset Management Strategy to explain the plan for addressing this issue.	No at all	Included within section 4.1.7 in AMS (consistent with section 5.1 in LCRs)	Confirmed section 4.1.7 added explaining why variance analysis was not undertaken and stating a commitment for a methodology to be put in place by the start of CP2.	Partially	No	Develop variance analysis methodology and enhance associated model functionality	Feb-15
Annex 1 - 8c	Financial Model	the financial effect of any new renewals and/or replacements at the Station not previously included in the Asset Management Strategy;	50 years	No at all	029	LTC Model	032	4.1.5	See comment against Annex 1 - 8b above	See recommendation against Annex 1 - 8b above	Apr-15	As above, capability will be developed for CP2 as detailed in separate notes / discussions.	Please include a note in the Asset Management Strategy to explain the plan for addressing this issue	No at all	Included within section 4.1.7 in AMS (consistent with section 5.1 in LCRs)	Confirmed section 4.1.7 added explaining why variance analysis was not undertaken and stating a commitment for a methodology to be put in place by the start of CP2.	Partially	No	Develop variance analysis methodology and enhance associated model functionality	Feb-15
Annex 1 - 8d	Financial Model	the extent of any savings arising where the actual costs of undertaking certain renewals and/or replacements at the Station is less than the estimated cost of such renewals and replacement; and	50 years	No at all	029	LTC Model	032	2.6.1.2	See comment against Annex 1 - 8b above. Section 2.6.1.2 talks about the change in the apportionment of LTC and Oa.	See recommendation against Annex 1 - 8b above	Apr-15	As above, capability will be developed for CP2 as detailed in separate notes / discussions.	Please include a note in the Asset Management Strategy to explain the plan for addressing this issue	No at all	Included within section 4.1.7 in AMS (consistent with section 5.1 in LCRs)	Confirmed section 4.1.7 added explaining why variance analysis was not undertaken and stating a commitment for a methodology to be put in place by the start of CP2.	Partially	No	Develop variance analysis methodology and enhance associated model functionality	Feb-15
Annex 1 - 8e	Financial Model	the financial effect of applying any savings to fund the costs of any renewals and/or replacements at the Station which are in excess of the cost estimate for such works.	50 years	No at all	029	LTC Model	032	4.1.5	See comment against Annex 1 - 8b above	See recommendation against Annex 1 - 8b above	Apr-15	As above, capability will be developed for CP2 as detailed in separate notes / discussions.	Please include a note in the Asset Management Strategy to explain the plan for addressing this issue	No at all	Included within section 4.1.7 in AMS (consistent with section 5.1 in LCRs)	Confirmed section 4.1.7 added explaining why variance analysis was not undertaken and stating a commitment for a methodology to be put in place by the start of CP2.	Partially	No	Develop variance analysis methodology and enhance associated model functionality	Feb-15
Annex 1 - 7a	Long Term Charge	The Strategy shall include a financial model and supporting explanatory documentation which enables the parties to determine the level of the LTC for the Station which is necessary to fund the proposed station renewals and replacements at that Station.	50 years	Fully	029	LTC Model	029	Financial Model												
Annex 1 - 7b	Long Term Charge	the level of any changes to the LTC for a Station to reflect.	50 years	No at all	029	LTC Model	032	3.3.2.3 & 3.3.3.3 and station specific	See comment against Annex 1 - 8b above	See recommendation against Annex 1 - 8b above	Apr-15	As above, capability will be developed for CP2 as detailed in separate notes / discussions.	Please include a note in the Asset Management Strategy to explain the plan for addressing this issue	No at all	Included within section 4.1.7 in AMS (consistent with section 5.1 in LCRs)	Confirmed section 4.1.7 added explaining why variance analysis was not undertaken and stating a commitment for a methodology to be put in place by the start of CP2.	Partially	No	Develop variance analysis methodology and enhance associated model functionality	Feb-15
Annex 1 - 7c	Long Term Charge	any changes in the estimated costs of the proposed renewals and/or replacements at the Station;	50 years	No at all	029	LTC Model	032	4.1.5	See comment against Annex 1 - 8b above	See recommendation against Annex 1 - 8b above	Apr-15	As above, capability will be developed for CP2 as detailed in separate notes / discussions.	Please include a note in the Asset Management Strategy to explain the plan for addressing this issue	No at all	Included within section 4.1.7 in AMS (consistent with section 5.1 in LCRs)	Confirmed section 4.1.7 added explaining why variance analysis was not undertaken and stating a commitment for a methodology to be put in place by the start of CP2.	Partially	No	Develop variance analysis methodology and enhance associated model functionality	Feb-15
Annex 1 - 7d	Long Term Charge	any acceleration, deferral or permanent omission of any renewals and/or replacements at the Station;	50 years	No at all	029	LTC Model	032	4.1.5	See comment against Annex 1 - 8b above	See recommendation against Annex 1 - 8b above	Apr-15	As above, capability will be developed for CP2 as detailed in separate notes / discussions.	Please include a note in the Asset Management Strategy to explain the plan for addressing this issue	No at all	Included within section 4.1.7 in AMS (consistent with section 5.1 in LCRs)	Confirmed section 4.1.7 added explaining why variance analysis was not undertaken and stating a commitment for a methodology to be put in place by the start of CP2.	Partially	No	Develop variance analysis methodology and enhance associated model functionality	Feb-15
Annex 1 - 7e	Long Term Charge	any new renewals and/or replacements at the Station, not previously included in the Asset Management Strategy;	50 years	No at all	029	LTC Model	032	4.1.5	See comment against Annex 1 - 8b above	See recommendation against Annex 1 - 8b above	Apr-15	As above, capability will be developed for CP2 as detailed in separate notes / discussions.	Please include a note in the Asset Management Strategy to explain the plan for addressing this issue	No at all	Included within section 4.1.7 in AMS (consistent with section 5.1 in LCRs)	Confirmed section 4.1.7 added explaining why variance analysis was not undertaken and stating a commitment for a methodology to be put in place by the start of CP2.	Partially	No	Develop variance analysis methodology and enhance associated model functionality	Feb-15
Annex 1 - 7f	Long Term Charge	the application of any cost savings or changes in the expected levels of income.	50 years	No at all	029	LTC Model	032	4.1.5	See comment against Annex 1 - 8b above	See recommendation against Annex 1 - 8b above	Apr-15	As above, capability will be developed for CP2 as detailed in separate notes / discussions.	Please include a note in the Asset Management Strategy to explain the plan for addressing this issue	No at all	Included within section 4.1.7 in AMS (consistent with section 5.1 in LCRs)	Confirmed section 4.1.7 added explaining why variance analysis was not undertaken and stating a commitment for a methodology to be put in place by the start of CP2.	Partially	No	Develop variance analysis methodology and enhance associated model functionality	Feb-15

