PUBLIC

# Capital base roll forward methodology

## An overview of the methodology for rolling forward the capital base for the covered Pilbara network

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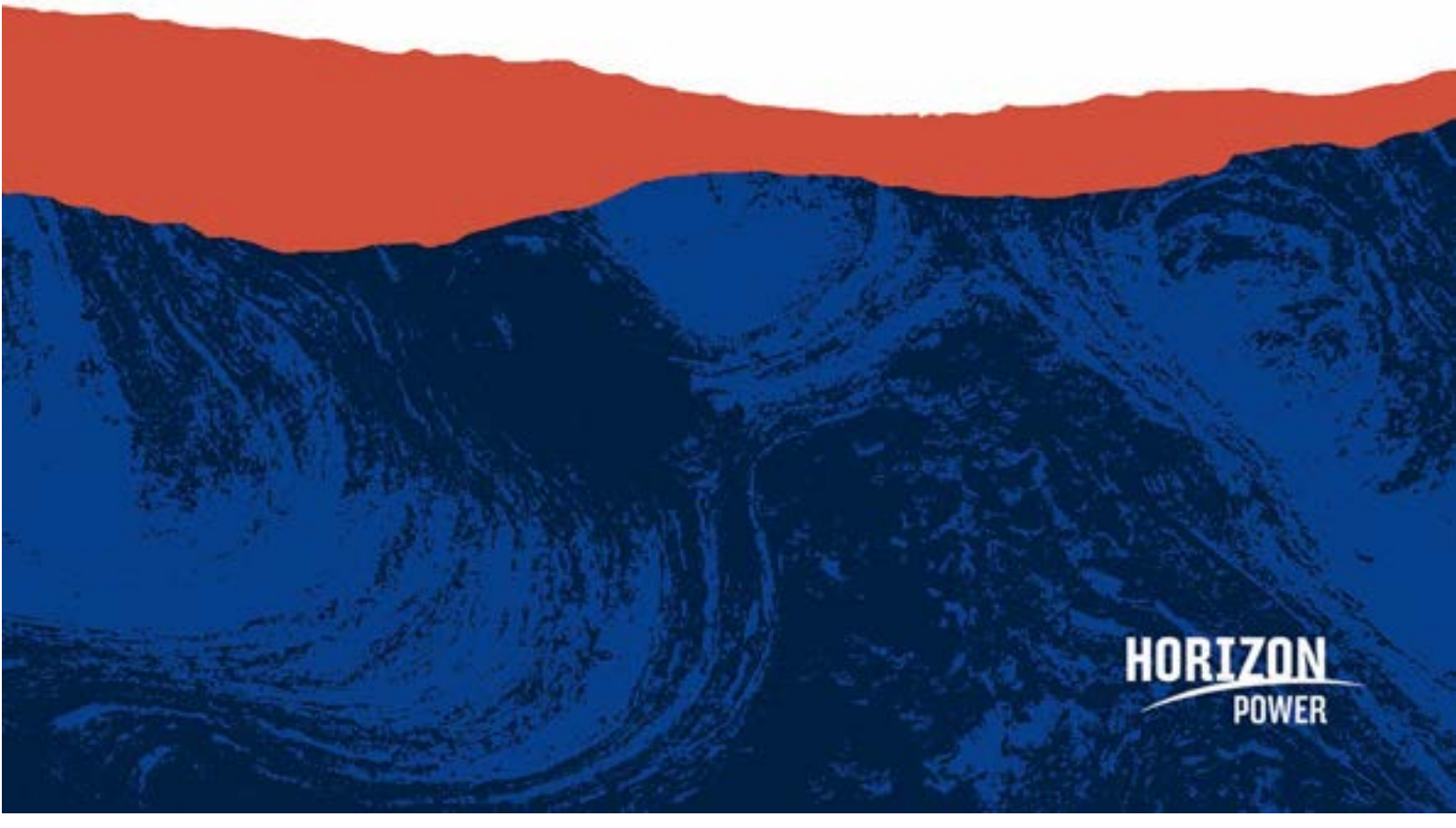

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## TABLE OF CONTENTS

# 1. ABBREVIATIONS AND DEFINED TERMS

The following abbreviations are used in this document and have the meaning provided in the table below.

*Table 1: Document Abbreviations*

| Abbreviation | Meaning |
|---|---|
| **capex** | capital expenditure |
| **CPI** | Consumer Price Index |
| **ISO** | Independent System Operator |
| **NSP** | network service provider |
| **WACC** | Weighted Average Cost of Capital |

The following defined terms are used in this document and have the meaning provided in the table below.

