‘Reasons’ Paper in support of Fonterra’s base milk price for the 2013/14 Season

1 July 2014

Glossary

2012/13 Base Milk Price Report	Commerce Commission, Dairy Industry Restructuring Act 2001: Review of Fonterra's 2012/13 base milk price calculation, Final report, 16 September 2013. http://comcom.govt.nz/regulated-industries/dairy-industry/review-of-fonterra-s-farm-gate-milk-price-and-manual/statutory-review-of-milk-price-calculation-2/review-of-milk-price-calculation-201213-season/
Adjustment Amount	The difference between the Farmgate Milk Price and the base milk price in 2013/14, which at 31 May 2014 was forecast to be 55 cents per kgMS.
AMF	Anhydrous milkfat
base milk price	The average price per kilogram of milksolids paid by Fonterra for milk supplied to it in New Zealand in the 2013/14 Season. As the context requires, this price is also sometimes referred to as the 'actual milk price' for a season.
BCP	Base commodity price, or FAS-equivalent commodity price.
BMP	Buttermilk powder
Codex	The Codex Alimentarius Commission, which is responsible for the development of harmonised international food standards, guidelines and codes of practice.
DIRA	Dairy Industry Restructuring Act 2001
DWU	Dairy workers union
EBIT	Earnings before interest and tax
FAS	Free alongside ship.
GDT	GlobalDairyTrade
Farmgate Milk Price	The average price per kilogram of milksolids calculated according to the Farmgate Milk Price Manual
kgMS	Kilogram of milksolids
MPG	Milk Price Group, the independent group responsible for calculating the base milk price.
NMPB	Notional Milk Price Business, comprising the notional milk powder manufacturing business implied by Fonterra's Farmgate Milk Price Manual.
NZD	New Zealand dollars.
RCP	Reference commodity product, comprising WMP, SMP, BMP, Butter and AMF.
Reference Basket	The basket of RCPs used to calculate the Farmgate Milk Price.
Season	The period commencing on 1 June 2012 and ending on 31 May 2014.
SMP	Skimmilk powder
USD	United States dollars.
WACC	Weighted average cost of capital.
WMP	Wholemilk powder

1 July 2014

To: The Commerce Commission

1. Fonterra Co-operative Group Limited ("Fonterra"), certifies that in terms of section 150T(b) of the Dairy Industry Restructuring Act 2001 ("Act") that in its view the assumptions, inputs and processes, including the calculation of the Farmgate Milk Price, used to calculate the base milk price as provided for in s150N(1)(a) are, in all material respects, consistent with the purpose of subpart 5A of the Act;
2. This view is based on
    a. our interpretation of subpart 5A, and the other relevant assumptions, views and qualifications set out in the accompanying reasons provided pursuant to s 150T(c); and
    b. Information set out in this document and in Attachments 1 to 4 which are provided to the Commission pursuant to section 150T(a), and made publicly available pursuant to 150N(2)(ii)

Signed by

Mike Cronin
Group Director
Governance & Legal
Fonterra Co-operative Group Limited

PART A

This paper provides detailed submissions in support of Fonterra's certification in respect of the 2013/14 base milk price, as required under section 150T of the Dairy Industry Restructuring Act 2001 (DIRA). Section 150T provides that Fonterra must:

- Provide the Commission with the assumptions adopted and the inputs and process used by Fonterra in calculating the base milk price for the relevant season (section 150T(a));
- Certify to the Commission the extent to which, in Fonterra's view, the assumptions adopted and the inputs and process used in calculating the base milk price are consistent with the purpose of subpart 5A of DIRA (section 150T(b)); and
- Provide the Commission with reasons for the view expressed in its certificate (section 150T(c)).

Fonterra has adopted a two stage process toward setting the base milk price for 2013/14:

- Under the first stage, Fonterra has calculated the Farmgate Milk Price in accordance with the Farmgate Milk Price Manual. At 1 July 2014 the forecast Farmgate Milk Price for 2013/14 was $8.95 per kgMS.[1]
- Under the second stage, Fonterra has calculated an Adjustment Amount, which is deducted from the Farmgate Milk Price to determine the base milk price. At 31 May 2014 the forecast 2013/14 Adjustment Amount was 55 cents per kgMS, and the forecast base milk price for 2013/14 was therefore $8.40 per kgMS. Accordingly, this paper is structured in three sections:
- In this part (Part A), we set out our interpretation of the key legislative provisions (section 1) and provide an overview of the governance and assurance mechanisms relevant to both the base milk price and the Farmgate Milk Price calculation (section 2).
- In Part B, we set out the inputs, assumptions and processes applied in the calculation of the Farmgate Milk Price for 2013/14, and explain the reasons why, in our view, these inputs, assumptions and processes are in all material respects consistent with the purpose of subpart 5A of DIRA. Part B has been prepared under the oversight of the Milk Price Panel, and where relevant reflects the Panel's views.
- In Part C, we explain the reasons for applying an adjustment to the Farmgate Milk Price, and set out the inputs, assumptions and processes applied in the calculation of the Adjustment Amount.

1 Our interpretation of key legislative provisions

This submission is provided in accordance with section 150T of DIRA, under which we are required to "certify … the extent to which, in [our] view, the assumptions adopted and the inputs and process used … in calculating the proposed base milk price are consistent with the purpose of this subpart", which is located in section 150A. We set out in this section the assumptions we have made regarding the interpretation of sections 150T and 150A in preparing this submission.[2] We also comment briefly on the definition of 'base milk price'.

Section 150A

Section 150A(1) provides that "the purpose of this subpart is to promote the setting of a base milk price that provides an incentive to [Fonterra] to operate efficiently while providing for contestability in the market for the purchase of milk from farmers. Section 150A(2) further provides that the 'contestability' test is satisfied if 'any' "notional costs, revenues or other assumptions ... are practically feasible for an efficient processor."

The Commission has set out its interpretation of section 150A in both its review of the 2012/13 base milk price calculation[3] and its report on its review of Fonterra's 2013/14 Milk Price Manual.[4] In brief, the Commission's view is that:

- "The primary focus of the efficiency dimension [is on] ... improving incentives for Fonterra to drive cost efficiencies."[5]
- "If the assumptions used in setting the base milk price are practically feasible, the contestability dimension is satisfied."[6]
- It is "not required to choose between the priority of the contestability and the efficiency dimensions in section 150A to assess whether the purpose is satisfied."[7]

We have previously noted that we broadly agree with the Commission's interpretation of section 150A, but again emphasise that we consider dimensions of efficiency other than productive efficiency are also relevant in considering whether the base milk price appropriately incentivises Fonterra to operate efficiently. In particular, the milk price methodology is intended to create appropriate incentives for Fonterra to make efficient and innovative investment decisions. The absolute level of the milk price is relevant in this context, since a base milk price that was structurally 'too low' would incentivise inefficient investment decisions, and a base milk price that was structurally 'too high' would disincentivise efficient decisions.

The Efficiency Dimension

The Commission explains in section 3.4 of the Manual Report that its practical approach to assessing the extent to which the base milk price incentivises Fonterra to operate efficiently is to assess the following:

- The extent to which the provisions in the Manual incentivise Fonterra to operate efficiently through the use of notional components.
- Where the provisions in the Manual require the use of actual values, to determine:
    a. whether notional data could reasonably have been used instead, and
    b. whether the use of actual data distorts or weakens incentives for Fonterra to improve efficiency.

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[2] Our comments in this section draw heavily on our submission dated 17 May 2013 on the Commission's *Process Paper – Review of base milk price calculation*, 3 May 2013 (the 'Process Paper').
[3] *The Dairy Industry Restructuring Act 2001 – Review of Fonterra's 2012/13 base milk price calculation* (the 'Calculation Report').
[4] *The Dairy Industry Restructuring Act 2001 – Review of Fonterra's 2013/14 Milk Price Manual*, 16 December 2013(the 'Manual Report').
[5] The Manual Report, p.30.
[6] The Manual Report, p.31.
[7] The Manual Report, p.31.

The Commission also notes (Section 3.3) that it considers it reasonable to use actual data where:

1. There is insufficient information to know what an appropriate notional value would be, or
2. Fonterra has very limited control over the actual costs used for the benchmark.

We address these questions where relevant in our comments in this paper. In doing so, we interpret the term 'actual value' to refer to the actual value achieved by Fonterra for the relevant input in the 2013/14 year. In many cases, inputs are derived by reference to actual values achieved by Fonterra in prior years (adjusted for relevant factors such as inflation), or by reference to the actual values expected to be achieved by Fonterra in 2013/14 (e.g. budgeted amounts). We consider these inputs to be 'notional' since, consistent with the Commission's framework, the use of inputs derived in this manner still incentivises Fonterra to minimise (for costs) or maximise (for revenue) the corresponding actual amounts.

The Contestability Dimension

The Commission's approach to assessing the base milk price against the contestability dimension of section 150A is set out in paragraphs 3.5 -3.14 of the Manual Report. In brief, the Commission explains that its practical approach to assessing the extent to which the base milk price is consistent with the contestability dimension is to ask the following questions:

1. Is each individual assumption or input practically feasible for Fonterra?
2. If the assumption or input is practically feasible for Fonterra, is this due to features unique to Fonterra which do not relate to Fonterra acting efficiently? (The Commission notes that if this were the case, the relevant assumption or input may not be practically feasible for another efficient processor and it has therefore included a cross-check to identify whether its assessment is being affected by features unique to Fonterra which are not subject to 'safe harbour' provisions.)
3. Is there overall consistency among the assumptions used to calculate the base milk price?

Fonterra broadly agrees with this approach and reiterates the comments it made in its section 150L(e) reasons dated 31 August 2012 (at 6) to the effect that:

- It is important to recognise that for each particular assumption or input used, there will be a range of practically feasible options.
- While the initial focus will be on individual inputs and assumptions, when it comes to the overall milk price calculated under the Manual it may be that there are a number of "unders" and "overs" that cancel each other out.

Our detailed comments below focus mainly on addressing question (1) with respect to each input and assumption used in the calculation of the base milk price. Where relevant, we also comment on whether we consider the relevant input or assumption to be practically feasible for other efficient processors, and on the internal consistency of the various assumptions and inputs.

Section 150T

Section 150T(b) refers to "the **proposed** base milk price" [emphasis added], whereas section 150T(a) simply refers to "the base milk price". Fonterra will not finalise its milk price for the current season until after 31 July 2014 (the last day of Fonterra's financial year). Consequently, our certification and reasons, and the assumptions, inputs and processes separately provided to the Commission, are all in respect of the proposed, rather than final, base milk price for the 2013/14 season. We will provide the Commission with the inputs used in the calculation of the final base milk price for the season when the calculation has been completed, and will at that time advise the Commission of any amendments to the process or assumptions employed in the course of generating the final base milk price.

Consistent with our Reasons paper in respect of the 2012/13 base milk price, we have interpreted the key terms in the phrase "assumptions adopted, and the inputs and process used" as follows:[8]

- 'Inputs' as meaning the specific values used in calculating the base milk price for the 2013/14 year. Depending on context, these values could be expressed either as a quantum ('NZD 2.3 million'), in descriptive terms ('volume-weighted average price achieved for all NZ-sourced WMP sold on GlobalDairyTrade and shipped in the relevant month'), or both.
- 'Assumptions' as meaning the rationale underpinning the approach used to calculate each input, including the rationale for use of notional or actual values.
- 'Processes' as meaning both:
  - the approach used to (a) generate each input and (b) aggregate those inputs to produce the base milk price, and
  - the processes and controls implemented by Fonterra to ensure individual inputs and the overall milk price accurately reflect the underlying data and rules.

Definition of base milk price

The term 'base milk price' is defined in section 4 of DIRA as meaning "in relation to a season ... the price per kilogram of milksolids that is set by [Fonterra] for that season." We note:

- Fonterra does not pay a uniform price for each kilogram of milksolids supplied to it in a season. Among other things, the average net price per kilogram received by suppliers will vary with relative protein and milkfat content, with supply profile across the season, with water content and with milk quality.
- The output of the calculation methodology established by the Farmgate Milk Price Manual is the minimum aggregate amount that Fonterra will pay (other than in exceptional circumstances) for milk supplied to Fonterra in New Zealand, and the Manual is silent on the allocation of that minimum aggregate amount across individual supply.[9]
- Simply as a matter of convenience, however, the Manual defines 'Milk Price' to mean the minimum aggregate amount calculated under the Manual, divided by total kilograms of milksolids supplied to Fonterra in the season.

In preparing this submission we have used the term 'Farmgate Milk Price' as meaning the average Milk Price calculated under the Milk Price Manual and have interpreted the term 'base milk price' as meaning the average amount per kgMS actually paid by Fonterra.

[8] Submission to the Commerce Commission 'Reasons' Paper in support of Fonterra's base milk price for the 2012/13 Season. Issued on 1 July 2013.

[9] The 'exceptional circumstances' resulting in Fonterra forecasting a base milk price for 2013/14 that is less than the minimum aggregate amount calculated under the Manual are explained in Part C.

2 Governance & assurance mechanisms relevant to the base milk price

As noted above, we interpret the term 'process' in section 150T to cover both the processes used by Fonterra to generate and aggregate the various inputs into the base milk price, and the processes and controls implemented by Fonterra to ensure individual inputs and the overall milk price accurately reflect the underlying data and rules. In addition, Fonterra has put in place a number of mechanisms to provide assurance that the Milk Price is consistent with the Milk Price Principles set out in both the Milk Price Manual and in Fonterra's constitution.

We set out and comment in the section on (a) the governance and assurance processes used to ensure the that the individual inputs and overall milk price accurately reflect the underlying data and rules and (b) the mechanisms used to obtain assurance that the Milk Price is consistent with the Milk Price Principles, and

Governance and assurance mechanisms

Fonterra has in place an extensive number of governance and assurance mechanisms to satisfy itself and other stakeholders in the milk price with respect to:

- The integrity of data used in the calculation of the base milk price that is extracted from Fonterra's systems.
- The integrity of the calculation methodology (for example, that the financial models used to calculate the base milk price are arithmetically correct, and that they contain the correct inputs).
- The consistency of the calculation methodology with the rules set out in the Milk Price Manual.
- The consistency of changes to the Milk Price Manual, and of the application of the Manual, to the Milk Price Principles, as set out in Fonterra's constitution and in section 2 of Part A of the Milk Price Manual.

These mechanisms comprise:

1. The **Fonterra Board**, which is accountable for the overall setting of the base milk price. The Fonterra Board will have responsibility in particular this year for exercising oversight over the calculation, and determining the final quantum, of the Adjustment Amount. If the base milk price for 2013/14 agreed to by the Board differs from the milk price recommended by the Milk Price Panel, the Board will also be responsible for making publicly available, in accordance with section 150N(2) of DIRA, the Panel's recommendation and the reasons for setting the base milk price other than in accordance with the Panel's recommendation.

2. The **Milk Price Panel**, which Fonterra has maintained since the introduction of the current milk price mechanism in 2008, and which it is now statutorily required to maintain under section 150D of DIRA. The Panel has five members, four of whom (including the chair) are independent, as that term is defined in DIRA. Two members of the Panel are Fonterra appointed directors (one of whom is the Chair), one a farmer-elected director and two are appropriately qualified nominees of the Fonterra Shareholders' Council. The current members of the Panel are John Waller (Chair) and David Jackson who are appointed Fonterra directors; Michael Spaans who is a farmer-elected Fonterra director; and Richard Punter and Paddy Boyle who are nominees of the Council.

   The Panel oversees the governance of the Farmgate Milk Price and the Manual, including changes to the Manual and verification by independent external experts of key parameters (such as resource usage rates, product yields and fixed manufacturing costs). The Panel is responsible for providing recommendations to the Board on the base milk price, changes to the Manual and assurance to the Board that the Farmgate Milk Price each year has been calculated in accordance with the Manual. The Panel has met on nine occasions in the course of the 2013/14 season and the corresponding financial year.

Because the Panel's role under its terms of reference[10] is restricted to oversight of the calculation of the Farmgate Milk Price, and because the circumstances that have given rise to the likelihood that it will be necessary to pay an actual base milk price that is less than the Farmgate Milk Price reflect matters that fall outside the Panel's areas of responsibility and expertise, the Panel will not exercise any oversight over the determination of the Adjustment Amount. Consequently, it is anticipated that the Panel will recommend to the Board that the base milk be set equal to the Farmgate Milk Price.

3. The **Milk Price Group**, which is responsible for:
   - Calculating the actual Farmgate Milk Price for a year, and for providing assurance to the Board with respect to forecasts of the Farmgate Milk Price.
   - Advising the Panel on the interpretation and administration of the Manual, including recommending to the Panel amendments to the Manual.
   - Appointing and overseeing the work of independent reviewers and other experts.
   - Determining the continued consistency of the Manual and its application with the Milk Price Principles.

   The head of the Milk Price Group is appointed by the Board, must be independent of Fonterra, and reports directly to the Milk Price Panel. The group is largely resourced by Ernst & Young.

