

# T3 Volume Driver Appendix

Draft Determination Response



**Scottish & Southern**  
Electricity Networks

TRANSMISSION

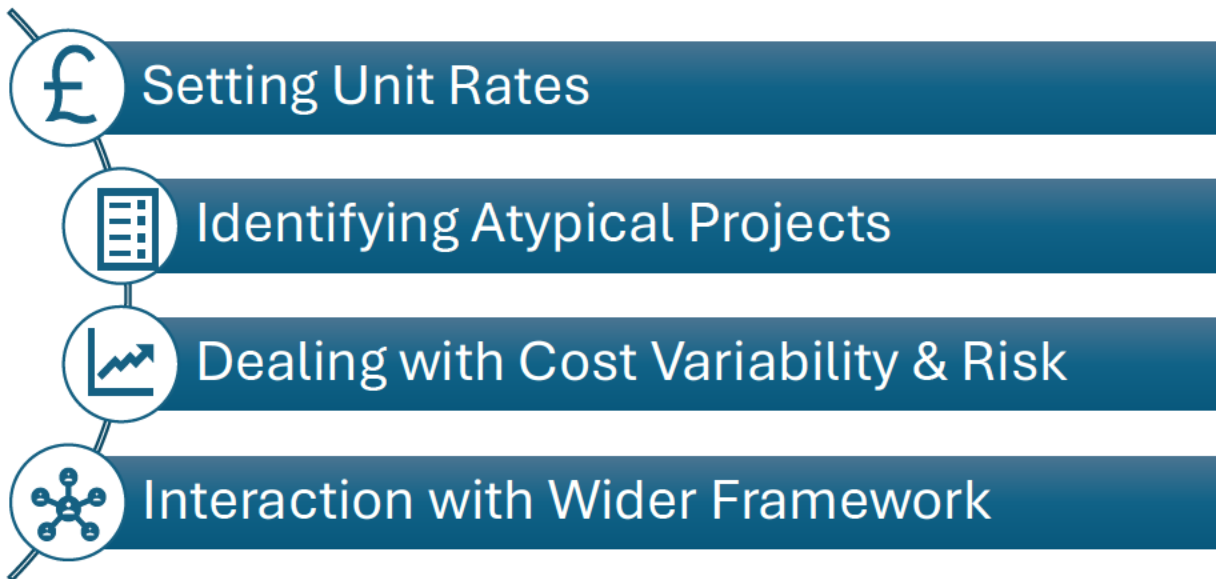
# Overview: RIIO-T3 Volume Driver

The purpose of this document is to provide further detail of our review of Ofgem's Volume Driver proposal within the Draft Determination and our proposed changes required to ensure there is a workable Volume Driver for RIIO-T3.

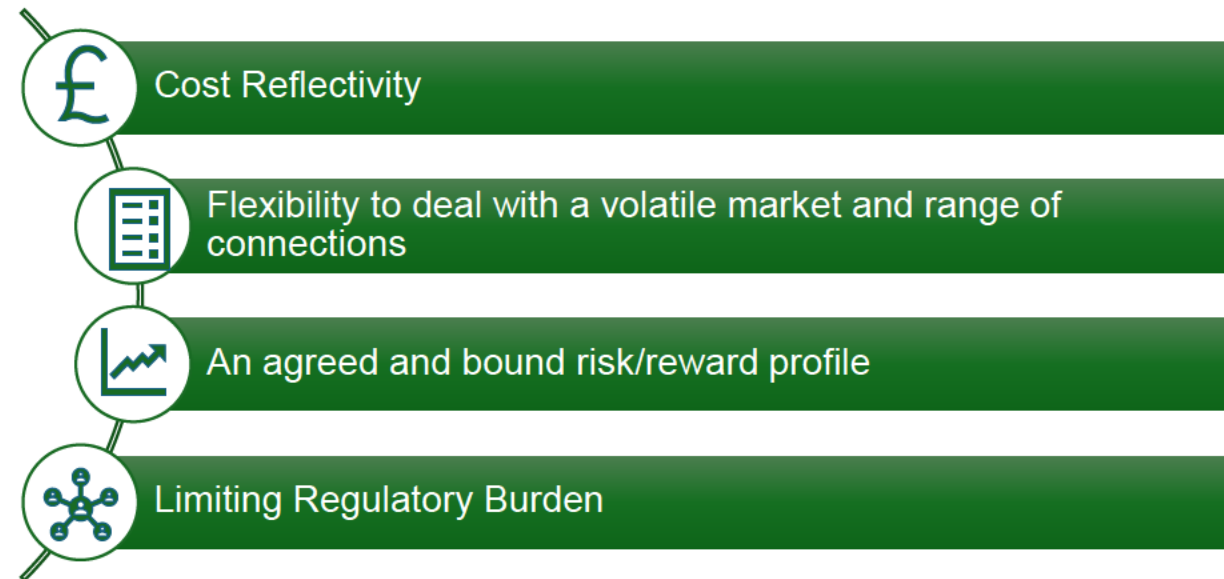
We have consistently maintained that a "pay-as-we-deliver" mechanism is the most effective approach for delivering connections at pace. The challenges associated with setting ex ante unit rates are significant, particularly given the diverse nature of our work and the substantial variation in project costs.

