COMMERCE ACT 1986: BUSINESS ACQUISITION

SECTION 66: NOTICE SEEKING CLEARANCE

21 February 2014

The Registrar
Mergers and Authorisations
Commerce Commission
PO Box 2351
WELLINGTON

Pursuant to section 66(1) of the Commerce Act 1986, notice is hereby given seeking clearance of a proposed business acquisition.

EXECUTIVE SUMMARY

1 BlueScope Steel (NZ) Limited (the *Applicant*) seeks clearance to acquire some of the assets of Pacific Steel Group (*PSG*) steel production business from Fletcher Steel Limited (*FSL*) (the *Acquisition*).

2 The Applicant is a wholly owned subsidiary of Australian company BlueScope Steel Limited (*BlueScope*). New Zealand Steel Limited (*NZS*) is another wholly owned subsidiary of BlueScope and accordingly is an interconnected body corporate of the Applicant. NZS operates the New Zealand Steel business at Glenbrook.

3 PSG is a business unit of FSL, which is a subsidiary of Fletcher Building Limited (*FBL*).

4 NZS and PSG produce different types of steel products which have distinct uses. NZS produces slab, a semi-finished product. NZS processes that slab to produce certain "flat" steel products (i.e. hot rolled coil and plate, cold rolled coil, coated coil, pipes and hollow sections).

5 By contrast, the semi-finished product PSG produces is billet. PSG processes that billet to produce certain "long" steel products (i.e. reinforcing bar / reinforcing coil, rod coil, galvanised and bright wire).

6 NZS and PSG do not produce substitutable products, and so are not competitors. The capital investment and market dynamics are such that there is no supply side competition.

7 There are currently no other domestic producers of billet or long steel products in New Zealand. There are also no other domestic producers of slab, but there are examples of steel producers who compete directly with certain processed products produced by NZS. That is likely to continue in the counterfactual.

8 In this context, it is difficult to conceive of how the Acquisition could adversely impact competition. However, the Applicant is conscious that the transaction involves significant change in the steel production industry. Accordingly, this application has been filed to ensure the Commission understands the commercial and economic rationale for the Acquisition, and to outline the parties' view that there will be no lessening of competition arising from it.

9 The applicable constraints observed currently in relation to each business' distinct product portfolios ("flat" products for NZS and "long" products for PSG), and that will prevail in the counterfactual, will continue with the Acquisition. For the most part, that constraint will come from imports. The pricing of both flat and long steel products is generally set having regard to the import parity price (*IPP*), and that will not change due to the Acquisition.

10 COLORSTEEL® pricing, which is less sensitive (but still linked) to commodity-based steel imports, is also constrained by substitutable materials used in similar applications, a rival product produced by Pacific Coilcoaters (*PCC*) and an imported rival product. Again, the current pricing dynamics will be unaffected by the Acquisition.

11 Although the Acquisition will consolidate the only two crude steel production plants in New Zealand into one, there will be no substantial lessening of competition because:

11.1 NZS and PSG do not compete, and so the Acquisition does not lessen any existing demand side competitive pressure;

11.2 NZS and PSG do not constrain each other on the supply side because the costs of entering the other firm's market are prohibitive in a context where there is already excess capacity for supplying domestic markets; and

11.3 both with and without the Acquisition, the relevant constraints from imports and other commercial factors will remain constant across all domestically produced flat and long steel products.

12 The Applicant has commissioned a report from NERA to provide an independent economist's perspective on the competition implications of the Acquisition. NERA has endorsed the view set out above and in particular has found that:

12.1 NZS and PSG do not impose any material competitive pressure on each other;

12.2 Instead, the constraint comes from imports (and downstream domestic competitors and substitutable products in the case of COLORSTEEL®). This constraint would be unaffected by the Acquisition;

12.3 The Acquisition is not likely to result in any anti-competitive "conglomerate effects"; and

12.4 Therefore, the Acquisition is unlikely to result in a substantial lessening of competition in any New Zealand market.