4. Fonterra's external auditor, **PwC**, which is responsible for auditing the Farmgate Milk Price each year and whose work includes providing assurance on the accuracy of the calculation and of data sourced from Fonterra's systems, and that the calculation is undertaken in accordance with the Milk Price Manual.

5. **Fonterra's Internal Audit function**, which provides assurance over the integrity of data sourced from Fonterra's systems, including with respect to the controls maintained to ensure ongoing data integrity.

6. An internal Fonterra unit, the **Milk Price Management Steering Committee**, which co-ordinates with the Milk Price Group to provide management input on Farmgate Milk Price matters, including on ensuring the Farmgate Milk Price calculation takes into account the full range of costs and matters impacting on the revenue of a manufacturer of commodity milkpowders and their by-products.

[10] The Milk Price Panel's terms of reference are publicly available, as required under section 150D(5) of DIRA, at http://www.fonterra.com/wps/wcm/connect/9bc7abbb-bbbe-4b47-905c-bdc1a6c52f9f/Milk+Price+Panel+Terms+of+Reference+2012.pdf?MOD=AJPERES .

PART B

This part sets out the reasons for the view expressed in our certificate that the assumptions, inputs and processes used to calculate the Farmgate Milk Price are in all material respects consistent with the purpose of subpart 5A of DIRA (section 150A). The part is organised as follows:

- In section 3, we provide an overview of the calculation methodology and its components, to provide an overall context to the submissions on individual inputs contained in the subsequent sections.
- In section 4, we consider the 'safe harbour' provisions contained in section 150B of DIRA, and set out the reasons in support of our certification that Fonterra has applied the safe harbour assumptions in calculating the base milk price.
- In section 5, we set out the inputs, assumptions and processes applied in the course of calculating the revenue component of the base milk price, and provide our views on the extent to which these are consistent with section 150A of DIRA.
- In section 6, we set out the inputs, assumptions and processes applied in the course of calculating the 'cash costs' component of the base milk price, and provide our views on the extent to which these are consistent with section 150A.
- In section 7, we set out the inputs, assumptions and processes applied in the course of calculating the 'capital costs' component of the base milk price, and provide our views on the extent to which these are consistent with section 150A.
- Finally, in section 8 we comment on the internal consistency of the various inputs, assumptions and processes considered in sections 4 – 7, and set out the reasons why, in our view, the overall application of these inputs, assumptions and processes are in aggregate consistent with section 150A.

We have separately provided the Commission with the various financial models and data used to calculate Fonterra's estimate of the Farmgate Milk Price for the 2013/14 season as at 31 May 2014 (Fonterra's most recent full forecast). These are listed in Attachment 2. We have also separately provided to the Commission a considerable amount of material that is confidential to Fonterra in support of various statements made in this document. This material is listed in Attachment 3.

3 Overview of the calculation methodology

We provide in this section an overview of the methodology used to calculate the Farmgate Milk Price, and cross-references to the sections of this document that contain detailed information on each component.

As described in the Milk Price Manual, the Farmgate Milk Price is calculated, in broad terms, as the residual amount available to pay for milk supplied to Fonterra after calculating:

1. The **revenue** that a commodity manufacturer of milkpowders and their by-products would receive in respect of product manufactured from milk supplied to it in a season, under the following assumptions:
   - Total milk supply equalled Fonterra's actual supply for a season, including the actual composition (fat, protein etc.) of the milk supplied to Fonterra.
   - Milk was allocated to the manufacture of WMP and SMP, and cream to the manufacture of Butter and AMF, in proportion to Fonterra's actual allocation of milk and cream to those products.
   - Finished product was sold at the same time as Fonterra's sales of each product.
   - The product was sold on GDT, at the same prices as those achieved by Fonterra.
   - The resulting USD revenue was converted to NZD at the same conversion rates as those achieved by Fonterra.

   The inputs, processes and assumptions applied in calculating the revenue assumed in the Farmgate Milk Price calculation, and our views on the consistency of each of these with section 150A of DIRA, are set out in section 5 below.

2. Less the **cash costs** that the commodity manufacturer described in (1) above could reasonably be expected to incur in respect of the relevant season. These costs include selling costs, collection costs, direct and indirect manufacturing costs, storage and other logistics costs, and various costs of an administrative or overhead nature.

   The inputs, processes and assumptions applied in calculating the cash costs assumed in the Farmgate Milk Price calculation, and our views on the consistency of each of these with section 150A of DIRA, are set out in section 6 below.

3. Less the **capital costs** that the commodity manufacturer described in (1) above could reasonably be expected to incur in respect of the relevant season. These costs including the costs associated with installing, financing and replacing the fixed assets required to manufacture the products (and volumes of those products) assumed in the revenue calculation, and the costs of financing the level of working capital implied by the timing of milk supply, production, sales and payment for milk (assuming the timing of payment for milk is aligned to Fonterra's).

   The inputs, processes and assumptions applied in calculating the capital costs assumed in the Farmgate Milk Price calculation, and our views on the consistency of each of these with section 150A of DIRA, are set out in section 7 below.

4 Section 150B Safe Harbour Assumptions

Section 150B sets out four assumptions which, if employed in the calculation of the base milk price, do "not detract from the achievement of the purpose set out in section 150A." We confirm that Fonterra has in fact made each of these four assumptions in calculating the Farmgate Milk Price, and comment briefly on these assumptions, and on matters relevant to the interpretation of the statutory provisions, in this section.

Operation of national network of facilities for collection and processing of milk

Section 150B(a) provides that the base milk price may reflect an assumption "that [Fonterra] operates a national network of facilities for the collection and processing of milk."

We assume in interpreting this provision that it is reasonable to substitute the NMPB for Fonterra, and note that the relevant assumptions in the milk price model materially reflect the relevant Fonterra data. In particular, the model assumes the same number (and location) of commodity manufacturing sites as is actually maintained by Fonterra, and that total processing capacity by site is materially aligned to Fonterra's. This assumption is reflected in the model's allowances for site overhead costs and for site capital. The model also assumes that annual volumes of milk processed on each site are materially aligned to the volumes actually processed.

Size of assumed units of processing capacity

Section 150B(b) provides that the base milk price may reflect an assumption "that the size of [Fonterra's] assumed units of processing capacity approximates to the average size of [Fonterra's] actual units of processing capacity." We have previously explained that we consider it necessary to interpret this provision in conjunction with the requirement in section 150C(1) that the base milk price be calculated by reference to returns on the subset of commodities likely to be most profitable over the period of 5 years from the time the portfolio of commodities is determined, from which it follows that the relevant processing capacity in this provision is Fonterra's capacity for the manufacture of the reference products.[11]

The relevant provision in the Milk Price Manual is contained in Rule 24 in Part B, which provides that "the overall weighted average daily processing capacity of all Standard Plants ... [should be] materially consistent with the overall weighted average daily processing capacity of the [relevant Fonterra] plants [at the end of the Review Period]." The end of the current review period is 2016. In contrast, section 150B(b) looks to whether the processing capacity assumed in the base milk price approximates Fonterra's average capacity for milk price products in 2014.

We can confirm, however, that despite the difference in timeframes take into account in the Milk Price Model and in section 150B(b), the average capacity assumed in the Farmgate Milk Price for the 2013/14 year is materially aligned to Fonterra's current weighted average: the model assumes average WMP and SMP processing capacity of 2.0 million litres per day, compared to Fonterra's average of 1.94 million litres per day for its WMP and SMP plants.[12]

[11] Fonterra's reasons paper in respect of the 2012/13 Milk Price Manual, 31 August 2012, p.2.

[12] Fonterra's current average capacity would have been 2.0 million litres per day had it not acquired the NZDL Studholme plant in 2012.

Foreign exchange conversion rates

Section 150B(c) provides that the base milk price may reflect an assumption "that gains and losses experienced by [Fonterra] resulting from foreign currency fluctuations, including from [Fonterra's] risk-management strategies, are incorporated in the base milk price."

The relevant provision in the Milk Price Manual is contained in Rule 11 of Part B, which provides that:

> The process for converting USD revenue in respect of a Season to NZD shall reflect the following process:
>
> - Farmgate Milk Price USD Receipts for each month will be calculated by reference to Farmgate Milk Price US Dollar Commodity Revenue and Farmgate Milk Price Revenue Days
> - Farmgate Milk Price NZD Receipts for the month will be calculated by multiplying Farmgate Milk Price USD Receipts by the Benchmark FX Conversion Rate for the month.
>
> The Benchmark FX Conversion Rate for a month is the average rate at which Fonterra actually converts net receipts denominated in any currency other than NZD to NZD in the month, specified as a ratio of USD to NZD and calculated with regard to all costs and benefits of Fonterra's hedging activities in respect of amounts converted in that month.

We explain in section 6 below that this process will generally result in a difference between the quantum of foreign currency gains and losses assumed over the course of a year in the calculation of the Farmgate Milk Price, compared to Fonterra's actual gains and losses over the same period. Despite these differences, our view is that the approach used to calculate the Farmgate Milk Price foreign currency conversion rate is nonetheless consistent with section 150B(c). In particular, we note that this process results in the milk price being calculated 'as if' the NMPB had applied Fonterra's foreign currency risk-management policies, but in respect of the NMPB's, rather than Fonterra's, forecast monthly USD-equivalent foreign exchange exposure, and 'as if' any inaccuracies in the NMPB's forecasts were proportionately equivalent to any inaccuracies in Fonterra's actual forecasts.

Conversion of all milk collected by Fonterra at practically feasible yields

Section 150B(d) provides that the base milk price may reflect an assumption "that all milk collected by [Fonterra] is processed into commodities at yields that are practically feasible."

The relevant provisions in the Milk Price Manual are contained in:

- Rule 11 of Part B, which provides that the milk price calculation "will reflect all milk collected by Fonterra in New Zealand, including milk sold to third party processors in accordance with DIRA."
- Rule 7 of Part B, which provides that milk price production volumes "will be calculated to utilise all milk supply ... given the product yields established under Rule 8."
- Rule 8 of Part B, which provides (in conjunction with the relevant definitions in Part C) that the yield assumptions must be calculated by reference to supportable assumptions with respect to product specification, including the relevant Codex requirements, and manufacturing losses.

We confirm that the Farmgate Milk Price calculation has been calculated under the assumptions that:

- All milk collected by Fonterra in New Zealand is converted into RCPs.
- The yields assumed in the conversion of milk into RCPs are practically feasible.

We further note that:

- Assurance with respect to the accuracy of the relevant inputs into the Farmgate Milk Price calculation (e.g. confirmation that milk volumes and composition assumed in the calculation reconcile to the relevant actual Fonterra data) is obtained in the course of the assurance process outlined in section 3 above.
- We comment further on the 'practical feasibility' of the yield assumptions in section 5 below.

5 Revenue

Relevant DIRA and Milk Price Manual provisions

The Milk Price Manual rules governing the calculation of revenue inputs into the Farmgate Milk Price calculation are contained in Rules 7 – 11 of Part B, and in the various definitions included in section 1.2 of Part C of the Manual. The relevant provisions of subpart 5A of DIRA are contained in:

- Section 150C(2)(a), which provides that the portfolio of commodities used to determine the base milk price must comprise the commodities that are likely to be the most profitable over a period not exceeding 5 years from the time when the portfolio is determined.
- Section 150C(1)(a), which provides that "revenue taken into account in calculating the base milk price [must be] determined from prices of a portfolio of commodities at the times that those commodities are contracted to be sold by [Fonterra]."
- Sub-sections 150B(c) and (d), which allow for the use of Fonterra's actual foreign exchange conversion rates and for the conversion of raw milk to finished product at yields that are "practically feasible".
- Section 150C(2)(b), which further provides that relative proportions of each commodity must be determined by reference to relative profitability, Fonterra's physical manufacturing capacity, and the need to utilise all components of available raw milk. (As noted in section 4 above, we have interpreted 'Fonterra's' capacity in this provision to in fact refer to the assumed capacity of the NMPB.)

Portfolio of commodities included in the reference basket

As required under section 150C(2)(a) of DIRA, we have undertaken analysis to determine whether any commodities not currently included in the Reference Basket "are likely to be" more profitable over the next five year period spanning June 2013 – June 2018.[13] If any such commodities were to be identified, it follows that the commodities currently included do not comprise those likely to be most profitable, and that this element of the Farmgate Milk Price calculation does not comply with section 150C(2)(a).

We have separately provided the detail and conclusions of our analysis to the Commission. In summary, we have not identified any commodities not currently included in the Reference Basket that are likely to be more profitable over the relevant period than those currently included, and have therefore not adjusted the composition of the Reference Basket used to determine the 2013/14 Farmgate Milk Price.

In addition, we have replicated our analysis for the period June 2014 – June 2018, and have also not identified any commodities not currently included in the Reference Basket that are likely to be more profitable over that period than those currently included, and will therefore not adjust the composition of the Reference Basket used to determine the 2014/15 Farmgate Milk Price.

Overview of revenue calculation

The steps below provide an overview of the process used to determine total New Zealand dollar revenue in the milk price model:

Step 1: Given the volume and composition of milk supplied in each month, supportable assumptions with respect to 'yields', and Fonterra's actual allocation of milk into the four milk price product streams (WMP/Butter/BMP, WMP/AMF/BMP, SMP/Butter/BMP and SMP/AMF/BMP), determine milk price model production of each RCP in each month (Product mix and volumes).

Step 2: Map milk price model production onto assumed month of sale by reference to Fonterra's forecast sales plan. As the year progresses, 'lock down' the sales volumes for completed ('year to date') months (Sales phasings).

[13] This period has been selected on the basis that it commences from the beginning of the 2013/14 season.

Step 3: Determine average selling prices for each RCP and for each month, reflecting prices actually achieved by Fonterra for commodity product shipped in the month and sold on current, arm's length terms (Average BCPs).

Step 4: Based on supportable assumptions with respect to sales terms, determine the quantum of notional USD cash receipted in each month, and use Fonterra's actual average USD : NZD conversion rates for the relevant month to convert the notional USD receipts to NZD. (Foreign exchange conversion).

The following sections provide further detail on the assumptions adopted, and inputs and processes used, in respect of each of these steps, and our comments on the consistency of these with section 150A.

Product mix and volumes

The table below sets out the inputs, assumptions and processes used to determine notional production volumes and product mix in the milk price model:

Inputs	Process	Assumptions
Milk supply: Fonterra's total milk supply by month & average composition (fat, protein, lactose & minerals) by month.	Extracted from relevant Fonterra system (Aspire).	Use of all Fonterra's milk supply aligns to both Manual & to DIRA. Aggregation of data on monthly basis aligns to use of monthly averages throughout model.
Production mix: allocation of milk to SMP and WMP production, and of cream to AMF and Butter production, is aligned to Fonterra's actual allocation.	Calculated by reference to Fonterra's actual production for each month in the season. (Relevant calculation results in alignment of Fonterra's and the NMPB's ratios of WMP MT : (WMP MT + SMP MT), and of Butter MT : (Butter MT + AMF MT)for each month in the season.)	That Fonterra's product mix decisions are optimal, given information available at time decision is made. That use of Fonterra's actual product mix does not create any adverse incentives, and is therefore consistent with the efficiency criterion.
Production volumes (given product mix): 1. Fonterra's product specifications (principally minimum protein, minimum lactose, maximum moisture content) for each RCP.	Extracted from relevant Fonterra system (PSLM or QPM).	The base calculations (for both yields and costs) assume all product manufactured is 'standard' or 'base' specification product. The model in fact includes prices achieved on the sale of a range of specifications defined to be 'base commodity' products (differences may be as minor as customer-specific bags, or additional tests may be performed due to market-specific requirements, and the additional cost recovered from the customer). The incremental costs (including the cost of any incremental fat, protein or lactose, valued at a price consistent with the Farmgate Milk Price) relative to base specification costs and yields are determined as part of the revenue calculation.
2. Provisions for milk lost in the manufacturing process.	Provisions for losses established by independent expert (T Gandell) having regard to: - results from loss audits of relevant Fonterra plants (subject to separate independent expert review by Aurecon), and - manufacturer guarantees. The loss provision covers: - Losses in milk reception, treatment &	That these provisions adequately reflect expected losses that would be incurred by an efficient manufacturer of RCPs from all relevant sources over the course of a full season, having regard to assumed technology & efficient operating model.

Inputs	Process	Assumptions
	standardisation. - Effluent losses. - Stack losses. - 'Overweight' losses in the course of packaging.	
3. Provision for actual usage of value components in excess of minimum allowed usage ('specification offsets').	Provisions for specification offsets established by independent expert (T Gandell) having regard to actual Fonterra performance for relevant plants and products.	That these provisions are appropriate, having regard to Fonterra data on the probability of failing relevant Codex tests & given the nature of assumed technology, including A&PC technology & capability.