*Table 2: Document Defined Terms*

| Defined term | Meaning |
|---|---|
| **Act** | the Electricity Industry *Act* 2004 (WA). |
| **capital base** | has the same meaning given to it in the *Code*.<br>{As at 25 June 2021, the *Code* defines *capital base* for a *light regulation network* as the value of the *network assets* that are used to provide *covered services* on the *light regulation network* prescribed or determined under sections 52, 53, 54 or Chapter 7 as applicable.} |
| **capital contribution** | has the same meaning given to it in the *Code*.<br>{As at 25 June 2021, the *Code* defines *capital contribution* as a payment or provision in kind made, or to be made, by a *user* either in respect of any *new facilities investment* in *required work* or under a headworks scheme.} |
| **capital expenditure (capex)** | an expense to be shown on a company's balance sheet as an investment, rather than on its income statement as an expenditure |
| **capital-related costs** | has the meaning given to it in the *Code*.<br>{As at 25 June 2021, the *Code* defines *capital-related costs*, in relation to *covered services* provided by an *NSP* by means of a *light regulation network* for a period of time, as—<br>(a) a return on the *capital base* of the *light regulation network*; and<br>(b) depreciation of the *capital base* of the *light regulation network*.} |
| **Code** | *Pilbara Networks Access Code 2021 (WA).* |

| Defined term | Meaning |
|---|---|
| **covered Pilbara network** | has the same meaning given to it in section 3 of the *Act* and for the purposes of this policy includes both a *network* and a right of the *NSP* to use a *network* (to the extent of that right of use).<br><br>{As at 07 April 2020, the *Act* defines *covered Pilbara network* as a covered *network* that is located wholly or partly in the *Pilbara region*.} |
| **covered service** | has the same meaning given to it in the *Code*.<br><br>{As at 25 June 2021, the *Code* defines *covered service* as a *service* provided by means of a *light regulation network*, but does not include an excluded service.} |
| **first pricing period** | has the meaning given to it in the *Code*.<br><br>{As at 25 June 2021, the *Code* defines *first pricing period* for a *light regulation network* as the *first pricing period* specified in the *NSP*'s *services and pricing policy* published in accordance with Chapter 4.} |
| **initial capital base** | means the opening value of Horizon Power's *covered Pilbara network* assets at the commencement of the *first pricing period* as prescribed in section 52(1) of the *Code*. |
| **light regulation network** | has the same meaning given to it in the *Code.*<br><br>{As at 25 June 2021, the *Code* defines *light regulation network* as a *covered Pilbara network* which is regulated by Part 8A of the *Act*.} |
| **network assets** | has the same meaning given to it in the *Code*.<br><br>{As at 25 June 2021, the *Code* defines *network assets*, in relation to a Pilbara network, as the apparatus, equipment, plant and buildings used to provide or in connection with providing services on the Pilbara network.} |
| **network service provider (NSP)** | has the same meaning given to *'Pilbara network service provider'* in the *Act*.<br><br>{As at 07 April 2020, the *Act* defines '*Pilbara network service provider'* as a person who—<br>(a) owns, controls or operates a Pilbara *network* or any part of a Pilbara *network*; or<br>(b) proposes to own, control or operate a Pilbara *network* or any part of a Pilbara *network*.} |
| **new facilities investment** | has the same meaning given to it in the *Code*.<br><br>{As at 25 June 2021, the *Code* defines *new facilities investment* for a new facility as the capital costs incurred in developing, constructing and acquiring the new facility.} |
| **new facilities investment test** | has the same meaning given to it in the *Code*.<br><br>{As at 25 June 2021, the *Code* defines *new facilities investment test* for a *light regulation network* as the test established under section 55.} |
| **new pricing period** | has the meaning given to it in the *Code*.<br><br>{As at 25 June 2021, the *Code* defines *new pricing period*, in respect of the start of a *pricing period*, as the *pricing period* which is commencing.} |

| Defined term | Meaning |
|---|---|
| **previous pricing period** | has the meaning given to it in the *Code*.<br>{As at 25 June 2021, the *Code* defines *previous pricing period*, in respect of the start of a *pricing period*, as the *pricing period* which is ending.} |
| **pricing period** | has the meaning given to it in the *Code*.<br>{As at 25 June 2021, the *Code* defines *pricing period* as the defined future period, which must not be more than 5 years, for which a *services and pricing policy* is applicable.} |
| **services and pricing policy** | has the same meaning given to it in the *Code*.<br>{As at 25 June 2021, the *Code* defines *services and pricing policy* as the policy of an *NSP* which contains the details referred to in section 40.} |
| **target revenue** | has the same meaning given to it in the *Code*.<br>{As at 25 June 2021, the *Code* defines *target revenue* for a *light regulation network* for a *pricing period*, as determined in accordance with sections 47 to 60.} |
| **user** | has the same meaning given to it in the *Code.*<br>{As at 25 June 2021, the *Code* defines *user* as a person, who is a party to a contract for *services* with an *NSP*, and in connection with a deemed associate arrangement, includes the *NSP's* other business.} |

## 2. PURPOSE OF THIS METHODOLOGY

This *Capital Base* Roll Forward Methodology applies for the purposes of determining the *target revenue* for Horizon Power's *covered Pilbara network*. It ensures that Horizon Power consistently applies a transparent methodology to the calculation of the *capital base* that complies with the requirements of the *Code*.

## 3. WHO THIS METHODOLOGY APPLIES TO

This methodology applies to Horizon Power in its capacity as a *network service provider* (*NSP*) for the *covered Pilbara network*.

