

Independent Pricing and Regulatory Tribunal
New South Wales

Working Capital Allowance

Policy Paper

Final report
Policies

November 2018

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1 Introduction

This policy paper explains IPART's method for calculating the working capital allowance that we include in a regulated business' notional revenue requirement (NRR) for price setting purposes. It reflects the final decisions of our 2018 review of this method.

We will apply the method in making price determinations that come into effect on or after 1 July 2019.

1.1 What is the working capital allowance?

We include this allowance in the NRR to ensure businesses can recover the costs they incur due to delays between them delivering regulated goods or services and receiving payment for those goods or services (net of any benefits they receive due to delays between them receiving goods or services and paying for those good or services). It typically represents around 1% of their NRR.

All regulators recognise that working capital is a legitimate business expense and should be recovered in regulated prices. However, not all include an *explicit* allowance for the expense, as we do. See Box 1.1 for more information.

1.2 To which regulated businesses does the method apply?

We will use our method to calculate the working capital allowance in setting prices for any regulated business with a Regulatory Asset Base (RAB), and where we use a 'building block' approach to set the NRR. This includes regulated businesses in the water and transport sectors, as well as other regulated entities such as the Valuer General.

1.3 How is this paper structured?

The paper is structured as follows:

- ▼ Chapter 2 provides an overview of our method for calculating the working capital allowance and explains how it differs from past practice.
- ▼ Chapter 3 explains this method in more detail, including how we will calculate each component of the allowance.
- ▼ Chapter 4 discusses our consideration of issues raised by stakeholders in making our final decisions on this method.
- ▼ Appendix A provides worked examples of how we will calculate the working capital allowance.

Box 1.1 Why we provide an *explicit* working capital allowance

In setting prices for a regulated business, we estimate the business' NRR, which reflects our view of the total efficient costs it must recover from customers to meet its service obligations. One of the costs we include in this estimate is working capital.

All regulators recognise that working capital is a legitimate business cost and provide for it to be recovered through regulated prices. However, some include an *implicit* allowance rather than an *explicit* allowance as we do. The difference between our approach and that of other regulators is explained below:

- ▼ Some regulators do not provide an explicit working capital allowance because they use a year-end value of the return of assets (ie, depreciation) and a proxy for the mid-year value of the return on assets^a in the NRR. This approach tends to create a 'bias' in favour of businesses that receive payments throughout the year, providing these businesses with extra income they can use to fund their working capital requirements. Thus, it provides an implicit working capital allowance.^b Regulators that use this approach include the AER, ESC, OFGEM and OFWAT.
- ▼ IPART differs from these regulators because we use a mid-year value of the return on and of assets in the NRR.^c Using a mid-year value does not create the same bias in favour of businesses that receive payments throughout the year, and so does not provide them with an implicit working capital allowance. Therefore, we must include an explicit allowance to ensure the businesses we regulate have sufficient working capital to cover their working capital requirements.

^a For example, ESC, OFWAT and OFGEM provide a return on the average of the opening and closing value of the RAB (ie, they apply the WACC to the mid-year value of the RAB).

^b See The Allen Consulting Group, *Working Capital Relevance for the Assessment of Reference Tariffs. Report to the ACCC*, March 2002

^c The IPART cost building block and pricing model on our website shows how we calculate the mid-year values in the NRR. The model is available at: <https://www.ipart.nsw.gov.au/Home/Industries/Special-Reviews/Regulatory-policy/IPART-cost-building-block-and-pricing-model>

2 Overview of method for calculating working capital allowance

Under our price setting approach, the working capital allowance represents the return the business could earn on the net amount of working capital that it requires each year to meet its service obligations. Our method for calculating the allowance involves two main steps. For each year of the determination period, we will:

1. calculate the net amount of working capital the business requires, then
2. calculate the return on this amount by multiplying it by the nominal post-tax WACC.¹

To calculate the net amount of working capital the business requires, we will use the following formula:

$$\text{Net working capital} = \text{receivables} - \text{payables} + \text{inventory} + \text{prepayments}$$

Where:

- ▼ Receivables means payments not yet received for goods and services already delivered.
- ▼ Payables means payments not yet made for goods and services already received.
- ▼ Inventory means goods held in stock by the business that are inputs into the production process and are necessary for it to meet its service obligations (eg, spare parts and chemicals).²
- ▼ Prepayments means payments made by the business in advance of receiving goods or services (eg, insurance premiums paid in advance).

