

## Key Issues Paper – Review of base milk price calculation

5 July 2013

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### Purpose

1. This paper outlines and seeks comments and information from interested parties on:
  - 1.1 selected key issues associated with Fonterra’s 2012/13 base milk price calculation; and
  - 1.2 our intended analytical approach to resolve these issues.
2. Due to the short statutory timeframes for completing our analysis<sup>1</sup>, we are seeking feedback on these selected issues now so that any matters that may require significant investigation of data can be addressed as early as practicable.<sup>2</sup>
3. We also invite interested parties to submit on Fonterra’s Reasons Paper<sup>3</sup>, and to outline any other major issues they consider the Commission should be focussing on in this review.
4. All submissions should be supported by evidence on why these issues are important and what would be the best approach for us to assess them.
5. Submissions to this paper are due by 5pm on Friday 19 July 2013.
6. Submissions should be emailed to: [regulation.branch@comcom.govt.nz](mailto:regulation.branch@comcom.govt.nz), for the attention of Paolo Ryan.

### Scope of our review of Fonterra’s 2012/13 base milk price calculation

7. This review is confined to our assessment of the extent to which Fonterra’s 2012/13 base milk price calculation is consistent with the purpose of the milk price monitoring regime set out in the Dairy Industry Restructuring Act 2001 (the Act).<sup>4</sup>

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<sup>1</sup> Our draft report is due on 15 August 2013 and the final report is due on 16 September 2013.

<sup>2</sup> As part of our review of Fonterra’s 2012/13 Milk Price Manual, we have identified a number of issues that we will consider as part of our review of Fonterra’s 2012/13 base milk price calculation. Our report on the review of Fonterra’s 2012/2013 Milk Price Manual is available at: <http://www.comcom.govt.nz/statutory-review-of-milk-price-manual>. To the extent that the issues identified are not included in this Key Issues Paper, we will be reporting on them in our draft report.

<sup>3</sup> Available at: <http://www.comcom.govt.nz/assets/Dairy/Fonterra-Reasons-paper-2-July-2013.pdf>

<sup>4</sup> This is the second of two annual reviews the Act requires us to undertake. We completed the first review in December 2012, on Fonterra’s Milk Price Manual (*Review of Fonterra’s 2012/13 Milk Price Manual: Final Report*, 14 December 2012).

8. Under subpart 5A s 150O of the Act, we are required to undertake the review of Fonterra's calculation of the price Fonterra pays dairy farmers for milk, known as the 'base milk price' for each season.<sup>5</sup>

9. The scope of the review of the base milk price is set out in s 150P, in particular (emphasis added):

(1) The Commission must make a report **on the extent to which** the assumptions adopted and the inputs and processes used by new co-op in calculating the base milk price for the season **are consistent with the purpose of this subpart** (see section 150A).

10. The purpose of subpart 5A is set out in section 150A:

(1) The purpose of this subpart is to promote the setting of a base milk price that provides an incentive to new co-op to operate efficiently while providing for contestability in the market for the purchase of milk from farmers.

(2) For the purposes of this subpart, the setting of a base milk price provides for contestability in the market for the purchase of milk from farmers if any notional costs, revenues, or other assumptions taken into account in calculating the base milk price are practically feasible for an efficient processor.

11. Specifically, in this review we consider the extent to which the assumptions adopted and the inputs and process used by Fonterra in calculating its 2012/13 base milk price:

11.1 provide an incentive to Fonterra to operate efficiently; while

11.2 providing for contestability in the market for the purchase of milk from farmers.

12. Section 150A of the Act refers to incentives for Fonterra to 'operate efficiently'. We have interpreted the primary focus of the efficiency dimension to be improving incentives for Fonterra to drive cost efficiencies (ie, productive efficiency<sup>6</sup>).

13. As set out in our Review of Fonterra's Milk Price Manual<sup>7</sup>, we have adopted the following approach to the efficiency test set out in the purpose statement:

Fonterra will have an incentive to operate efficiently where the base milk price is set independently of Fonterra's actual performance, as this then provides Fonterra with a benchmark to beat.