## 4. SCOPE

"Roll forward" refers to the method for updating the value of the *capital base* from one *pricing period* to the next to reflect the value of the covered (regulated) assets at the start of a given *pricing period* and adjustments for changes that have occurred or have been assumed to occur within the *previous pricing period*, specifically:

- indexation for inflation;
- additions for prudent and efficient *new facilities investment* or *capex*, net of *capital contributions* (at the start of a *pricing period* in relation to *capex* incurred in the *previous pricing period*(s));
- reductions for depreciation charges;
- as appropriate, reductions for accelerated depreciation; and
- reductions for asset disposals.

## 5. PRINCIPLES

In specifying this *Capital Base* Roll Forward Methodology, Horizon Power has had regard to the revenue and pricing principles specified in section 8 of the *Code*, namely that:

(a) An *NSP* of a *light regulation network* should be provided with a reasonable opportunity to recover at least the efficient costs it incurs in:

  i. providing *covered services*; and

  ii. complying with regulatory obligations, but excluding any costs it incurs in connection with access disputes.

(b) An *NSP* of a *light regulation network* should be provided with effective incentives in order to promote economic efficiency with respect to the *covered services* it provides. The economic efficiency that should be promoted includes:

  i. efficient investment in the *light regulation network*;

  ii. the efficient provision of *covered services*; and

  iii. the efficient use of the *light regulation network*.

(c) The price for provision of a *covered service* should allow for a return commensurate with the regulatory and commercial risks involved in providing the *covered service* to which that price relates.

(d) Regard should be had to the economic costs and risks of the potential for:

  i. under and over investment in a *light regulation network*;

  ii. under and over utilisation of the *light regulation network*.

# 6. REGULATORY REQUIREMENTS

**Roll forward of *capital base* to new pricing period**

Section 54(1) of the *Code* states that:

> The *NSP* must determine the *capital base* for a *light regulation network* to be used from the start of each *pricing period* after the *first pricing period*, as follows:
>
> (a) start with the *capital base* used from the start of the *previous pricing period*; then
>
> (b) add *new facilities investment* from the *previous pricing period* which satisfy the *new facilities investment test*; and
>
> subtract the following:
>
> (c) depreciation over the *previous pricing period* (to be calculated in accordance with the relevant provisions of the *services and pricing policy* governing the calculation of depreciation over the *previous pricing period*); and
>
> (d) an amount for redundant assets to the extent necessary to ensure that *network assets* which have ceased to contribute in any material way to the provision of *covered services* are not included in the *capital base*; and
>
> (e) the value of the *network assets* disposed of during the *previous pricing period*.

Section 54(2) of the *Code* states that, subject to section 54(3), the *capital base* for a *light regulation network* must not include any amount in respect of forecast *new facilities investment*.

**Forecast new facilities investment at the end of the previous pricing period**

Section 54(3) of the *Code* states that:

> In developing the *capital base* for a *pricing period*, the *capital base* for a *light regulation network* may include forecast *new facilities investment* which:
>
> (a) has not yet occurred but Is forecast to occur before the start date of the *new pricing period*; and
>
> (b) at the time of inclusion is reasonably expected to satisfy *the new facilities investment test*.

Further, section 54(4) of the *Code* states that:

> To the extent forecast *new facilities investment* is included in the *capital base* under section 54(3) but such *new facilities investment* has not actually occurred by the start

of the *new pricing period*, then the *NSP* must within 30 business days of the start of the *new pricing period*:

(a) remove the forecast *new facilities investment* from the *capital base*; and

(b) to the extent the inclusion of the forecast *new facilities investment* is included in *tariffs*, adjust those *tariffs* to remove any surplus or shortfall associated with the inclusion of the forecast *new facilities investment*.

**New facilities investment in the previous pricing period**

Section 50(4) of the *Code* states that:

> The *NSP* for a *light regulation network* must adjust the *target revenue* for the *new pricing period* for any difference between:
>
> (a) *capital-related costs* actually incurred during the *previous pricing period* in respect of *new facilities investment* which meet the *new facilities investment test*; and
>
> (b) *capital-related costs* which were included in the *target revenue* during the *previous pricing period* in respect of *forecast new facilities investment* as permitted by section 47(2).

Section 50(5) of the *Code* states that the adjustment in section 50(4) must also remove any surplus or shortfall associated with any difference between the *capital-related costs* in respect of forecast *new facilities investment* and *capital-related costs* actually incurred.

Section 47(2) of the *Code* states that the *target revenue* for each year (or other interval) in a *pricing period* may include *capital-related costs* in relation to forecast *new facilities investment* which at the time of inclusion are reasonably expected to satisfy the *new facilities investment test* when the forecast *new facilities investment* is made.

**Double recovery of costs**

Section 51 of the *Code* relates to the double recovery of costs and states that:

> The *NSP's services and pricing policy* must contain a mechanism designed to ensure that there is no double recovery of costs as a result of either:
>
> (a) the inclusion of *capital-related costs* in relation to forecast *new facilities investment* in the *target revenue*; or
> (b) any adjustments to the *target revenue*.