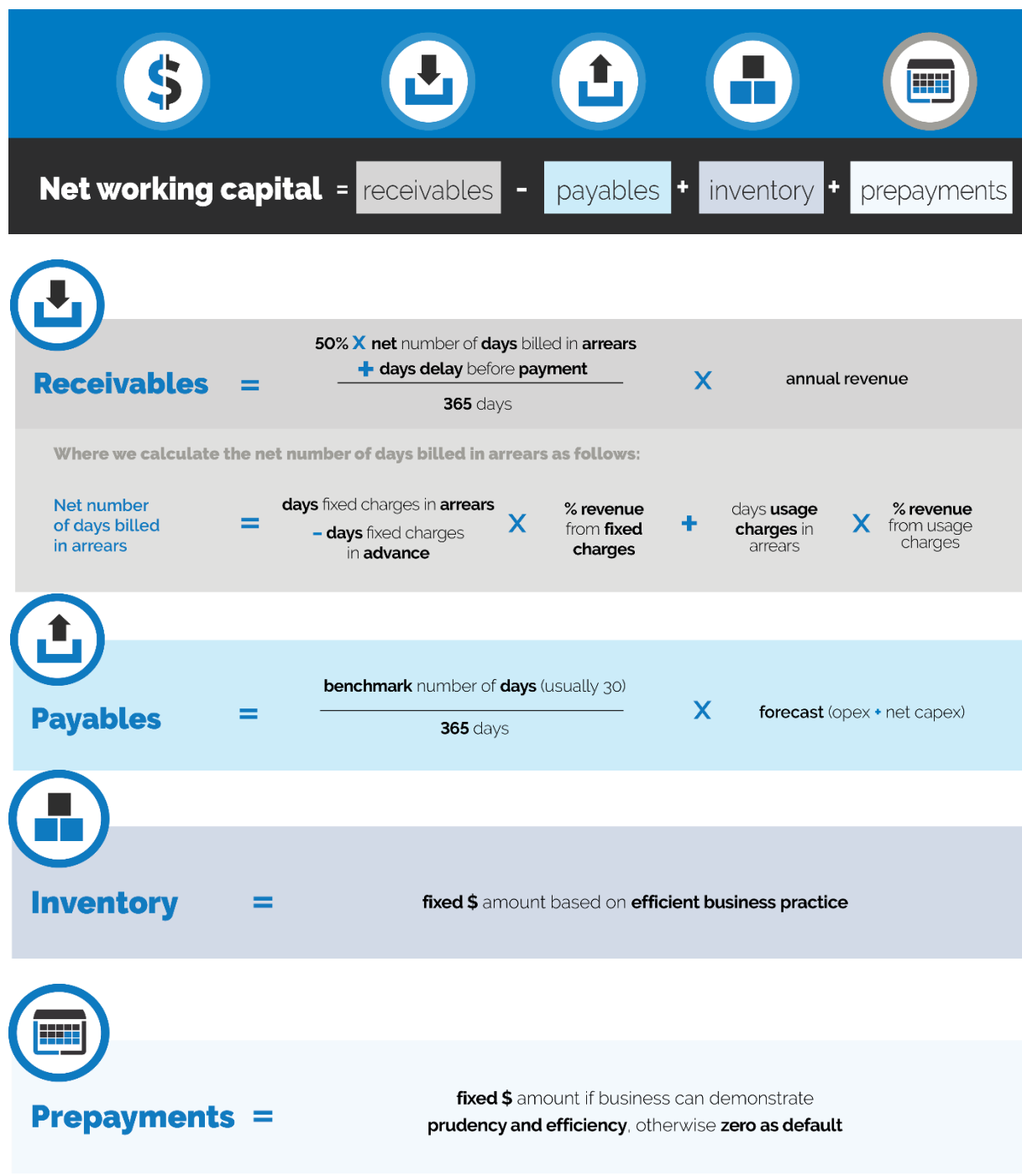
For water businesses, our method for calculating each component of net working capital is summarised in Figure 2.1. For non-water businesses, our method is the same as for water businesses, with the possible exception of how we will calculate receivables. Rather than using the approach shown on Figure 2.1, for non-water businesses we will decide on the appropriate method on a case-by-case basis in the context of the review. We will make this decision with reference to:

- ▼ our method for calculating receivables for water businesses, and
- ▼ the business' actual historical receivables where suitable information is available for the regulated part of the business.

¹ For information about how we calculate the WACC, see IPART, *Review of our WACC method, Final Report, Research*, February 2018.

² For regulated utilities inventory does not include goods held in stock for sale, eg, water held in a reservoir.

Figure 2.1 How we will calculate net working capital for a water business, for example^a



^a We will use the same method for a non-water business, with the possible exception of how we will calculate receivables.
Note: Net capital expenditure, which we will use to calculate payables, means capital expenditure net of cash capital contributions.

For water businesses that bill fixed charges in arrears only, the net number of days billed in arrears is equal to the number of days in the billing cycle. Therefore, the formula for receivables can be simplified to the one shown in Figure 2.2.

Figure 2.2 Simplified formula for calculating receivables for a water business, for example, that bills all charges in arrears



$$\text{Receivables} = \frac{50\% \times \text{billing cycle number of days} + \text{days delay before payment}}{365 \text{ days}} \times \text{annual revenue}$$

These methods for calculating net working capital differ from our previous methods in a number of important ways. Specifically, the updated methods:

- ▼ calculate receivables by taking into account, in addition to length of the billing cycle:
 - delays between the end of the billing cycle and when payment is received, and
 - the practice of billing fixed charges in advance of delivering a service
- ▼ specify both inventory and prepayments as a fixed dollar amount (real), rather than allowing them to vary with opex and capex, and
- ▼ set prepayments to zero as a default, unless a business can reasonably demonstrate the prudence and efficiency of prepayments.

In addition, we will use a nominal post-tax WACC to calculate the return on net working capital, instead of a real post-tax WACC as under our previous method (see Box 2.1).³

³ For more information see IPART, *Review of working capital allowance*, 20 July 2018, pp 8-9.

Box 2.1 Why will use a nominal WACC instead of a real WACC?

We previously used a real WACC to calculate the value of the return on net working capital, in line with our approach for calculating the return on the regulatory asset base (RAB). However, unlike our approach for the return on the RAB, we do not capitalise a cumulative inflationary gain in working capital. Instead, we calculate a working capital amount each year based on our estimate of the business' requirements for that year.

The reason we use a real WACC to calculate the return on RAB is to avoid compensating the business twice for inflation (because inflation is added to the RAB). But this reason does not apply to working capital. Therefore, we will use a nominal WACC to calculate the return on net working capital.

Like all other costs in the NRR, we will continue to forecast the return on working capital in real terms (ie, in base year dollars, before inflation is added). To do this, we will apply the nominal WACC to net working capital expressed in base year dollars.

Consistent with our regulatory framework, we will use a nominal **post-tax** WACC to calculate the return on working capital and a real **post-tax** WACC to calculate the return on the RAB.^a

^a Under a pre-tax WACC regulatory framework we would use a nominal **pre-tax** WACC to calculate the return on working capital and a real **pre-tax** WACC to calculate the return on the RAB. In 2012 we changed our regulatory approach from a pre-tax WACC to a post-tax WACC. (See IPART, *The incorporation of company tax in pricing determinations, Other Industries — Final Decision*, December 2011.)

Table 2.1 summarises the key differences between our previous and new methods.