<sup>5</sup> Section 140O states: (1) The Commission must, for each season, review new co-op's calculation of the base milk price set for that season and make a report under section 150P. (2) The first review under this section must be the review to be held in 2013 in respect of the 2013/2013 season.

<sup>6</sup> Productive efficiency is present when producers use inputs in such a manner as to minimise costs, subject to technological constraints. We are primarily concerned with productive efficiency when reviewing Fonterra's costs. For revenue items (such as the selection of reference commodity products (RCPs) and sales prices), where productive efficiency is not relevant, we necessarily focus on other efficiencies, such as allocative efficiency. Allocative efficiency occurs when there is an optimal distribution of goods and services, and involves taking into account consumers' preferences.

<sup>7</sup> See Chapter 2 and Attachment B of the Commerce Commission, *Review of Fonterra's 2012/13 Milk Price Manual: Final Report*, 14 December 2012 for our complete discussion of our interpretation of section 150A. The above paragraphs are in Attachment B, B21 – B25.

To explain, we expect Fonterra's Board and management to be subject to normal drivers to increase Fonterra's profit. If the base milk price is set independently of Fonterra's performance, and is allowed to operate mechanically, any improvements in Fonterra's profit will depend mostly on its actual yields getting better, its actual product portfolio migrating to more valuable options, and its operating costs being reduced. In this setting, Fonterra has a strong incentive to make these gains.

Our view is that setting any independent benchmark for the costs that underpin the base milk price would provide an incentive for Fonterra's management to improve efficiency. There is no unique price that needs to be ascertained to provide incentives for Fonterra to improve its productive efficiency. Setting any independent benchmark provides a target.

Subpart 5A of DIRA is consistent with this view. It envisages the use of notional values and in some instances requires the use of a notional business. These notional components create the benchmark that provides Fonterra with efficiency incentives.

Notwithstanding the efficiency dimension of the s 150A purpose, there are instances where it is still reasonable to use actual data in setting the base milk price. These particularly include where:

- there is insufficient information to know what an appropriate notional value would be; or
- Fonterra has very limited control over the actual costs used for the benchmark.

14. Under the Act, it does not matter whether existing independent processors can necessarily achieve the level of efficiency implied by the base milk price or not. As long as Fonterra or a potential entrant can achieve that level of efficiency, then that ensures that the base milk price reflects a practically feasible level, and would provide a normal return on incremental investment.
15. The Act requires us to apply the existing statutory test in s 150A. It is outside the scope of this review to comment on the extent to which the base milk price calculation is consistent with the pricing outcomes of a "workably competitive" market.
16. Section 150A(2) states that the setting of a base milk price will provide for contestability if "any notional costs, revenues, or other assumptions taken into account in calculating the base milk price are practically feasible for an efficient processor".
17. In assessing whether the setting of the base milk price provides for contestability, our main test is examining whether the assumptions are practically feasible for an efficient processor. If the assumptions adopted are practically feasible for an efficient processor, then the base milk price is consistent with the contestability standard of s 150A. We also consider whether the assumptions are consistent with other assumptions used to calculate the base milk price.

*Fonterra's assumptions, inputs and process*

18. The Act requires Fonterra to:
  - 18.1 provide us with a list of the assumptions adopted, and inputs and process used in calculating the base milk price for the preceding season; and
  - 18.2 certify to the Commission the extent to which, in Fonterra's view, the assumptions adopted, and inputs and process used by Fonterra are consistent with the legislative purpose set out in s 150A.<sup>8</sup>
19. In the context of the Act, we interpret the terms "assumptions adopted, inputs and process used" to carry the following meanings:
  - 19.1 'assumptions' refer to the underlying rationale as to why certain inputs and process were selected (ie, 'the why');
  - 19.2 'inputs' refers to what data or description of data sources are used to populate the base milk price calculation (ie, 'the what'); and
  - 19.3 'process' refers to how inputs are being transformed into the components of the base milk price calculation (ie, 'the how').
20. Our interpretation of these terms applies to the calculation of each component of the base milk price. Our analysis therefore incorporates the inputs, process and assumptions in the detailed models and calculations used to calculate these components. As such, our interpretation of the term 'inputs' includes the raw data used by Fonterra in its calculation of the base milk price.
21. Fonterra's interpretation of these terms is set out in its 'Reasons' paper<sup>9</sup> and is as follows:

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<sup>8</sup> Section 150T of the Act

<sup>9</sup> <http://www.comcom.govt.nz/assets/Dairy/Fonterra-Reasons-paper-2-July-2013.pdf>

- 21.1 'assumptions' refer to the rationale underpinning the approach used to calculate each input, including the rationale for use of notional or actual values;
- 21.2 'inputs' refers to specific values, expressed either as a quantum ('NZD 2.3 million'), in descriptive terms ('volume-weighted average price achieved for all NZ-sourced WMP sold on GDT and shipped in the relevant month'), or both; and
- 21.3 'process' refers to both: (i) the approach used to generate each input and aggregate those inputs to produce the base milk price, and (ii) the processes and controls implemented by Fonterra to ensure individual inputs and the overall milk price accurately reflect the underlying data and rules.
22. We consider Fonterra's interpretation of these terms to be consistent with ours. While our interpretation of the term 'assumptions' is wider than that of Fonterra's, as it includes the rationale for the use of both inputs and processes, we do not consider there to be any significant difference in the practical application of these terms.
23. Fonterra's 'Reasons' Paper which sets out its assumptions adopted, and inputs and process used, to calculate the base milk price, along with Fonterra's certification, is published on our website.<sup>10</sup>

*Timeline for the review of Fonterra's base milk price calculation*

24. The Act requires us to have regard to information provided by, and any submission made by Fonterra. There is no requirement to consult more broadly with other interested parties. However, we have decided to extend the consultation for this first statutory review of the base milk price calculation and afford an opportunity for interested parties to provide submissions.
25. A summary of the consultation process and our indicative timeline for the remainder of the review of Fonterra's 2012/13 base milk price is set out in Table 1 below.

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<sup>10</sup> <http://www.comcom.govt.nz/assets/Dairy/Fonterra-Reasons-paper-2-July-2013.pdf>

**Table 1: Timeline for the remainder of the review**

<b>Process step</b>	<b>Indicative timing</b>
Key issues paper released for public consultation	Friday 5 July 2013
Submissions on key issues paper due	Friday 19 July 2013
Draft Report for public consultation	Thursday 15 August 2013
Submissions on Draft Report due	Thursday 29 August 2013
Final Report	Monday 16 September 2013

*Requests for confidentiality*

26. Certain information interested parties may wish to provide to us to support or substantiate their comments may be commercially sensitive. We encourage all relevant information to be provided and offer the following guidance for commercially sensitive material.
- 26.1 All commercially sensitive information should be clearly marked. Both confidential and public versions of this information should be provided. The responsibility for ensuring that confidential information is not included in a public version rests entirely with the party providing the information.
- 26.2 Reasons for why this information is commercially sensitive should be clearly stated.
27. Interested parties may also request that we make orders under s 100 of the Commerce Act in respect of information that should not be made public. Any request for a s 100 order must be made when the relevant information is supplied to us, and must identify the reasons why the relevant information should not be made public. A key benefit of such orders is to enable confidential information to be shared with specified parties on a restricted basis for the purpose of making submissions. Any s 100 order will apply for a limited time only as specified in the order. Once an order expires, we will follow our usual process in response to any request for information under the Official Information Act 1982.

**Key issues**

28. We are seeking substantive submissions on both the selected issues identified and our intended analytical approaches to resolve them, as outlined below. We would particularly value:

- 28.1 your views on the appropriateness of our intended analytical approaches; and
- 28.2 suggested alternative methods for analysing the issues, including supporting data to assist us undertaking the analysis.