## 7. INITIAL CAPITAL BASE FOR THE FIRST PRICING PERIOD

The *initial capital base* (ICB) is the value of Horizon Power's *covered Pilbara network assets* at the start of the *first pricing period*. This value was established in section 52(1) of the *Code* as $535 million and is the non-disputable starting point of the *capital base*.

## 8. FORECAST CAPITAL BASE FOR THE FIRST PRICING PERIOD

The value of the *capital base* at the end of each year *t* in the *first pricing period* is forecast to enable the return on capital in respect to the *capital base*, which is a component of the *target revenue*, to be calculated for each year of the *first pricing period*. The forecast value of the *capital base* at the end of each year *t* in the *first pricing period* is calculated in accordance with Equation 1.

*Equation 1: Closing value of capital base in year t of the first pricing period*

$$CB_{t,1} = OB_{t,1} \times \left(1 + {}^{CPI_t}/_{CPI_{t-1}}\right) - Dep_{t,1} - ADep_{t,1}$$

where:

$CB_{t,1}$ is the closing value of the *capital base* in year t of *pricing period* 1

$OB_{t,1}$ is the opening value of the *capital base* in year t of *pricing period* 1

$CPI_t$ is the actual CPI (weighted average of eight capital cities) in June of year t, where the actual CPI is available, and the forecast CPI in June of year t, where the actual CPI is not available

$CPI_{t-1}$ is the actual CPI (weighted average of eight capital cities) in June of year t-1, where the actual CPI is available, and the forecast CPI in June of year t-1, where the actual CPI is not available

$Dep_{t,1}$ is the depreciation in respect to the *capital base* in year t of *pricing period* 1

$ADep_{t,1}$ is the accelerated depreciation in respect to the *capital base* in year t of *pricing period* 1

The opening value of the *capital base* is escalated by the forecast inflation rate to maintain the real value of the *capital base* over time.

The opening value of the *capital base* in year t+1 of the *first pricing period* is the closing value of the *capital base* in year t, as per Equation 2.

*Equation 2: Opening value of capital base in year t+1 of the first pricing period*

$$OB_{t+1,1} = CB_{t,1}$$

where:

$OB_{t+1,1}$ is the opening value of the *capital base* in year t+1 of *pricing period* 1

## 9. FORECAST OPENING CAPITAL BASE FOR SUBSEQUENT PRICING PERIODS

The opening *capital base* for subsequent *pricing periods* is calculated by:

1. rolling forward the *capital base* from the *previous pricing period*
2. adding the written down value of the *new facilities investment* in the *previous pricing period* that met the *new facilities investment test*

3. adding the written down *value of the new facilities investment* that is forecast to the end of the *previous pricing period* and is reasonably expected to meet the *new facilities investment test*

4. deducting the revenue from the disposal of assets in the *previous pricing period*.

## 9.1 Rolling forward the capital base from the previous pricing period

Horizon Power's *services and pricing policy* specifies three year *pricing period*s. On this basis, the *capital base* is rolled forward from the *previous pricing period* in accordance with Equation 3. While the *capital base* was indexed during the *previous pricing period* based on actual CPI, where that was available, and forecast CPI, where the actual CPI was not available, the *capital base* is rolled forward from one *pricing period* to the next based on the latest CPI data available.

*Equation 3: Roll forward of the capital base from one pricing period to the next*

$$RFV_n = \Bigg(\Bigg(\Bigg(\Big(OB_{1,n-1} \times \Big(1 + {CPI_{1,n-1}}/{CPI_{0,n-1}}\Big) - (Dep_{1,n-1} + ADep_{1,n-1})\Big) \times \Big(1 + {CPI_{2,n-1}}/{CPI_{1,n-1}}\Big)\Bigg) - (Dep_{2,n-1} + ADep_{2,n-1})\Bigg) \times \Big(1 + {CPI_{3,n-1}}/{CPI_{2,n-1}}\Big)\Bigg) - (Dep_{3,n-1} + ADep_{3,n-1})$$

where:

RFVn is the rolled forward value of the *capital base* from *pricing period* n-1 to *pricing period* n

OB1,n-1 is the opening value of the *capital base* in the first year of *pricing period* n-1

CPI0,n-1 is the actual CPI (weighted average of eight capital cities) in June of the year prior to *pricing period* n

CPI1,n-1 is the actual CPI (weighted average of eight capital cities) in June of the first year of *pricing period* n

CPI2,n-1 is the actual CPI (weighted average of eight capital cities) in June of the second year of *pricing period* n

CPI3,n-1 is the actual CPI (weighted average of eight capital cities) in June of the third year of *pricing period* n, where the actual CPI is available, and the forecast CPI in June of year t-1, where the actual CPI is not available

Dep1,n is the depreciation of the *capital base* that was forecast for the first year of *pricing period* n-1

Dep2,n is the depreciation of the *capital base* that was forecast for the second year of *pricing period* n-1

Dep3,n is the depreciation of the *capital base* that was forecast for the third year of *pricing period* n-1

ADep1,n is the accelerated depreciation of the *capital base* that was forecast for the first year of *pricing period* n-1

ADep2,n is the accelerated depreciation of the *capital base* that was forecast for the second year of *pricing period* n-1

ADep3,n is the accelerated depreciation of the *capital base* that was forecast for the third year of *pricing period* n-1

## 9.2 Adding the written down value of the new facilities investment in the previous pricing period

The written down value of the actual *new facilities investment* incurred in the *previous pricing period* is calculated in accordance with Equation 4.