Putting aside our overarching issues with the use of a volume driver in RIIO-T3. We have reviewed Ofgem's proposal and our specific concerns with the proposed volume driver mechanism cover these key areas:

## Areas of Development



## Key Outcomes

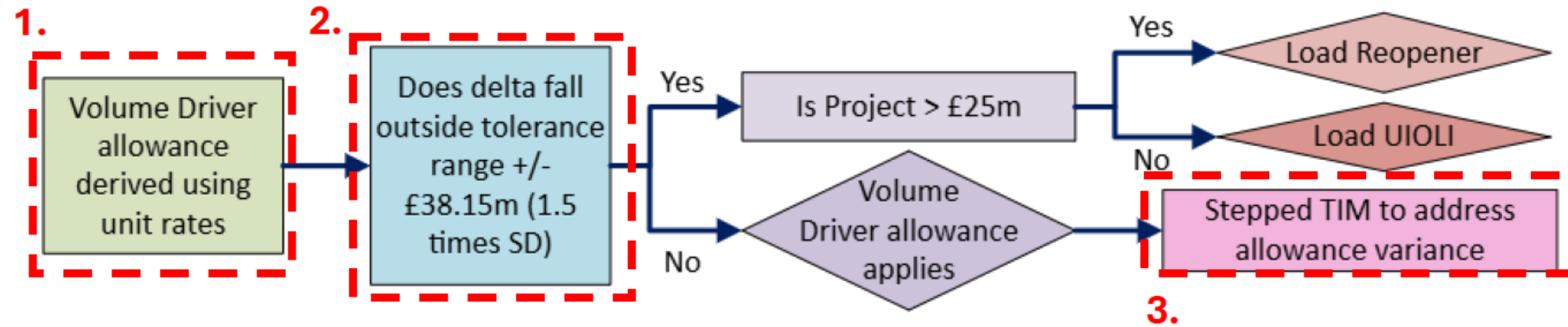


We acknowledge Ofgem's decision to process with a Volume Driver for RIIO-T3. However, fundamental changes need to be made to ensure that it is workable for the RIIO-T3 period.

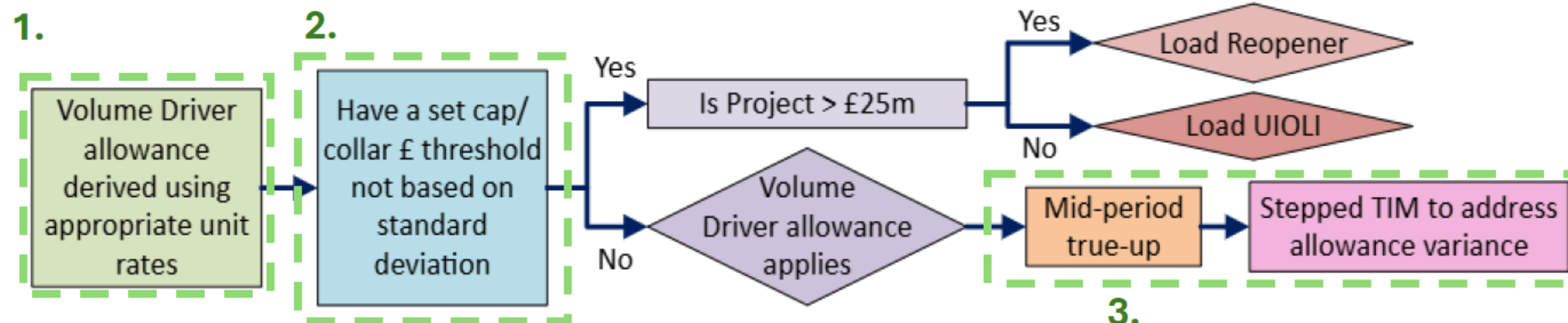
# Ofgem's Volume Driver vs Our Proposed Volume Driver