Table 2.1 Key differences between our previous and updated methods

Item	Previous method	Updated method
Receivables, water businesses	Based on half the total number of days in billing cycle	<ul style="list-style-type: none">▼ Based on half the net number of days in the billing cycle for which services are billed in arrearsplus▼ efficient 'days of delay' between last day of billing cycle and receipt of payment, having regard to actual business practice
Receivables, non-water businesses	No explicit method or guidance	Measured in days of total revenue on a case-by-case basis, guided by <ul style="list-style-type: none">▼ method for water businesses and▼ actual historical receivables where suitable information is available
Payables	30 days of opex and net capex ^a	30 days of opex and net capex ^a
Inventory	Days of opex and net capex, having regard to actual business practice	Fixed real \$ amount, having regard to actual business practice and
Prepayments	Days of opex, having regard to actual business practice	Fixed real \$ amount for businesses that can reasonably demonstrate prudence and efficiency. Otherwise zero as a default.
Rate of return	Real post-tax WACC	Nominal post-tax WACC

^a Net capex means capital expenditure net of cash capital contributions.

Source: IPART

3 Method for calculating working capital allowance in detail

As the previous chapter outlined, our method for calculating the working capital allowance involves two steps:

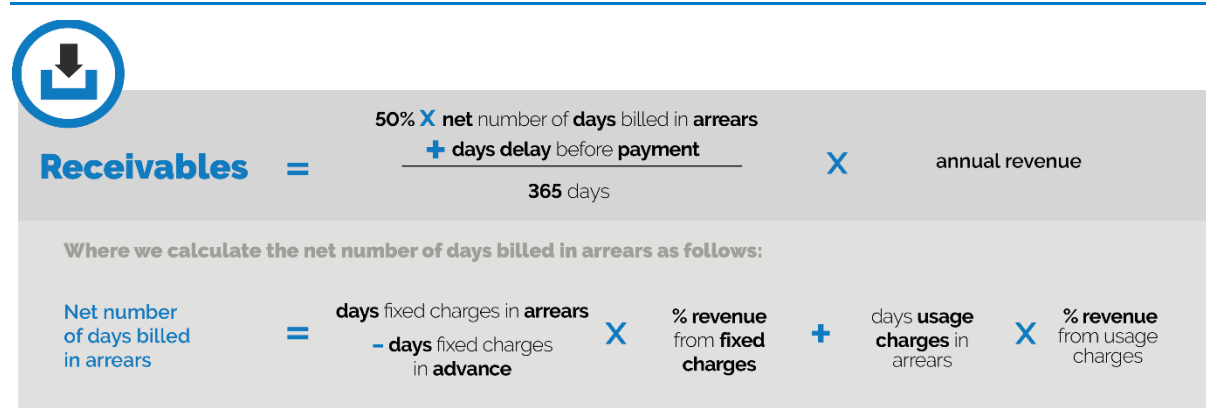
- ▼ **First, we calculate the net working capital the business requires.** This involves separately calculating four components – receivables; payables; inventory; and prepayments. The method we use to calculate receivables differs for water businesses and non-water businesses. The methods for the remaining components are the same for both groups of businesses.
- ▼ **Next, we calculate the return on the net working capital,** using the nominal post-tax WACC that we calculate as part of our price review.⁴ This return represents the working capital allowance.

The sections below explain our method for calculating each component of the net working capital required and the return on the net working capital.

3.1 Receivables – water businesses

Receivables are payments for goods and services not yet received for services the business has already delivered. We will calculate receivables for a water business in days of annual revenue, using the formula shown in Figure 3.1. (Appendix A provides a worked example of how we will apply this formula.)

Figure 3.1 How we will calculate receivables for a water business



Note: For a business that bills all charges in arrears, the net number of days in the billing cycle is equal to the total number of days in the billing cycle and the formula can be simplified (see Figure 3.2).

⁴ We use a real post-tax WACC to determine the return on capital, and to discount the return on capital and depreciation to their mid-year values.

As this figure shows, to determine **the number** of days of annual revenue, we will sum:

- ▼ half the net number of days in the billing cycle for which services are billed in arrears, and
- ▼ an efficient number of days of delay between the last day of the billing cycle and the receipt of payment.

3.1.1 Half the net number of days in billing cycle for which services are billed in arrears


Including half the net number of days in the billing cycle for which services are billed in arrears will compensate the business for delays between when it delivers a service (ie, every day) and when it can issue a bill (ie, at the end of a billing cycle, when the meter is read).

We will use the **net** number of days in the billing cycle rather than the **total** number of days to account for the practice by some businesses of billing fixed charges in advance (or partially in advance). The practice of billing in advance means that customers provide some of the business' working capital requirements up-front, and this reduces the amount that the business needs to recover through its fixed and usage charges. Box 3.1 provides a simple numerical example to explain this concept.

In deciding on the net number of days for which services are billed in arrears, for simplicity, we will use the same split in revenue between fixed and usage charges for the whole regulatory period. For example, we may estimate that 40% of revenue will come from fixed charges and the remaining 60% will come from usage charges. We will decide what the split should be on a case-by-case basis in the context of a review, with reference to actual historical revenue and other relevant information.

For a business that bills **all** services in arrears, the net number of days billed in arrears is equal to the total number of days in the billing cycle. For such a business, we can simplify the receivables formula as show in Figure 3.2 and Appendix A.

Figure 3.2 Receivables for a water business that bills all charges in arrears



50% X billing cycle number of days
+ days delay before payment

365 days

X

annual revenue

Receivables =

Box 3.1 Why we use half the net number of days billed in arrears

Case 1: Business A bills all fixed and usage charges in arrears

Business A has a billing cycle of 90 days, delivers a service on each day of the cycle and bills for the service it has provided at the end on the cycle (ie, it bills both fixed and usage charges arrears). Under these assumptions, Business A needs to 'carry' the cost of services delivered on day 1 for 90 days, day 2 for 89 days, day 3 for 88 days etc, until it finally carries the cost of services delivered on day 90 for only 1 day (because it can send a bill at the end of day 90).

This means that, on average, Business A 'carries' the cost for half the number of days in the billing cycle (ie, 45 days in this example). Therefore, we measure the working capital required for receivables during the billing cycle period based on half the number of days in the billing cycle.

Measured in this way, the dollar value of receivables will be equal to half the value of the bill. For example, if the bill for 90 days is \$100, then the value of receivables will be \$50.