We offer the following comments in support of the assumptions set out above, and with respect to (a) the practical feasibility and (b) the efficiency implications of the approach taken to establishing each input:

1. Milk supply: use of Fonterra's actual milk supply is a safe harbour assumption.

2. The production mix:

- Because the product mix is determined on a prospective basis, it is not possible to 'over-optimise' this input, so it follows that this input is necessarily practically feasible.
- This approach results in the consequences of any 'poor' decisions in respect of allocation of milk to WMP and SMP, and cream to Butter and AMF, flowing to the Milk Price, and therefore it does not provide a strong incentive on Fonterra to operate efficiently with respect to its allocation of milk to the relevant product streams. The approach does not adversely affect Fonterra's incentives with respect to the allocation of milk to other, non-milk price, product streams. We have previously examined potential alternatives to using Fonterra's actual mix, and have concluded that if (say) the MPG were to establish an alternative 'benchmark' product mix rather than rely on Fonterra's allocation decisions, it would arguably be necessary for the MPG to maintain independent capability to forecast prices and monitor global demand and supply conditions, and that it is unlikely that the associated additional cost would be warranted.

3. Production losses:

- The practical feasibility of the production losses assumed in the model is supported by the results obtained from Fonterra's detailed testing (the results of which have been separately provided to the Commission) and by expert input. (In its Final Report on the 2012/13 base milk price calculation, the Commission noted that its independent expert had concluded that the approach taken to establishing the allowances for production losses did not, in the expert's opinion, sufficiently provide for the increased frequency of plant start-ups and shut-downs during the shoulder months of the dairy season.[14] The approach taken to determining the allowances for production losses assumed in the 2013/14 Farmgate Milk Price has been modified to explicitly provide for the impact of increased frequency of plant start-ups and shut-downs during the shoulder months of the dairy season.)
- The assumption with respect to yields is a 'safe harbour' assumption, but we note that because Fonterra's actual performance with respect to yields does not directly flow through into the Farmgate Milk Price calculation, Fonterra is appropriately incentivised to minimise yield losses.

4. Specification offsets:

[14] Paragraph D16, p.62, of the 2012/13 Base Milk Price Report.

- The practical feasibility of the specification offsets assumed in the Farmgate Milk Price calculation is supported by detailed analysis of Fonterra's actual performance, details of which have been provided to the Commission. We note that this is an area where Fonterra has over time invested considerable capital (which is appropriately provided for in the milk price) and built up considerable expertise, so we accept it is possible that Fonterra achieves tighter offsets than those achieved by other processors in New Zealand. However, any advantage achieved by Fonterra does not involve the application of proprietary intellectual property, and is therefore potentially replicable by other processors.
- While the assumption with respect to yields is a 'safe harbour' assumption, we note that the specification offsets assumed are independent of Fonterra's actual current year performance, and therefore appropriately incentivise Fonterra to minimise the extent to which valued component usage exceeds stated minimum levels for the relevant products.

Sales phasings

The table below sets out the inputs, assumptions and processes used to determine the volume (in metric tonnes) of each RCP assumed to be sold in each month.

Inputs	Process	Assumptions
The percentage of each RCP manufactured by Fonterra from current season milk that is sold in each month.	1. A 'first in, first out' (FIFO) assumption is used to determine which of Fonterra's sales of each RCP can be deemed to be of product manufactured from current season milk. 2. As each month in the season progresses, year to date volumes deemed to have been sold by the NMPB are 'locked down', to avoid subsequent revisions to forecast milk supply, product mix or sales plans having any impact on the volume of product assumed to have already been sold.	That use of Fonterra's actual sales phasings does not create any adverse incentives. That any feasible alternative would reduce Fonterra's incentives to operate efficiently.

We offer the following comments in support of the assumptions set out above, and with respect to (a) the practical feasibility and (b) the efficiency implications of the approach taken to establishing the sales phasings inputs:

- The sales phasings reflect Fonterra's actual phasing of sales, and are therefore practically feasible. We note, however, that Fonterra's ability to sell its production is constrained at certain periods (particularly around the peak supply months of October and November) due to logistical constraints on shipping the volume of product manufactured by Fonterra at those times. This effective diseconomy of scale means Fonterra necessarily faces material additional storage and working capital costs that a smaller processor could choose not to be exposed to, and means Fonterra has a more restricted ability to take advantage of short-term favourable commodity prices than smaller processors. Use of Fonterra's sales phasings means these scale diseconomies are reflected in the Farmgate Milk Price calculation.
- The use of Fonterra's actual sales phasings potentially means Fonterra faces a reduced incentive to optimally phase its sales, at least of the RCPs, relative to using an independent set of phasings. In the 2012/13 base milk price report, the Commission accepted our explanation of why two specific approaches to establishing notional phasings that it had previously suggested were not practically feasible, but did not accept our argument that no notional approach would be desirable. We reiterate, however, that we have not been able to identify any approach to establishing a practically feasible set of notional sales phasings that would not have significant disadvantages, including creating incentives at the margin for Fonterra management to default to 'managing to the model' so as minimise earnings risk.

Average BCPs

The table below sets out the inputs, assumptions and processes used to determine the monthly average USD selling prices assumed in the milk price model:

Inputs	Process	Assumptions
Prices Monthly average 'include series' prices, on a FAS-equivalent basis, for each RCP, separately calculated as averages for sales contracted in each of months 1 – 5 prior to the relevant shipment month. Include-series prices comprise: 1. Average across all Fonterra's GDT sales of NZ product for WMP, SMP & AMF. 2. For Butter & BMP, all prices achieved on GDT, plus all prices achieved for sales which are transacted on arm's length terms to parties independent of Fonterra, and at prices that reflect prevailing market prices at the time the contract for sale is entered into. 3. Prices for 'include' products that are not the standard specification products are adjusted for any incremental costs (relative to standard specification product) of manufacturing the product.	The relevant prices are determined using the following process: Step 1: Separate sales recognised in the month into sales contracted in each of months 1 - 5 prior to the month of sale. Step 2: Calculate the volume-weighted average price for the sales allocated to each of months 1 - 5 prior to the month of sale ('contract month' average prices).	That (primarily) GDT prices represent an unbiased estimate of the prices achievable for standard specification commodity product. That using GDT prices appropriately incentivises Fonterra management to maximise prices achieved for off-GDT sales. That governance arrangements in place to ensure credibility of GDT to its customers are sufficient to address concerns raised by others that Fonterra might manipulate volumes offered on GDT for the purpose of altering the milk price.
Contract month weightings Fonterra's contract profiles for sales contracted 1 - 5 months prior to shipment) for arm's length sales satisfying the 'Volume Criteria' specified in the Part C definition of Benchmark Selling Price are used to determine weighted average shipment month prices.	Determine percentage of 'volume include sales' (by MT) contracted in each of months 1 - 5 prior to shipment month. Apply these percentages to the contract month average prices determined above, to calculate the overall weighted average price to be applied to Milk Price sales of the relevant product in that month.	That Fonterra's overall contract profile for arm's length commodity sales, rather than just the GDT contract profile, is appropriate.
Downgrade Assumptions regarding: (a) % of product assumed to fall in each of the 3 'downgrade' categories (rework, stockfood and placement specifications), & (b) associated costs (relative to counterfactual of product not being downgrade), comprising discounts to 'good product' selling price for placement specifications and stockfood, and additional manufacturing costs for rework.	Established by reference to actual Fonterra performance over the period F09 - F11, and held constant for period F13 - F16. Established by reference to actual Fonterra costs, and updated regularly. (Do not however equal current year Fonterra costs.)	Use of a benchmark that is independent of actual current-year performance provides an appropriate performance incentive, since actual deviations from the benchmark will accrue as gains / losses to earnings. Benchmark is independent of current Fonterra performance, and therefore incentivises efficient performance.

Inputs	Process	Assumptions
Ocean freight recoveries Fonterra's average ocean freight cost for Milk Price products. Fonterra's average ocean freight recovery from customers for Milk Price products.	Deduct average ocean freight cost per MT from average on-charge to customer per MT, and multiply by total Milk Price production.	That ocean freight recovery is achievable, in addition to the FAS price, by an efficient processor of Fonterra's scale.

We offer the following comments in support of the assumptions set out above, and with respect to (a) the practical feasibility and (b) the efficiency implications of the approach taken to establishing each input:

1. Prices:

- The prices incorporated in the calculation of the weighted average monthly BCPs used in the Farmgate Milk Price calculation predominantly reflect prices achieved by Fonterra on the sale of product on GDT. In particular, in the forecast Farmgate Milk Price as at 31 May 2014, 93% of assumed NMPB revenue was derived directly from prices achieved on GDT. The remaining 7% of revenue derived from prices not achieved on GDT is in respect of Butter and BMP. Butter was only introduced onto GDT in February 2013, and a relatively small percentage of Fonterra's BMP (approximately 20%) is sold on GDT.
- Because these prices are derived from prices actually achieved by Fonterra on GDT, they are practically feasible for Fonterra. We have separately provided the Commission with considerable data and analysis that demonstrates that the prices achieved on GDT are not systematically higher than the prices achieved by Fonterra on off-GDT sales, and that they are also not systematically higher than prices achieved by other NZ producers.
- Placing primary reliance on prices achieved on GDT appropriately incentivises Fonterra to (a) seek to maximise prices achieved off-GDT, and (b) make efficient choices between sales channels.

2. Contract month weightings:

- The contract month weightings draw on Fonterra's actual contract profile, and are therefore practically feasible.
- Use of Fonterra's overall contract profile for sales of the RCPs contracted on an arm's length basis at current prices means that Fonterra's choices between sales channels are driven solely by an assessment of which channel will deliver the highest net price, and are therefore consistent with the efficiency criterion. (The most obvious alternative approaches would likely drive inefficient decisions: use of an independently-determined set of contract month weights may incentivise Fonterra to 'manage to the model' so as to avoid earnings volatility, while use of just the GDT contract month weightings could result in inefficient decisions regarding the choice of sales channel (e.g. Fonterra might choose to sell product on GDT even where this would not maximise revenue, so as to better align GDT contract month weightings with off-GDT contract month weightings).

3. Downgrade:

- The assumptions in respect of both the percentage of product falling into each downgrade category and the associated costs are derived from an assessment of Fonterra's recent historic performance, and are therefore practically feasible.
- The assumptions do not result in the pass-through to the Farmgate Milk Price of Fonterra's actual current-year performance, and are therefore consistent with the efficiency criterion.

4. Ocean freight recovery:

- As noted above, any differences between Fonterra's actual ocean freight costs per MT and the amounts charged to Fonterra's customers are included in the Farmgate Milk Price. The rationale is that in the course of comparing the price of Fonterra product to prices available from alternative sources of supply, customers

will factor in differences in ocean freight rates (along with charges for any other 'add ons' in addition to the FAS price). It is therefore reasonable to assume that on average, any margins over cost of ocean freight will be impounded in lower FAS prices. The relevant margin reflects actual Fonterra recoveries, and is therefore practically feasible for Fonterra.

- Ocean freight recoveries are calculated with respect to Fonterra's average current year margins, and it might at first sight appear that this approach leaves Fonterra with a weakened incentive to minimise its negotiated rates for ocean freight. However, if Fonterra were to pay 'too much' for ocean freight, it would receive lower net prices for its non-milk price products, which would in turn result in lower earnings. We therefore do not consider this input to be inconsistent with the efficiency criterion.

Foreign exchange conversion

The table below sets out the inputs, assumptions and processes used to determine the monthly USD : NZD foreign exchange conversion rates used in the milk price model:

Inputs	Process	Assumptions
Fonterra's actual USD-equivalent net cash receipts in the relevant month. Fonterra's net NZD receipts, after allowing for (a) conversion from USD at spot and (b) net proceeds of hedging contracts (forwards & other) exercised in the month.	Calculated as the ratio of Fonterra net USD-equivalent receipts for the month to (a) net NZD receipts, at spot and (b) proceeds from FX contracts exercised in the month less any costs (e.g. option premia) of those contracts. Calculated costs include the holding costs (calculated at the pre-tax milk price WACC) for the period between acquisition and exercise or expiry of options.	That application of Fonterra's average FACR for the month to the calculated Milk Price USD cash receipts in the month (which will differ from Fonterra's) is consistent with s150B(d).

The 'benchmark FX conversion rate', the average USD : NZD conversion rate applied to convert notional milk price receipts for a month, is calculated through the following steps:

1. Converting all Fonterra's USD-equivalent receipts to NZD at the daily average spot exchange rate for the month.
2. Adding (subtracting) to the NZD receipts the gains (losses) on foreign exchange contracts exercised by Fonterra in the month.
3. Subtracting (adding) from the NZD receipts premiums paid (received) in respect of any options for foreign exchange that are exercised or which expire in the month.
4. Subtracting (adding) from the NZD receipts a provision for interest on option premiums in respect of options exercised or expired in the month for the period elapsed since the acquisition (sale) of the option.
5. Dividing the USD receipts by the adjusted NZD receipts obtained through steps 1 – 4, to derive Fonterra's 'benchmark FX conversion rate.' The resulting series of monthly benchmark rates is then used to convert the notional net USD cash receipts of the NMPB to NZD.

This approach effectively assumes the NMPB applies Fonterra's foreign exchange hedging policy in exactly the same manner as Fonterra does, from which it follows that the assumed conversion rates are practically feasible. While use of Fonterra's average conversion rates is a safe harbour assumption, we also note that Fonterra on average converts a higher quantum of USD-equivalent receipts to NZD (in respect, for example, of Fonterra's offshore subsidiary operations) and is therefore appropriately incentivised to efficiently manage its foreign exchange risk management activities.

6 Cash costs

Relevant DIRA and Milk Price Manual provisions

The Milk Price Manual rules governing the calculation of the various cash costs assumed in the Farmgate Milk Price calculation are contained in Rules 12 - 23 of Part B, and in the various definitions included in section 1.3 of Part C of the Manual. The relevant provisions of subpart 5A of DIRA are contained in section 150C(1)(b), which provides that the costs taken into account in calculating the Farmgate Milk Price must include the cost of collecting milk, processing that milk into the RCPs and of selling the RCPs.

Overview of calculation of cash costs

The Farmgate Milk Price reflects appropriate provisions for the full range of manufacturing and other costs that could reasonably be expected to be incurred by a manufacturer of the RCPs. These costs are categorised in this section under the following headings:

- Selling
- Lactose
- Collection
- Packaging
- Energy
- Cost of water, cleaning and CIP, consumables, effluent and laboratory testing
- Plant labour
- Repairs and maintenance
- Site overheads
- Inland freight
- Storage
- Other supply chain costs
- Administration and other overheads

Selling costs

The table below sets out the inputs, assumptions and processes used to determine the selling costs assumed in the calculation of the Farmgate Milk Price:

Inputs	Process	Assumptions
GDT fee schedule. NMPB sales volumes. Estimated cost of maintaining 8 in-market hubs for customer service. Estimated cost of maintaining 4 in-country offices to support government procurement customers. Estimated cost of sales-related NZ costs not provided for elsewhere in the model (including IT, demurrage, letter of credit management and a provision for bad debts).	Determine aggregate direct GDT fee that would be payable by the NMPB if it sold 90% of its volume on GDT. (Remaining 10% assumed to be sold to government procurement customers.)	That NMPB would be able to participate on GDT and would face the same fee schedule as other third party sellers. That GDT prices are a reasonable proxy for the prices (net of any incremental costs) the NMPB would achieve on sales to government procurement agencies. That the provisions for in-market resourcing and for NZ sales-related costs are appropriate given the assumptions re volumes sold on GDT and volumes sold to government procurement customers.

We offer the following comments in support of the assumptions set out above, and with respect to (a) the practical feasibility and (b) the efficiency implications of the approach taken to establishing each input:

- We have separately provided the Commission with the detail of the approach taken to establishing the quantum of the various items listed under the 'inputs' heading above, and consider that they include appropriate provisions for all relevant costs and that they are practically feasible.
- The assumption that the NMPB is a third party participant on GDT means that this component of the assumed selling costs is also practically feasible for a processor other than Fonterra (and also results in a higher assumed cost than the alternative approach of assuming the actual cost of operating GDT).
- The assumption that 10% of sales are to government procurement customers, and that these customers will on average pay a net price equivalent to the GDT price (meaning that the additional sales costs are assumed not to be recovered) is in our view conservative, and we have separately provided detailed information to the Commission in support of this view.
- While various elements of the selling costs provision are derived from actual Fonterra costs, the approach does not result in Fonterra's actual current year costs flowing directly to the milk price, and is therefore consistent with the efficiency criterion.

