

[Bidders are able to apply branding to the title page and include logos in headers and footers, so long as the title page and other information in this template is clearly visible]

Wales and Borders Rail Service and

South Wales Metro

Final Tender for [insert Bidder name]

Volume 8: CVL Infrastructure

CONFIDENTIAL

[Insert date]

Contents

1.	R8.1 Initial Engineering Implementation Plan.....	1
2.	R8.2 High Level Summary of EIP	1
3.	R8.3 IDP work packages structure	1
4.	R8.4 CVL Transformation delivery confidence	1
5.	R8.5 Key Authority dependencies	1
6.	R8.6 Scheduling sufficient resource	1
7.	R8.7 Commercial risks.....	1
8.	R8.8 Public Impact of Implementation Plan.....	2
9.	R8.9 Initial Railway Control System Definition.....	2
10.	R8.10 Initial Railway Control System Implementation Plan.....	2
11.	R8.11 CVL signalling solution summary	2
12.	R8.12 Operational Model Input Parameters/Operational Model Export File	2
13.	R8.13 Maximising quality of service of signalling solution	2
14.	R8.14 Benefits and risks of signalling solution on legacy infrastructure.....	2
15.	R8.15 Third party commercial dependencies and liabilities	2
16.	R8.16 Signalling solution resilience and flexibility	2
17.	R8.17 Initial Train Power System Definition	2
18.	R8.18 Traction Power Simulation inputs/outputs.....	3
19.	R8.19 Train Power System summary	3
20.	R8.20 Initial Traction Power System Implementation Plan.....	3
21.	R8.21 Commissioning of the electric power system.....	3
22.	R8.22 Solution reliability, availability and maintainability targets summary.....	3
23.	R8.23 Resilience, Flexibility and Extendibility of Train Power Systems	3
24.	R8.24 N-1 and N-2 power failure train operating timetable	3
25.	R8.25 Initial Electric Power and Plant Plan	3
26.	R8.26 Electric Power and Plant solution summary & deliverability	3
27.	R8.27 Systems Integration Plan	3
28.	R8.28 Initial Telecommunications Plan.....	5

29. R8.29 CVL Depot and stabling strategy summary5

30. R8.30 CVL Depot and stabling locations5

31. R8.31 South Wales Metro expansion strategy summary5

32. R8.32 Extendibility5

33. R8.33 Cardiff Central and Cardiff Queen Street Interchange8

34. R8.34 Populated Interchange evaluation template9

35. R8.35 Cross-valley connectivity9

36. R8.36 Process and plan for transferring responsibility for IM role from Network Rail9

37. R8.37 Transfer of Infrastructure Manager Services9

38. R8.38 Regulatory and Network Rail approvals10

39. R8.39 Third Party approvals10

40. R8.40 Planning and TWAO approvals11

1. **R8.1 Initial Engineering Implementation Plan**

1.1 [Insert file name; file to be provided separately]

2. **R8.2 High Level Summary of EIP**

Part A: High level summary and objectives of your EIP

2.1 [Insert response]

Part B: Confirmation that solution meets or exceeds the Authority's minimum requirements.

2.2 [Insert response]

3. **R8.3 IDP work packages structure**

3.1 [Insert response]

4. **R8.4 CVL Transformation delivery confidence**

4.1 [Insert response]

5. **R8.5 Key Authority dependencies**

5.1 [Insert response]

6. **R8.6 Scheduling sufficient resource**

6.1 [Insert response]

7. **R8.7 Commercial risks**

[Replicate headers below for each of the top 10 risks]

Risk n- [Insert name]

Key risks leading to impact

7.1 [Insert response]

Prioritising work and minimising impact to Authority

7.2 [Insert response]

Approach

7.3 [Insert response]

Other ways to minimise impact

7.4 [Insert response]

8. R8.8 Public Impact of Implementation Plan

8.1 [Insert file name; file to be provided separately]

9. R8.9 Initial Railway Control System Definition

9.1 [Insert file names; files to be provided separately]

10. R8.10 Initial Railway Control System Implementation Plan

10.1 [Insert file names; files to be provided separately]

11. R8.11 CVL signalling solution summary

11.1 [Insert response]

12. R8.12 Operational Model Input Parameters/Operational Model Export File

12.1 [Insert file names; files to be provided separately]

13. R8.13 Maximising quality of service of signalling solution

13.1 [Insert response]