Case 2: Business B bills fixed charges in advance and usage in arrears

Business B also has a billing cycle of 90 days, delivers a service on each day of the cycle and sends a bill at the end of the billing cycle. However, unlike Business A, Business B bills its fixed charges in advance and only its usage charges in arrears. This means that Business B's customers pay the fixed part of the bill upfront, before they receive the service.

Assume that Business B receives half of its revenue from fixed charges and the other half from usage charges and that the total bill for the period is \$100. Like Business A, Business B needs \$50 to cover its working capital requirement. But on day 1 of the billing cycle Business B's customer will already have paid \$50 in advance of receiving the service. In other words, the customer will already have provided the amount of working capital that Business B requires.

3.1.2 Efficient number of days delay between last day of billing cycle and receipt of payment

Including an efficient number of days of delay between the last day of the billing cycle and when it receives payment will compensate the business for the time between when it issues a bill to a customer and when it receives pay from that customer. This delay occurs for a range of reasons, including because:

- ▼ customers are given a period of time to pay their bills, typically 21 or 30 days
- ▼ some customers are given additional time to pay their bill before penalties⁵ apply – for example, customers with financial difficulties who are on a payment plan or for whom the business has agreed to extend the due date.
- ▼ there may be a delay between reading the meter and issuing a bill, and
- ▼ there may be a delay in bank payments being transferred to the business' account.

For each business, we will decide on the efficient number of 'days of delay' to include in the context of the review. In making our decision, we will have regard to the business' actual

⁵ Late payment fees or interest on overdue accounts.

practice (eg, contractual arrangements between the business and its customers, and the proportion of customers on payment plans).

However, we may use a different number of days to actual business practice if we consider actual business practice to be inefficient. In addition, we will use an appropriate industry-based benchmark number of 'days of delay' for businesses that do not provide us with sufficient information to reasonably understand and assess their actual business practice.

3.2 Receivables – non-water businesses

Regulated transport and other non-water business have a variety of billing/payment arrangements that differ from the water businesses. For example:

- ▼ a private ferry business may receive farebox revenue before or at the time it provides the service, and receive government subsidy payments in arrears
- ▼ a private bus operator may receive contract payments in arrears and not keep farebox revenue, and
- ▼ the Valuer General bills customers annually in arrears.

This diversity means we cannot establish a set of rules for calculating receivables for non-water businesses. Instead, we simply provide guidance on how we will calculate receivables for these businesses.

We will calculate receivables in days of total annual revenue, and we will decide on the appropriate number of days on a case-by-case basis in the context of the review. We will make this decision with reference to:

- ▼ our method for calculating receivables for water businesses, and
- ▼ the business' actual historical receivables where suitable information is available for the regulated part of the business.

3.3 Payables

Payables means payments not yet made for goods and services already received. We include payables in net working capital because we expect that an efficient business would delay making payments to its suppliers for as long as possible. This delay would mean that the suppliers are, in effect, providing some of the business' working capital requirements.

We will calculate payables in days of operating expenditure (opex) and capital expenditure net of cash capital contributions (net capex) using a benchmark number of days of expenditure, using the formula shown in Figure 3.3.

Figure 3.3 How we will calculate payables


$$\text{Payables} = \frac{\text{benchmark number of days (usually 30)}}{365 \text{ days}} \times \text{forecast (opex + net capex)}$$

Note: Net capital expenditure means capital expenditure net of cash capital contributions.

In general, for the benchmark number of days of delay in making payments to suppliers, we will use the standard contract payment period of 30 days as our default position. However, we may use a different number if there is a compelling reason to do so. For example, we may use fewer days for a transport business whose expenditure is dominated by labour (paid fortnightly) and fuel (paid upon purchase).

In forecasting the amount of payables, we will include opex and net capex in our formula. Although working capital is primarily held to fund day-to-day operations, rather than capital expenditure, we will include net capex because we:

- ▼ assume that net capex enters the RAB evenly throughout the year, and
- ▼ allow the business to earn a return on net capex as soon as it enters the RAB.


This means that the business earns a return on the last (say) 30 days' worth of net capex before it has paid for it (that is, while the supplier bears the financial burden). By including net capex in our forecast payables we correct for this (because we remove from the NRR the return on the last 30 days of net capex).

3.4 Inventory

Inventory means the goods held in stock by the business that are inputs into the production process and are necessary for it to meet its service obligations (eg, spare parts and chemicals).⁶

We will calculate inventory as a fixed dollar amount that remains unchanged in real terms over the determination period, as shown in Figure 3.4.

Figure 3.4 How we will calculate inventory


$$\text{Inventory} = \text{fixed \$ amount based on efficient business practice}$$

⁶ For regulated utilities inventory does not include goods held in stock for sale, eg, water held in a reservoir.

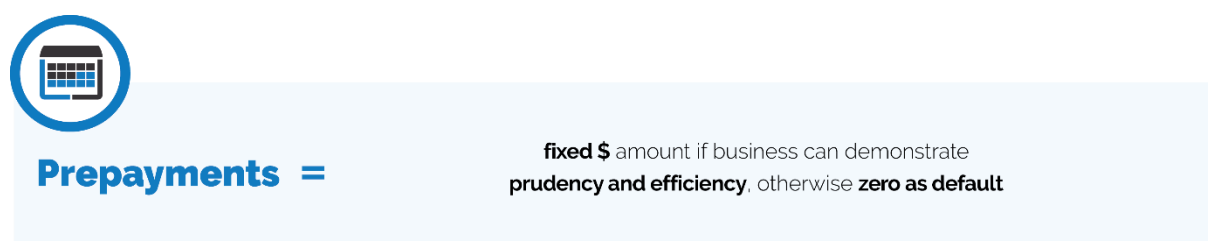
We will establish the appropriate dollar amount on a case-by-case basis in the context of a review, and with reference to the business’s actual inventory in recent years (if available) and/or other relevant information.

3.5 Prepayments

Prepayments are payments made by the business in advance of receiving goods or services. We will set pre-payments to zero as a default, as shown in Figure 3.5. Based on past experience, we consider that prepayments are likely to be small for most businesses and excluding them is likely to have a negligible impact on the NRR.