Fully	15
Partially	29
No at all	31
Not assessed	1
Total	86

Check

Fully	29
Partially	10
No at all	41
Not assessed	0
Total	80

Fully	41
Partially	19
No at all	0
Not assessed	0
Total	60

Appendix C – Comments & Recommendations

HS1 International Stations - Review of CP2 Proposal



Comments and Recommendations

Doc. ID	Section	Paragraph	Comment No.	Observations and Comments	Recommendations	HS1 Ltd response	EC Man's Ver. ca. ion Comments Round 1	Status	Model's Func. quality?
See list in Document 1007									
029	§1.3.9	LTC Model, Parameters tab	1	The switching system is now considered obsolete as it is envisaged that the LCC Model, Parameters tab. May lead to incorrect results in the LTC model as all the LCC models are not all switched to the same model either Asset Stewardship or Baseline.	Remove switching capability.	Will do for 'clean' version of model which is baseline for next CP. The switching is very important to track changes as a result of this review, which was a critical requirement of operators.	Suggest DT and HS1 Ltd should discuss/agree the most appropriate time for producing the 'next generation' of LCC/LTC models to address the potential risk of the 'desirable' model features (such as the approach to smoothing, variance analysis, etc.) that were identified during this review, not being in place for CP2.	Deferred	Yes
024, 029	§5, §7 LTC Model, Assumptions tab		2	Impact of efficiency overlay can be challenged (e.g. technology breakthroughs is expected to reach a limit during the length of the concession hence limited efficiency during this period)	Agree with DT to revise efficiency overlay during the length of the concession	Already agreed and noted. All assumptions are necessarily reviewed as part of the CP process.	Suggest annual review / monitoring, if it does not already occur, rather than a 5 year review	Closed	Yes
025, 026, 027, 028, 030	§2.1.4		3	The number of items for CP Process (largest station) and Ashford (oldest station) are lower (692 and 698 respectively) than for the nearest stations Stratford and Epsford (714 and 701 respectively)	Check/confirm the number of items are correct for the 4 stations	Checked and consider appropriate. Happy to address any concerns about specific items considered to be erroneous.		Closed	Yes
029	LTC Input tabs		4	Historic records of what Hollow had used for uplift (i.e. BMC) not relevant for current model calculations	Group the historical calculations so they only appear on a need to know basis	Will do for 'clean' version of model. Again, these are important to provide a transparent record of changes made so consider they are important to be retained.	Fully agree with transparency issue but going forward a clean version of the model(s) would be preferable.	Deferred	Yes
025, 026, 027, 028	Report tab		5	Smoothed LCC does not provide an accurate picture of the spend profile as it is unrealistic to expect high spend increases for particular years (e.g. year 37 for SPI) vs. and no spend for certain years (e.g. years 54 & 58 for SPI)	Reconsider the approach for smoothed LCC results	Agreed and addressed separately	As per comment under item 1 above	Deferred	Yes
029	LCC Inputs tabs	§2.1.7	6	Where is the statement behind the use of the RPI index? LCC model, notes state states use of BCS BM All in maintenance cost index.	Clearly state assumption(s)	Addressed separately	A satisfactory explanation has been provided but the documentation submitted was not updated to include this (this was indicated in the relevant part of the compliance matrix)	Outstanding	Yes
029	Assumptions tab Index tab LTC Calculations tab		7	What is the rationale for a 2.75% flat inflation throughout the concession period?	Please state the underlying official body source	Addressed separately	A satisfactory explanation has been provided but the documentation submitted was not updated to include this (this was indicated in the relevant part of the compliance matrix)	Outstanding	Yes
029	LTC Calculations tab (cell E5)		8	Switching between FAG calculations and CP2 calculations is not relevant anymore as CP2 budget has been agreed	Consider removing the switching capability in the future, i.e. work with 'clean' model versions	As above	As per comment under item 1 above	Deferred	Yes
025, 026, 027, 028	Elemental Inputs tab		9	A significant number of items were moved from 1.0 to category 2 (compared with previous review)	DT and/or HS1 Ltd to note	Noted - this was done consciously by HS1 to provide operators with stability of the LTC / On impact.		Closed	Yes
024, 029	§7, p 84 Assumptions tab		10	Interest earned on 50% of net movement invested is not taken into account in the LTC model	Check if statement still right and if yes, include in LTC model	Interest calculations are correct, audit has tested this.		Closed	Yes
025, 026, 027, 028, 029	§7, p 84 Assumptions tab LTC Calculations tab		11	Length of analysis period, i.e. 45 years, currently would reduce by 5 years in CP3 based on Schedule 10 requirements.	Consider adopting a rolling analysis period of 40 years for future evaluations.	As noted in proposals to be considered during CP2		Deferred	Yes
024	§7, p 87, 88, 90, 91 & 92		12	Two graphs may not be necessary as they describe the same scenario (i.e. CPA actual to CP2 asset stewardship)	Delete graph without CP2 baseline. Add key: Blue=LTC value, Red=Relative change in LTC value, Green=Negative change in LTC value		No change has been made to the relevant document but not considered critical	Closed	Yes
024	§7, p 96		13	The escrow accounts are in deficit toward the end of the analysis period	DT and/or HS1 Ltd to note	Noted		Closed	Yes
029	Assumptions tab		14	In the CP1 LTC Model, retailers made a contribution to the LTC (i.e. 11% to SPI). This has been removed for the CP2 model - why is this?	Please explain	Addressed separately	HS1 Ltd paper dated 26 June 2014 contains an explanation	Closed	Yes