We believe that Ofgem must make changes to the proposed volume driver mechanism. Below is Ofgem's proposed volume driver versus our proposed volume driver

## Ofgem's Proposed Volume Driver



## Our Proposed Volume Driver



Key changes include:

1. **Appropriate Ex Ante Unit Rates** that reflect the projects we are delivering

2. **Atypical Threshold** that does not place too much risk of over/under recovery on a project-by-project basis

3. A volume driver portfolio **mid period true up** to account for material portfolio risk driven by poorly calibrated unit rates.

# Volume Driver Unit Rates

# RIIO-T3 Volume Driver Model: Current Issues

*Ofgem's proposed unit rates are fundamentally wrong due to incorrect inputs and formula errors in the model. Results are not statistically significant based on  $R^2$  value or standard error.*

## Issues with Input Data

Currently using all project data from the C&V tables. Should only include schemes that are representative of volume driver projects.

The following schemes should be excluded:

- Any schemes that have 0 MW/MVA – these are demand schemes and OHL or UGC unit rates are not representative of connections.
- RIIO-T2 Baseline schemes – these are 400kV schemes, not relevant for VD connections. They were tendered in RIIO-T1, some were also 'bundled works' where economies of scale applied (e.g. [REDACTED])
- CP2030 schemes entered as 1 line in the BPDT submission – Ofgem's model assumes these are entirely substation projects, which is an incorrect assumption.
- We have provided cost & volumes data for relevant schemes as part of the updated data set & only these should be included. Any CP2030 schemes not supplied in the updated data set have either been removed from our best view or have immature costs that are not representative of unit rates.

## Issues with Ofgem's Model

The unit rates initially provided by Ofgem are not accurate due to the following reasons:

- Incorrect mapping: Some assets are mapped to wrong linear elements e.g.: LVAC cable is substation not UGC.
- Civils not included for linear elements: Civils are entered in the C&V tables at an aggregated level. Ofgem's formulas do not map civils into the correct linear elements but attributes them entirely to substations.
- Incorrect OHL volumes: Ofgem's OHL volumes formula incorrectly aggregates cable & earth wire lengths, reducing the unit rates.
- Contractor indirects not included: Contractor indirects are removed and provided separately in Table 9.4 as Ofgem requested. These costs must be included in the unit rates to recover through the Volume Driver.

# Post Draft Determination Work

Following the publication of the Draft Determination we have been working to assist Ofgem with the development of the Volume Driver modelling and policy across a number of areas.

1. Updated mapping, shared with Ofgem and verified by P and C (inclusive of PCF and external CAI)
2. Provided Ofgem with additional cost & volume data for a larger data set
3. Carried out regression analysis using new data set & mapping to get new unit rates
4. Given data outputs, have made recommendations for alternatives for cap/collar thresholds

## 1. Updated Mapping

Ofgem's asset mapping was reviewed with P&C and a new mapping was sent and discussed with Ofgem with these proposed changes:

**Asset → Component**

Asset	Current Mapping	Proposed Mapping	Rationale
LVAC cable	UGC Cable	Substations	This is cable that links to the substation & has very different costs to UGC
Buildings	Other	Substations	P&C advise this maps to substation
Physical Site Security	Other	Substations	P&C advise this maps to substation
Site Access Permanent	Other	Substations	P&C advise this maps to substation

**Component → Volume Driver Element**

Currently all assets categories that map to Other get included fully in substation costs. We proposed that these should apportioned across substations/UGC/OHL based on the % of spend. Other costs include non-asset specific costs such as PCF, BNG, & Risk which should be spread across the elements of the project.