### **Production yields**

#### *What is the issue?*

- 29. Interested parties raised the issue of practical feasibility of the assumed production yields, both in terms of loss allowances and product specifications. In particular, interested parties questioned:
  - 29.1 whether the assumed process losses reflect realistic seasonal and regional variations of milk composition, wash and maintenance cycle and normal operational variances/errors; and
  - 29.2 whether the production yields are calculated on the basis of the typical composition of reference commodity products sold on GDT.

#### *Our intended analytical approach*

- 30. We understand the key inputs in Fonterra's calculation of the assumed production yields to be:
  - 30.1 monthly national average milk compositions;
  - 30.2 average milk losses of fat and protein by product (from collection, reception, processing and packing over-weights)<sup>11</sup>; and
  - 30.3 target product compositions of fat and protein in each product (we understand that these are based on GDT *Sales Specifications* with manufacturing offsets reflective of what Fonterra achieves in practice, rather than on GDT *Typical Compositions*).
- 31. Our analysis to date suggests that the material issue from the base milk price calculation is likely to be the choice of product compositions, rather than the milk losses adopted or the milk composition.
- 32. We intend to focus our analysis on the three areas listed below:

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<sup>11</sup> The base milk price calculation accounts for product downgrade by providing for reductions in sales prices, rather than in milk losses.

- 32.1 We have engaged a specialist dairy losses expert to assess the practical feasibility of the total fat and protein losses by product stream, taking into account wash and maintenance cycles, normal operational variances/errors, and seasonal impacts. We intend to release this expert's report together with our draft report on 15 August 2013.<sup>12</sup>
- 32.2 We are assessing the practical feasibility of the product specifications in the model in light of the *GDT Sales Specification* limits of the reference commodity products sold on GDT and the margins allowed by the model to provide for manufacturing process control variability.
- 32.3 We have reviewed the calculation process by which the model determines the production yields from the model milk composition, product specifications and losses. We have also carried out an overall integrity check on the calculation process by verifying that the total milk solids supplied into the model less the losses assumed precisely match the milk solids in the products.
33. We would welcome submissions with supporting data on what interested parties consider to be practically achievable manufacturing offsets to allow for process variability while meeting specification limits.

### **Pricing assumptions**

#### *What is the issue?*

34. Interested parties raised the issue of practical feasibility of pricing assumptions used to derive revenue in the base milk price calculation. In particular, interested parties questioned:
- 34.1 whether GDT prices, used in the base milk price calculation, are practically feasible given that the volumes of products assumed to be sold in the base milk price calculation are higher than the volumes of products used to strike the observable GDT prices; and
- 34.2 whether Fonterra could be limiting volumes it sells on GDT to realise higher GDT prices, so as to inflate the base milk price calculation, potentially at the expense of the off GDT sales and therefore Fonterra's overall profitability.

#### *Our intended analytical approach*

35. As discussed previously, a focus of our review is whether entry can occur at an incremental investment level efficiently incurred by Fonterra or another processor, rather than entry at an industry scale.<sup>13</sup> We therefore focus on whether the GDT prices used in the base milk price calculation are practically feasible for the volume

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<sup>12</sup> We note that information considered to be commercially sensitive will be redacted from the expert's report.

<sup>13</sup> This is because entry is unlikely to occur at the scale of the entire existing industry but may at the scale of an incremental investment.



of products produced from this incremental investment. We do not anticipate that the volumes produced from this incremental investment would have any impact on observable GDT prices. We invite interested parties' views on whether additional volumes produced from the incremental investment could have an impact on observable GDT prices.

36. Switching volumes of currently manufactured products between alternative sales channels (ie, on and off GDT) should not, all things being equal, result in a material price change over a medium term. This is because, in the medium term, the increase in volumes sold on GDT would be accompanied by a proportionate increase in demand as buyers would no longer be able to purchase volumes off GDT.
37. Any decisions to try to 'time the market' to take advantage of any short term price spikes, which may be occurring either in some or all sales channels and are a result of exogenous factors, are legitimately within Fonterra's (and a commercial profit maximising notional producer's) ambit.
38. To explore whether Fonterra could be limiting volumes it sells on GDT so as to realise higher on GDT prices, at the expense of its off GDT prices, we intend to carry out the following analysis:
  - 38.1 compare the relative changes in volumes and prices of reference commodity products Fonterra sold on and off GDT across the last dairy season, which included a drought period; and
  - 38.2 assess the reasonableness of Fonterra's underlying rationale for its decisions to place certain volumes on and off GDT, particularly during the drought period.
39. Our ability to carry out this analysis, and the insights we obtain from this analysis, is dependent on the availability and quality of information available.