PART 1: TRANSACTION DETAILS

The person giving notice

1 This notice is given by BlueScope Steel (NZ) Limited.

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2 All correspondence and notices in respect of this application should be directed in the first instance to:

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Other merger party

3 The other merger party is Pacific Steel Group, a division of Fletcher Steel Limited.

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Supporting documentation

5 In support of this application, please find NERA's report attached as ***Appendix A***.

The business acquisition

6 BlueScope Steel (NZ) Limited (the *Applicant*) seeks clearance to acquire some of the assets of Pacific Steel Group (*PSG*) steel production business from Fletcher Steel Limited or any interconnected body corporate thereof (*FSL*).

7 The Applicant is a wholly owned subsidiary of Australian company BlueScope Steel Limited (*BlueScope*). New Zealand Steel Limited (*NZS*) is another wholly owned subsidiary of BlueScope and accordingly is an interconnected body corporate of the Applicant. NZS operates the New Zealand Steel business at Glenbrook.

8 PSG is a business unit of FSL, which is a subsidiary of Fletcher Building Limited (*FBL*).

9 The details of the transaction are set out in the Agreement for Sale and Purchase between the Applicant and FSL, attached as ***Appendix B***.

10 The relevant New Zealand aspects of the Acquisition are as follows:

10.1 the Applicant will acquire PSG's:

(a) rolling mill manufacturing operations in New Zealand;

(b) wire mill manufacturing operations in New Zealand; and

(c) New Zealand long steel distribution, marketing and sales operations.

10.2 A transition period of up to 30 months, during which:

(a) NZS will procure, install and commission a billet caster at its Glenbrook site;

(b) FSL will continue to operate PSG's steel plant at Otahuhu;

(c) FSL will supply billet to the Applicant at Otahuhu;

(d) the Applicant and FSL will share the benefits and risks of the assets and operations of PSG's business; and

(e) those FSL group companies and business divisions that use and distribute long steel products (the *FSL Businesses*) will purchase finished long steel products exclusively from the Applicant.

10.3 The Applicant will pay half the purchase price on satisfaction of the conditions precedent to the proposed transaction (excluding working capital). The Applicant will pay the balance of the purchase price at the end of the transition period.

10.4 Following the transition period:

(a) NZS will continue to produce flat steel products;

(b) NZS will produce steel billet from iron sands and thermal coal at Glenbrook;

(c) NZS will transport billet from its Glenbrook site to the Applicant's rolling mill at Otahuhu in order to produce long steel products;

(d) PSG will close its operations at the Otahuhu steel mill site and permanently decommission the steel plant, exiting steel production in New Zealand;

(e) by consolidating production at one site, there will be a reduced reliance on export volume to maintain sufficient plant utilisation, but it is expected that there will be more than enough capacity to satisfy domestic demand for contestable long and flat steel products; and

(f) **[**

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11 BlueScope will be seeking the approval of the Fiji Commerce Commission for a BlueScope subsidiary to acquire PSG's Fiji steel operation, the primary asset of which is a rolling mill. The majority of the Fiji business' billet supply is sourced from PSG's Otahuhu steel mill.

12 BlueScope has filed a courtesy notification of the proposed Acquisition with the ACCC.

Commercial rationale

13 The Applicant understands that FSL's reasons for sale are that the business is under-performing due in part to being under increasing cost pressures as the high price of scrap steel, combined with strong competitive pressures on prices, adversely impacts margins. In addition, significant capital outlays are required to maintain a number of its steel production assets and it would be challenging to secure an appropriate return on that capital expenditure.

14 The Applicant is contemplating the Acquisition because it is able to:

14.1 leverage access to low-cost iron sands and realise productive efficiencies at the Glenbrook plant to improve the overall efficiency of NZS and PSG (i.e. by consolidating domestic crude steel production at Glenbrook); and

14.2 diversify the BlueScope group product portfolio, enabling the group to decrease its exposure to lower margin exports.

15 Iron and steelmaking are high fixed cost operations, with facilities designed to operate at or near full capacity. Fixed costs per unit increase rapidly as utilisation of iron and steelmaking facilities is reduced. Further, operational integrity issues arise if NZS' furnace is operating below 85% utilisation. This gives rise to significant excess capacity for both NZS and PSG relative to domestic demand for their respective products, with residual volumes supplied into lower margin export markets to maintain utilisation levels.