*Equation 4: Written down value of the new facilities investment in the previous pricing period*

$$WDV_n = \left(\left(\left(\left(\left(NFI_{1,n-1} \times \left(1 + {CPI_{1,n-1}}/{CPI_{0,n-1}}\right) - Dep_{1,1,n-1}\right) \times \left(1 + {CPI_{2,n-1}}/{CPI_{1,n-1}}\right)\right) - Dep_{1,2,n-1}\right) \times \left(1 + {CPI_{3,n-1}}/{CPI_{2,n-1}}\right)\right) - Dep_{1,3,n-1}\right) + \left(\left(\left(\left(NFI_{2,n-1} \times \left(1 + {CPI_{2,n-1}}/{CPI_{1,n-1}}\right)\right) - Dep_{2,2,n-1}\right) \times \left(1 + {CPI_{3,n-1}}/{CPI_{2,n-1}}\right)\right) - Dep_{2,3,n-1}\right) + \left(\left(NFI_{3,n-1} \times \left(1 + {CPI_{3,n-1}}/{CPI_{2,n-1}}\right)\right) - Dep_{3,3,n-1}\right)$$

where:

$WDV_n$ is the written down value of the actual *new facilities investment* incurred in *pricing period* n-1 that met the *new facilities investment test*

$NFI_{1,n-1}$ is the actual *new facilities investment* incurred in the first year of *pricing period* n-1 that met the *new facilities investment test*

$NFI_{2,n-1}$ is the actual *new facilities investment* incurred in the second year of *pricing period* n-1 that met the *new facilities investment test*

$NFI_{3,n-1}$ is the actual *new facilities investment* incurred in the third year of *pricing period* n-1 that met the *new facilities investment test*

$CPI_{0,n-1}$ is the actual CPI (weighted average of eight capital cities) in June of the year prior to *pricing period* n-1

$CPI_{1,n-1}$ is the actual CPI (weighted average of eight capital cities) in June of the first year of *pricing period* n-1

$CPI_{2,n-1}$ is the actual CPI (weighted average of eight capital cities) in June of the second year of *pricing period* n-1

$CPI_{3,n-1}$ is the actual CPI (weighted average of eight capital cities) in June of the third year of *pricing period* n-1, where the actual CPI is available, and the forecast CPI in June of year t-1, where the actual CPI is not available

$Dep_{1,1,n-1}$ is the depreciation in the first year of *pricing period* n-1 in respect of the actual *new facilities investment* in the first year of *pricing period* n-1

$Dep_{1,2,n-1}$ is the depreciation in the second year of *pricing period* n-1 in respect of the actual *new facilities investment* in the first year of *pricing period* n-1

$Dep_{1,3,n-1}$ is the depreciation in the third year of *pricing period* n-1 in respect of the actual *new facilities investment* in the first year of *pricing period* n-1

$Dep_{2,2,n-1}$ is the depreciation in the second year of *pricing period* n-1 in respect of the actual *new facilities investment* in the second year of *pricing period* n-1

$Dep_{2,3,n-1}$ is the depreciation in the third year of *pricing period* n-1 in respect of the actual *new facilities investment* in the second year of *pricing period* n-1

$Dep_{3,3,n-1}$ is the depreciation in the third year of *pricing period* n-1 in respect of the actual *new facilities investment* in the third year of *pricing period* n-1

The *new facilities investment* is net of any *capital contributions*.

To ensure there is no double recovery of the depreciation of *new facilities investment*, as required under section 51 of the *Code*, the forecast *new facilities investment* in *pricing period* n is adjusted for the variance between the forecast depreciation of the *new facilities investment* and the depreciation of the actual *new facilities investment* in *pricing period* n-1.

## 9.3 Adding the written down value of forecast new facilities investment to the end of the previous pricing period

The written down value of the forecast *new facilities investment* to the end of the *previous pricing period* is calculated in accordance with Equation 5.

*Equation 5: Written down value of forecast new facilities investment to the end of the previous pricing period*

$$fWDV_n = fNFI_{3,n-1} \times \left(1 + {CPI_{3,n-1}}/{CPI_{2,n-1}}\right)$$

where:

$fWDV_n$ is the written down value of the *new facilities investment* that is forecast to the end of *pricing period* n-1 and is reasonably expected to meet the *new facilities investment test*

$fNFI_{3,n-1}$ is the *new facilities investment* that is forecast to be incurred in the third year of *pricing period* n-1 and is reasonably expected to meet the *new facilities investment test*

$CPI_{2,n-1}$ is the actual CPI (weighted average of eight capital cities) in June of the second year of *pricing period* n-1

$CPI_{3,n-1}$ is the actual CPI (weighted average of eight capital cities) in June of the third year of *pricing period* n-1, where the actual CPI is available, and the forecast CPI in June of year t-1, where the actual CPI is not available

The forecast *new facilities investment* is net of any *capital contributions*.