### **Standard plant configuration**

*What is the issue?*

40. We would like to test practical feasibility of the standard plant configuration for the purposes of calculating capital costs in the base milk price calculation. In particular, whether the standard plants (including ancillary and milk collection assets) include the complete and appropriate scope of plant items required to collect raw milk and manufacture the reference commodity products specified.

*Our intended analytical approach*

41. We have engaged an independent engineering consultancy firm to assist us to determine the engineering specifications of standard plants, and intend to release their expert report along with our draft report on 15 August 2013.<sup>14</sup>
42. To ensure that the plant equipment items are complete and appropriate (ie, that there are neither exclusions nor duplication), we provide an indicative list of standard plant items in Attachment A and seek interested parties' comments on the completeness and appropriateness of this list.

**Selected operating costs assumptions**

*What is the issue?*

43. We would like to test the practical feasibility of selected operating costs assumptions associated with manufacturing the reference commodity products by an efficient processor. In particular, interested parties have questioned whether the operating costs assumptions are over-optimised to the degree that the notional producer represents a 'super-competitor'.

*Our intended analytical approach*

44. As we stated in our Review of the Manual, our focus in assessing contestability from an operational perspective is on the incremental plant efficiently built by Fonterra or another processor. We, therefore, intend to test practical feasibility of costs assumptions (individually and in aggregate) on an incremental plant level.
45. Attachment B contains an illustrative copy of the excel schedule of costs that we invite you to populate for the purposes of assisting our analysis. Specifically, we are seeking your views on what you would consider to be achievable costs for a number of selected operating costs assumptions for an incremental plant built by an efficient processor. Please refer to paragraphs 26 and 27 above for guidance on providing commercially sensitive information.
46. We recognise that the cost categorisations used in the schedule may vary from company to company. Therefore, when populating the schedule, please use the comments section to specify the underlying assumptions and categorisations for your inputs.
47. Please populate the schedule in the separate excel spreadsheet provided.

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<sup>14</sup> We note that information considered to be commercially sensitive will be redacted from the expert's report.

## **Attachment A: Standard plant items**

We understand that the following standard plant items would be required for each of the five types of standard plants.

### **Milk collection**

The scope of the milk collection plant items includes all items required from pick up from the farm milk vats to the raw milk intake at the standard plant. Specifically:

- farm milk vats
- standard milk tankers.

### **Milk reception**

The scope of the milk reception facilities includes all items from tanker discharge to raw milk silo discharge terminal point. It therefore includes tanker bays and tanker wash (tanker CIP), raw milk silos and raw milk silo CIP facilities. It should include, at the minimum:

- tanker bays
- tanker pumpout
- raw milk storage
- tanker bay and raw milk silo CIP.

### **WMP processing plant**

The scope of a major WMP processing plant includes all plant items from the outlet of the raw milk silos and the lactose reception system. Specifically:

- separators
- standardisation process including mixers and buffer tanks for skim and lactose solution and for standardised raw milk
- filtration
- chilled raw cream silo, cream pasteuriser, cream storage tanks and road-tanker discharge facilities
- three evaporators
- concentrate tanks, concentrate heaters
- either homogeniser plant or HP pumps
- a single IFB-type spray drier with atomization
- provision for lecithin application
- intake air filter, airheater(s) and fans required for the drier
- external vibrating fluid bed fan air supply and ductwork to baghouse
- cooler/sifting

- baghouse filters and fines return for drier
- bulk powder bins and sifting/sizing plant
- gas flushed bagging (either 25kg bags and palletising, or bulk bags)
- CIP plant to service all of the above
- control and instrumentation to operate plant, including startup, QC, CIP, changeovers and shutdown.