Lactose costs

The table below sets out the inputs, assumptions and processes used to determine the cost of added lactose assumed in the calculation of the Farmgate Milk Price:

Inputs	Process	Assumptions
1. Price: lower of Fonterra's & other NZ processors' average landed monthly price, ex NZ Customs. 2. Quantity: - yield calculations - see above - loss allowance -- revised for F13, based on actual Fonterra data. 3. Transport Costs - CIF costs per Customs NZ data - inland transport costs per Fonterra contracted rates - payable days per analysis of typical contract terms, shipping days & holding days (revised for F13). 4. Procurement costs - reasonable allowance calculated by reference to Fonterra actuals. 5. Storage and other holding & handling costs - provision for storage capacity included in capital base - reasonable provisions for other costs calculated by reference to Fonterra actuals.	Step 1: For each month in the season, calculate the volume-weighted average price reported to NZ Customs by (a) Fonterra and (b) other NZ processors, in respect of lactose landed in months 2,3 and 4 prior to the relevant month. Step 2: Calculate the weighted average of the two price series determined under Step 1 over the 12 month season. Step 3: Calculate the monthly CIF costs (ocean freight, insurance) as a weighted average of the supplying markets for both Fonterra and competitor imports using for each market a Fonterra freight where applicable and the competitor rate only where there is no matching Fonterra rate. Step 4 :Apply to the milk price calculation whichever of the series calculated under Step 1 generates the lower average price for the season under Step 2 and the corresponding CIF cost series	That the approach appropriately incentivises efficient lactose procurement by Fonterra, since any adverse difference between Fonterra's costs & the average cost reported by other New Zealand processors would fall to earnings. That approach captures all lactose-related costs.

We offer the following comments in support of the assumptions set out above, and with respect to (a) the practical feasibility and (b) the efficiency implications of the approach taken to establishing each input:

- The use of actual costs for lactose landed in New Zealand necessarily implies the assumptions are practically feasible.

- Averaging over 12 month period is in our view sufficient to capture the impact of any differences in, for example, the average lag between contracting lactose and it landing in New Zealand for Fonterra relative to other processors.
- Volume assumptions are an output of the yields calculations, and will be practically feasible so long as the yields are calculated correctly, and so long as the assumption for losses is supportable, which we consider to be the case.

Collection costs

The table below sets out the inputs, assumptions and processes used to determine the collection costs assumed in the calculation of the Farmgate Milk Price:

Inputs	Process	Assumptions
Fonterra's actual cash collection costs, excluding Fonterra's actual inter-factory diversion costs and inter-island milk transport costs. Modelled inter-factory diversion costs, based on calculated volumes of cream & buttermilk to be transported between sites, given asset footprint & product mix. These collection costs include Fonterra's actual diesel hedging and ETS credits costs / gains.	Diversion costs modelled by reference to assumed product mix (& therefore surplus cream / buttermilk) at each site, average transport cost per km, & for sites without cream or buttermilk processing capacity, the assumed km between site & designated site with relevant capacity.	That it is not feasible to cost-effectively independently model the 'volume' drivers of Fonterra's collection costs (primarily kms travelled & average kms travelled per hour). That the NMPB assumes sufficient processing capacity in both the North Island and South Island, and would therefore not have had to transport milk between islands in 2013/14. That Fonterra's unit costs (eg driver wages) are reasonably representative of the unit costs that would be incurred by an efficient processor. That differences between actual & Milk Price product mix (which can in practice result in milk not being delivered to the nearest site in the shoulders of the season, in circumstances where the Milk Price model would probably deliver to the nearest site) are not material.

We offer the following comments in support of the assumptions set out above, and with respect to (a) the practical feasibility and (b) the efficiency implications of the approach taken to establishing each input:

- Use of actual costs, which are incurred by Fonterra in respect of the same total volume of milk assumed to be collected by the NMPB, means the assumed costs are practically feasible for Fonterra. (As noted below, we do not consider the potential for 'over optimisation' previously raised by the Commission impacts on the practical feasibility of the collection cost assumption.)
- Use of actual costs also means that the approach does not provide a strong incentive for Fonterra to minimise collection costs. However, as we have previously advised, we do not consider it to be practicable to independently model the collection costs of the NMPB at a sufficiently detailed level to be able to generate a materially reasonable estimate of costs.
- We model inter-site product diversion costs on a basis that is independent of Fonterra's actual costs, which are significant, and this approach therefore appropriately incentivise Fonterra to operate efficiently in this respect.

Packaging costs

The table below sets out the inputs, assumptions and processes used to determine the packaging costs assumed in the calculation of the Farmgate Milk Price:

Inputs	Process	Assumptions

Inputs	Process	Assumptions
Fonterra's actual average unit packaging costs for relevant packaging materials. Fonterra's calculated packaging usages per MT of finished product (excluding wastage). A provision derived from Fonterra's budgeted provisions for wastage of each packaging item per MT of finished product.	Modelled as fully variable, as units of usage (including wastage allowance) per MT multiplied by cost per unit, & then by MT.	That Fonterra's budgeted wastage levels reasonably reflect the losses that would be incurred by an efficient processor (including that Fonterra does not have any procurement advantages not available to other industry participants of similar scale). That Fonterra's unit costs reasonably reflect the costs that would be incurred by an efficient processor.

We offer the following comments in support of the assumptions set out above, and with respect to (a) the practical feasibility and (b) the efficiency implications of the approach taken to establishing each input:

- Both the unit cost and unit usage (including wastage) assumptions are derived from Fonterra actuals, and are therefore practically feasible for Fonterra. We do not consider Fonterra has any procurement or technological advantages not available to other processors of similar scale, and therefore believe these assumptions to be practically feasible for other processors.
- Use of Fonterra's actual unit costs for packaging inputs arguably weakens the incentives on Fonterra to minimise the relevant costs, but we note that:
  a) the packaging inputs used to establish the costs assumed in the Farmgate Milk Price calculation comprise a subset of the full range of packaging inputs used by Fonterra, and Fonterra still faces appropriate incentives to minimise the cost of inputs not referenced in the Farmgate Milk Price calculation, and
  b) suppliers of packaging inputs referenced in the Farmgate Milk Price calculation generally also supply packaging inputs not used in the calculation, and we have not observed any systematic increase in the price of milk price-related inputs relative to other packaging inputs over time (as would have been observed had Fonterra not been as pro-active in minimising the cost of milk price-related inputs).

Energy costs

The table below sets out the inputs, assumptions and processes used to determine the energy costs assumed in the calculation of the Farmgate Milk Price:

Inputs	Process	Assumptions
Fonterra's budgeted average unit energy costs for: - electricity - gas - coal - steam Manufacturer's specifications for energy usage per MT of finished product. Fonterra's contracted emission rate Market price for carbon units	Using Fonterra's budget energy costs for energy (excluding fixed transmission, R&M, depreciation and ETS costs, but including labour) calculated average $/kwh and $/MT of steam. These rates are applied to the manufacturer's specifications for energy usage per MT of finished product (adjusted for on site losses) to arrive at a $/MT of energy cost for each RCP, which is applied to production to calculate the cost to the Milk Price business.ETS costs are calculated using the carbon emission amount specified in Fonterra's energy provider's contracts, the amount of energy consumed by the Milk Price business and the average spot price for emission units in the month the energy is consumed.	That Fonterra's energy budget is representative of actual costs and usage. That the energy consumption profile between sites within the Fonterra business is materially similar to the Milk Price business. That Fonterra's energy rates are representative of rates that would be paid by an efficient processor. That manufacturer's specified energy usages are practically feasible for plants operating under milk price model conditions.

Inputs	Process	Assumptions
Fonterra's prior year actual peak energy load by site for gas and electricity and Fonterra's budget costs for electricity and gas transmission. Manufacturer's specifications for peak energy consumption. Peak milk supply for the NMPB.	Peak energy demand for the NMPB is calculated with reference to the manufacturer's specified peak energy requirements and peak milk. Peak energy requirements are applied to Fonterra's budget average peak energy cost rate to arrive at a fixed cost for gas and electricity transmission costs.	That gas and electricity transmission costs are the only material fixed energy costs. That Fonterra's budget peak energy cost rate is representative of actual costs and rates an efficient processor would pay.

We offer the following comments in support of the assumptions set out above, and with respect to (a) the practical feasibility and (b) the efficiency implications of the approach taken to establishing each input:

- The unit cost assumptions along with the provisions for transmission charges represent budgeted estimates of the average prices expected to be paid by Fonterra, and are therefore practically feasible for Fonterra. The energy usage assumptions reflect manufacturer's specifications, and have been subject to expert review. We therefore consider them to be practically feasible for Fonterra. We do not consider Fonterra has any procurement advantages with respect to energy costs that are not available to other processors of similar scale, and therefore also believe these assumptions are practically feasible for other processors.
- The approach taken to establishing unit energy cost assumptions does not result in Fonterra's actual current year prices being passed through into the Farmgate Milk Price, with any under or over-performance relative to budget going to earnings, and the energy usage assumptions are established independently of Fonterra's actual usage. Fonterra is therefore appropriately incentivised to minimise both its energy usage and its unit energy costs.
- We have separately provided the Commission with analysis drawing on the results of an energy audit at the Darfield site conducted in February 2014, which we consider supports a conclusion that our assumed energy usages are practically feasible.

Costs of water, cleaning and CIP, consumables, effluent and laboratory testing

The table below sets out the inputs, assumptions and processes used to determine allowances in respect of the cost of water, cleaning and CIP, consumables, effluent and laboratory testing assumed in the calculation of the Farmgate Milk Price:

Inputs	Process	Assumptions
The allocated cost per MT for water, cleaning & CIP, consumables, effluent and laboratory testing, sourced from Fonterra's product costing system.	Multiply allocated cost per MT by total MT of each RCP.	That the relevant costs materially vary with production volumes. That Fonterra's cost allocation system generates materially supportable cost allocations.

We offer the following comments in support of the assumptions set out above, and with respect to (a) the practical feasibility and (b) the efficiency implications of the approach taken to establishing each input:

- Because the allocated costs are not updated in the Farmgate Milk Price calculation for Fonterra's actual current year costs, this approach is consistent with the efficiency criterion.
- We have separately provided the Commission with analysis that confirms that the relevant cost allocations materially reconcile to the costs actually incurred by Fonterra, and that the allocation methodology is reasonable. We have also provided the Commission with calculations undertaken on an alternative standalone basis, and are intended as the basis for an alternative approach to calculating these inputs to be implemented with respect to the 2014/15 Farmgate Milk Price calculation. These alternative calculations lend further support to the proposition that the current allowances are practically feasible.

Direct manufacturing wages and employee-related expenses

The table below sets out the inputs, assumptions and processes used to determine allowances in respect of the cost (including on-costs) of plant labour in the calculation of the Farmgate Milk Price:

Inputs	Process	Assumptions
Numbers of each type of standard plant. Staffing requirements, by level, for each standard plant type. Fonterra's average DWU rate for FTEs at each level. Fonterra's average usage of temporary labour as percentage of total labour requirements. Fonterra's average 'regular' overtime %. Fonterra's average employee-related expenses, as a % of base wage / salary rates.	Calculate total wage cost for each standard plant type as FTEs at each level multiplied by average annual wage / salary rate. Add loading for employee-related expenses. Multiply through by plant numbers.	That Fonterra's labour rates are representative of the rates that would be paid by an efficient processor.

We offer the following comments in support of the assumptions set out above, and with respect to (a) the practical feasibility and (b) the efficiency implications of the approach taken to establishing each input:

- The unit cost assumption reflects Fonterra's actual average cost (given staffing levels) for plant labour. Plant labour requirements were established through a process of independent review, and we have separately provided data to the Commission that demonstrates that the assumed staffing numbers materially align to the numbers actually utilised by Fonterra in plants comparable to those assumed in the Farmgate Milk Price calculation. These assumptions are therefore practically feasible for both Fonterra and for any other processor using similar manufacturing plant.
- Staffing levels are established by reference to, but independently of, Fonterra's actual staffing levels, and therefore satisfy the efficiency criterion. Unit staff costs reflect actual Fonterra costs, but the Farmgate Milk Price calculation assumes materially fewer plant labour FTEs than are actually engaged by Fonterra. Consequently, any savings in unit costs by Fonterra will result in higher earnings, and Fonterra is therefore appropriately incentivised to minimise unit plant labour costs.

Repairs and maintenance costs

The table below sets out the inputs, assumptions and processes used to determine allowances in respect of costs associated with the repair and maintenance of the fixed assets assumed in the calculation of the Farmgate Milk Price:

Inputs	Process	Assumptions
Fonterra's average R&M spend as % of total replacement cost of Fonterra's fixed assets for seven manufacturing sites most similar to Milk Price model sites over the period F10 – F13. Total replacement cost of Milk Price asset base. (In both cases excluding collection assets & R&M costs & dry store assets & R&M costs.)	Calculate Fonterra's average R&M spend as % of asset replacement cost to replacement cost of equivalent Milk Price assets over the period F10 – F13 for seven sites most similar to Milk Price model sites. Apply the average ratio to the replacement cost of the relevant NMPB assets, to derive the Milk Price R&M provision.	That there are not material differences in average R&M spend, as a percentage of replacement cost, across (a) milk price vs non-milk price assets on the relevant sites, & (b) across assets older than those included in the Milk Price asset base vs assets with lives equivalent to those included in the Milk Price asset base.

We offer the following comments in support of the assumptions set out above, and with respect to (a) the practical feasibility and (b) the efficiency implications of the approach taken to establishing each input:

- The provision for repairs and maintenance costs has been established by reference to Fonterra's actual historic costs. While Fonterra's actual costs are in respect of a different profile of assets, we have undertaken considerable analysis to determine whether there are any systematic differences in average maintenance costs, as a percentage of replacement cost, for milk price vs non-milk price assets, and have concluded that, given Fonterra's asset maintenance policies, there is not. We therefore consider the assumed quantum of repairs and maintenance costs to be practically feasible.
- The provision for R&M is established independently of both Fonterra's actual current year R&M cost, and of Fonterra's actual current year R&M spend as a percentage of the replacement cost of Fonterra's manufacturing assets, and is therefore consistent with the efficiency criterion.

Site overhead costs

The table below sets out the inputs, assumptions and processes used to determine allowances in respect of site overhead costs assumed in the calculation of the Farmgate Milk Price:

Inputs	Process	Assumptions
Assignment of each site to 'large', 'medium' or 'small' category. FTE provisions for non-plant site labour (comprising site management, administrative staff, cleaners, maintenance of buildings and grounds, management of consumables stores). Fonterra's average direct and indirect costs for each category of labour.	Multiply FTEs in each category by relevant average direct and indirect costs.	That the staffing assumptions are appropriate given the range of activities assumed to be undertaken on each site.

We offer the following comments in support of the assumptions set out above, and with respect to (a) the practical feasibility and (b) the efficiency implications of the approach taken to establishing each input:

- The provision in respect of site overhead-related costs was established through a process of expert review, with Fonterra management input to ensure that all relevant costs were identified. The provision is in our view practically feasible, both for Fonterra and for other processors.
- Because the provision is set independently of the relevant Fonterra current year actual costs, it is consistent with the efficiency criterion.

Inland freight costs

The table below sets out the inputs, assumptions and processes used to determine allowances in respect of inland freight costs assumed in the calculation of the Farmgate Milk Price:

Inputs	Process	Assumptions
Modelled production volumes of each RCP at each site, established by reference to Fonterra's actual allocation of milk to sites. Fonterra's average contracted freight rate per MT of product from relevant site to relevant port.	Use calculated production of (a) dry product and (b) butter at each site to determine weighted average inland freight costs per MT for dry product and butter, respectively. Multiply total volumes of dry product and butter by weighted average freight rates to derive total inland freight cost for NMPB production. Multiply total volume of NMPB lactose NMPB by average inland freight rate per MT for dry product to derive inland freight cost for added lactose.	That Fonterra's contracted freight rates (with third party vendors) are achievable by any third party processor. That the NMPB would not be able to achieve discounts relative to Fonterra rates for the back-haul advantages involved in transporting the NMPB's lactose requirements.

We offer the following comments in support of the assumptions set out above, and with respect to (a) the practical feasibility and (b) the efficiency implications of the approach taken to establishing each input:

- The average freight costs assumed in the model reflect Fonterra's actual unit costs, and are therefore practically feasible for Fonterra. Fonterra outsources its inland freight requirements to independent contractors. Since we have no cause to believe Fonterra has any procurement advantages not available to other processors, we consider these costs are also practically feasible for other processors.
- Use of Fonterra's actual inland freight rates reduces the incentive on Fonterra to minimise the relevant costs. We note, however, that the rates are independently negotiated by DTL, the management of which is appropriately incentivised to maximise returns, and that Fonterra, through its part ownership of DTL, has visibility over any 'excess returns' that would arise if DTL were to 'over charge' Fonterra for inland freight.