034, 035, 036, §4, p22/23			15	Cost of capital and cost of equity are not used in the right context	Cost of debt, applies to projects where not enough money is available in ESOB/ROW to fund the works, based on the HS1 Limited's current cost of capital	Okay - but non material to outcome	No change has been made to the relevant document but not considered critical	Closed	Yes
025, 026, 027, 028	Elemental Inputs tab		16	Some BCS element can have different rates (e.g. 2NHR1 Fire Resistant Doors ironmongery @ SPI has 4 different rates E300, E300, E700 and E100 - note in TB, 19 and 20)	Clearly state used and add further description for activities undertaken	Addressed separately	Further explanation required for CP2	Outstanding	Yes
025, 026, 027, 028	Elemental Inputs tab		17	Some BCS element can be replaced & repaired the same year (e.g. 'Canopy to platform' @ Ashford is replaced & repaired the same years - row 106 & 108)	Explain replaced vs. repaired BCS elements with the same time to intervention			Outstanding	Yes
025, 026, 027, 028	Elemental Inputs tab		18	Some BCS elements deleted ('D' category) in 6th January model and subsequently added back to 'C' category in 7th April model increased 'L' costs (i.e. a. 6th of 'D' vs. 'L' items @ SPI)	DT and/or HS1 Ltd to note			Closed	Yes
025, 026, 027, 028	LTC Allocation to TOCs tab		19	Difficult to verify annual allocation to TOCs based on footprint	DT and/or HS1 Ltd to note			Closed	Yes
025, 026, 027, 028	Elemental Analysis tab		20	Revising of threshold values	The threshold values for a number of on-costs (e.g. Safety / HSE, Procurement Management) are hardwired into the cells. Suggest put these into assumptions tab as inputs that can be amended	Will do for future versions	As per comment under item 1 above	Deferred	Yes
025, 026, 027, 028	Elemental Analysis tab		21	Management fee threshold formula	The LCC & LTC assumptions documents states that the HS1 Management Fee threshold is E500k. However, the formula has not been updated and shows differing rates for <E20k, <E50k and <E100k. The output is correct but the formula could remove the E50k rate for clarity	Will do for future versions	As per comment under item 1 above	Deferred	Yes
025, 026, 027, 028	Elemental Analysis tab		22	Design Fees	The LCC & LTC assumptions states that design fees are 10% on M&E and 5% on everything else. However, the model applies 10% to M&E and 5% to Roof and External Walls only. Which one is correct? Should the general design fees also be price dependent? I.e. for jobs under a certain threshold, unlikely that design work would be required			Outstanding	Yes
025, 026, 027, 028	Elemental Analysis tab		23	Access costs	Should be pointed out on assumptions tab that this applies to Roof & External Walls and that a minimum of 500k applies (as defined in the formula)	Noted	Unclear if any action was taken to modify stated assumptions, but it is not considered a critical action	Closed	Yes
025, 026, 027, 028	Elemental Analysis tab		24	There is no satisfactory variance approach to meet Schedule 10 obligation to allow for modelling of acceleration / deferrals / omissions. For instance, if a specific renewal was delayed by a year due to asset management, but the general forecast of that life was not amended, then the LCC or LTC model could not accommodate this.	For the CP2 submission the process for manually calculating the variance should be described in the LCRs. However, the LCC/LTC models should be revised in the future so as to undertake modelling of acceleration / deferrals / omissions in a more automated fashion.	Addressed separately	The first part of this comment was addressed for CP2. The second part is as per comment under item 1 above	Deferred	Yes
029	LTC calculations tabs		25	Escrow balance actual vs. forecast	Consider replacing the forecast escrow opening balance by the actual escrow balance as of March 2014 to calculate the annuity	Addressed separately	The relevant sections of the LCRs have been updated	Closed	Yes
032, 034, 035, 036, 037	Figure A		26	To meet obligations the AMS must cover the Life Cycle Period and Overriding Period (40/50 years, or such like as agreed between DT and HS1 Ltd)	Delete '5 year' from the blue box in the figure.			Outstanding	Yes
032, 031	General		27	The intention to move from time-based to condition and risk based approaches is welcomed and it is appreciated that it will evolve over time.	Consider revising the Asset Management Policy to reflect the intention to move towards risk based asset management practices	We consider this is part of the strategy. But will review as part of subsequent changes to the asset management policy		Closed	Yes
032	§1.1, 1st bullet point, 4th line		28	This is a key principle and one that should be stated in the Asset Management Policy.	Is the intention to state a '30 year concession' or a '40/50 year evaluation period' (i.e. covering the Life Cycle Period and the Overriding period)? Suggest revise, as appropriate			Outstanding	Yes
031	Fig 1 & Fig 2		29	There are three different diagrams potentially depicting the asset management framework, two in the AMS and one in the policy	For consistency suggest use only one diagram for the Asset Management Framework throughout the documentation			Outstanding	Yes
032	§ 1.3.2, 1.3.3, 1.3.5, Appendix D, G & F		30	The asset policy is normally derived from the business plan and the asset management principles, objectives, targets, etc. correct? The asset policy is normally derived from the business plan and the asset management principles, objectives, targets, etc. Any changes should be reflected in the supporting Appendices, i.e. G and F in particular.	Review, and amend (as appropriate) the hierarchy of asset management principles, objectives, targets, etc. Any changes should be reflected in the supporting Appendices, i.e. G and F in particular.			Outstanding	Yes