## 2. New Data & Unit Rate Approach

### Data Collection Process

Project List compiled based on most recent LOA/Gate 2 readiness (same estimates utilised for customer connection offers)



Checked each project in P&C's cost estimate library for projects with Class 3 estimates



Costs & volumes data directly from Class 3 cost estimates



Mapped costs & volumes data to the relevant VD category using the proposed mapping, apportioning PCF & other costs

The new data set has a larger list of projects, and the costs & volumes are mapped to the associated Volume Driver asset category.

Data set includes:

- CP2030 projects in our best view with Class 3 estimates (all costs incorporated, inclusive of PCF and CAI) that were originally entered as 1 line in the BPDTs. Costs & volumes have been sourced as per the process on the left.
- Other projects where disaggregated asset data was previously provided in the C&V have been mapped to the relevant VD categories to include the correct civils mapping & inclusion of PCF costs from table 9.4. These costs & volumes are the same as previously provided.
- Other projects with disaggregated data in the original submission & other CP2030 1-line schemes that have not been included in this file should not be used as VD inputs as per reasoning on the previous slide.

Using this data set addresses the issues with Ofgem's existing model previously outlined:

- Includes only relevant projects that are representative of Volume Driver connection projects
- Includes only projects at the same level of cost maturity for unit rates to be comparable
- Maps assets correctly, includes civil costs & apportions other costs
- Includes all indirects

### Unit Rates Approach

- Our proposed rates are largely based on Ofgem's current proposed methodology with the corrections we have identified, such as asset mapping and inclusion of costs.
- Our unit rates proposed are totex unit rates which include all indirect costs – this is to minimise the complexity of securing PCF and CAI allowances via the UIOLI pot.
- We are keen to engage with Ofgem on the inclusion of indirects within the volume driver unit rates.

# Unit Rates

## Ofgem Proposed Rates

	Unit Cost	Adjusted R-Squared	P-Value
Short UGC			
Long UGC			
OHL			
Substation			

Data Input: Full list of C&V schemes in the original CP2030 submission (excludes new schemes in our best view and includes schemes removed from best view)

PCF: **Excluded**

Mapping:

- LVAC → UGC
- Other Costs → Substations
- OHL/UGC Civils → Substations

- Rates calculated incorrectly – can't be used

## Ofgem Rates Corrected

	Unit Cost	Adjusted R-Squared	P-Value
Short UGC			
Long UGC			
OHL			
Substation			

Data Input: Full list of C&V schemes in the original CP2030 submission (excludes new schemes in our best view and includes schemes removed from best view)

PCF: **Included**

Mapping:

- LVAC → Substations
- Other Costs → Apportioned
- OHL/UGC Civils → OHL/UGC

- Calculations corrected
- Non relevant scheme used as inputs
- Substation rate not statistically significant based on R<sup>2</sup> value

## Our Proposed Rates

	Unit Cost	Adjusted R-Squared	P-Value
Short UGC			
Long UGC			
OHL			
Substation			

Data Input: CP2030 schemes in the best view with Class 3 cost estimate & schemes submitted in the original CP2030 submission with disaggregated data that are relevant for volume driver

PCF: **Included**

Mapping:

- LVAC → Substations
- Other Costs → Apportioned
- OHL/UGC Civils → OHL/UGC

- Calculations corrected
- Relevant schemes used as inputs
- UGC rates not statistically significant

# Ofgem Volume Driver: Outturn Analysis

In order to understand the impact of Ofgem's proposals for the Volume Driver mechanism, we have utilised results from the Ofgem Regressions and applied rates to our new CP2030 LOA connection schemes. We also applied sensitivity analysis modelling to reflect the potential cost increases in line with our Large Capital Project process.

## Ofgem Unit Rates with proposed Cap/Collar

- Ofgem rates deem a large under recovery for Volume Driver Portfolio.



## Ofgem Unit Rates with Alternative Atypical Cap/Collar

- [Redacted]

**Unit Costs** are the most imperative piece to the Volume Driver Puzzle; The proposed rates as agreed by Ofgem are **too low** and must be set correctly for Volume Driver to be impactful.