Storage costs

The table below sets out the inputs, assumptions and processes used to determine allowances in respect of storage costs assumed in the calculation of the Farmgate Milk Price:

Inputs	Process	Assumptions
Dry Product ((WMP, SMP, BMP & AMF): Provision for capital costs. Assumed economic life of dry store assets. Storage space required per MT of each RCP. Provisions for relevant operating costs : Labour costs per FTE. FTE requirements per MT. Product write-off costs, vehicle costs & miscellaneous cost Butter: A provision for third party cool storage costs, based on Fonterra's contracted rates, covering cost per MT per month, plus load in / load out costs.	Dry Product ((WMP, SMP, BMP & AMF): Dry store capital requirements updated annually based on budget peak production volumes & lactose storage requirements, & with cost per square metre drawn from replacement cost valuation of relevant Fonterra assets. Operating costs all modelled as being fully variable with respect to finished product MT. Labour costs per MT calculated as product of FTE cost, FTE requirement per MT, & total MT of dry product Butter: Calculate load in / load out costs based on total NMPB Butter production. Calculate storage cost based on total NMPB Butter production and average months in storage, calculated by reference to production and sales profile for Butter.	That all relevant costs materially vary with MTs stored / handled. That the sample of Fonterra data used is representative of the costs an efficient processor would incur.

We offer the following comments in support of the assumptions set out above, and with respect to (a) the practical feasibility and (b) the efficiency implications of the approach taken to establishing each input:

- Dry store capital costs are based on inputs provided by independent experts, and are comparable with costs recently incurred by Fonterra in installing the new dry stores at Darfield. Operating costs are also established by reference to actual Fonterra costs using appropriate expert input, and are therefore in our view practically feasible for Fonterra.
- The provision for cool store storage costs reflects actual arm's length costs incurred by Fonterra, and is therefore practically feasible, both for Fonterra and for other processors.
- Because the various storage-related provisions (other than the cool storage provision) is set independently of the relevant Fonterra current year actual costs, they are consistent with the efficiency criterion.

Other supply chain costs

The table below sets out the inputs, assumptions and processes used to determine allowances in respect of other supply chain costs assumed in the calculation of the Farmgate Milk Price:

Inputs	Process	Assumptions
Comprise specific fixed provisions for: Global supply chain management Global market access costs Documentation and customer services costs	Reset at 4 year review, and based on analysis of relevant Fonterra costs, with indexation to PPI in other years.	That the process results in all relevant costs being accounted for, and that the 4 yearly reset appropriately incentivises Fonterra to operate efficiently.

We offer the following comments in support of the assumptions set out above, and with respect to (a) the practical feasibility and (b) the efficiency implications of the approach taken to establishing each input:

- These provisions were all established through a process of expert review, with Fonterra management input to ensure that all relevant costs were identified. The provisions are in our view practically feasible, both for Fonterra and for other processors.
- Because the provisions are set independently of the relevant Fonterra current year actual costs, they are consistent with the efficiency criterion.

Administration and other overhead costs

The Farmgate Milk Price calculation contains provisions for the costs of the wide range of activities of an administrative or overhead nature that would be undertaken by a commodity milkpowder manufacturer with the scale of the NMPB.

Inputs	Process	Assumptions
Provisions in respect of the costs of the various administrative and overhead functions of a large scale commodity processor, covering the range of activities identified in Attachment 1.	Established through an extensive 'review year' process, by reference to Fonterra's actual costs, and involving a review of all overhead costs incurred by Fonterra in New Zealand to determine the costs that would be relevant to a processor with the characteristics of the NMPB.	That the 'bottom up' process used to determine which of Fonterra's costs would be likely to be incurred by the NMPB means there is little possibility that any relevant category of costs would be omitted. That establishing the NMPB's costs by reference to Fonterra's actual costs does not result in a material overstatement of the relevant costs.

We offer the following comments in support of the assumptions set out above, and with respect to (a) the practical feasibility and (b) the efficiency implications of the approach taken to establishing each input:

- As noted in Attachment 1, provisions have been included in this category for costs that are actually incurred by Fonterra, and which may be incurred by a commodity-only processor of Fonterra's scale, but which we anticipate would not be incurred by smaller processors. (Costs falling into this category, include expenditure by Fonterra of an industry good nature, such as providing policy input into the formulation of environmental and trade policy.)
- These provisions were all established through a process of expert review, with extensive Fonterra management input to ensure that all relevant costs were identified. The provisions are in our view practically feasible, both for Fonterra and for other processors.
- Because the provisions are set independently of the relevant Fonterra current year actual costs, they are consistent with the efficiency criterion.
- The Commission has expressed some concern[15] with the lack of evidence or rationale for the adjustments made to the 2012 budget data in calculating some of the overhead costs. Fonterra is providing additional evidence in regard to some of these costs.

[15] The Calculation Report p.127.

7 Capital costs

Relevant DIRA and Milk Price Manual provisions

The Milk Price Manual rules governing the calculation of the various cash costs assumed in the Farmgate Milk Price calculation are contained in Rules 24 - 39 of Part B, and in the various definitions included in section 1.4 of Part C of the Manual. The relevant provisions of subpart 5A of DIRA are contained in:

- Section 150C(1)(b), which provides that the costs taken into account in calculating the base milk price must include the capital costs, including a return on capital, of collecting milk, processing that milk into the RCPs and of selling the RCPs.
- Sub-sections 150B(a) and (b), which provide for the assumptions that the NMPB may reflect Fonterra's national site footprint and the average processing capacity of Fonterra's plants for the manufacture of the RCPs.

Overview of calculation of capital costs

The steps below provide an overview of the process used to determine the cash costs assumed in the calculation of the Farmgate Milk Price:

Step 1: Determine the fixed assets required to collect the milk supplied to the NMPB, and to manufacture and store the RCPs manufactured by the NMPB.
Step 2: Determine an appropriate value for the cost of capital.
Step3: Determine an appropriate approach for spreading capital recoveries in respect of the fixed assets of the NMPB over time, and for otherwise fully recovering relevant capital costs.
Step 4: Determine an appropriate allowance for the company tax that would be paid by the NMPB.
Step 5: Determine an appropriate allowance for financing costs in respect of the net working capital balances implied by the NMPB's collection and sales profiles, and by other assumptions relevant to an assessment of the NPMB's net working capital requirements.

The following sections provide further detail on the assumptions adopted, and inputs and processes used, in respect of each of these steps, and our comments on the consistency of these with section 150A.

Fixed assets

The table below sets out the inputs, assumptions and processes used to determine the fixed assets required by the NMPB, and assumed in the calculation of the Farmgate Milk Price:

Inputs	Process	Assumptions
Manufacturers' 2008 quotations for construction of WMP & SMP plants. Manufacturers' 2011 quotations for construction of WMP, SMP, BMP, Butter & AMF plants. Detail of actual construction costs for Darfield site. DTZ assessment of: - economic lives & replacement cost valuations of (a) relevant Fonterra assets (comprising butter, AMF & BMP plants, ancillary site services & site infrastructure assets - additional costs relevant to	Determine incremental plant requirements on a forward-looking basis, having regard to forecast changes in milk supply in the North Island & South Island, respectively. Assume full replacement of each major plant component at the end of the component's economic life. 'Spreading back' over time of initial asset base, with effect (for example) that 1/30th of assets with an assumed economic life of 30 years were assumed to have been acquired in each of the previous 30 years.	That approach to determining incremental capacity requirements maintains alignment between milk price asset base & approach to setting relevant cost inputs, including collection costs. That economic life (& implied replacement cost) assumptions are reasonable, including with respect to historic and assumed future rate of technological change. That there is no material difference between the Fonterra's actual milk collection assets & the assets required by the NMPB.

Inputs	Process	Assumptions
assessment of full replacement costs (consents, capitalised interest etc) - Jones Lang LaSalle assessment of inflation in replacement costs subsequent to 2008. Book values at 1 August 2012 of Fonterra's milk collection fixed assets.		
MWH scaling of DTZ valuations of ancillary assets to requirements of NMPB.		

We offer the following comments in support of the assumptions set out above, and with respect to (a) the practical feasibility and (b) the efficiency implications of the approach taken to establishing each input:

- The various assumptions employed in constructing the NMPB's fixed asset base have been subject to considerable independent expert input and review, and we have obtained independent confirmation that the notional asset base is appropriately configured and is consistent with the manufacture of the reference commodity products. It is therefore in our view practically feasible.
- Because the asset base is established independently of Fonterra's actual fixed asset costs, it is consistent with the efficiency criterion.
- The Commission has noted[16] that it is unable to comment on the practical feasibility of the fixed asset base costs. Fonterra is working with actual data from the Darfield and Pahiatua dryer projects to attempt to provide more comfort to the Commission in regard to this.

Weighted average cost of capital

The table below sets out the inputs, assumptions and processes used to determine the weighted average cost of capital assumed in the calculation of the Farmgate Milk Price:

Inputs	Process	Assumptions
5 year rolling average of monthly average 5 year government stock rates, as reported by RBNZ, adjusted for semi-annual coupon payments. 5 year average of average spread of 5 year A- rated debt issued by US industrials over US treasuries. Allowance for annualised debt issuance & other debt-related costs of 35 basis points. NZ company tax rate. Asset beta of 0.45. Assumption of tax-adjusted market risk premium of 7.0%. Assumption of debt : debt + equity ratio of 40%.	Use of the 'simplified Brennan-Lally' formula to convert inputs into WACC (7.4% for F13 Milk Price).	That the assumed asset beta appropriately reflects the systematic earnings risk to which the relevant portion of Fonterra's commodities and ingredients business is exposed, given the milk price methodology. That the approach to calculating WACC is appropriate. That use of 5 year rolling averages, rather than spot rates, does not leave Fonterra exposed to any incremental risk of not recovering its cost of capital over time on investments in assets equivalent to those assumed in the NMPB.

We offer the following comments in support of the assumptions set out above, and with respect to (a) the practical feasibility and (b) the efficiency implications of the approach taken to establishing each input:

[16] The Calculation report p.138.

- The use in the Farmgate Milk Price calculation of five year rolling average inputs in respect of the risk-free rate and debt premium results in the Farmgate Milk Price reasonably reflecting the capital costs faced by a processor which followed a prudent process of rolling over a constant proportion of its capital requirements each year, and is materially consistent with Fonterra's actual risk management policies. More generally, the approach reasonably reflects the actual costs that would be faced by a processor with a similar credit rating to Fonterra's, and which had a debt profile with similar maturity and refinancing profile to that assumed in the Farmgate Milk Price calculation, and is therefore practically feasible.
- Relevant inputs are set independently of the corresponding Fonterra values, and are therefore consistent with the efficiency criterion.
- Fonterra will provide further evidence in support of the practical feasibility of the asset beta employed in the Farmgate Milk Price calculation in the course of the Commission's review of the 2013/14 base milk price.

Tilted annuity methodology

The table below sets out the inputs, assumptions and processes used to determine the weighted average cost of capital assumed in the calculation of the Farmgate Milk Price:

Inputs	Process	Assumptions
Outputs from process of establishing asset base (including spread-back over prior years) & WACC. Forecast of long-run rate of inflation in capital costs.	Use 'tilted annuity' formula to derive annuities in respect of assets (a) falling in each 'economic life' category & (b) for each assumed acquisition year. Decompose calculated annuities into implied depreciation & WACC components, with depreciation calculated as the change in present value of remaining annuities.	That this approach results in a stream of capital charges that over an asset's expected life fully recovers (a) the asset's initial cost & (b) an appropriate cost of capital on unrecovered capital costs. That the time profile of capital recoveries generated using this approach is reasonable.

We offer the following comments in support of the assumptions set out above, and with respect to (a) the practical feasibility and (b) the efficiency implications of the approach taken to establishing each input:

- The tilted annuity approach results in total annual capital costs (comprising depreciation, the 'WACC charge, or return on capital, and taxation) increasing over time at approximately the same rate as the rate of increase in capital costs. Consequently, annual capital costs assumed in the model are largely independent of the assumed timing of investment in plants. Under the obvious alternative approaches, however, assumed annual capital costs would have varied considerably depending on the specific assumptions made regarding the timing of investment decisions, and it would be difficult to make the case that any particular set of assumptions was 'correct'.
- The tilted annuity approach provides for full recovery of capital costs and a return on capital. Consequently, so long as the WACC and asset base assumptions are practically feasible, the aggregate of the WACC charge and depreciation recovery resulting from the application of the approach are necessarily also practically feasible.
- The tilted annuity methodology, given the approach taken to determining its inputs, results in a WACC charge and depreciation recovery that are independent of Fonterra's actual cost of capital and its actual depreciation expense, and are therefore consistent with the efficiency criterion.

Company tax

The table below sets out the inputs, assumptions and processes used to determine the quantum and timing of the company tax assumed in the calculation of the Farmgate Milk Price:

Inputs	Process	Assumptions

Inputs	Process	Assumptions
NZ Company Tax Rate. Fonterra's weighted-average tax depreciation rate on assets relevant to the NMPB. The calculated EBIT of the NMPB.	Determine ratio of tax depreciation (given Fonterra's average tax depreciation rate) to 'tilted annuity' depreciation implied by the various key inputs into the tilted annuity calculation, & scale tilted annuity depreciation by this amount to derive an estimate of tax depreciation for the NMPB. Adjust the NMPB's calculated EBIT for the difference between tilted annuity and calculated tax depreciation to arrive at an estimate of taxable earnings, exclusive of any interest tax shield, and apply the company tax rate to this amount to assess tax payable. Spread calculated tax in three equal instalments over the course of the relevant season.	That the approach taken to deriving an estimate of tax depreciation is reasonable. That the omission of any further adjustments for items that would in practice be relevant to the calculation of taxable income will not result in any systematic bias in the calculation of tax payable.

We offer the following comments in support of the assumptions set out above, and with respect to (a) the practical feasibility and (b) the efficiency implications of the approach taken to establishing this input:

- The calculation generates a provision for tax depreciation that is consistent with applying Fonterra's weighted average tax depreciation rate for the relevant assets to the NMPB asset base, and is therefore practically feasible. (We note that the tax depreciation calculation is consistent with the assumption that the asset base of the NMPB has been installed in approximately equal instalments over, on average, the past 30 years or so. This is essentially a 'steady state' assumption, and means that the Farmgate Milk Price calculation does not capture the tax advantages available to a processor with predominantly recently-installed assets, and which arise from the often significant differences between average tax and economic asset lives.)
- Because the provision is notional, it follows that it is consistent with the efficiency criterion.

Net working capital

The table below sets out the inputs, assumptions and processes used to determine the quantum and associated financing costs of net working capital assumed in the calculation of the Farmgate Milk Price:

Inputs	Process	Assumptions
Monthly net working capital balances implied by the NMPB phasings of milk supply, production, sales, & non-milk costs. Fonterra's weighted average debtor days for sales on terms used to determine the prices for sales of RCPs used in the milk price (i.e. primarily sales on GDT). Fonterra's weighted average creditor days for costs relevant to the Milk Price. Fonterra's 'advance rate schedule', specifying timing & quantum of payments for milk supplied in the season. Assumptions with respect to inventories of inputs, such as lactose and packaging materials. Assumptions with respect to revenue and payables days, calculated by reference to	Calculate implied opening net working balances for each month. Apply the monthly WACC to the monthly NWC balance. Deduct the implied WACC charge in the course of calculating the amount available to pay for milk.	That use of Fonterra's weighted average debtor days for (primarily) sales on GDT is consistent with use of prices from the same source. That use of Fonterra's weighted average creditor days in respect of costs relevant to the Milk Price is consistent, where relevant, with use of Fonterra's input prices.

Inputs	Process	Assumptions
relevant Fonterra actual data. The monthly compound WACC implied by the annual WACC.		

We offer the following comments in support of the assumptions set out above, and with respect to (a) the practical feasibility and (b) the efficiency implications of the approach taken to establishing each input:

- Because the key determinants of the monthly working capital balances assumed in the Farmgate Milk Price (milk supply profile, sales phasings, cost phasings, credit and debtor days, advance rate schedule) are all aligned to the relevant Fonterra actuals, it follows that the derived balances are practically feasible.
- While the various inputs are all derived from Fonterra data, the Farmgate Milk Price calculation does not result in Fonterra's actual current year working capital balances (or components thereof) being included in the Farmgate Milk Price, so the methodology is therefore consistent with the efficiency criterion.

8 Overall consistency of inputs, processes and assumptions used to calculate the Farmgate Milk Price

We comment in this section on:

- The overall internal consistency of the various inputs, assumptions and processes described in sections 4 – 7 above, and summarise the reasons why, in our view, the Farmgate Milk Price resulting from the application of these inputs, assumptions and processes is consistent with section 150A. In particular, we have set out above the reasons why we consider each of the inputs used in calculating the Farmgate Milk Price is individually consistent with section 150A. The Commission has also noted, however, that section 150A effectively requires that there also be overall consistency among the assumptions and inputs used to calculate the base milk price.
- The overall consistency of the projected Farmgate Milk Price with the contestability dimension of section 150A.
- The overall consistency of the projected Farmgate Milk Price with the efficiency dimension of section 150A.

Internal consistency

We provide comments in the table below on matters relevant to considering the internal consistency of the various inputs and assumptions used in the Farmgate Milk Price (these largely repeat and consolidate arguments presented in sections 4 – 7 above).