16 New Zealand-based steel producers face commercial challenges in export markets because:

16.1 they lack the scale of rival producers based locally in relevant export markets (for example, NZS' plant at Glenbrook can produce 635,000 tonnes of steel annually whereas the POSCO plant in South Korea can produce 39 million tonnes);

16.2 they face additional costs in the logistics of serving the market; and

16.3 there is excess capacity globally in the steel industry and this is likely to continue for the foreseeable future, suppressing prices.

17 Conversely, in domestic markets:

17.1 the relatively modest scale of many orders made for steel products in New Zealand can somewhat negate the scale advantage of much larger offshore producers;

17.2 it is the offshore steel makers that face additional costs in terms of logistics; and

17.3 there are opportunities to focus on higher value premium offerings tailored to the local market — COLORSTEEL® being the most obvious example for NZS.

18 Consolidating the steelmaking capacity of both NZS and PSG results in a more resilient business by focussing this reduced total operating capacity on the domestic market.

19 The graph below shows the relationship between domestic demand and domestic capacity:[1] **[**

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Details of the merger parties

20 The Applicant is a wholly owned subsidiary of Australian company BlueScope. NZS is another wholly owned subsidiary of BlueScope and accordingly is an interconnected body corporate of the Applicant. NZS operates the New Zealand Steel business at Glenbrook. Another wholly owned New Zealand subsidiary of BlueScope mines iron sands, the key raw material input to NZS' steel production process. NZS is the only domestic producer of slab, but there are examples of domestic steel producers who compete directly with the flat steel products produced by NZS. Further information on NZS is available at www.nzsteel.co.nz.

21 BlueScope is listed on the Australian Securities Exchange. It is structured into four divisions: Global Building Solutions; BlueScope Building Products; BlueScope Australia and New Zealand; and North Star BlueScope Steel. The relevant business for the purposes of the Acquisition is BlueScope Australia and New Zealand (which encompasses the Applicant and NZS). That business supplies a large percentage of all flat steel products sold in Australia, New Zealand and a number of the Pacific Islands. Further information on BlueScope is available at www.bluescope.com.

22 PSG is a business unit of FSL, which is a subsidiary of FBL. PSG is the only domestic producer of billet and long steel products. PSG comprises of three businesses (Pacific Steel; Pacific Wire; Fletcher Pacific Fiji) and a 50/50 joint venture with Sims Metal Management, Sims Pacific Metals. Further information on PSG is available at www.pacificsteel.co.nz.

23 FBL is listed on the Main Board of NZX Limited and the Australian Securities Exchange, and Fletcher Building Industries Limited (a wholly owned subsidiary of FBL) has issued capital notes which are listed on the NZX Debt Market. As well as PSG, FBL also runs two steel distribution businesses in New Zealand (Fletcher Easysteel; Fletcher Reinforcing) and two steel processing businesses (Dimond; PCC)

[1] The term "contestable" is defined at paragraph 32.6.

— all of which sit outside the business to be acquired. Further information on FSL is available at www.fletcherbuilding.com.

24 Relevant structure diagrams for the parties are provided at ***Appendix C***.

Relevant links between the parties

25 Currently there are very few direct links between the merger parties. NZS (an interconnected body corporate of the Applicant) and PSG produce different products, albeit some customers interact with both businesses because they buy flat steel products from NZS and long steel products from PSG. NZS supplies some product to downstream FSL entities, but that does not occur in reverse because NZS' only downstream business (Steltech Structural Limited) manufactures columns and beams from plate (a flat steel product). If the Acquisition proceeds (as part of a broader set of transition arrangements described further at paragraph 10.2 above), NZS will continue to supply the FSL downstream entities with relevant flat steel products and the Applicant will supply relevant long steel products (currently supplied "internally" by PSG).

PART 2: THE INDUSTRY

Goods or services supplied by the merger parties

26 NZS (an interconnected body corporate of the Applicant) and PSG produce different types of steel products which have distinct applications.