There is no depreciation on the forecast *new facilities investment* in the final year of a *pricing period*.

## 9.4 Deducting the revenue from the disposal of assets

The deduction for the revenue from the disposal of assets in the *previous pricing period* is calculated in accordance with Equation 6. The revenue is adjusted for the time value of money using the nominal vanilla WACC as determined for each year of the *previous pricing period*.

*Equation 6: Revenue from the disposal of assets*

$$Disp_n = Disp_{1,n-1} \times (1 + R_1) \times (1 + R_2) \times (1 + R_3) + Disp_{2,n-1} \times (1 + R_2) \times (1 + R_3) + Disp_{3,n-1} \times (1 + R_3)$$

where:

$Disp_n$ is the adjustment to the *capital base* in *pricing period* n for the revenue from the disposal of assets in *pricing period* n-1

$Disp_{1,n-1}$ is the revenue from the disposal of assets in the first year of *pricing period* n-1

$Disp_{2,n-1}$ is the revenue from the disposal of assets in the second year of *pricing period* n-1

$Disp_{3,n-1}$ is the revenue from the disposal of assets in the third year of *pricing period* n-1

$R_1$ is the nominal vanilla WACC determined for the first year of *pricing period* n-1

$R_2$ is the nominal vanilla WACC determined for the second year of *pricing period* n-1

$R_3$ is the nominal vanilla WACC determined for the third year of *pricing period* n-1

## 9.5 Opening value of the capital base for subsequent pricing periods

The opening value of the *capital base* for *pricing period* n is calculated in accordance with Equation 7.

*Equation 7: Opening value of the capital base for subsequent pricing periods*

$$OB_n = RFV_n + WDV_n + fWDV_n$$

where:

$OB_n$ is the opening value of the *capital base* for *pricing period* n

$RFV_n$ is the rolled forward value of the *capital base* from *pricing period* n-1 to *pricing period* n

$WDV_n$ is the written down value of the actual *new facilities investment* incurred in *pricing period* n-1 that met the *new facilities investment test*

$fWDV_n$ is the written down value of the *new facilities investment* that is forecast to the end of *pricing period* n-1 and is reasonably expected to meet the *new facilities investment test*

## 9.6 Adjusting for the difference in the return on capital and depreciation

To ensure there is no double recovery of the return on *new facilities investment*, as required under section 51 of the *Code*, the forecast *new facilities investment* in *pricing period* n is adjusted for the variance between the:

- forecast return on the *new facilities investment* and the return on the actual *new facilities investment* in *pricing period* n-1
- forecast depreciation of the *new facilities investment* and the depreciation of the actual *new facilities investment* in *pricing period* n-1.

The adjustment for the difference in the return on capital and depreciation on the actual *new facilities investment* that was incurred in the *previous pricing period* that met the *new facilities investment test* and the return on capital and depreciation that was forecast in the *target revenue* for the *previous pricing period* in respect of forecast *new facilities investment* is calculated in accordance with Equation 8. The difference in the return on capital and depreciation is adjusted for the time value of money using the nominal vanilla WACC as determined for each year of the *previous pricing period*.

*Equation 8: Adjusting for the difference in the return on capital and depreciation*

$$\begin{aligned}\Delta ROC_n = {} & \left(ROC_{a,1} - ROC_{f,1} + Dep_{a,1} - Dep_{f,1}\right) \times (1 + R_1) \times (1 + R_2) \times (1 + R_3) \\ & + \left(ROC_{a,2} - ROC_{f,2} + Dep_{a,2} - Dep_{f,2}\right) \times (1 + R_2) \times (1 + R_3) \\ & + \left(ROC_{a,3} - ROC_{f,3} + Dep_{a,3} - Dep_{f,3}\right) \times (1 + R_3)\end{aligned}$$

where:

$\Delta ROC_n$ is the adjustment to the *capital base* in *pricing period* n for the difference in the return on capital on the actual *new facilities investment* incurred in *pricing period* n-1 that met the *new facilities investment test* and the return on capital forecast in respect of forecast *new facilities investment*

$ROC_{a,1}$ is the actual return on capital on the *new facilities investment* incurred in the first year of *pricing period* n-1 that met the *new facilities investment test*

$ROC_{a,2}$ is the actual return on capital on the *new facilities investment* incurred in the first and second year of *pricing period* n-1 that met the *new facilities investment test*

$ROC_{a,3}$ is the actual return on capital on the *new facilities investment* incurred in the first, second and third years of *pricing period* n-1 that met the *new facilities investment test*

$ROC_{f,1}$ is the return on capital forecast in the first year of *pricing period* n-1 in respect of forecast *new facilities investment*

$ROC_{f,2}$ is the return on capital forecast in the second year of *pricing period* n-1 in respect of forecast *new facilities investment*