Input	Interdependencies	Comments on Consistency
Production mix and volumes	Milk supply and composition	Calculation process ensures assumed product mix is consistent with Fonterra's allocation of milk to relevant streams, and with Fonterra's actual milk supply.
	Yields	Assumed yields are consistent with yields actually achieved / achievable by Fonterra for manufacture of RCPs.
	Automation & process control capital & opex	Fonterra's achieved yields reflect Fonterra's investment in automation process and control systems, and in dedicated staff who ensure the systems are used to tightly control yields. NPMB appropriately provides for these costs.
	Direct manufacturing costs	Calculated to be consistent with the assumed product mix, drawing on mix of independent expert input and relevant data on Fonterra's actual costs.
	Manufacturing capital	Established on a forward looking basis to be consistent with (a) forecast milk supply and (b) manufacture of RCP portfolio. Assumed costs reconcile to manufacturer quotations and costs actually incurred by Fonterra.
	Fixed asset capital costs	Calculated to result in the recovery of capital cost of manufacturing and collection assets, and of WACC return on undepreciated cost.
GDT prices	Product composition	Composition of RCPs consistent with composition of product actually sold by Fonterra on GDT.
	Selling costs	Selling costs calculated to be consistent with assumption that product is primarily sold on GDT, including material provision for customer support.
	Ocean freight recoveries	Consistent with Fonterra's actual recoveries, which will on average be factored into GDT selling prices.
	Sales phasings	Use of Fonterra's phasings means any pricing impact of variations in Fonterra's actual sales of RCPs will also be reflected in milk price.
Collection costs	Milk supply	Use of Fonterra's actual milk supply is consistent with use of Fonterra's actual collection costs.
	Site footprint	Alignment of assumed NMPB site footprint to Fonterra's is consistent

Input	Interdependencies	Comments on Consistency
		with use of Fonterra's actual collection costs.
Lactose cost	Yields	Lactose usage requirements are consistent with milk composition and product composition assumptions.
	Lactose price	Lactose price is consistent with prices paid by importers of lactose for powder standardisation.
Site overhead costs	Site and asset footprint	Site-level overhead costs are consistent with assumed site footprint and product mix.
Logistics costs	Production volumes	Inland freight and storage costs are consistent with production volumes and product mix.
	Site footprint	Calculation of logistics costs is consistent with assumed site locations and assumed throughput of milk through each site.
Overhead costs	Scope of NMPB business	Assumed overhead costs are consistent with activities of NMPB, including manufacture of RCPs and primary activities all being located in New Zealand.
Net working capital costs	Sales phasings & production phasings	Net working capital balances are consistent with inventory volumes implied by the sales phasings, product mix and phasing of milk supply.
	Average receivables days for GDT sales	Use of Fonterra's weighted average receivables days for the sales used to calculate Milk Price revenue is consistent with use of prices from those sales (on basis that prices paid will reflect the relevant terms of supply).
	Fonterra's average payable days (including for milk)	Use of Fonterra's average payable days (where relevant) is consistent with use of cost inputs derived from Fonterra actual data.
	WACC	Use of WACC to calculate capital charge on monthly net working capital balances is consistent with the assumption that the leverage assumed in the WACC calculation reasonably reflects average debt to debt plus equity through the course of a season for a commodity manufacturer of the NMPB's scale.
Fixed asset capital costs	Production volumes	The fixed asset base is consistent with production of the RCPs, and is of sufficient scale to manufacture the volume of RCPs assumed in the Milk Price.
	Site footprint	The fixed asset base includes appropriate provision for site-level assets given the configuration of the site footprint, and assumed peak milk supply to each site.
	WACC	Inputs into the WACC reasonably reflect the average cost of capital for a manufacturer of the NMPB's scale, and which uses the Farmgate Milk Price methodology to determine its cost of milk.

Overall consistency with contestability dimension of section 150A

Sections 150B and 150C respectively permit (section 150B) and require (section150C) that the Farmgate Milk Price calculation incorporates the following assumptions:

- Fonterra's scale, including Fonterra's milk supply and site footprint.
- Fonterra's average plant size for the manufacture of the RCPs.
- Fonterra's average foreign currency conversion rate.
- That all milk is assumed to be manufactured into the RCPs that are expected to be the most profitable
- The conversion of milk into RCPs at yields that are practically feasible.
- The use of prices actually achieved by Fonterra on the sale of RCPs.
- That the full range of costs that would be incurred by a manufacturer of Fonterra's scale in manufacturing the RCPs is taken into account.

Some submissions to the Commission on the Commission's Dry Run report, and on its F12 Manual Review and F13 Process Papers have in essence argued that incorporation of these assumptions necessarily results in a Farmgate Milk Price that is not practically feasible for any New Zealand processor. We do not share this view, and note in particular the following aspects of the Farmgate Milk Price that are not 'fully optimised':

- The near-sole reliance in the Farmgate Milk Price on prices achieved by Fonterra on GDT: we have separately provided to the Commission evidence that both Fonterra and other New Zealand processors routinely achieve prices materially in excess of GDT for commodity product sold through other sales channels. (Indeed, we note that Synlait in its prospectus released on 24 June 2013 has forecast average selling prices in its 2014 financial year on ingredients products of more than NZD 200 per MT in excess of prices achieved on GDT.)
- The assumption of Fonterra's actual site footprint (a safe harbour rather than mandatory assumption): Fonterra's actual site footprint primarily reflects historic investment decisions made by Fonterra's predecessor companies, and implies the incorporation in the milk price of capital and overhead costs that are materially higher than the costs that would have arisen had a 'greenfields' approach been taken to establishing the NMPB's site and asset footprint.
- The assumption of Fonterra's actual milk supply (also a safe harbour rather than mandatory assumption): Fonterra has very limited ability under DIRA to decline supply, and consequently incurs materially higher collection costs per kgMS than other processors. While there are some offsetting scale economies, the Farmgate Milk Price would nonetheless be materially higher if it was calculated under the assumption that the NMPB only collected the milk supplied to Fonterra that would be collected by a profit-maximising processor that was not subject to DIRA.
- The assumption that the NMPB participates on GDT on an arm's length basis, with the difference between the calculated arm's length fee and Fonterra's materially lower actual costs therefore being excluded from the Farmgate Milk Price.
- The assumption that the NMPB, like Fonterra, faces logistical constraints which mean (a) it must carry materially more inventory (and therefore incur materially higher working capital costs) over the peak production months and (b) has less ability to take advantage of favourable short term movements in prices over the same period, relative to smaller processors.
- The assumption that the NMPB, like Fonterra, is not able to take advantage of regulated raw milk under DIRA to increase (and obtain increased certainty over) capacity utilisation.
- The 'bottom up' approach described in section 7 and Attachment 1 to calculating overhead and administrative costs by reference to Fonterra's actual costs, which has the effect, for example, of impounding in the Farmgate Milk Price the higher costs associated with some of Fonterra's legacy IT systems (relative to the alternative of taking a 'greenfields' approach to establishing the NMPB's IS requirements and costs).
- The assumption that the NMPB, like Fonterra, incurs various costs of an 'industry good' nature that would not be incurred by a smaller processor.

Overall consistency with efficiency dimension of section 150A

We noted in our comments on the individual inputs into the Farmgate Milk Price certain instances where inputs are based on current year Fonterra actual data, and in respect of which there is therefore a weakened incentive (relative to the use of a notional input) for Fonterra to operate efficiently in respect of the relevant factor.

We consider, however, that when considered in aggregate the inputs, processes and assumptions used to calculate the proposed Farmgate Milk Price are consistent with the efficiency dimension of section 150A. In particular, we note that:

- Most of the cost inputs into the projected Farmgate Milk Price are calculated independently of current year actual Fonterra data (70 percent of the cost inputs into the projected Farmgate Milk Price are fully independent and a further 22 percent are partially independent of actual Fonterra data for the 2013/14 financial year).

- Total production volumes and approximately 93 percent of the prices used to determine the revenue of the NMPB reflect factors beyond Fonterra's ability to directly influence (i.e. actual milk supply and composition, independently established provisions for yields, and GDT prices.
- Putting to one side considerations as to whether Fonterra is fully incentivised to optimise its performance with respect to individual cost and revenue inputs into the Farmgate Milk Price, Fonterra is appropriately incentivised to ensure that the overall Farmgate Milk Price is consistent with maintaining and growing milk supply (i.e. to ensure the Farmgate Milk Price is perceived to be 'competitive'), but that the Farmgate Milk Price is not so high as to render Fonterra's incremental investment decisions uneconomic.

PART C

1 Background

In the five seasons from May 2009 (F09) until May 2013 (F13), Fonterra's milk price was the same as that calculated under the Milk Price Manual (Manual), and as advised to the Fonterra Board by the Milk Price Panel (Panel).[17] For the recently-completed F14 Season, Fonterra has indicated its intention to set a base milk price by adjusting the milk price calculated under the Manual downwards (Adjustment Amount). Expressed on the basis of kilograms of milksolids (kgMS), Fonterra's current forecast milk price under the Manual is $8.95 and the forecast Adjustment Amount is 55 cents. This results in a forecast milk price of $8.40 per kgMS.

Setting a base milk price that differs from that determined under the Manual is accommodated under section 150N of DIRA, which requires Fonterra to make publicly available the Milk Price determined under the Manual, as advised by the Panel, and the reasons for Fonterra setting a base milk price that differs from that derived under the Manual.

The requirements of section 150T (outlined in section 1 of Part B) apply to the base milk price set by Fonterra, including one that differs from that determined under the Milk Price Manual. Accordingly, this Part C sets out:

- In accordance with section 150N, the reasons why Fonterra intends to set a base milk price that differs from that determined under the Manual; and
- In accordance with section 150T:
    - the assumptions adopted and the inputs and process used to derive the Adjustment Amount which, when deducted from the milk price calculated under the Manual, results in Fonterra's forecast base milk price; and
    - certification of the extent to which those assumptions, inputs and process provide an incentive for Fonterra to operate efficiently while providing for contestability in the market for milk.

The remainder of this Part C is structured as follows:

- Section 2 outlines the discretion that the Board of Fonterra has to set a Milk Price under the Co-operative's constitution, and explains the commercial imperatives that support this discretion;
- Section 3 explains the commercial implications of circumstances faced during F14 that, if ignored by Fonterra in setting its base milk price, would have resulted in earnings outcomes at variance with the commercial imperatives noted in Section 2. In particular, the implications of unprecedented high relative stream returns for products that inform the milk price in the first half of F14, the costs arising from unanticipated peak milk flows, and the constrained ability for Fonterra to optimally respond are described;
- Section 4 outlines why Fonterra intends to respond to the circumstances described in section 3 by reversing the adverse effect of costs associated with its limited plant flexibility during F14;
- Section 5 sets out the inputs, process and assumptions used in deriving the Adjustment Amount, with further detail provided in Attachment 4; and
- Section 6 concludes by providing Fonterra's view on the consistency of the process, inputs and assumptions used to calculate the forecast base milk price with the purposes set out in subpart 5A of DIRA.

This Part C contains commercially sensitive information or forecast information that is not in the public domain and is not otherwise required to be disclosed. While some of the forecast information set out in this Part will be disclosed once it is final following the end of Fonterra's financial year ending 31 July 2014, it would be prejudicial to Fonterra's legitimate commercial interests for it to be disclosed before that time. Information requested to be withheld is highlighted in grey-shaded text.

[17] The milk price was first derived under the Manual in F09. Reference to F09 relates to a 12 month season ending on 31 May 2009 (and likewise for reference to any other season). The base milk price (as that term applies under DIRA), and the milk price derived under the Manual, relates to the aggregate amount paid for milk supplied in any season ending on 31 May.

The discretion of the Board to set the actual base milk price for a year is paramount for the reasons noted in Section 2. The basis for adjusting the Milk Price described in Section 5 is a response to the specific circumstances faced in F14 that are outlined in Section 3.

2 Relevant considerations in setting the actual milk price

Aside from the provisions of DIRA, relevant benchmarks for the Board in setting the Milk Price are Fonterra's Constitution and the Board's general fiduciary and company law duties. In respect of Fonterra's Constitution:

- clause 10.2 provides that the milk price is determined in accordance with the Manual; and
- clause 10.1 provides an overarching discretion to the Board to determine the payment for milk having regard to all the revenues of the Co-operative less costs incurred (including manufacturing costs, principal repayments and financing costs).

In exercising its intended discretion under Clause 10.1 to set a forecast milk price that is less than that advised by the Panel, the Board has had regard to the following key commercial considerations:

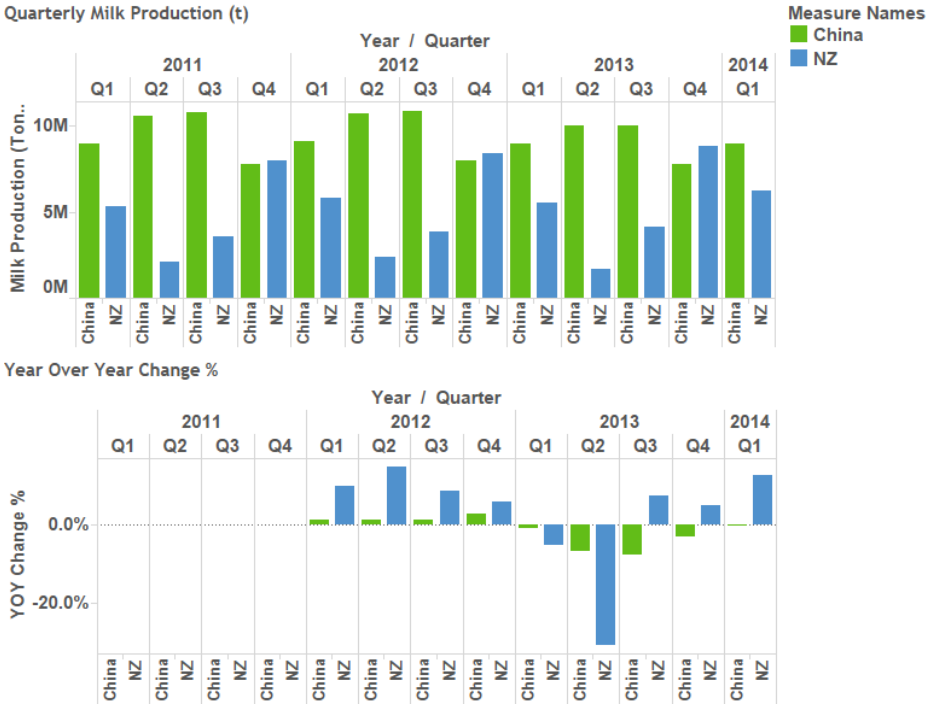
- The effectiveness of Fonterra's capital structure and of open entry and exit depends on liquidity of its shares. This is supported by units in the Fonterra Shareholders' Fund that are traded on the NZX and ASX. While units on issue correspond to only about 7% of Fonterra's total shares, confidence in the ongoing prudent management of Fonterra is critical in retaining liquidity and high-quality investors over the longer-term;
- The effective subordination of Fonterra's debt obligations to milk payments is a critical component of Fonterra's balance sheet strength. Holders of Fonterra's debt, and agencies that rate that debt, place significant reliance on the effective subordination of milk payments. If they lost confidence that such payments would remain subordinate to debt obligations, Fonterra's ability to access debt, and its cost, would be materially affected; and
- The considerations noted above are also relevant in considering Fonterra's future cash flow requirements to maintain and grow capacity to process projected additional milk volumes.

In the future, both the circumstances that may cause the Board to exercise its discretion to pay a milk price that differs from that derived under the Manual, and the basis for any judgements exercised to set a different milk price, may differ from what is described below.

3 Circumstances faced during F14

In the first half of the F14 returns to the product streams that inform the milk price under the Manual (Reference Commodity Products or RCPs) were significantly higher than returns to other commodity product streams (non-RCPs).[18] This was largely driven by a significant increase in Wholemilk Powder (WMP) prices from February 2013. A significant cause of this increase was a decline in domestic milk production in China in early 2013 in the face of continuing growing demand for milk products. This stimulated a significant increase in China's demand for imported WMP, which accounts for about one third of globally-traded volumes of that product. The increase in demand by China coincided with reduced milk production in New Zealand due to a deep late-summer drought with (then unknown) potential implications for milk production in F14. With New Zealand accounting for nearly 90% of China's imported WMP volumes, a substantial spike in WMP and other powder prices was the result.