27 NZS produces slab, a semi-finished product. NZS processes that slab to produce certain flat steel products (i.e. hot rolled coil and plate, cold rolled coil, coated coil, pipe and hollow sections). Photos of these products are provided in ***Appendix D***.

28 The semi-finished product PSG produces is billet. PSG processes that billet to produce certain long steel products (i.e. reinforcing bar / coil, rod bar / coil, wire).

29 A summary of each steel production business is set out in the table below:

	NZS	**PSG**
Feedstock	Iron sands	Scrap steel
Process	Basic oxygen furnace	Electric arc furnace
Semi-finished Product	Slab	Billet
Products	Flat (hot rolled coil and plate, cold rolled coil, coated coil, pipe and hollow sections)	Long (reinforcing bar / reinforcing coil, rod bar / rod coil, wire)
Crude steel production capacity	Approximately 635,000 tonnes per annum[2]	Approximately **[ ]** tonnes per annum
Export	Approximately 55% of total output	Approximately **[ ]**% of total output
Location	Glenbrook, Auckland	Otahuhu, Auckland

30 Further detail on flat steel products, including NZS' products and production process, is provided in ***Appendix D***. Further detail on long steel products is provided in ***Appendix E***.

Industries affected by the Acquisition

31 The industries affected by the Acquisition are:

31.1 the steel production industry in New Zealand;

31.2 steel distributors (as customers of steel producers);

31.3 steel processors / converters (as customers of steel producers or steel distributors);

[2] 635ktpa is NZS' current economic steel production capacity. Theoretically, NZS' plant could produce 670ktpa (by introducing additional process elements), but the costs involved would be prohibitive.

31.4 the scrap steel market (with scrap steel being the primary input into PSG's manufacturing process); and

31.5 any downstream industries for which steel is a key material, including the manufacturing and construction sectors.

Industry trends

32 The steel industry is relatively mature in terms of the industrial applications for which the product is most suited. However, the industry is sensitive to a range of external factors that can have profound effects for the industry. In particular:

Exchange rates

32.1 Currently, the New Zealand Dollar is "high" (relative to historical norms). This means NZS' (and PSG's) exports are relatively less competitive and return less (i.e. lower margins); and correspondingly, imports are relatively less expensive.

Global industry dynamics

32.2 The New Zealand steel industry is of course insignificant in a global setting and so remains strategically vulnerable to global industry dynamics. New Zealand's entire steel production capacity is about **[ ]** million tonnes. As shown in the table below, this figure is insignificant in global terms, with at least ten individual global suppliers being more than 30-times the size of the entire New Zealand industry:

Rank	Company	Location	Million Tonnes
1	ArcelorMittal	Europe, Africa, America, Asia	93.6
2	Nippon Steel & Sumitomo Metal Corporation	Japan	47.9
3	Hebei Group	China	42.8
4	Baosteel Group	China	42.7
5	POSCO	South Korea	39.9
6	Wuhan Group	China	36.4
7	Shagang Group	China	32.3
8	Shougang Group	China	31.4
9	JFE	Japan	30.4
10	Ansteel Group	China	30.2