### **SMP processing plant**

The scope of a major SMP processing plant includes items from the outlet of the raw milk silos and the lactose reception system. Specifically:

- separators (sized to the full peak capacity of the SMP plant)
- standardisation process mixers and buffer tanks for lactose solution and standardised skim milk
- chilled raw cream silo, cream pasteuriser, cream storage tanks and road-tanker discharge facilities
- evaporators: three evaporators and one dryer
- concentrate tanks, concentrate heaters
- a single IFB-type spray drier with atomisation
- intake air filter, airheater(s) and fans
- external vibrating fluid bed fan air supply and ductwork to baghouse
- cooler/sifting
- baghouse filter and fines return
- gas flushed bagging (either 25kg bags and palletising, or bulk bags)
- CIP plant to service all of the above
- control and instrumentation to operate plant, including startup, QC, CIP, changeovers and shutdown.

### **AMF processing plant**

The scope of an AMF processing plant includes:

- cream reception
- main cream storage tanks
- main cream separator
- buttermilk separator and fat return
- AMF storage, AMF drum filling and sealing, and warehousing.

### **BMP processing plant**

The scope of a major BMP processing plant includes items from the outlet of the buttermilk silos. Specifically:

- evaporators
- concentrate tanks, concentrate heaters
- a single spray drier with atomisation
- intake air filter, airheater(s) and fans
- external vibrating fluid bed fan air supply and ductwork to baghouse
- cooler/sifting
- baghouse filter and fines return
- gas flushed bagging (either 25kg bags and palletising, or bulk bags)
- CIP plant to service all of the above
- control and instrumentation to operate plant, including startup, QC, CIP, changeovers and shutdown.

### **Butter plant**

- chilled cream reception and storage
- cream crystallising silos
- additive system
- buttermaking machine
- chilled water supply is required
- buttermilk storage
- butter packing machine
- associated CIP system
- control and instrumentation to operate plant, including startup, QC, CIP, changeovers and shutdown.

### **Plant and site control, monitoring and recording**

Control and monitoring is a major component of milk processing plants. Control and monitoring systems would include:

- milk reception recording
- laboratory systems and payment integration

- inline measurement systems for milk components – raw and standardised milk
- process control systems for all evaporator and drier operation
- process control for start-up, changeover onto product, shutdown, and CIP for evaporation and drying
- product storage, packaging and dispatch weighing and recording
- monitoring recording and control of plant services including energy, waste and related systems
- HMI for operators
- QC monitoring for product tracing.

### **Waste processing**

Each of the manufacturing sites would require a waste processing plant that must include capability to process:

- all CIP waste
- neutralisation waste arising from water treatment systems
- reject product and losses
- boiler blowdown
- site sewage.

The waste processing plant should also include emergency bunded storage and pump-out capabilities, to control unforeseen events (e.g. accidental spillage that would have environmental implications). Equipment for waste processing plant would include:

- storage silo for untreated CIP and related liquid
- DAF or similar BOD/COD control plant
- treated water silo
- sludge storage and truck-out
- neutralisation tank, with tanker filling provisions
- either local sewage treatment, or cost allowance for connection to municipal plant.

### **Energy supply**

Each manufacturing site requires an energy supply. The energy supply system needs to be aligned to the plant installed, and needs to assume either coal supply via road transport or gas supply to site boundary. Plant that is only required for coal-fuelled boilers is labelled [coal].

If it is assumed that product contact steam may be required (and therefore appropriate water treatment is required) boiler plant equipment should include:

- ground level grizzly (tip-in grill for coal) and underground coal reception hopper [coal]
- gas reception station [ gas ]
- en-mass or similar conveyor) [ coal ]
- at least two storage hoppers able to hold 3 days-worth of coal [ coal ]
- at least two boilers, each rated for 60% of the peak steam usage rate, with fans
- baghouse filters and ash handling plant [ coal ] It is assumed that no flue gas treatment is required, and that continuous emission monitoring is not required
- boiler Management System (BMS) and all C&I and monitoring systems
- common stack
- water treatment plant (suitable for permitted treatments for food processing plant)
- feedheating and feedwater control, common deaerator
- boiler feed pumps, each rated at 50% of the required total capacity
- fire protection system.