032	Figure 3, §2.2.1, §2.2.2, §2.2.3		31	The sections that follow Figure 3 do not appear to fully describe the steps and sub-steps in the diagram, especially §2.2.2, §2.2.3	Consider expanding §2.2.2, §2.2.3			Outstanding	Yes
032, 034, 035, 036, 037	Figure 3 & Figure 4		32	Given the text that follows the asset management methodology diagram (especially in the LCRs) it is suggested that some of the terms in the diagram could be revised to better reflect the description provided as follows: - change 'input-output relationship' to 'Decision making' - change 'Developing our understanding of input-Output relationships' to 'Understanding asset behaviour'	Revise text in diagram as appropriate			Outstanding	Yes
032	§2.3.1, 6th line §3.1.4, 5th bullet point, 1st line		33	The term 'integrated asset management system' is used to mean 'asset information system'. ISO45000 series uses the terms asset management system and asset information system. The asset management system is a set of tools, including policies, plans, business processes and information systems, which are integrated to give assurance that the asset management activities will be delivered. Asset information systems are a component of the asset management system and contain data and information about the asset base.	Suggest use the two different terms 'asset management system' or 'asset information system' to distinguish between the two, as appropriate where these appear in the document.			Outstanding	Yes
032	§2.4		34	The summary of activities for Ashford is better articulated as compared to the other stations in that it states the element where works were undertaken and briefly describes the work activity. For the other stations the elements are listed where work has been undertaken but there is limited description of the work activities.	Revise §2.4.1, §2.4.2, §2.4.3 such that they briefly describe both the element where works were undertaken and the work activity.			Outstanding	Yes
032	Table 8		35	Unclear how the expenditure to the end of CP1 was derived	Add text to explain how the expenditure to the end of CP1 was derived	Addressed separately - taken from our (and NRHS) budgets		Closed	Yes
032	Table 10		36	The escrow accounts balance is now known for 1314.	Consider recalculating available funds using the now known balance for 2013/14. Revise Table 10, as appropriate	Addressed separately	A statement was included in the relevant section of the LCRs	Closed	Yes
032	Table 11		37	The total LCC values contained in Table 11 do not match with the allocated values in the LCC models, e.g. total LCC for SP on E10m net E6.6 as shown in Table 11	Amend Table 11 to show the correct values			Outstanding	Yes
032	§ 3.3.3.2		38	It does not state that the values listed in Table 12 are in nominal terms	For clarity state that the values listed in Table 12 are in nominal terms			Outstanding	Yes
032, 035, 036, 037	§ 4.1.2, 1st bullet point § 4.2.1, 1st bullet point		39	It is unclear if environment and energy initiatives, including work activities such as large exchange from conventional to LED, upgrade air conditioning units to direct drive, and re-engineering of existing main air conditioning units to incorporate recirculation facility, are reflected in the LCC models	Explain if/how environment and energy initiatives are reflected in the LCC analysis.		HS1 Ltd paper dated 26 June 2014 contains an explanation	Closed	Yes
032	§ 4.1.2, 2nd bullet point, 2nd line		40	As comment no. 33	Replace 'Asset Management System' with 'Asset Information System'			Outstanding	Yes
032	§ 4.1.5, § 3, 1st line		41	As comment no. 33	Replace 'asset management system' with 'asset information system'			Outstanding	Yes
032	§ 4.2.2, title		42	This section does not include performance targets	Revise this section to include/exclude performance targets as appropriate			Outstanding	Yes
032	§ 4.2.2, title		43	Annex 1 requires identifying elements of the Station for which HS1 Ltd will monitor breakdown frequencies and gather performance data.	A full list of Station elements that will be monitored for faults, breakdowns or other performance attributes, is required.		Copies of the latest AMAS were provided and the items listed therein are consistent with those that appear in the Asset Management Strategy.	Closed	Yes
032	§ 4.2.3, 4.4.3, 4.4.3, 4.4.3		44	The LCC activities are not stated	State what the LCC activities are	Not clear what this comment means.	It means that the items listed in sections 4.2.3, 4.3.3, 4.4.3, 4.5.3 of the Asset Management Strategy are assets and not work activities. For example electrical installations are assets not a work activity. The requirement is to state the work activities.	Outstanding	Yes
032	§ 4.2.4.1 & Table 14		45	The stated forecast budget for CP2 does not match the value(s) in the LCC model(s), e.g. total of E6.640m is stated for SP in the AMS but it is only E10m in the LCC model	Use correct value(s)			Outstanding	Yes
032	Appendix G, p.51, 1st row Appendix G, p.53, 1st row		46	As comment no. 33	Replace 'Asset Management System' with 'Asset Information System'			Outstanding	Yes
034, 035, 036, 037	Table 7 Appendix E		47	Breakdown of actuals during 2010/11 missing, i.e. only total provided	Provide break down of actual expenditure for 2010/11 with the same two years or state why this is different. Add actuals for 1314.	Notes inserted into documents	Do not consider that the notes added address this point	Outstanding	Yes
034, 035, 036, 037	Table 7 & Table 8		48	Table missing	Add table 7			Outstanding	Yes
034, 035, 036, 037	§ 4.2.3		49	Actual states for 2010/11 in the two tables is not the same	Re-use or state why this is		Table 8 in the latest version - still missing	Outstanding	Yes
034, 035, 036, 037	§ 4.2.3		50	What is the impact of change in demand, e.g. increase in footfall, beyond CP2? Also the reduced use of Ashford has not been reflected in the LCC model	Add statements to this effect	Will do for future versions		Deferred	Yes