However, we will include an amount for prepayments if a business can reasonably demonstrate that the amount is prudent and efficient. For simplicity, if we include prepayments we will set them as a fixed dollar amount that remains unchanged in real terms over the determination period.

Figure 3.5 How we will calculate prepayments



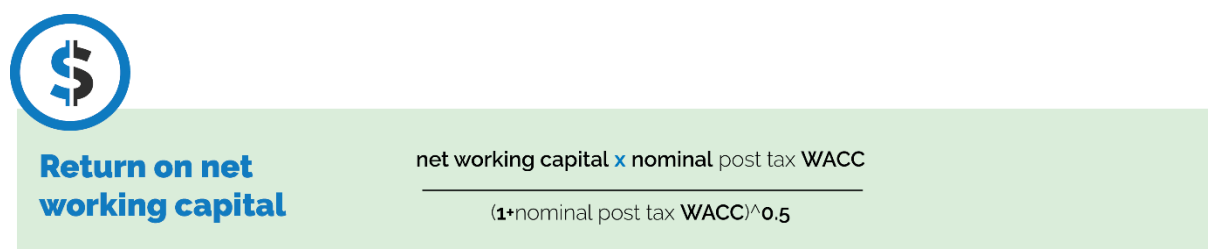
3.6 Return on net working capital

To determine the working capital allowance, we will calculate the return on the net working capital that the business needs each year by:

- ▼ multiplying net working capital by the nominal post-tax WACC, and then
- ▼ discounting the result to its mid-year value, consistent with our timing assumptions and treatment of return on and of the RAB.

We will use the formula shown in Figure 3.6. Box 1.1 provides more information about our timing assumptions.

Figure 3.6 How we will calculate the working capital allowance



Note: The denominator discounts the return on working capital to its mid-year value, consistent with our timing assumptions and treatment of return on and of the RAB (see Box 1.1).

We will use a nominal WACC rather than a real WACC because, unlike the RAB, we do not capitalise inflationary gain in net working capital.⁷ Box 3.2 explains why we use the WACC rather than the cost of debt.

Box 3.2 Why we use the WACC rather than the cost of debt

In principle, we could use either a WACC or a cost of debt to calculate the return on working capital. We use a WACC because we think it is the simplest, most consistent and most transparent approach, for two reasons.

First, when we set a WACC, we consider the financing requirements of the 'benchmark business' as a whole, including its need to finance both capex and working capital. If we were to use the cost of debt to calculate the return on working capital, in principle we would need to estimate two sets of WACC parameters – that is, one for the capex component and one for the working capital component of the business. But estimating two sets of WACC parameters would introduce a great deal of complexity into the regulatory process and reduce its transparency. On the other hand, if we were to use the cost of debt for working capital but estimate a single set of WACC parameters we would introduce inaccuracy into our calculations.

Second, if we use the cost of debt, we are implicitly assuming that the business debt-funds all its working capital requirements. However, regulated entities sometimes fund part of their working capital requirements from operating profits, and thus use a mix of debt and equity.^a

^a Deloitte, *Return on Working Capital in the Notional Revenue Requirement, Final report for the Independent Pricing and Regulatory Tribunal*, 5 July 2018, p20

⁷ For more information see IPART, *Review of working capital allowance*, 20 July 2018, pp 8-9.

4 Consideration of issues raised by stakeholders

As part of our 2018 review of how we calculate the working capital allowance, we published an Information Paper⁸ that set out proposed changes to our previous method, and invited stakeholders to comment.

We received four submissions – from Sydney Water, Hunter Water, Sydney Desalination Plant (SDP) and WaterNSW. The submissions are available on our website.⁹

We considered these submissions in making the final decisions reflected in this Policy Paper. The sections below discuss stakeholders' comments, and how we responded to the issues they raised in making our decisions.

4.1 Excluding prepayments

In the Information Paper we proposed to exclude prepayments on the grounds that we frequently do not have any information on them and, when we do have information, we generally find that they are very small. We considered that excluding them would have a negligible impact on the notional revenue requirement (NRR).

4.1.1 Stakeholder views

All submissions disagreed with our grounds for excluding prepayments and argued that, for them, prepayments are significant or could become significant due to changing business practice. They also argued that prepayments can be efficient business practice. For example:

- ▼ SPD stated that it pays insurance premiums up-front, that this is accepted commercial practice and that these premiums are material to the working capital allowance.¹⁰
- ▼ Sydney Water and Hunter Water stated that prepayments could become significant in the future as business practices change.¹¹
- ▼ Sydney Water argued that in some instances, prepayments are 'efficient and required' – for example, for IT licences and maintenance, rent, insurance and land tax.¹²

⁸ IPART, *Review of working capital allowance*, 20 July 2018. The Information Paper is available on our website at <https://www.ipart.nsw.gov.au/Home/Industries/Special-Reviews/Reviews/Working-capital/Review-of-working-capital-allowance?qDh=2>

⁹ <https://www.ipart.nsw.gov.au/Home/Industries/Special-Reviews/Reviews/Working-capital/Review-of-working-capital-allowance?qDh=3>

¹⁰ Sydney Desalination Plant, *SPD's Response to IPART's Review of Working Capital Allowance*, 12 September 2018.

¹¹ Sydney Water Corporation, *Sydney Water's response to IPART's Review of Working Capital Allowance*, 13 September 2018, p4 and Hunter Water Corporation, *IPART Review of Working Capital Allowance, Submission to Information Paper*, September 2018, p3.

¹² Sydney Water Corporation, *Sydney Water's response to IPART's Review of Working Capital Allowance*, 13 September 2018, pp 4-5.

The submissions proposed that we include prepayments in working capital for businesses that can reasonably demonstrate that such payments are prudent and efficient. Sydney Water further proposed that, for simplicity, we set prepayments as a fixed dollar amount that would remain unchanged in real terms over the determination period.¹³

4.1.2 Our response

We decided to accept the proposals made in the submissions. Therefore, we will set prepayments to zero as a default, but include prepayments as a fixed dollar amount (real) if a business can reasonably demonstrate that the amount is prudent and efficient.