$ROC_{f,3}$ is the return on capital forecast in the third year of *pricing period* n-1 in respect of forecast *new facilities investment*

$Dep_{a,1}$ is the actual depreciation on the *new facilities investment* incurred in the first year of *pricing period* n-1 that met the *new facilities investment test*

$Dep_{a,2}$ is the actual depreciation on the *new facilities investment* incurred in the first and second year of *pricing period* n-1 that met the *new facilities investment test*

$Dep_{a,3}$ is the actual depreciation on the *new facilities investment* incurred in the first, second and third years of *pricing period* n-1 that met the *new facilities investment test*

$Dep_{f,1}$ is the depreciation forecast in the first year of *pricing period* n-1 in respect of forecast *new facilities investment*

$Dep_{f,2}$ is the depreciation forecast in the second year of *pricing period* n-1 in respect of forecast *new facilities investment*

$Dep_{f,3}$ is the depreciation forecast in the third year of *pricing period* n-1 in respect of forecast *new facilities investment*

$R_1$ is the nominal vanilla WACC determined for the first year of *pricing period* n-1

$R_2$ is the nominal vanilla WACC determined for the second year of *pricing period* n-1

$R_3$ is the nominal vanilla WACC determined for the third year of *pricing period* n-1

The adjustment for the difference in the return on capital and depreciation ensures that there is no double recovery of the return on capital for *new facilities investment*, as required under section 51 of the *Code*.

# 10. FORECAST CAPITAL BASE FOR SUBSEQUENT PRICING PERIODS

The *capital base* for subsequent *pricing periods* is then forecast in the same way as for the *first pricing period*. That is, the value of the *capital base* at the end of each year *t* in *pricing period* n is calculated according to Equation 9.

*Equation 9: Closing value of capital base in year t of pricing period n*

$$CB_{t,n} = OB_{t,n} \times \left(1 + {}^{CPI_t}/_{CPI_{t-1}}\right) - Dep_{t,n} - ADep_{t,n}$$

where:

$CB_{t,n}$ is the closing value of the *capital base* in year t of *pricing period* n

$OB_{t,n}$ is the opening value of the *capital base* in year t of *pricing period* n

$CPI_t$ is the actual CPI (weighted average of eight capital cities) in June of year t, where the actual CPI is available, and the forecast CPI in June of year t, where the actual CPI is not available.

$CPI_{t-1}$ is the actual CPI (weighted average of eight capital cities) in June of year t-1, where the actual CPI is available, and the forecast CPI in June of year t-1, where the actual CPI is not available

$Dep_{t,n}$ is the forecast depreciation in respect of the *capital base* in year t of *pricing period* n

$ADep_{t,n}$ is the forecast accelerated depreciation in respect of the *capital base* in year t of *pricing period* n

The opening value of the *capital base* in year t+1 of *pricing period* n is the closing value of the *capital base* in year t of *pricing period* n, as per Equation 10.

*Equation 10:Opening value of capital base in year t+1 of pricing period n*

$$OB_{t+1,n} = CB_{t,n}$$

where:

$OB_{t+1,n}$ is the opening value of the *capital base* in year t+1 of *pricing period* n

# 11. DEPRECIATION

**Depreciation of ICB**

All historical expenditure included in the ICB is grouped by asset class, thereby aggregating assets of similar types, purposes and economic life (see Appendix A for details). The assets in each asset class in the ICB are depreciated according to their weighted remaining economic life, at the start date of the *first pricing period,* on a straight-line basis (on a real dollar basis) until the assets are fully recovered.

**Depreciation of new assets**

From the *first pricing period*, the assets added to each asset class in a given year will be depreciated according to their economic life on a straight-line basis (on a real dollar basis) until the assets are fully recovered.

**Asset classes**

The asset classes currently used by Horizon Power have been in use since 1 April 2006 when Horizon Power was formed through the disaggregation of Western Power Corporation.

Horizon Power has reviewed the legacy asset classes and the standard economic lives assumed for new assets to be added to each asset class (Appendix A) to confirm their continued suitability and alignment with good regulatory practice. This review found that the asset classes remain suitable.

The review also found that the standard economic lives assumed in this *Capital Base* Roll Forward Methodology are reasonable and broadly consistent with the range of asset lives used by other Australian electricity transmission and distribution network service providers.

**Accelerated depreciation**

The economic value of assets sometimes reduces more quickly than forecast, due to unforeseen damage, redundancy, technical obsolescence or other factors. Accordingly, it will sometimes be appropriate to accelerate the depreciation of some assets. In determining whether to accelerate the depreciation of any assets, Horizon Power has regard to the desirability of ensuring an equitable allocation of costs between current and future *user*s and of minimising year to year variability in prices.

Wherever Horizon Power accelerates the depreciation of a set of assets it will document the value of, and basis for, this treatment in its published *services and pricing policy*.

## 12. DISPOSALS

Horizon Power may, from time-to-time, dispose of assets that form part of its *capital base* and the revenue derived from such disposals will be deducted from the *capital base*.