Appendix D – Minor Observations & Suggested Amendments

HS1 International Stations - Review of CP2 Proposal

Minor Observations

Doc. ID.	Section (=§) / Paragraph (=¶)	Comment No.	Minor Observations	Suggested Amendments
<i>See list in 'Documents tab'</i>				
029 030	LTC Index tab § 2.2, Figure 2	MOB1	The 'Index' tab includes interest rate, cost of debt and efficiency overlay	Consider changing name to 'Financial Rates'
030	§ 2.2, Figure 2	MOB2	Colour key missing	Add colour key: Blue=Inputs, Red=Processing, Green=Outputs
030	§ 1.3, ¶ 5	MOB3	Typo	As with the Route model, HS1 Ltd first developed a Baseline set of costs associated with the initial investment programme, then developed a set of Asset Stewardship initiatives which allow for stretching of the intervention frequency, and therefore a reduction in costs compared to the Baseline.
030	§ 2.1, ¶ 3	MOB4	Missing tables 2-1 and 2-2 to define 5 (not 7) elements descriptors	Add table with 5 elements descriptors (Superstructure, Internal Finishes, FF&E, Services, External Works). Change "elements descriptors" to other name (e.g. BCIS element level 1)
030	§ 2.3, ¶ 4	MOB5	Typo	Select '2: Baseline' from the dropdown menu in cell C9 of sheet Parameters in each of the four LCC Models
030	§ 3.1.3, ¶ 2	MOB6	Typo	St Pancras 692 ; Stratford 774 ; Ebbsfleet 751 ; Ashford 658)
030	§ 3.1.3, ¶ 2	MOB7	Typo	Remove (col B,G,H,I)
030	§ 3.1.3, ¶ 2	MOB8	Typo	[a concatenation is required to provide a unique identifier]
030	§ 3.1.3, Table 1	MOB9	Typo	State accurate columns reference in Table 1
030	§ 3.2.1, ¶ 1	MOB10	Typo	St Pancras 692 ; Stratford 774 ; Ebbsfleet 751 ; Ashford 658)
030	§ 3.2.1, ¶ 1	MOB11	Typo	Remove (col B,G,H,I)
030	§ 3.2.1, ¶ 1	MOB12	Typo	[a concatenation is required to provide a unique identifier]
030	§ 4.1.4, ¶ 1	MOB13	Typo	been changed in the subsequent development of the models..
024	§ 7, p 94, ¶ 1	MOB14	our current view is that it would be an increase of less than c£2m pa average increase in Qx over the remaining 45 years	Remove 'a'
034	§ 2, p 10	MOB15	Typo	Rename Table 2 from Ashford to SPI
035	§ 2, p 9	MOB16	Typo	Rename Table 2 from Ashford to Stratford
025, 026, 027, 028	Elemental Inputs tab	MOB17	Units	Some elements have no unit
025, 026, 027, 028	Elemental Analysis tab	MOB18	Base Element Costs	Could state what these include; i.e. labour & materials?
032	§ 1.3.4, second bullet point, last sentence	MOB19	The last sentence in the 'Service' bullet point [Develop whole life models..... reliability and performance] is repeated	Delete repeated sentence
032	§ 1.5.4, second bullet point, 6th line § 2.1.1, second bullet point, 6th line	MOB20	Typo	'... and maintain these assets . Also....'
034	§ 2.3, last paragraph, 2nd line	MOB21	Missing word	'... management objectives, the paragraphs below....'
032	§ 2.6.1.3, 4th line	MOB22	Typo	'...to different stations . As such...'
032	§ 3.2, ¶ 1, 3rd line	MOB23	Typo	delete 'in' ; '...will remain key drivers of our approach in going forward.'
032	§ 3.3.1, 2nd bullet point, 2nd line	MOB24	Typo	Add 'we'; ' We will continue....'
032	§ 4.1.5, ¶ 5, 2nd line	MOB25	Formatting	Cis should read CIS
032	§ 4.1.5, ¶ 5, 4th line	MOB26	Typo	Delete 'A' in [A similar argument ...]
032	Appendix I	MOB27	Acronyms SFO and NRIL appear in the document but not listed	Could add SFO and NRIL
032	Appendix J	MOB28	Only 6 of the on-costs have a non-zero value	To note
032	Fig 1	MOB29	The AMS uses 'hierarchy of objectives' in the caption while the LCRs use 'hierarchy of documents'	Suggest revise caption, as appropriate
034, 035, 036, 037	Table 2	MOB30	The caption for Table 2 (in St P, Stratford LCR) refers to 'Ashford'	Revise caption
036	Table 2	MOB31	The caption for Table 2 is missing	Add caption
034, 035, 036	§ 2.4.2.2, page 12/13	MOB32	Title appears twice	Delete
034		MOB33	Typo	Change to '...develop a more robust set of proposals.'
034, 035, 36, 037	§ 2.5.1, 6th and 7th bullet point	MOB34	Asset performance/condition should cover historical, current and predicted	add 'current'
034, 035	Table 14	MOB35	Status column reads 'Met'; may be changed to 'Exceeded'	Revise as appropriate
036	Table 14	MOB36	Status column reads 'Met'; but values below target - change to 'Not met' or are the scores incorrect?	Revise as appropriate
034, 035, 036, 037	§ 4.2.1	MOB37	This section title is 'Forecast Life Cycle Works for CP2' however not all activities listed their in are Life Cycle Works, e.g. asset information and condition, contracting, etc.	Revise as appropriate
035, 036	§ 5.2.2.1, 3rd line	MOB38	Mentions St P in Stratford and Ebbsfleet LCRs	Revise as appropriate
034, 035, 036, 037	Appendix A	MOB39	Corrected cross references provided in the EC Harris compliance matrix	Revise as appropriate
034, 035, 036, 037	Appendix A	MOB40	Typo	Delete 'd' in 'Wholed document'