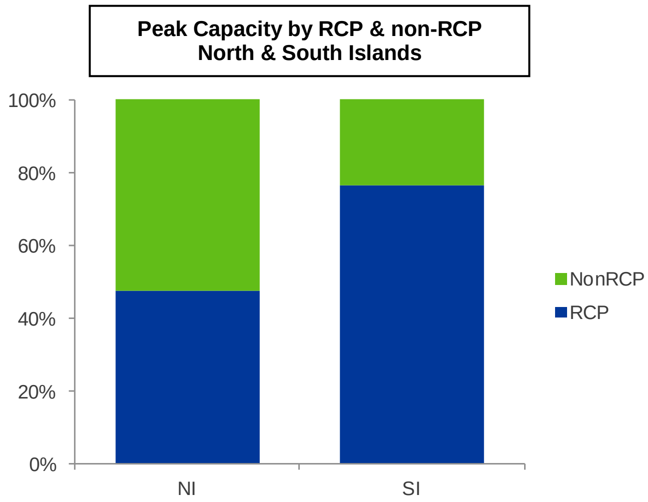
[18] The term 'product stream' refers to a basket of complementary products that utilises all the components in a kilogram of milksolids. The product streams that inform the Farmgate Milk Price comprise WMP/Butter/BMP, WMP/AMF/BMP, SMP/Butter/BMP and SMP/AMF/BMP. The term 'stream return' refers to the net FAS return, less non-milk costs, to a kgMS allocated to a product stream.



Source: Beijing Orient Agribusiness Consultant Limited / GTIS / DCANZ / Fonterra analysis

The confluence of demand and supply influences for WMP noted above resulted in divergences in stream returns between RCP and non-RCP streams that were unprecedented, even compared to the period prior to January 2005 when relative variable stream returns for RCP products were higher than those for other products for an extended period. This is illustrated in the figure below, which shows that xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

The higher stream returns for products that inform the milk price led to a higher Manual-derived milk price over the first half of the year. However, Fonterra's asset footprint impeded its ability to fully respond by switching production to milk powders. This was particularly the case because relative stream returns strongly favoured RCPs during Fonterra's peak milk collection period in October and November. As illustrated in the figure below, Fonterra currently has limited product mix flexibility across the peak period. In the North Island, which accounts for about 60% of national production, Fonterra relies on non-RCP capacity to process more than 50% of milk supplied over the peak period. In the South Island (which in F14 accounted for about 40% of Fonterra total annual production) Fonterra relies on non-RCP capacity to process approximately 25% of total available capacity.



Capacity constraints across the peak resulted in a material decrease in Fonterra's actual earnings, compared to the notional earnings assumed in the Milk Price calculation, in two ways:

- Fonterra's ability to respond by switching production from non-milk price products to RCPs was substantially constrained; and
- Physical capacity constraints meant Fonterra (i) had to incur additional costs to transport milk to plants that could process milk (including between the North and South Islands) (ii) did not have sufficient capacity to process all milk components and (iii) had to resort to 'partial standardisation' of some milk powders, reducing returns for those products.[19]

Although the differences in variable returns to different product streams have narrowed since January 2014, the forecast EBIT impact of adverse returns to non-milk price product streams across the full year is material, as illustrated in the figure below, as are costs that arose from capacity constraints during the peak period ('Record Peak Flow Costs').

[redacted].

[19] The term 'standardisation' refers to the substitution of (cheaper) lactose or milk permeate for (more expensive) protein to standardise the protein content of milk powders, in accordance with the relevant Codex standards. One technique for increasing the throughput of milk powder plants is to reduce the extent of standardisation, which has the consequence of decreasing the volume (or yield) of milk powder, and therefore the revenue, obtained from a given quantity of raw milk.

The figure above shows that, with no adjustment to the milk price, Fonterra is forecast to derive negative EBIT of over [redacted]

Incurring a loss of this magnitude would put the Co-operative at risk of loss of confidence of its stakeholders, having regard to the commercial imperatives noted in section 2. Accordingly, since early December (when this possibility was first disclosed, following extensive deliberation by the Fonterra Board) Fonterra has signalled its intention to pay an actual milk price that is lower than the price calculated under the Manual.

4 Implications for setting the actual milk price for this season

The only practical way for the Board to set a Milk Price that differs from the milk price calculated under the Manual is to use the latter as a reference point. Fonterra continues to have full confidence in the current basis for calculating the milk price under the Manual. This is reflected in its use of a milk price calculated under the Manual in every season since F09 other than this one.

The challenges faced this year derive from Fonterra's capacity constraints due to a sub-optimal asset footprint that Fonterra inherited on its formation in 2001. In response, Fonterra continues to take steps to reduce its reliance on non-RCP capacity which has been falling since 2001, with more than 90% of Fonterra's incremental capacity investment being in powder plants. However, the extreme volatility in the first half of this year has highlighted the structural risk arising from remaining dependence on non-RCP capacity.

To further address the constraints, in February 2014 Fonterra announced a programme to bring forward planned capital investments to:

- provide greater flexibility to take advantage of differences in relative market prices;
- reduce the 'forced' manufacture of lower returning products; and
- accommodate higher projected milk volumes over the next three seasons.

The programme is expected to result in additional capital expenditure of $400 - $500 million over the next three to four years. By [redacted], Fonterra's target is to achieve up to 10% mix flexibility across the network during a typical peak production period, based on current milk growth forecasts over that period (and, accordingly, subject to forecasting risk and normal variability of milk supply between seasons). As a result, investment to provide additional product mix flexibility will also mitigate the risk that insufficient capacity is available to cater for very high spikes in peak milk production.

5 Inputs, Processes & Assumptions regarding the Adjustment Amount

For the reasons outlined in the previous section, Fonterra's capacity constraints prevented it from fully benefiting by switching volume to higher-returning Reference Commodity Products in the first half of F14. This had an adverse effect on its gross margin with the result that if it paid a milk price calculated under the Manual it would have incurred losses of an extent that would have compromised key commercial protections noted in section 2. Fonterra intends to address this by reducing the milk price by the estimated extent of capacity-related costs.

To derive the Adjustment Amount, planning and accounting information is used to estimate:

- The adverse implications of higher relative stream returns for Reference Commodity Products that inform the milk price; and
- The costs and losses associated with record peak milk flows in F14.[20]

As noted in Section 3, the forecast aggregate EBIT impact of these costs for the financial year ending 31 July 2014 (FY14) is approximately $xxx.. . xx kgMS collected in the season ended 31 May 2014 are forecast to be incorporated into products sold in the financial year ending 31 July 2014.[21] Dividing the aggregate rounded forecast costs of xxxx by xxxxxkgMS results in the forecast adjustment per kgMS of 55 cents.

Stream return analysis

Quite apart from the milk price, Fonterra has strong commercial incentives to extract the highest returns possible from every litre of milk collected. To that end, it seeks to optimise the allocation of milk having regard to relative stream returns and capacity constraints (including logistics). The robustness of Fonterra's calculations of stream returns as a planning tool therefore underpins production planning and optimisation. These calculations are updated weekly and are calculated as the total value that is expected to be obtained from a kilogram of milksolids allocated to each major product stream (WMP, SMP etc.), including their associated by-products.[22] The calculation takes into account:

- Expected commodity prices (base prices) having regard to currently-contracted and forecast sales;
- Variable manufacturing costs; and
- Manufacturing yields.

As described in the Attachment 4, estimates of stream return losses are derived by:

- calculating weighted average stream returns separately for aggregate RCP and aggregate non-RCP product streams for the relevant period; and
- multiplying the difference between these amounts by total milksolids allocated to non-RCP product streams.

Gross margin gross check

Stream return losses calculated on this basis are then cross-checked against changes in the gross margin of the NZMP business. For management reporting purposes, and in contrast to the forward-looking orientation of routine stream-return analysis, gross margin is derived by reference to milk costs that are calculated monthly by deriving the actual returns obtained from products manufactured in that month. Milk costs are calculated by allocating values for the four major milk components ('4C' in the diagram below) using monthly commodity prices as follows:

- Fat is derived from AMF and butter prices;
- Whey protein is derived by WPC80;
- Lactose prices are obtained from edible lactose prices; and
- Casein protein prices are derived from the balance of the Milk Price.

The values allocated to the four major milk components are then multiplied by their respective usages to determine the milk cost of a particular product. The values are recalculated for each new month (and recalculated for each previous month) as commodity prices change, and are applied to all product made in that month.

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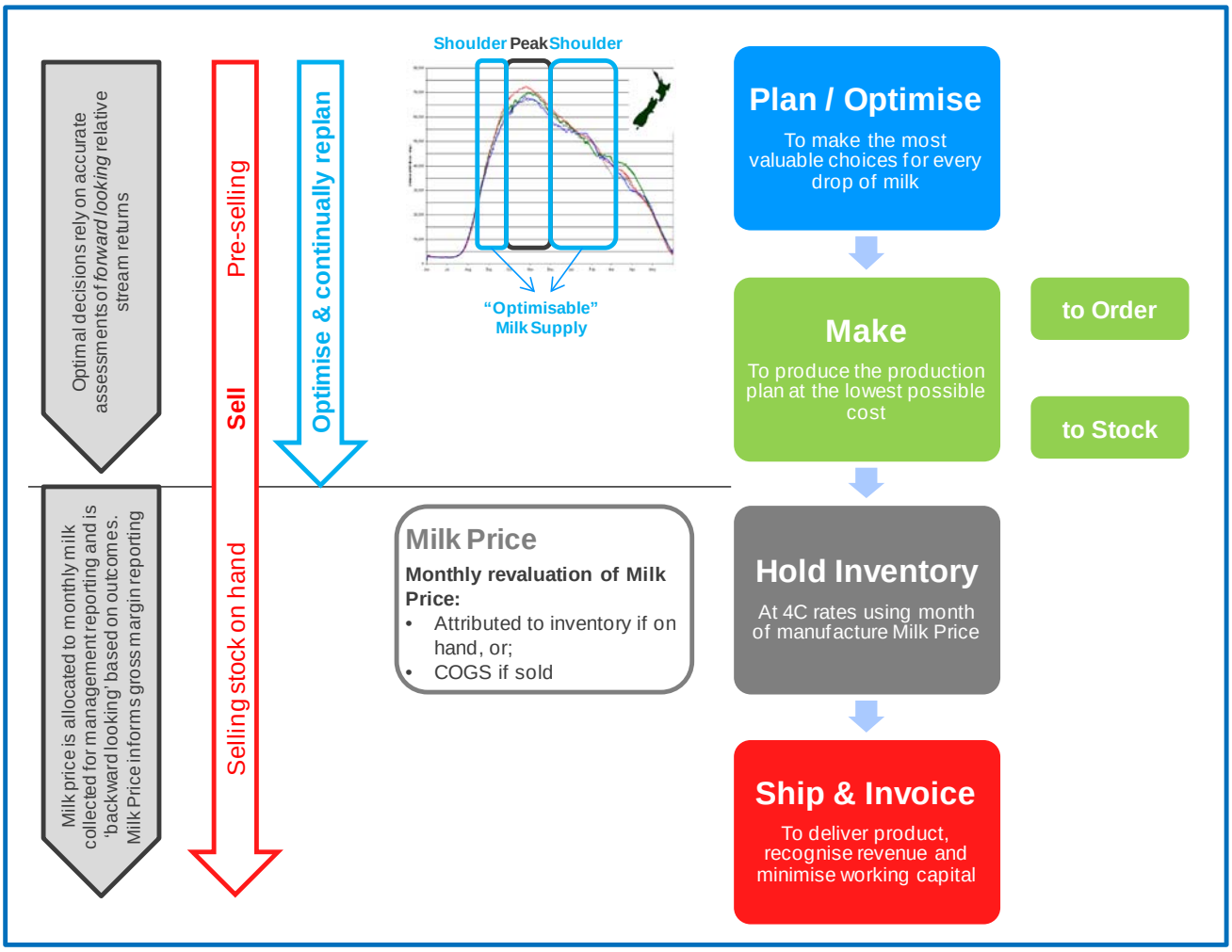
[20] Recourse to existing information and systems is the most practical approach, since setting a milk price other than in accordance with the Manual is not anticipated in the normal course (it was not anticipated for F14 and is not anticipated in F15). Moreover, Fonterra faces strong incentives for stream return analysis to be robust, as noted in the discussion that follows.

[21] An additional xxxkgMS are forecast to be incorporated into closing inventory for FY14. Since it is not feasible to pay a separate milk price for these milksolids, the 55 cent forecast Adjustment Amount will reduce the value of opening inventory for the FY15 year, and hence the FY15 cost of sales, by approximately xxxx.

[22] For example, a litre of milk devoted a Skim Milk Powder product stream would derive resulting volumes of Skim Milk Powder, Anhydrous Milk Fat and Butter Milk Powder.

The allocation of the cost of milk to individual products on this basis provides a basis for deriving a year-to-date actual and year-to-go forecast gross margin for non-RCP products. The resulting full-year gross margin is compared to the full year budget.[23] The difference is then compared to the result obtained under the stream-return analysis outlined above.

The process described above is illustrated in the figure below with more detail in Attachment 4.



6 Consistency with the purpose of subpart 5A of dira

Section 5 and Attachment 4 lay out the assumptions adopted and inputs and process intended to be used in determining the base milk price under subpart 5A of DIRA in F14.

As noted in Section 1, Fonterra is also required to certify the extent to which, in its view, the assumptions, inputs and process adopted result in a base milk price that provides an incentive for Fonterra to operate efficiently while providing for contestability in the market for milk.

As explained above, the current-year costs faced by Fonterra primarily arose from circumstances that were outside Fonterra's ability to influence. However, to the extent that any of the costs arose from discretionary decisions made by Fonterra's management (such as product mix and contract phasing decisions across the peak period), these decisions would mainly have been made before the decision in December to pay a milk price lower than that

[23] On the basis that the budgeted gross margin assumed no material difference between variably-costed stream returns across the year. Accordingly, any variance between actual and budget should reflect the impact of stream return differences

calculated under the Manual. The decision to make the adjustment will therefore not have had any adverse impact on Fonterra's incentives to make those decisions efficiently.

The intention in F14 to pay a milk price that is lower than that calculated under the manual means Fonterra's incentives to operate efficiently in the future by optimally managing product mix and peak milk flows have arguably been reduced. However, Fonterra's incentives to optimally manage product mix and milk flows over the longer term remain strong for reasons that include the following:

- The unprecedented confluence of events in 2013 outlined in section 3 that (i) were outside Fonterra's control (ii) contributed to the rapid increase in prices of products that inform the milk price (iii) are unlikely to occur regularly and (iv) are therefore difficult to anticipate, are unlikely to adversely affect Fonterra's long-term incentives to operate efficiently;
- Fonterra's announcement in February 2014 that it will accelerate $400 - $500 million of expenditure on new capacity indicates that it has responded efficiently to this year's circumstances and to potential ongoing volatility in relative stream returns and milk production. Compared to the counterfactual of paying a Manual-derived milk price, the intended approach to setting the base milk price facilitates this outcome;
- It is highly unlikely that the decision in F14 to pay a milk price lower than that calculated under the Manual will have any impact on Fonterra management's incentives to make efficient decisions about the allocation of milk to product streams on a day to day basis;
- Fonterra remains appropriately incentivised to make efficient incremental capital investment decisions, because its substantial sunk investment in facilities to process milksolids provides Fonterra with a strong incentive to continue to pay the highest-sustainable milk price in a competitive market for milk in New Zealand;
- Fonterra's shareholders, who have the same goal, are also incentivised to encourage Fonterra to make efficient investment and product mix decisions; and
- the milk price calculated under the Manual is the reference point from which adjustments are made to set a forecast base milk price. These adjustments reflect costs related to constrained capacity. Other parameters of the milk price calculated under the Manual (such as notional overheads and capital base) continue to provide an incentive for Fonterra to operate efficiently.

While the efficiency dimension of s150A focuses on incentives for Fonterra to operate efficiently, DIRA contains an overall efficiency test in section 4(f) that relates to the promotion of the efficient operation of dairy markets in New Zealand. At the end of F14, Fonterra will have paid a milk price identical to that calculated in accordance with the Manual in all but one of the last six seasons. Fonterra strongly considers that a price calculated under the Manual reflects a competitive benchmark. Accordingly, a material discount to the milk price calculated under the Manual would promote inefficient entry if it persisted over time, or was expected to be repeated. However, Fonterra's accelerated investment programme to address the fundamental legacy-asset causes of the challenges it faced this season will mitigate this risk.

As explained in Part B, Fonterra considers that the milk price is practically feasible for a manufacturer of RCPs of Fonterra's scale. It follows that the lower actual base milk price, together with the inputs, processes and assumptions used to determine the Adjustment Amount, are therefore also practically feasible.

Attachment 1: Activities provided for in provision for overhead & administrative costs

We list below the full range of Fonterra's activities provided for in the overall provision for overhead and administrative costs, and comment briefly on the approach taken with respect to each item. (The comments below in many instances note that Fonterra's 'actual' costs, or portions thereof, are included in the Farmgate Milk Price calculation. The 'actual' costs referenced relate to Fonterra's F12 budget, with the relevant provisions subsequently carried forward and adjusted for inflation. This approach leaves Fonterra appropriately incentivised to minimise its actual costs.)