## Applying Sensitivity analysis



# SSEN-T Volume Driver: Outturn Analysis

In order to understand the impact of the results from our own modelling and regressions and applied rates to our new CP2030 LOA connection schemes to show the portfolio performance. We also applied sensitivity analysis modelling to reflect the potential cost increases in line with our Large Capital Project process.

## SSEN-T Unit Rates with Ofgem proposed Cap/Collar

- SSENT rates deem an over recovery for Volume Driver Portfolio.



## SSEN-T Unit Rates with SSEN-T proposed Cap/Collar



**Unit Costs** are the most imperative piece to the Volume Driver Puzzle; With our proposed rates this deems a more acceptable outcome across our portfolio and encompasses the nature of cost swings.

## Applying Sensitivity analysis:

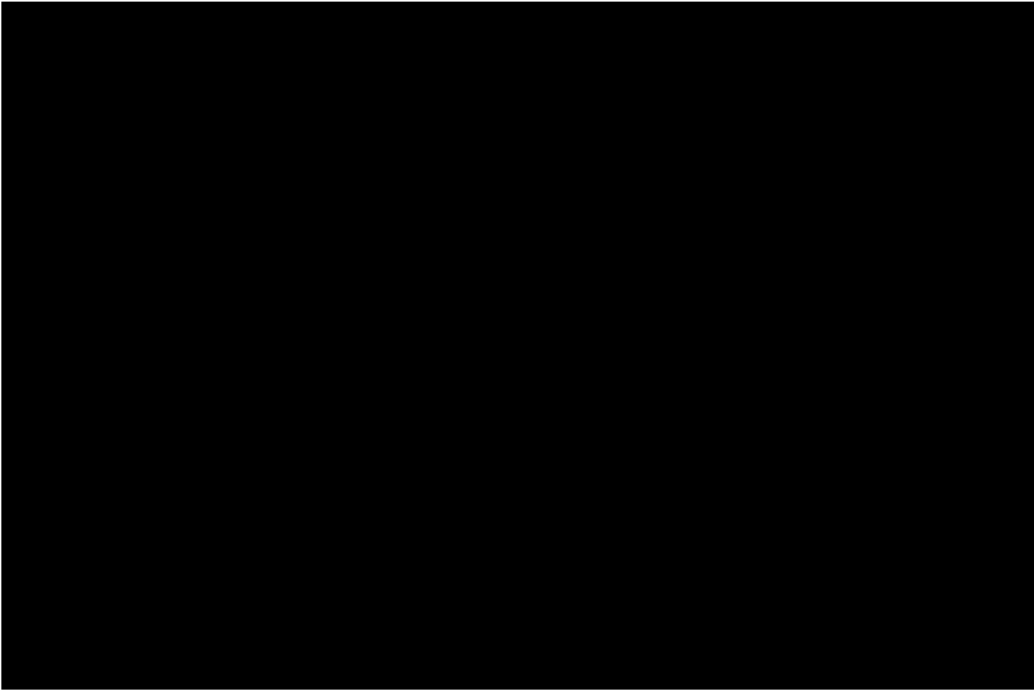


# **Volume Driver Cost Variability**


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# Atypical Connection Projects

We do not agree with the proposed Atypical Threshold set by Ofgem at Draft Determination and believe a more pragmatic and logical threshold for identifying atypical connection projects. It limits our ability to use other regulatory mechanisms and increases our risk exposure.



The graph above shows the significant level of cost differential between cost and allowance before the alternative mechanisms (Load Reopener and Load UIOLI)

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- We believe there needs to be a logical threshold that ensures the right balance between risk and regulatory burden, and we are keen to work with Ofgem on developing this.
- We acknowledge there is a need to ensure that the Atypical threshold is not set too tightly that the number of volume driver projects are processed via the Load Reopener or Load UIOLI and the regulatory burden associated with that.
- Therefore, we also propose that a portfolio true up mechanism is introduced to deal with material over/under performance under the Volume Driver mechanism.

It is important to note that we have not connected demand projects. Therefore, we will not have a demand volume driver and as such all demand projects would be deemed atypical. The wider load framework needs to ensure we can fund these projects if they arise.