Appendix E – Compliance Evolution

HS1 International Stations - Review of CP2 Proposal

Compliance to Obligations set out in Schedule 10 - Clause 5 and Annex 1

Clause	Section Title	Detail	Period the clause refers to	Jun-12	Aug-12	Nov-13	Jun-14	Jul-14	Aug-14
<i>Clauses as they appear in Schedule 10</i>	<i>Titles as they appear in Schedule 10</i>	<i>Clause text as it appears in Schedule 10</i>	<i>Relevant period at the time of the review</i>	<i>AMS Review</i>	<i>AMS Verification</i>	<i>Interim CP2 Review</i>	<i>CP2 Review</i>	<i>CP2 Review Verification</i>	<i>CP2 Review Verification</i>
5.1	Life Cycle Reports	The Tenant shall submit a Life Cycle Report to the Government's Representative for each Station no later than nine (9) months prior to the end of each Review Period.	CP2			Partially	Partially	Partially	Fully
5.2.1 - a	Life Cycle Reports: Works undertaken and costs incurred	the Life Cycle Works carried out by the Tenant (or that it is anticipated will have been carried out by the end of the current Review Period);	CP1			Partially	Partially	Fully	Fully
5.2.1 - b	Life Cycle Reports: Works undertaken and costs incurred	the Available Life Cycle Funds at the end of each Financial Year (or the anticipated Available Life Cycle Funds by the end of the last Financial Year in the current Review Period);	CP1			Partially	Partially	Fully	Fully
5.2.1 - c	Life Cycle Reports: Works undertaken and costs incurred	the Life Cycle Works Cost (or anticipated Life Cycle Works Cost by the end of the current Review Period);	CP1			Fully	Fully	Fully	Fully
5.2.1 - d	Life Cycle Reports: Works undertaken and costs incurred	the Deferred Life Cycle Works Savings (if any) approved in previous Life Cycle Reports;	Period before CP1 (not valid)			Not at all	Fully	Fully	Fully
5.2.1 - e	Life Cycle Reports: Works undertaken and costs incurred	the Life Cycle Works Savings (if any) brought forward from previous Review Periods;	Period before CP1 (not valid)			Partially	Fully	Fully	Fully
5.2.1 - f	Life Cycle Reports: Works undertaken and costs incurred	the effect of any Relevant Changes of Law that have occurred during the Review Period;	CP1			Partially	Fully	Fully	Fully
5.2.1 - g	Life Cycle Reports: Works undertaken and costs incurred	an analysis of breakdown frequencies and the performance of the Elements of the Station which were identified in the Asset Management Strategy as being monitored by the Tenant;	CP1			Fully	Partially	Not at all	Partially
5.2.1 - h	Life Cycle Reports: Works undertaken and costs incurred	the renewals and replacements (if any) undertaken by the Station Operator in order that it discharged its Safety Obligations in respect of the Station but which were not identified in the current Life Cycle Report ("Station Safety Works");	CP1			Not at all	Fully	Fully	Fully
5.2.2 - a	Life Cycle Reports: Works undertaken and costs incurred	the Life Cycle Works actually completed to date against those anticipated giving the reasons for any differences;	CP1			Partially	Partially	Partially	Partially
5.2.2 - b	Life Cycle Reports: Works undertaken and costs incurred	the Life Cycle Works Cost incurred to date against those anticipated giving the reasons for any differences;	CP1			Partially	Partially	Partially	Partially
5.2.2 - c	Life Cycle Reports: Works undertaken and costs incurred	the Life Cycle Works Savings achieved to date against those anticipated;	CP1			Fully	Partially	Fully	Fully
5.2.4 - a	Life Cycle Reports: Forecast Life Cycle Works	the Tenant's detailed proposals for the carrying out of the Forecast Life Cycle Works including any notices consents and approvals required in order to carry out and complete them;	CP2			Partially	Partially	Partially	Partially
5.2.4 - b	Life Cycle Reports: Forecast Life Cycle Works	the Forecast Life Cycle Works Cost;	CP2			Partially	Partially	Not assessed	Partially
5.2.4 - c	Life Cycle Reports: Forecast Life Cycle Works	the effect of any Relevant Changes of Law that will occur during the Review Period;	CP2			Partially	Fully	Fully	Fully
5.2.4 - d	Life Cycle Reports: Forecast Life Cycle Works	the forecast amount of Available Life Cycle Funds at the end of each Financial Year;	CP2			Partially	Partially	Not assessed	Fully
5.2.5 - a	Life Cycle Reports: Forecast Life Cycle Works	the Forecast Life Cycle Works to be undertaken in each subsequent Review Period and Overhang Period in respect of each Element of the Station;	CP3 onwards including 20 years after the end of the concession			Not at all	Partially	Fully	Fully
5.2.5 - b	Life Cycle Reports: Forecast Life Cycle Works	the Forecast Life Cycle Works Cost in each subsequent Review Period and Overhang Period in respect of each Element of the Station; and	CP3 onwards including 20 years after the end of the concession			Not at all	Partially	Fully	Fully
5.2.5 - c	Life Cycle Reports: Forecast Life Cycle Works	a forecast of the amount of Available Life Cycle Funds for each subsequent Review Period and Overhang Period;	CP3 onwards including 20 years after the end of the concession			Not at all	Partially	Fully	Fully
5.2.6 - a	Life Cycle Reports: Deferrals	the deferral to any later Review Period or Overhang Period or the permanent omission of any Life Cycle Works that are identified in the Asset Management Strategy as being required in the Review Periods and/or Overhang Periods following the Review Period in which the Life Cycle Report is produced; and/or	CP2 onwards			Not at all	Partially	Partially	Partially
5.2.6 - b	Life Cycle Reports: Deferrals	the distribution of any Deferred Life Cycle Works Saving pursuant to paragraph 7.1; which shall include:	CP2			Not at all	Not at all	Partially	Partially
5.2.6 - c (i)	Life Cycle Reports: Deferrals	confirmation by the Tenant that the proposed deferral or permanent omission will not result in the Tenant being unable to comply with its obligation under Clause 4.3.1 and 4.14 or the Life Cycle Purpose to be achieved; and	CP2			Not at all	Not at all	Fully	Fully