Where an asset is to be subject to accelerated depreciation and some value can be recovered, such as through the sale of materials as scrap, the disposal revenue will offset (reduce) the total amount to be subject to accelerated depreciation.

Insurance payouts to compensate for damage to assets will be treated as disposals and deducted from the *capital base* or used to offset any amounts to be subject to accelerated depreciation.

## 13. REFERENCES

The following material is required and should be read in conjunction with this document:

| | |
|---|---|
| LEGAL REFERENCES: | Pilbara Networks Access Code 2021 (WA) |
| STANDARD & GUIDELINES: | Investment Governance Framework |
| RELATED POLICIES AND OTHER DOCUMENTS: | |

APPENDIX A – **Asset classes for each cost pool – standard economic lives assumed for new investments from 1 July 2021**

| Transmission / subtransmission | Economic Life | Distribution / Non-system / Corporate | Economic Life |
|---|---|---|---|
| Buildings | 40 | Buildings | 40 |
| Communication Equipment | 9 | Communication Equipment | 9 |
| Computer Equipment | 4 | Computer Equipment | 4 |
| Computer Software | 4 | Computer Software | 4 |
| Control/Monitoring/Communications & Protection | 11 | Control/Monitoring/Communications & Protection | 11 |
| Furniture & Fittings | 11 | Furniture & Fittings | 11 |
| Land | 0 | Land | 0 |
| Lines | 48 | Lines | 48 |
| Low Value Pool ($50-$1,000 with life>1year) | 4 | Low Value Pool ($50-$1,000 with life>1year) | 4 |
| Motor Vehicles | 10 | Motor Vehicles | 10 |
| Office Equipment | 7 | Office Equipment | 7 |
| Plant & Equipment | 18 | Plant & Equipment | 18 |
| Sub Stations | 40 | Sub Stations | 40 |
| Switch Yards | 50 | Transformers | 40 |
| Transformers | 40 | Connection assets | 40 |
| | | Metering | 15 |
| | | Public Lighting | 20 |

APPENDIX B – **Asset classes for each cost pool – weighted average remaining lives for investments made up to 1 July 2021**

| Transmission – East Pilbara | Economic Life | Transmission – West Pilbara | Economic Life | Sub-transmission | Economic Life |
|---|---|---|---|---|---|
| Buildings | 27.34 | Buildings | 30.07 | Lines | 45.00 |
| Control/Monitoring/Communications & Protection | 4.40 | Control/Monitoring/Communications & Protection | 7.56 | Plant & Equipment | 15.00 |
| Land | 0 | Land | 0 | Substations (A) | 40.00 |
| Lines | 20.89 | Lines | 24.64 | Substations (B) | 37.00 |
| Low Value Pool ($50-$1,000 with life>1year) | 1.54 | Low Value Pool ($50-$1,000 with life>1year) | 1.00 | Switchyards | 47.00 |
| Plant & Equipment | 12.26 | Plant & Equipment | 11.68 | | |
| Sub Stations | 25.82 | Sub Stations | 25.33 | | |
| Transformers | 32.24 | Transformers | 23.30 | | |

| Distribution HV – East Pilbara | Economic Life | Distribution HV – West Pilbara | Economic Life | Distribution LV | Economic Life |
|---|---|---|---|---|---|
| Buildings | 27.50 | Buildings | 29.40 | Buildings | 29.00 |
| Control/Monitoring/Communications & Protection | 7.19 | Land | 0 | Control/Monitoring/Communications & Protection | 6.25 |
| Land | 0 | Lines | 34.27 | Furniture & Fittings | 3.36 |
| Lines | 33.68 | Motor Vehicles | 10.00 | Lines | 37.40 |
| Low Value Pool ($50-$1,000 with life>1year) | 1.00 | Office Equipment | 3.00 | Low Value Pool ($50-$1,000 with life>1year) | 2.12 |
| Plant & Equipment | 11.42 | Plant & Equipment | 13.42 | Plant & Equipment | 16.02 |
| Sub Stations | 20.73 | Sub Stations | 28.96 | Connection assets | 35.78 |
| Transformers | 23.10 | Transformers | 29.23 | Metering | 15.00 |
| | | | | Public Lighting | 14.24 |

| Non-system | Economic Life | Corporate | Economic Life |
|---|---|---|---|
| Buildings | 23.24 | Buildings | 32.43 |
| Control/Monitoring/Communications & Protection | 6.01 | Communication Equipment | 7.00 |
| Furniture & Fittings | 3.15 | Computer Equipment | 2.40 |
| Land | 0 | Computer Software | 2.35 |
| Lines | 39.13 | Control/Monitoring/Communications & Protection | 5.59 |
| Motor Vehicles | 9.37 | Furniture & Fittings | 2.40 |
| Office Equipment | 1.84 | Land | 0 |
| Plant & Equipment | 10.07 | Lines | 44.67 |
| Sub Stations | 30.78 | Motor Vehicles | 7.33 |
| | | Office Equipment | 1.14 |
| | | Plant & Equipment | 12.15 |
| | | Sub Stations | 29.00 |
| | | Connection assets | 38.00 |
| | | Metering | 15.00 |