In addition to the boiler system, the following would also be required:

- hot water systems – commonly these are direct steam injection systems
- spray drier airheater.

An important requirement is two boilers rated for over 50% of peak steam demand system. Boiler plant sizing needs to take account of security/redundancy. These boilers will operate for much of their life at low load, and boiler plant needs to be capable of operating for significant periods at low load.

### **Maintenance, testing, operational and administrative facilities**

Each manufacturing site would also require:

- administrative facilities
- laboratory facilities
- control rooms
- maintenance facilities.

### **Other service plant**

Each manufacturing site would also require the following additional service capabilities:

- compressed air and instrument air systems

- chilled water system, cold water system
- potable water system
- sewage system
- telecoms and data network
- site control, monitoring logging and archiving system – this is in addition to the local control systems for major plant items
- fire protection system and fire water storage
- gas supplies – flushing and packing
- consumables store (packaging, etc.).

**Product storage and handling (transport)**

Each manufacturing site would also include:

- dry storage capable of holding from 25% to 75% of annual powder production
- forklift for loading curtain-wall truck, or container.



# Attachment B: Illustrative schedule of selected operating costs assumptions

SELLING COSTS								Comments/Underlying Assumptions		
Sales costs on arm's length basis through a sales agent for all costs incurred beyond the NZ wharf	USD / MT									
COLLECTION COSTS								Comments/Underlying Assumptions		
<b>Outsource Costs</b>										
Contract cost per kilometre	NZD									
Annual average kgMS per kilometre	kgMS									
Average contract cost per kgMS	NZD	#DIV/0!								
<b>Fixed Costs</b>	NZD '000									
OPEX								Comments/Underlying Assumptions		
<b>For each commodity product type:</b>			Butter	AMF	SMP	BMP	WMP			
Packaging	NZD / MT									
Water	NZD / MT									
Cleaning & CIP	NZD / MT									
Consumables	NZD / MT									
Effluent	NZD / MT									
Laboratory	NZD / MT									
<b>Energy Costs</b>										
Average annual steam consumption	tonnes/MT									
Average annual electricity consumption	kWh/MT									
PLANT COSTS								Comments/Underlying Assumptions		
<b>Repairs &amp; Maintenance</b>										
R&M as % of insurance assets replacement value	%									
<b>Site Overheads</b>										
Site overheads (non-labour)	NZD '000s									
SUPPLY CHAIN										Comments/Underlying Assumptions
<b>Freight to Port Unit Cost (specify if known)</b>			Butter	Other						
Upper North Island region - average freight to port cost	NZD / MT									
Central North Island region - average freight to port cost	NZD / MT									
Lower North Island region - average freight to port cost	NZD / MT									
Central South Island region - average freight to port cost	NZD / MT									
Lower South Island region - average freight to port cost	NZD / MT									
<b>Variable Supply Chain Costs</b>										
Supply chain admin etc (excl depn & amortisation)	NZD / MT									
Pallets & Recycling	NZD / MT									
Port Costs	NZD / MT									
Dry Storage Costs (per MT stored)	NZD / MT									
% of annual powder production held in dry stores	%									
Cool Storage Costs (Butter) per month	NZD / MT									
Cool Storage Costs (Inbound)	NZD / MT									
Cool Storage Costs (Outbound)	NZD / MT									
Cool Storage Write-off Costs	NZD / MT									
<b>Fixed Supply Chain Costs</b>										
Group Supply Chain Overheads	NZD '000s									
ADMINISTRATION								Comments/Underlying Assumptions		
General Overhead Costs	NZD '000s									
MISCELLANEOUS COSTS								Comments/Underlying Assumptions		
Miscellaneous costs 1 (please specify)	NZD '000									
Miscellaneous costs 2 (please specify)	NZD '000									
Miscellaneous costs 3 (please specify)	NZD '000									