14. R8.14 Benefits and risks of signalling solution on legacy infrastructure

14.1 [Insert response]

15. R8.15 Third party commercial dependencies and liabilities

15.1 [Insert response]

16. R8.16 Signalling solution resilience and flexibility**Reliability and performance**

16.1 [Insert response]

Disaster Recovery

16.2 [Insert response]

Legacy

16.3 [Insert response]

17. R8.17 Initial Train Power System Definition

17.1 [Insert file name; file to be provided separately]

18. R8.18 Traction Power Simulation inputs/outputs

18.1 [Insert file names; files to be provided separately]

19. R8.19 Train Power System summary

19.1 [Insert response]

20. R8.20 Initial Traction Power System Implementation Plan

20.1 [Insert file name; file to be provided separately]

21. R8.21 Commissioning of the electric power system

21.1 [Insert response]

22. R8.22 Solution reliability, availability and maintainability targets summary

22.1 [Insert response]

23. R8.23 Resilience, Flexibility and Extendibility of Train Power Systems

23.1 [Insert response]

24. R8.24 N-1 and N-2 power failure train operating timetable

24.1 [Insert response]

25. R8.25 Initial Electric Power and Plant Plan

25.1 [Insert file name; file to be provided separately]

26. R8.26 Electric Power and Plant solution summary & deliverability

26.1 [Insert response]

27. R8.27 Systems Integration Plan

[Insert file name; file to be provided separately]

Introduction

27.1 [Insert response]

System Requirements

27.2 [Insert response]

System Components

a. Train control

27.3 [Insert response]

b. Traction power control

27.4 [Insert response]

c. Passenger information and public address

27.5 [Insert response]

d. Telephone and radio

27.6 [Insert response]

e. Remote control monitoring

27.7 [Insert response]

f. Fire and security

27.8 [Insert response]

g. Station management

27.9 [Insert response]

h. Revenue collection and protection

27.10 [Insert response]

i. CCTV and passenger assistance

27.11 [Insert response]

j. Ventilation

27.12 [Insert response]

k. Environment

27.13 [Insert response]

l. Wi-fi

27.14 [Insert response]

m. Structures

27.15 [Insert response]

n. Platforms

27.16 [Insert response]

o. Level crossings

27.17 [Insert response]

p. Earthworks

27.18 [Insert response]

q. Permanent way

27.19 [Insert response]

r. Depots and stabling

27.20 [Insert response]

s. Other systems

27.21 [Insert response]

Applicable standards

27.22 [Insert response]

System Integration Matrix

27.23 [Insert response]

Hazard Log

27.24 [Insert response]

Management system and authority control

27.25 [Insert response]

Supporting tools and methods

27.26 [Insert response]

Interfaces

27.27 [Insert response]

Resilience

27.28 [Insert response]

28. R8.28 Initial Telecommunications Plan

28.1 [Insert response]

29. R8.29 CVL Depot and stabling strategy summary

29.1 [Insert response]

30. R8.30 CVL Depot and stabling locations

30.1 [Insert response]

31. R8.31 South Wales Metro expansion strategy summary

31.1 [Insert response]

32. R8.32 Extendibility

Cardiff to the Flourish

a. High level design and timescales

32.1 [Insert response]

b. TSR level description of new services and impact on wider CVL TSRs

32.2 [Insert response]

c. Impact on the passenger journey experience

32.3 [Insert response]

d. Maximising the benefits to passengers

32.4 [Insert response]

e. Impact on rail capacity

32.5 [Insert response]

f. Impact on Train Fleet

32.6 [Insert response]

g. Impact on infrastructure requirements

32.7 [Insert response]

h. Impact on urban realm and land requirements

32.8 [Insert response]

i. Dependencies

32.9 [Insert response]

j. Indicative activity durations

32.10 [Insert response]

k. Delivery programme

32.11 [Insert response]

Aberdare to Hirwaun

a. High level design and timescales

32.12 [Insert response]

b. TSR level description of new services and impact on wider CVL TSRs

32.13 [Insert response]

c. Impact on the passenger journey experience

32.14 [Insert response]

d. Maximising the benefits to passengers

32.15 [Insert response]

e. Impact on rail capacity

32.16 [Insert response]

f. Impact on Train Fleet

32.17 [Insert response]

g. Impact on infrastructure requirements

32.18 [Insert response]

h. Impact on urban realm and land requirements

32.19 [Insert response]

i. Dependencies

32.20 [Insert response]

j. Indicative activity durations

32.21 [Insert response]

k. Delivery programme

32.22 [Insert response]