5.2.6 - c (ii)	Life Cycle Reports: Deferrals	a report setting out the likely effect on performance arising out of or in connection with the proposed deferral or permanent omission;	CP2			Not at all	Not at all	Partially	Partially
5.2.6 - d	Life Cycle Reports: Deferrals	the forecast Deferred Life Cycle Works Saving arising from paragraph 5.2.6(a); and/or	CP2			Not at all	Not at all	Partially	Partially
5.2.6 - e	Life Cycle Reports: Deferrals	the forecast reduction in the Long Term Charge, the LTC and the Tenant's Share arising from paragraph 5.2.6(b);	CP2			Partially	Not at all	Fully	Fully
5.2.7	Life Cycle Reports: Distribution of Life Cycle Works Savings	Distribution of Life Cycle Works Savings the Tenant's proposals for any distribution of any Life Cycle Works Saving pursuant to paragraph 7.2, identifying the amount of the Life Cycle Works Saving, the reduction in the Long Term Charge, the LTC and the Tenant's Share, setting out the reasons why the Tenant considers such distribution should be made and providing all relevant supporting information;	CP2			Partially	Not at all	Fully	Fully
5.2.8	Life Cycle Reports: Adjustments to Available Life Cycle Funds	Adjustments to Available Life Cycle Funds details of any Adjustment to the Available Life Cycle Funds made pursuant to paragraph 6.4.4 in the current Review Period (or anticipated to be made prior to the end of the current Review Period) and the arrangements (if any) which the Tenant has implemented and/or proposes to implement in order to mitigate the likelihood that any of the circumstances described in paragraph 5.4.7(a) to (c) will occur ("Adjustment Arrangements");	CP2			Partially	Not at all	Fully	Fully
5.2.9	Life Cycle Reports: Long Term Charge	Long Term Charge a description of any arrangements the Tenant has reached with Users pursuant to the terms of the Station Access Agreement to modify the LTC;	CP2			Partially	Partially	Fully	Fully
5.2.10 - a	Life Cycle Reports: Long Term Charge	any Increased Life Cycle Costs which it has funded in accordance with paragraph 6.4; and/or	CP1			Partially	Partially	Fully	Fully
5.2.10 - b	Life Cycle Reports: Long Term Charge	any costs which it has suffered or incurred in connection with the Station Operator carrying out Station Safety Works in the current Review Period;	CP1			Partially	Fully	Fully	Fully
5.2.11 - a	Life Cycle Reports: Long Term Charge	setting out the reasons why the Tenant considers that such modifications should be made and providing all relevant supporting information; and	CP2			Partially	Fully	Fully	Fully
5.2.11 - b	Life Cycle Reports: Long Term Charge	in the case of a modification resulting from a Relevant Change of Law, confirming that the Tenant has notified each User of the Relevant Change of Law and of its assessment of the amount of the modification, and provided Users with such information as they shall reasonably require, in a form and amount of detail which is sufficient to enable Users to make a proper assessment of the effect of the Relevant Change of Law and of the Tenant's assessment; and	CP2			Partially	Partially	Fully	Fully
5.2.12	Life Cycle Reports: Modifications to the Asset Management Strategy and the Life Cycle Budget	Modifications to the Asset Management Strategy and the Life Cycle Budget the Tenant's proposals for any modifications to the Asset Management Strategy (including the Life Cycle Budget) that are required to reflect its proposals in respect of the matters set out in paragraphs 5.2.1 to 5.2.11 above and/or to ensure that the Asset Management Strategy continues to satisfy the requirements set out in Annex 1 to this schedule; and	CP2			Partially	Fully	Fully	Fully
5.2.13	Life Cycle Reports: General	General such further details in respect of the matters described in paragraphs 5.2.1 to 5.2.11 as may be reasonably required by the Government's Representative.	CP2			Partially	Partially	Partially	Fully
4.1	Asset Management Strategy	The Tenant shall prepare a Asset Management Strategy for each Station which, in each case, complies with the requirements set out in Annex 1 to this schedule	50 years	Partially	Fully	Partially	Partially	Partially	Fully
Annex 1 - 1	Scope	The Strategy shall consider only the renewals and replacement of the Station. Maintenance and repair activities shall be excluded.	50 years	Partially	Fully	Partially	Fully	Fully	Fully
Annex 1 - 2	Station Elements	The Strategy shall identify each of the elements of the Station which will need to be renewed and/or replaced during the Life Cycle Period. Unless the parties agree otherwise the elements of the Station shall comprise:	50 years	Fully	Fully	Partially	Fully	Fully	Fully
Annex 1 - 3a	Life Cycle Works	the renewal and/or replacements works which will need to be undertaken in relation to each of the elements of the Station in order for the Tenant to comply with its obligations under clauses 4.3.1 and 4.14 and the Life Cycle Purpose to be achieved; and	50 years	Partially	Fully	Partially	Partially	Not assessed	Partially
Annex 1 - 3b	Life Cycle Works	the anticipated year in the Life Cycle Period when such works should be undertaken in order for the Tenant to comply with its obligations under clauses 4.3.1 and 4.14 and the Life Cycle Purpose to be achieved.	50 years	Partially	Partially	Partially	Partially	Not assessed	Fully
Annex 1 - 4	Performance Monitoring	The Strategy shall identify those elements of the Station for which the Tenant will monitor breakdown frequencies and gather performance data.	50 years	Not at all	Fully	Fully	Partially	Fully	Fully
Annex 1 - 5a	Life Cycle Budget: Expenditure	an estimate of the costs of carrying out such works;	50 years	Fully	Fully	Partially	Partially	Not assessed	Fully
Annex 1 - 5b	Life Cycle Budget: Expenditure	a statement of the assumptions, including those in respect of inflation and interest rates, which the Tenant has used in preparing the cost estimates; and	50 years	Not at all	Fully	Partially	Partially	Not assessed	Fully