# RIIO-T3 Volume Driver Protection Mechanisms

## The Issue

We do not agree with Ofgem’s proposal to use the stepped TIM to deal with cost variability that is driven by poor cost reflectivity of the allowance set under the Volume Driver.

Unlike other project allowance, Volume Driver allowances are not project specific allowances (e.g. not set on the specific scope of the project) and set by broad unit rates based on activities. Therefore, the stepped Totex Incentive Mechanism (TIM) based on the full totex position (£████) cannot be used for the Volume Driver, as the level of material cost that would be processed under the 25% to mitigate a potential calibration issue is not acceptable.

Totex	% Overspend	Overspend £m	TO Cost £m
████	2.5%	████	████
████	5%	████	████
████	10%	████	████

Given these challenges (Scope variability, Supply Chain etc.) of setting unit rates for the volume driver ex-ante we believe that there is a requirement for a within period and ex post review on outturn costs against allowances.

## Our Proposal

We propose a mid period and close out true up mechanism to ensure the efficient outturn costs are recoverable, or allowances are returned to consumers, while maintaining sufficient efficiency incentives and ensuring that the windfall gain/loss exposure to both consumers and TOs is acceptable.

The mid period true up would take the form of a streamlined reopener submission, if the actual/forecast delta of cost vs allowances breaches the 5% of Volume Driver totex threshold.

Area	Description
True Up Threshold	<ul style="list-style-type: none"><li>Cost vs Allowance Delta is equal to/greater than 5% of forecast Volume Driver Portfolio Totex.</li><li>Within 5% the 25% TIM rate applies like stepped TIM approach.</li></ul>
Mid Period True up	<ul style="list-style-type: none"><li>If cost vs allowance delta is greater than the 5% threshold then those costs are trued up. Volume Driver unit rates updated to account for changes.</li></ul>
Close Out True up	<ul style="list-style-type: none"><li>If cost vs allowance delta is greater than the 5% threshold then those costs are trued up.</li></ul>

This approach would allow Ofgem to set unit rates for each component of the volume driver with confidence and provide the flexibility to true up allowances.

# Interaction with Wider Framework

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## RIIO-T2/T3 Crossover Schemes

As set out within our DD response, we agree with the principle of including crossover projects within the RIIO-T3 Volume Driver framework, and we recognise this provides clarity and certainty of funding. However, we believe that there should be TO choice on using the most appropriate funding mechanism. This is particularly true for the RIIO-T2/T3 crossover period, as a number of projects may in fact deliver outside the 2-year period, which will cause regulatory burden as these move from the RIIO-T2 to the RIIO-T3 mechanism. We have also proposed to include connection projects within the Load reopener where they form part of a cluster project, where the underpinning shared use works are closely aligned to the delivery of the connections.

Therefore, our current position for RIIO-T2 Crossover schemes - (RIIO-T2+1,26/27) and (RIIO-T2+2,27/28) - is to encompass these schemes within the RIIO-T3 Volume Driver Mechanism. *We have identified the following schemes that would currently be deemed ‘crossover’.*

[illegible]

[REDACTED]

[REDACTED]

# Interaction with Indirects

Core aim of the volume driver is to be a simple mechanism that limits regulatory burden to enable the accelerated delivery of connections

Therefore, our proposed approach to setting unit rates for the RIIO-T3 volume driver is to include all costs associated with delivering the connection project:

- PCF & Early Enabling Works
- Direct Costs (incl. R&C)
- CAI's associated with delivery.

This limits the use of multiple regulatory funding mechanisms or pots to deliver a project by having a single totex allowance. It is clear from Ofgem's process diagram how complicated recovering funding could be for smaller scale connection projects under the volume driver if each component is disaggregated.

We are also concerned how the CAI UIOLI pot could flex to account for additional connection projects which are progressed via the volume driver. We provide further detail on the treatment of CAIs, including the Volume Driver within ETQ26.

Figure 8: Overview of the indirects funding framework and assessment methodologies



# Appendix 1: Sensitivity Analysis

Gate	Cost Deviation Applied
Pre Gate 0	
SG0	
SG1	
SG2	

We conducted sensitivity analysis on the potential T3 Volume Driver Schemes, applying cost inflator rates determined by the gate status of each project to assess cost sensitivity.