4.2 Accounting for payments made after the due date in ‘days of delay’

The Information Paper proposed to include in receivables a “benchmark number of days of delay between the last day of the billing cycle and the receipt of payment”.¹⁴ To calculate the ‘days of delay’, we proposed to “assume that all customers pay their bills on or before the due date, because late payment fees compensate businesses for payments made after the due date”.¹⁵

The Information Paper omitted reference to interest on overdue accounts, which serves the same purpose as late payment fees. However, we have included interest on overdue accounts in our analysis and response to stakeholders.

4.2.1 Stakeholder views

Sydney Water and Hunter Water disagreed with our assumption that late payment fees and/or interest on overdue accounts fully compensate the business for payments made after the due date. Most importantly, they pointed out that where a customer is on a payment plan or they have extended the payment date for a customer, they are not permitted to levy late payment fees, or charge interest on overdue accounts. They also stated that they have a material number of such customers.¹⁶

4.2.2 Our response

We accept the practical issues raised by Sydney Water and Hunter Water in relation to our assumption. To address these concerns, we decided that when we calculate the number of ‘days of delay’, we will include an allowance for the additional time that is given to customers on payment plans or when the business has agreed to extend the payment date, because the provision of additional time is good business practice (and may be required by a utility’s operating licence). The effect of including additional ‘days of delay’ is that the costs are borne

¹³ Sydney Water Corporation, *Sydney Water’s response to IPART’s Review of Working Capital Allowance*, 13 September 2018, p5.

¹⁴ IPART, *Review of working capital allowance*, 20 July 2018, p1.

¹⁵ IPART, *Review of working capital allowance*, 20 July 2018, p1.

¹⁶ Sydney Water Corporation, *Sydney Water’s response to IPART’s Review of Working Capital Allowance*, 13 September 2018, pp 7-8 and Hunter Water Corporation, *IPART Review of Working Capital Allowance, Submission to Information Paper*, September 2018, pp 3-4.

by the broader customer base. In setting this allowance we will have regard to the business' customer profile and actual business practice.

4.3 Using an industry benchmark for 'days of delay'

In the Information Paper, we indicated that we would "determine the **benchmark** number of days of delay on a case-by-case basis in the context of the review, on the principle that this number should.... represent the average number of days of delay for an efficient business providing the same services" (emphasis added).¹⁷

4.3.1 Stakeholder views

SDP and Sydney Water expressed some concern over what 'benchmark' means:

- ▼ SDP was concerned that we would impose a water industry-wide benchmark number of days on it, rather than taking into consideration its contractual arrangements.¹⁸
- ▼ Sydney Water submitted that, for the sake of internal consistency, we should set the working capital allowance based on either
 - benchmark values for all parameters, or
 - actual business practice for all parameters.¹⁹

4.3.2 Our response

In response to these practical issues raised, we decided that we will estimate 'days of delay' based on the business' actual practice (including contractual arrangements and other practices). To do this, we will invite the business to provide information in its pricing submissions that will allow us to reasonably understand and assess its actual business practice.

We may use a different number of 'days of delay' to that proposed by the business if we consider its actual business practice to be inefficient.

We will use an appropriate industry-based benchmark for a business that does not provide sufficient information for us to reasonably understand and assess its actual business practice.

4.4 Unbilled usage charges on unread meters in receivables

The Information Paper proposed that we measure receivables in days of total revenue based on:

¹⁷ IPART, *Review of working capital allowance*, 20 July 2018, p1.

¹⁸ Sydney Desalination Plant, *SPD's Response to IPART's Review of Working Capital Allowance*, 12 September 2018.

¹⁹ Sydney Water Corporation, *Sydney Water's response to IPART's Review of Working Capital Allowance*, 13 September 2018, p7.

- ▼ half the **net** number of days in the billing cycle for which services are billed in arrears, which compensates the business for delays between delivering a service (every day) and when they can issue a bill for that service (at the end of the billing cycle, once they have read the meter - see Box 3.1), plus
- ▼ a benchmark number of days of delay between the last day of the billing cycle and the receipt of payment, which compensates the business for any delays between reading the meter and receiving payment.

4.4.1 Stakeholder views

Sydney Water and Hunter Water submitted that the proposed method for calculating receivables does not take into account unbilled usage charges on unread meters.²⁰ The term refers to water that has been used by customers but for which bills have not yet been issued, mainly because these customers' meters have not yet been read but also due to delays between reading meter and issuing a bill.

4.4.2 Our response

We decided not to include an additional allowance for unbilled unmetered usage charges because we consider that our method **does** account for unbilled usage charges on unread meters.

Given that usage charges are always billed in arrears, the first part of our formula (ie, net number of days in the billing cycle for which services are billed in arrears) compensates the business for unbilled usage charges on unread meters by an amount that is equal to half the revenue that it receives from usage charges over a billing cycle. For example, if a business has a 90-day billing cycle then the amount included in receivables for unbilled usage charges on unread meters would be 45 days' worth of revenue from usage charges. This amount compensates the business for unbilled usage charges on unread meters up to the day the meter is read.

The second part of our formula (ie, 'days of delay') allows us to compensate a business for a delay between reading a meter and issuing a bill.

The first part of our formula is expressed in terms of the **net** number of days billed in arrears (rather than the total number of days in the billing cycle) because some utilities bill their fixed charges partly or fully in advance. However, our method is mathematically equivalent to calculating receivables separately for fixed and usage charges then adding them together. The simple example in Box 4.1 demonstrates this equivalence.

²⁰ Sydney Water Corporation, *Sydney Water's response to IPART's Review of Working Capital Allowance*, 13 September 2018, p6 and Hunter Water Corporation, *IPART Review of Working Capital Allowance, Submission to Information Paper*, September 2018, p3.

Box 4.1 Receivables for a business that bills fixed charges in advance

Assume that a business has a 90-day billing cycle, bills all fixed charges in advance and receives \$1,000m of revenue per year. Also assume that the business recovers 40% of its revenue from fixed charges (ie, \$400m which it bills in advance) and the remainder from usage charges (ie, \$600m which it bills in arrears).

For simplicity, set 'days of delay' to zero.