Category	**Comment**
Supplier & External Relations, comprising costs associated with:	
Milk supply	100% of Fonterra's budgeted F12 costs associated with monitoring & surveillance, area managers & supplier-related IS costs included in milk price costs.
Sustainability	Fonterra incurs considerable cost (much of which would not be incurred by other processors, and which can therefore be considered a 'diseconomy' of scale) on issues such as effluence management, reducing waste & energy consumption, developing water strategies, & providing input local & central government policy formation. Most of these costs have been included in the milk price calculation.
External relations	Again, Fonterra incurs costs that would not necessarily be incurred by other processors, but which it can be argued are necessary for a manufacturer of the NMPB's scale to maintain milk supply. These costs are largely included in the milk price calculation.
Trade strategy	Similarly, Fonterra incurs costs in ensuring its (and the wider industry's) interests are considered in trade negotiations and the like that are unlikely to be incurred by other processors, but which it can be argued are necessary for a manufacturer of the NMPB's scale to maintain milk supply. These costs are fully included in the milk price calculation.
Corporate marketing	Fonterra incurs marketing costs in relating, for example, to positioning dairy as a nutritional and healthy option, to funding initiatives in local communities, & in respect of environmental sustainability. These costs are largely included in the milk price calculation though, again, it is likely that at least a portion would not be incurred by a smaller-scale processor.
Governance costs, comprising costs associated with:	
Board of Directors	Fonterra's actual costs, with a modest reduction to provide for the difference in scope of activities between Fonterra and the NMPB, are included in the Farmgate Milk Price calculation.
Milk Price Group	The milk price calculation includes a provision for the various costs associated with the operation and maintenance of the Farmgate Milk Price methodology, though we again note that equivalent costs would generally not be incurred by other processors.

Fonterra's Fair Value Share process	While now discontinued, the process was relevant at the time the 'review year' provision was established, and a provision included on the basis that a portion of this cost would still be incurred if Fonterra undertook the same activities as the NMPB. With the introduction of TAF, this provision can now be viewed as providing for the costs associated with maintaining a market listing. Under either approach, however, it does not necessarily follow that equivalent costs would be incurred by other processors.
Shareholders' Council	While again not necessarily relevant to most processors, the milk price calculation reflects most of the costs associated with maintaining Fonterra's Shareholders' Council.
Human Resources	Milk price provision based on Fonterra's actual costs, scaled for difference in head-count.
Costs associated with finance function:	
Transactional support (AP & AR etc), administration of capex, periodic reporting etc	Based on Fonterra's actual costs, adjusted to exclude costs incurred by Fonterra that would not be incurred by the NMPB, including costs relating to Fonterra's offshore operations, such as a portion of Fonterra's external audit fee & portions of its legal & tax function costs. Where costs relate to activities that would be materially identical for the NMPB, Fonterra's actual costs have been included in their entirety. In some instances Fonterra's actual costs are further adjusted to reflect differences in the complexity of Fonterra's business. 80% of the actual cost of Fonterra's Treasury operation is included, for example, with the excluded portion primarily reflecting Treasury-related costs attributable to Fonterra's extensive network of offshore subsidiaries and businesses.
Financial reporting, budgeting & forecasting	
Communications	
Treasury	
Legal Administration	
Internal Audit	
Share Registry and Payments	
Strategy and Corporate Finance	
Group Tax	
Policy and Risk	
Regulatory	
Customs	
Property	
IS costs	Based on Fonterra's actual costs (which incur costs associated with legacy systems and historic IS investments, not all of which would have been incurred by the NMPB) scaled to reflect differences in characteristics and activities of the NMPB relative to Fonterra.
Senior management team	Based on the senior management team for Fonterra's NZ manufacturing operations, adjusted where appropriate to include functions captured elsewhere.
Manufacturing overhead costs, including costs associated with:	
Quality assurance and technical management	Based on Fonterra's actual costs, adjusted to exclude costs incurred by Fonterra that would not be incurred by the NMPB, including costs relating to Fonterra's offshore operations.
Automation, process control and calibration	
Quality & complaints	
Environmental	
Grading	
Capital maintenance and assets	
Innovation	
Optimisation & strategy (including production planning)	
Procurement	

Attachment 2: Summary of files containing inputs & processes used to calculate projected Farmgate Milk Price as at 31 May 2014

The table below summarises the Excel files we have separately provided the Commission, which contain the detailed input data and calculation processes used to derive the forecast of the 2013/14 Farmgate Milk Price as at 31 May 2014.

Model	Ref	Type	Name	Description
Milk Price model				
	1.0	**Model**	F14 May 14 Milk Price Reporting Model	F14 May Milk Price Reporting Model
	1.1	**Input**	F14 May 14 Carbon Credit	May 2013 carbon credit price, used to calculate monthly carbon credit prices from ERU and NZU to be used in the Milk Price Model
	1.2	**Input**	FACR Scenarios 2014-04	FX forecast for USD:NZD
	1.3	**Input**	Advance Rates	Advance Rate Forecast for F14
Shipment Month BCP				
	2.0	**Model**	F14 May 14 Shipment Month BCP Model	The Shipment Month BCP model that calculates the BCPs for YTD sales
	2.1	**Input**	F14 May 14 Shipment Raw Data	Shipment BCP Data download from RAMP
Implied Shipment BCP				
	3.0	**Model**	F14 May 14 Implied Shipment BCP Model	Implied Shipment BCP model
	3.1	**Model**	F14 May 14 Contract Data Adjusted	Output from Contract Month Data Adjustment is input into the Implied Shipment BCP Model This model uses the input data in 4.1
Contract Month BCP				
	4.0	**Model**	F14 May 14 Contract Model	Used to generate the shipment price mean and standard deviations for use in the Shipment Month BCP Model and Implied Shipment BCP Model
	4.1	**Input**	F14 May 14 Contract month Data	Contract data download from RAMP
BCP model				
	5.0	**Model**	F14 May 14 BCP Model	Calculated uncontracted BCP prices
	5.1	**Input Data**	Uncontracted Price Forecast	These are forecast uncontracted BCP prices input into the BCP model
Lactose Pricing model				
	6.0	**Model**	F14 May 14 Lactose Price Model	Calculates lactose and CIF costs in the Milk Price model
	6.1	**Input Data**	Lactose Import Statistics	Lactose import data from Statistics New Zealand
Sales Phasing model				
	7.0	**Model**	F14 May 14 Sales Phasings Model	Generates the sales phasing percentages and contracted sales percentages used in the Milk Price Model
	7.1	**Input Data**	F14 Closing MP Stock Forecast May 14	Input data into Sales Phasing model with closing inventory milksolids for each of the RCP (Reference commodity product)
	7.3	**Input Data**	May Production Plan	The production target plan for the year covering all five RCPs. It is used to calculates opening and closing inventory, WMP/(WMP+SMP) and Butter/(Butter+AMF) ratios etc. The file includes inputs into the Sales Phasing model, the Production model and the Milk Price model.
Made Allowance model				
	8.0	**Model**	F14 May 14 IMP Make Allowance Model	Make Allowance Model / Cash Cost Model
	8.1	**Input**	May 14 Collection Costs	Milk Collection Cost Data

Model	Ref	Type	Name	Description
		Data		
Production model				
	9.0	**Model**	F14 May 14 IMP Production Model VCR	The Production model, used to calculate annual diversion costs and production volumes by sites which are inputs into the Cash Costs Model
	9.1	**Input Data**	F14 Apr YTD Solids	Year-to-Date milk solid production. It is also input into the Yield's Model and MPM
	9.2	**Input Data**	End April Forecast YTG Solids	Year-to-Go milk solid production forecast. It is also input into the Yield's Model and MPM
	9.3	**Input Data**	YTD Composition	Milk composition for fat and protein content, it is input into both Production model and MPG Yields model
	9.4	**Input Data**	F14 Milk composition Forecast	Milk composition for fat and protein content, it is input into both Production model and MPG Yields model
	9.5	**Model**	F14 Yields Update	Converts losses into KGs per Tonne
Capital model				
	10.0	**Model**	Capital Costs – new assets from F12-F14 Model	Used to calculate depreciation and capital charge on fixed assets, which are inputs into the Milk Price Model.
	10.1	**Model**	Capital Costs – old assets to F12-F14 Model	Used to calculate depreciation and capital charge on fixed assets, which are inputs into the Milk Price Model

Attachment 3: Additional material provided to the Commission in support of Fonterra's reasons

The table below summarises additional material, the content of which is commercially confidential to Fonterra, that has been provided to the Commission in support of certain statements made in this document, and which should therefore be considered in conjunction with this document.

Category	Sub Category	File Name
Adjustment		Stream Returns and Superflush 260614.pdf
Adjustment		Superflush Update 310514.docx
Adjustment		Stream Returns April Forecast 180614.xlsx
Adjustment		Standard Gross Margin April Forecast 300614.xlsx
Assurance		ED4 Post Investment Review.pptx
Assurance		F09 - F14 Milk Price Detail.xlsm
Assurance		IMP Make Allowance Model Operating Manual 31 05 14.docx
Assurance		Milk Price Model Operating Manual 310514.docx
Assurance		MPG half year report at 31 Jan 2013.docx
Assurance		PwC Half year report at 31 Jan 2013.pdf
Assurance		PwC model review report.pdf
Assurance		EY Model Reviews
Assurance		Darfield D1 audit report ver 2.docx
Assurance		DD1 Loss Audit Review (2014-06-04).pdf
Assurance		Management Report Darfield D1 Energy Use Draft.docx
Assurance		F15 Milk Price Losses 2014-06-03.pdf
Capital Costs		Milk Price tax depn assumption with DV – 17 June 2014.xlsx.
Capital Costs		Milk Price Modeling Report Rev3 - Part 1 of 2 Repo...
Capital Costs		Milk Price Modeling Report Rev3 - Part 2 of 2 Appe...
Capital Costs		Asset Life from DTZ.xlsx
Capital Costs		JLL report – Milk Price Dry Store Capacity May 2014.pdf
Capital Costs		JLL Milk Price Dry Store Capacity by Site May 2014.xlsx
Capital Costs		Dry Stores Calculation for F15 29 May 2014
Capital Costs		JLL Inflation Update May 2014 .xlsx
Capital Costs		10 Year WACC Forecast 1 June 2012 -2022 May 31.xlsm
Capital Costs		Item 3.1 MPG Paper Review Year Asset Base 18 May 2012
Capital Costs		JLL Darfield Valuation May 2013.xlsx
Capital Costs		JLL Milk Price Asset Valuation May 2013.xlsx
Capital Costs		Powder Plant Average Capacity 18 June 2014.xlsx
Capital Costs		MPG File Note - DTZs Initial Plant Cost Issues - 2March 2010.doc
Capital Costs		Site Services Capital 3 April 2012.xlsm
Capital Costs	Working cap	131206 M Creditor Days review v2.pdf
Capital Costs	Working cap	140205 M F14 debtor days.pdf
Cash Costs	Collection	Milk Collection Presentation.ppt
Cash Costs	Collection	F14 Collection Costs Review.docx
Cash Costs	Collection	F14 Full year forecast Milk collection Costs Mar 14.xslm
Cash Costs	Collection	Milk Collection Asset Values 31.07.2013.xslx
Cash Costs	Energy	140130 F14 Energy Review
Cash Costs	Energy	Attachment 8 - GEA Yield and Energy Figures for IMP.xls.
Cash Costs	Energy	F14FnlBdgtNRGRatesv21.xslm
Cash Costs	Energy	Milk Price Reset F13 Resource usage summary.docx

Category	Sub Category	File Name
Cash Costs	Energy	Aurecon le02_213156-MPM Energy Consumption.pdf
Cash Costs	Energy	Aurecon le02_213156-MPM Energy Consumption Clarification.pdf
Cash Costs	Energy	Response to Peter Walkers Draft Report.docx
Cash Costs	Energy	1774530_Energy use queries with Fonterra Comments.doc
Cash Costs	Energy	Peter W Energy.xslx
Cash Costs	Energy	Darfield Energy Audit
Cash Costs	General	140308 Product Costing Review Draft Paper.docx
Cash Costs	General	Budget Production rates Update.xlsm
Cash Costs	Labour	F13 Plant FTE Input Summary.xlsm
Cash Costs	Labour	Attachment 02 - Reference Plant Staff for F13-16 R...
Cash Costs	Labour	F14 December 13 DWU and ERE Costs Update 19122013.xlsm
Cash Costs	Labour	Manufacturing Temp Labour Review (Revised) 2013-02...
Cash Costs	Labour	F13 Manufacturing Temp Labour Review 2013-02-22.docx
Cash Costs	Labour	F12 Reset Year FTO Mfg Site Overheads.xlsx
Cash Costs	Lactose	Lactose Model (Detailed Manual) Updated for Creditor Days.pdf
Cash Costs	Lactose	Lactose Model (Detailed Manual).pdf
Cash Costs	Lactose	Lactose Loss Allowance F13 2013-03-14 (2).pdf
Cash Costs	Overheads	GDT Market Rule.pdf
Cash Costs	Overheads	Exec Org Strawman 2011-12-13.xlsx
Cash Costs	Overheads	Internal Audit - points considered.xlsx
Cash Costs	Overheads	Group reporting costs - points considered(1).xlsx
Cash Costs	Overheads	180512 Fonterra Overheads Summary FINAL.docx
Cash Costs	Overheads	F13 Insurance Calculation 6 Aug 2013.xlsx
Cash Costs	Packaging	Packaging - Reset Usages.docx
Cash Costs	Packaging	Packaging Freight FBP MP Specs_F14 Mar14.xlsx
Cash Costs	Packaging	F14 Packaging Rates
Cash Costs	Packaging	Packaging Usage Analysis.docx
Cash Costs	R&M	F14 January 14 R and M Percentage.xlsm
Cash Costs	R &M	RandM Recommendation F14 (2014-02-19 Final).pdf
Cash Costs	Supply Chain	130909 MPG response to Freight to Port Memo.docx
Cash Costs	Supply Chain	F14 Freight to Port Analysis 20130520.xlsx
Cash Costs	Supply Chain	F14 Dry Storage Review 2013-02-20.docx
On Product Time		Historical OPT Peak and Full Season.xlsx
On Product Time		On Product Time Review (V4 2014-03-03).pdf
Overheads		F12 Budget Site overhead info Downloads v6.xlsx
Overheads		Attachment 07 – FTO GSC Overheads.docx
Overheads		F14 July Non-Labour Cost Index (PPI-F14).xlsx
Overheads		F14 June Labour Cost Index (LCI-Mar14).xlsm
Revenue		Downgrade Allowances in the Notional Milk Price.pdf
Revenue		Downgrade Sales Allowance Review 2013-11-11.pdf
Revenue		NZ Dairies_WMP Contracts_27022013.xlsm
Revenue		4.1 MPG Paper Off-GDT Price Achievement 17 May 2013.docx
Revenue		F14 May GDT vs Non GDT Contract Prices.xlsx
Revenue		F14 May 14 WMP Dot plot.xlsm
Revenue		F14 May 14 SMP Dot plot.xlsm
Revenue		F14 May 14 AMF Dot plot.xlsm
Revenue		Item 4 2 MPG Paper Milk Price Revenue Inputs 7 April 2014.pdf

Attachment 4: Table of Inputs, Processes and Assumptions in respect of the Adjustment Amount

Inputs	Process	Assumptions
Stream Return Analysis		
Full year forecast NZD prices for shipments of all finished products by month (being YTD actual and YTG forecast prices) less variable costs per metric tonne	Multiply the result for each product associated with a product steam by the yield of finished product per kgMS, and sum over all products in the stream. The result is returns per kgMS allocated to a product stream	Prices used accurately reflect average base prices achieved for that product for that month Variable costs used in the calculation vary fully in accordance with milk solids.
Actual YTD and forecast YTG sales volumes of the principal product in each stream (e.g., SMP for the SMP/AMF/BMP stream)	Divide sales volume of the principal product of each stream by yields to determine kgMS allocated to that stream for each month.	
	Calculate weighted average stream return for milk price products and non-milk price productions. Multiply the difference by total solids allocated to non-milk price product streams. The result is forecast full-year stream return losses (or gains, as the case may be).	
Gross margin calibration		
Actual and forecast sales revenue for each month less COGS at the latest monthly milk prices derived according to the Milk Price Manual for each product (sourced from underlying accounting system). Note that otherwise for management reporting purposes, COGS is determined by applying the forecast actual milk price, including the forecast Adjustment Amount,	Compare resulting forecast full-year gross margin against full-year budget for non-milk price products. Compare this to result obtained under stream-return analysis.	
Peak Milk Costs		
Solids collected but disposed of	Components valued at relevant 'four components' monthly rate (based on the milk price paid on kgMS).	
Transport costs	Track costs incurred for extra freight movements, including inter-island.	
Partially or non-standardised manufacture	Value of protein foregone (net or lactose savings) by producing partial or non standardised product, with the four components valued by reference to the applicable monthly milk price.	Loss is assumed to be protein