HS1 International Stations - Review of CP2 Proposal

Compliance to Obligations set out in Schedule 10 - Clause 5 and Annex 1

Clause	Section Title	Detail	Period the clause refers to	Jun-12	Aug-12	Nov-13	Jun-14	Jul-14	Aug-14
<i>Clauses as they appear in Schedule 10</i>	<i>Titles as they appear in Schedule 10</i>	<i>Clause text as it appears in Schedule 10</i>	<i>Relevant period at the time of the review</i>	<i>AMS Review</i>	<i>AMS Verification</i>	<i>Interim CP2 Review</i>	<i>CP2 Review</i>	<i>CP2 Review Verification</i>	<i>CP2 Review Verification</i>
Annex 1 - 5c	Life Cycle Budget: Expenditure	an explanation, in reasonable detail, of the principal components of the cost estimates (including any management fees or contingencies) and the factors on which the costs estimates are based.	50 years	Not at all	Fully	Partially	Partially	Not assessed	Fully
Annex 1 - 5a	Life Cycle Budget: Revenues	the Long Term Charge which will be received by the Tenant in relation to the Station;	50 years	Fully	Fully	Partially	Partially	Not assessed	Fully
Annex 1 - 5b	Life Cycle Budget: Revenues	any Income which will be received by the Tenant pursuant to the escrow arrangements in relation to the Station; and	50 years	Fully	Fully	Partially	Partially	Not assessed	Fully
Annex 1 - 5c	Life Cycle Budget: Revenues	a statement of the assumptions, including those in respect of inflation and interest rates, which the Tenant has used in preparing the estimates of the Long Term Charge and investment income.	50 years	Not at all	Fully	Fully	Partially	Not assessed	Fully
Annex 1 - 5	Life Cycle Budget: Cashflow	The Strategy shall include an analysis of the forecast cashflows of the revenues and expenditures described above and identify any potential shortfalls between forecast revenues and forecast expenditure.	50 years	Not at all	Fully	Fully	Partially	Not assessed	Fully
Annex 1 - 6	Financial Model	The Strategy shall include a financial model and supporting explanatory documentation which enables the parties to determine in relation to the Station:	50 years	Partially	Fully	Fully	Fully	Fully	Fully
Annex 1 - 6a	Financial Model	the Available Life Cycle Funds in a Financial Year;	50 years	Fully	Fully	Partially	Fully	Fully	Fully
Annex 1 - 6b	Financial Model	the financial effect of any acceleration, deferral or permanent omission of any renewals and/or replacements at the Station;	50 years	Fully	Fully	Not at all	Not at all	Not at all	Partially
Annex 1 - 6c	Financial Model	the financial effect any new renewals and/or replacements at the Station not previously included in the Asset Management Strategy;	50 years	Fully	Fully	Not at all	Not at all	Not at all	Partially
Annex 1 - 6d	Financial Model	the extent of any savings arising where the actual costs of undertaking certain renewals and/or replacements at the Station is less than the estimated cost of such renewals and replacement; and	50 years	Partially	Partially	Not at all	Not at all	Not at all	Partially
Annex 1 - 6e	Financial Model	the financial effect of applying any savings to fund the costs of any renewals and/or replacements at the Station which are in excess of the cost estimate for such works.	50 years	Partially	Partially	Not at all	Not at all	Not at all	Partially
Annex 1 - 7	Long Term Charge	The Strategy shall include a financial model and supporting explanatory documentation which enables the parties to:	50 years	Partially	Fully	Partially	Fully	Fully	Fully
Annex 1 - 7a	Long Term Charge	determine the level of the LTC for the Station which is necessary to fund the proposed station renewals and replacements at that Station;	50 years	Fully	Fully	Partially	Fully	Fully	Fully
Annex 1 - 7b	Long Term Charge	determine the level of any changes to the LTC for a Station to reflect:	50 years	Partially	Fully	Not at all	Not at all	Not at all	Partially
Annex 1 - 7bi	Long Term Charge	any changes in the estimated costs of the proposed renewals and/or replacements at the Station;	50 years	Partially	Partially	Not at all	Not at all	Not at all	Partially
Annex 1 - 7bii	Long Term Charge	any acceleration, deferral or permanent omission of any renewals and/or replacements at the Station;	50 years	Partially	Partially	Not at all	Not at all	Not at all	Partially
Annex 1 - 7biii	Long Term Charge	any new renewals and/or replacements at the Station; not previously included in the Asset Management Strategy;	50 years	Partially	Partially	Not at all	Not at all	Not at all	Partially
Annex 1 - 7biv	Long Term Charge	the application of any costs savings or changes in the expected levels of Income.	50 years	Partially	Partially	Not at all	Not at all	Not at all	Partially

AMS	Jun-12	Aug-12	Nov-13	Jun-14	Jun-14	Aug-14
Fully	8	19	4	6	7	16
Partially	13	7	13	11	1	10
Not at all	5	0	9	9	9	0
Not assessed	-	-	-	-	9	0
Total	26	26	26	26	26	26

LCRs	Jun-12	Aug-12	Nov-13	Jun-14	Jun-14	Aug-14
Fully			3	9	22	25
Partially			21	18	9	9
Not at all			10	7	1	0
Not assessed					2	0
Total			34	34	32	34

AMS & LCRs	Jun-12	Aug-12	Nov-13	Jun-14	Jun-14	Aug-14
Fully	8	19	7	15	29	41
Partially	13	7	34	29	10	19
Not at all	5	0	19	16	10	0
Not assessed	-	-	-	-	11	0
Total	26	26	60	60	60	60