METHOD 1 – Calculate receivables using our formula

Applying our formula (see Figure 2.1):

$$\text{Net number of days billed in arrears} = (0 - 90) \times 40\% + 90 \times 60\% = -36 + 54 = 18 \text{ days}$$

$$\text{Receivables} = (50\% \times 18) / 365 \times \$1,000\text{m} = \mathbf{\$25\text{m}}$$

METHOD 2 – Calculate receivables separately for fixed and usage charges

Receivables for fixed charges:

$$\text{Net number of days billed in arrears} = -90$$

$$\text{Receivables} = (50\% \times -90) / 365 \times \$400\text{m} = -\$49\text{m}$$

Receivables for usage charges

$$\text{Net number of days billed in arrears} = 90$$

$$\text{Receivables} = (50\% \times 90) / 365 \times \$600\text{m} = \$74\text{m}$$

Total receivables

$$\text{Receivables for fixed charges} + \text{receivables for usage charges} = -\$49\text{m} + \$74\text{m} = \mathbf{\$25\text{m}}$$

4.5 Net GST in receivables

Our Information Paper did not comment whether or not net GST should be taken into account in calculating receivables.

4.5.1 Stakeholder views

Sydney Water proposed that we include in receivables the difference between GST on payables to suppliers and receivables from customers, on the grounds that this amount is likely to be substantial for a water business because most of its services are GST-exempt.²¹

4.5.2 Our response

We decided we will not take into account a business' net GST balance when we calculate receivables (or more broadly, net working capital), on materiality grounds. In principle, we agree that a non-zero GST balance generates a working capital requirement. On the one hand,

²¹ Sydney Water Corporation, *Sydney Water's response to IPART's Review of Working Capital Allowance*, 13 September 2018, p8.

if a business pays more GST on its expenditure than it receives in income it will have a negative GST balance. The business bears the cost of this (negative) balance until the GST is reimbursed by the Australian Tax Office (ATO), creating a need for additional working capital. A water business will carry a negative GST balance because it pays GST on much of its expenditure but receives very little GST in revenue. On the other hand, if a business receives more GST in revenue than it pays in expenditure it will have a positive GST balance. The business can use this (positive) balance to fund its working capital requirements until it surrenders the balance to the ATO. A transport or energy business is likely to have a positive balance, on average, because a substantial proportion of its revenue includes GST.

But while we agree that a non-zero GST balance generates a working capital requirement, we also need to consider whether including this balance in working capital would have a material impact on a business' NRR. Materiality is important because, by including additional matters for consideration during a price review, we add to the regulatory burden on the business, stakeholders and the regulator. We consider that we should include additional matters only if the benefits outweigh the costs of doing so.

To establish materiality for the water businesses, we estimated the likely impact of including the net GST balance in working capital on Sydney Water, Hunter Water and WaterNSW (greater Sydney). We found that including net GST would have an immaterial impact on each business' NRR – an increase of around 0.01% to 0.02% (Table 4.1). We also did sensitivity analysis to test the maximum impact, and found that the NRR would increase by no more than 0.05% (see Box 4.2).

To establish materiality for transport businesses, we estimated what the impact would be on Sydney Trains, Inner Harbour and Manly Ferry services and two private ferry operators (Palm Beach and Cronulla). For these businesses, too, we found that including net GST would have an immaterial impact on the NRR – ranging between an increase of around 0.01% for Sydney Trains and a decrease of around 0.09% for Palm Beach Ferries (Table 4.1).²²

²² The ferry services on average have a positive net GST balance, because a large proportion of their revenue is derived from fares which include GST. We assumed that government Community Service Obligation (CSO) payments and subsidies paid to the transport businesses exclude GST. We also assumed that a private ferry operator would submit its BAS quarterly (not monthly), and as a consequence would derive greater benefit from holding a positive net GST balance than would a larger business that submits its BAS quarterly.

Table 4.1 Estimated impact of including the net GST balance in working capital

Agency	Impact on NRR	Proportion of revenue that includes GST ^{a,b}
Sydney Water	0.01%	0%
Hunter Water	0.02%	0%
WaterNSW (greater Sydney)	0.02%	0%
Sydney Trains	0.01%	20%
Ferries – Inner Harbour and Manly services	-0.00%	35%
Private ferries – Cronulla	-0.05% ^c	50%
Private ferries – Palm Beach	-0.09% ^c	75%

^a For the purposes of our calculations we assumed that the water businesses receive no GST in revenue

^b For the transport businesses, this represents the share of farebox revenue in total revenue. We assumed that government Community Service Obligation (CSO) payments and subsidies exclude GST.

^c We assumed that a private ferry business would submit its BAS quarterly (not monthly) and as a consequence would derive greater benefit from holding a positive net GST balance than would a larger business that submits its BAS quarterly.

Note: A negative impact on the NRR means the business has a positive net GST balance. Therefore, including net GST in the business' working capital would reduce their working capital allowance (because the business could use the positive balance to fund some of its working capital requirements).

Source: IPART calculations

Box 4.2 How we estimated the impact of including GST for the water businesses

We estimated the impact of including the net GST balance in working capital on NRR for Sydney Water, Hunter Water and WaterNSW (greater Sydney).

As a first step, we calculated a **maximum impact** by assuming that the business:

- ▼ pays GST on 100% of its opex and capex
- ▼ pays all the bills it receives for the month at or before the end of the month (eg, pays all the bills it receives in October by 31 October, including bills it receives on 31 October), and
- ▼ receives no GST in revenue.

Under these assumptions, including the net GST balance in working capital would increase the NRR by around 0.05%.

As a second step we calculated a **more likely impact** by taking into account that:

- ▼ Some opex and capex does not include GST, eg salaries and wages, bulk water purchases and capitalised labour costs. We (conservatively) estimated that around 30-40% of total expenditure does not include GST.
- ▼ The practice of accrual accounting reduces the amount of time between when a business pays GST and when it is reimbursed by the ATO. For example:
 - A large business submits its BAS to the ATO monthly,^a and is paid roughly 30 days in arrears.^b The business would therefore be reimbursed for the month ending 30 September at the end of October.
 - The business would submit to the ATO the GST payments on accounts that it had received up to 30 September, whether or not it had actually paid all the accounts. But because businesses generally have 30 days to pay their accounts, it would not yet have paid GST on all the accounts that it submitted to the ATO. This means, for example, that the business would pay GST on an account received at the end of September toward the end of October, which is more or less when it would be reimbursed by the ATO.