Coryton to Longwood Drive via Velindre Hospital

a. High level design and timescales

32.23 [Insert response]

b. TSR level description of new services and impact on wider CVL TSRs

32.24 [Insert response]

c. Impact on the passenger journey experience

32.25 [Insert response]

d. Maximising the benefits to passengers

32.26 [Insert response]

e. Impact on rail capacity

32.27 [Insert response]

f. Impact on Train Fleet

32.28 [Insert response]

g. Impact on infrastructure requirements

32.29 [Insert response]

h. Impact on urban realm and land requirements

32.30 [Insert response]

i. Dependencies

32.31 [Insert response]

j. Indicative activity durations

32.32 [Insert response]

k. Delivery programme

32.33 [Insert response]

Cathays to Park Place/Greyfriars Road

a. High level design and timescales

32.34 [Insert response]

b. TSR level description of new services and impact on wider CVL TSRs

32.35 [Insert response]

c. Impact on the passenger journey experience

32.36 [Insert response]

d. Maximising the benefits to passengers

32.37 [Insert response]

e. Impact on rail capacity

32.38 [Insert response]

f. Impact on Train Fleet

32.39 [Insert response]

g. Impact on infrastructure requirements

32.40 [Insert response]

h. Impact on urban realm and land requirements

32.41 [Insert response]

i. Dependencies

32.42 [Insert response]

j. Indicative activity durations

32.43 [Insert response]

k. Delivery programme

32.44 [Insert response]

33. R8.33 Cardiff Central and Cardiff Queen Street Interchange

33.1 [Insert response]

34. R8.34 Populated Interchange evaluation template

34.1 [Insert file name; file to be provided separately]

35. R8.35 Cross-valley connectivity

35.1 [Insert response]

36. R8.36 Process and plan for transferring responsibility for IM role from Network Rail

36.1 [Insert response]

37. R8.37 Transfer of Infrastructure Manager Services

a. Network Statement in accordance with Regulation 13 of the Railways (Access Management & Licensing of Railway Undertakings) Regulation (AMR)

37.1 [Insert response]

b. Claims Allocation and Handling Agreement (“CAHA”);

37.2 [Insert response]

c. Standard Access Agreements;

37.3 [Insert response]

d. Station Access Agreements;

37.4 [Insert response]

e. Track Access Agreements

37.5 [Insert response]

f. Depot Access Agreements

37.6 [Insert response]

g. Network Rail Connection Agreement(s);

37.7 [Insert response]

h. Network Code and Access Dispute Resolution Rules (ADRR);

37.8 [Insert response]

i. Charging policies and allocation policies;

37.9 [Insert response]

j. Business Plan in accordance with AML Regulation 12;

37.10 [Insert response]

k. Network Licence;

37.11 [Insert response]

l. Station Licences;

37.12 [Insert response]

m. Safety Authorisation and Certification;

37.13 [Insert response]

n. Safety Management System (“SMS”);

37.14 [Insert response]

o. Emergency Response Plan;

37.15 [Insert response]

p. Safety critical work plans;

37.16 [Insert response]

q. The Railways and Other Guided Transport Systems (Safety) Regulations (“ROGS”) Inspections;

37.17 [Insert response]

r. Health and Safety at Work Act (“HSWA”) Policy;

37.18 [Insert response]

s. Licencing for signalling staff Institution of Railway Signalling Engineers (“IRSE”);

37.19 [Insert response]

t. Membership of the Rail Safety and Standards Board (“RSSB”), subject to Rail Accident Investigation Branch (“RAIB”)

37.20 [Insert response]

u. Other key components in delivery, management and operation of solution

37.21 [Insert response]

38. R8.38 Regulatory and Network Rail approvals

Through running between CVL and WCB

38.1 [Insert response]

Support of freight traffic

38.2 [Insert response]

39. R8.39 Third Party approvals

Solution dependency on Third Parties

39.1 [Insert response]

Contingency Plans

39.2 [Insert response]

40. R8.40 Planning and TWAO approvals

a. Dependency on approvals

40.1 [Insert response]

b. Evidence of approval or description of required support

40.2 [Insert file names; files to be provided separately]

c. Approvals Contingency Plans

40.3 [Insert response]