Consistent with our broader cash flow timing assumptions, we assumed that a business will have paid 50% of the accounts that it submits to the ATO for GST reimbursement. This assumption means that, on average, the business is reimbursed around 15 days after it pays GST.

Under these assumptions, including the net GST balance in working capital would increase each business' NRR by less than 0.02%. We maintained the assumption that the business receives no GST in revenue.

^a Businesses with a turnover of more than \$20 million per year must submit their BAS statements monthly. (<https://www.ato.gov.au/Business/GST/Lodging-your-BAS-or-annual-GST-return/Options-for-reporting-and-paying-GST/Monthly-GST-reporting/>)

^b Email advice from Sydney Water

In general, we consider it unlikely that including the net GST balance in working capital could have a material impact on a large (efficient) business' NRR over a sustained period because:

- ▼ higher GST payments arise due to higher expenditure, and higher expenditure in turn leads to a higher NRR (thus keeping the impact on the NRR more or less in line with our estimates, on average, over a number of years, albeit at a higher absolute value), and

- ▼ a large business must submit its BAS monthly,²³ thereby reducing the amount of time for which the business holds a (cash) net GST balance (ie, before the balance is settled between the ATO and the business).

A small business with a turnover of less than \$20 million per year, such as a private ferry operator, is permitted to submit its BAS quarterly, and may therefore have a comparatively large net GST balance. However, our estimates suggest that including net GST in working capital will not have a material impact on the NRR of the type of small business that we regulate. Furthermore, a business that receives GST in revenue (such as a private ferry operator) is unlikely to be materially disadvantaged if we exclude net GST from working capital because the business is likely to hold a positive net GST balance, on average, or at worst a small negative balance.

On balance, we consider that the regulatory burden of including a net GST balance in working capital outweighs the benefits of additional accuracy. Pricing reviews involve many, often complex issues and properly accounting for net GST in working capital could be a significant distraction from more material issues, for very little benefit. Accounting for net GST would involve the following steps:

- ▼ The business would need to make a claim in its pricing submission, and making a well justified claim would involve a fair amount of time and effort.
- ▼ The regulator would need to scrutinise that claim, which would likely involve follow-up questions to the business, and/or checking the claim against our own estimates. In turn, making our own estimates would require fairly detailed information such as the costs to which GST applies, the quantum of GST receipts and the timing of GST cash flows. We would seek to obtain this information from the business.

The costs are likely to exceed the benefits for both the regulated business and us. Within a price review, it is likely to be of more value to have the businesses (and any other interested stakeholders) focussing on the more material issues.

We also note that, despite our best endeavours, modelling a business' NRR is an inexact process and involves many estimates, simplifications and judgement calls about both inputs and calculation methods. All affected parties are better served by maintaining our focus on material issues.

²³ Businesses with a turnover of more than \$20 million per year must submit their BAS statements monthly (<https://www.ato.gov.au/Business/GST/Lodging-your-BAS-or-annual-GST-return/Options-for-reporting-and-paying-GST/Monthly-GST-reporting/>)

A Worked example of the working capital allowance

This appendix provides a worked example of how we will calculate the working capital allowance for two businesses that are the same in all respects except that:

- ▼ Business A bills all charges in arrears, and
- ▼ Business B bills fixed charges partly in advance.

Both businesses have a 90-day billing cycle and bill all usage charges in arrears. Business B bills fixed charges 20 days in arrears and 70 days in advance. Table A1 shows the assumptions that we have made for the worked example.

Table 4.2 Assumptions about Business A and Business B for the worked example

	Business A	Business B
Assumptions for receivables		
Billing cycle number of days ^a	90 days	90 days
Allowed 'days of delay' ^b	25 days	25 days
Number of days fixed charges billed in advance	0	70 days
Forecast revenue from charges	\$1,000m	\$1,000m
Share of fixed charges in total revenue	40%	40%
Assumptions for payables		
Operating expenditure (opex,)	\$420m	\$420m
Net capital expenditure (net capex)	\$200m	\$200m
Days of opex + net capex	\$30m	\$30m
Other working capital items		
Allowed inventory	\$4m	\$4m
Allowed prepayments ^c	\$0m	\$0m
Nominal post-tax WACC	6.5%	6.5%

^a Days between meter readings.

^b Days between reading the meter and receiving payment.

^c We set prepayments to zero as a default. We include prepayments only if a business can reasonably demonstrate that the amount is prudent and efficient.

Source: IPART calculations.

Business B receives significantly lower working capital allowance than Business A (\$4.3 million compared to \$9.1 million), because Business B's customers provide some of its working capital requirements by paying fixed charges partly in advance of receiving the service (Table A2).

Table 4.32 Worked example of the working capital allowance (\$ million)

	Business A	Business B
Net working capital		
<i>Net number of days billed in arrears</i>	$(90-0) \times 40\% + 90 \times 60\%$ = 90	$(20-70) \times 40\% + 90 \times 60\%$ = 34
Total receivables	$(90/2+25)/365 \times \$1,000$ = \$192	$(34/2+25)/365 \times \$1,000$ = \$115
Payables	$30/365 \times (\$420+\$200)$ = \$51	$30/365 \times (\$420+\$200)$ = \$51
Inventory	\$4	\$4
Prepayments	\$0	\$0
Net working capital	$\$192 - \$51 + \$4 + \0 = \$145	$\$115 - \$51 + \$4 + \0 = \$68
Working capital allowance		
Nominal post-tax WACC	6.5%	6.5%
Return on working capital	$(\$145 \times 6.5\%)/(1+6.5\%)^{0.5}$ = \$9.1	$(\$68 \times 6.5\%)/(1+6.5\%)^{0.5}$ = \$4.3

Note: Business A and Business B are the same in all respects except that Business B bills fixed charges 20 days of fixed charges in arrears and 70 days of fixed charges in advance and over the 90 day billing cycle. Business A bill all charges in arrears.

Source: IPART calculations.