Source: 2012 data, World Steel Statistics

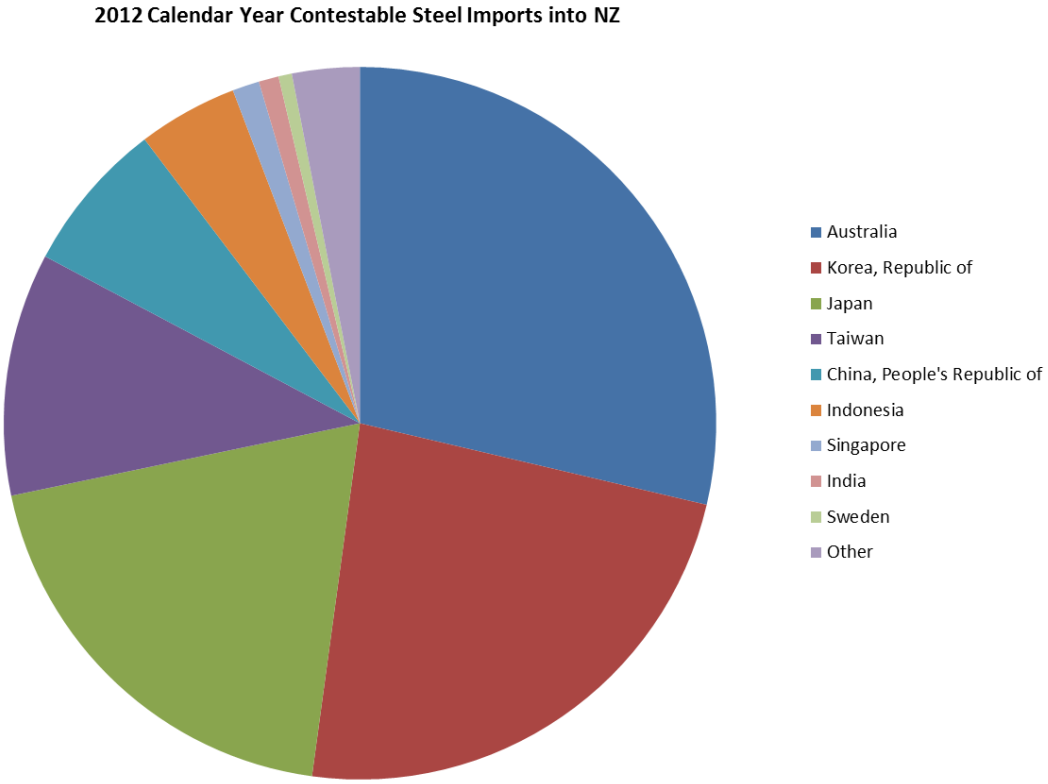
32.3 The Global Financial Crisis (*GFC*) had a major impact on global steel markets, with demand in developed economies declining in 2008 and 2009. In contrast, steel demand in key emerging economies, such as China, continued to grow during this period. In the lead up to the GFC, China in particular rapidly expanded steel capacity ahead of rising demand both domestically and from developed economies for low cost manufactured goods. These factors resulted in a significant global steel capacity overhang that continues to exist today, which has driven increased steel trade on international markets, and the availability of competitively priced steel imports for steel markets such as New Zealand. Although the economic outlook has generally improved since then, the overhang in capacity remains and has effectively become a structural feature of the market.

32.4 These dynamics have two important flow-on effects for New Zealand producers of steel:

(a) increased competition on international markets, resulting in lower prices (and margins) on exported product; and

(b) greater supply / availability of imported product at lower prices.

32.5 Imports into New Zealand originate from a wide range of sources. The countries from which contestable New Zealand steel imports derive, as well as their respective market shares, are shown in the graph below:



Source: Trade Statistics, Statistics NZ

32.6 "Contestable" steel imports refer to products within New Zealand Customs code categories which NZS considers are:

(a) inside its product range; or

(b) have dimensions that are close to, and can be easily substituted for, NZS' products.

32.7 In some cases, a category will cover a wider range of products (i.e. different dimensions) than NZS is capable of producing.

Domestic demand

32.8 Domestic demand for steel products can vary significantly in response to specific events. For example:

(a) *Christchurch rebuild*: The response to the Christchurch earthquake meant that buildings and civic infrastructure had to be replaced. This has given rise to a spike in demand across a range of both flat steel products (with high demand for roofing, cladding and steel framing) and long steel products (with high demand for steel reinforcing for concrete structures).

(b) *Major infrastructure projects*: Steel is generally deployed into "fixed investment" markets, as opposed to "consumption" markets. That means Government policy – and particularly major decisions around infrastructure – can have a significant impact on demand. In that regard, the Transmission Gully roading project has generated significant commercial interest in steel products, particularly long products and structural beams.

33 Other matters of particular significance in the industry currently include:

33.1 *Environmental issues*: Environmental issues are a constant area where the industry seeks to make improvements. Although the manufacturing of steel is relatively energy intensive, it is also "green" to the extent that steel is the single most recycled commodity in the world (in part due to the fact that steel – unlike some plastics – can be continuously recycled without degrading). NZS typically supplies 50-60% of its own energy needs through cogeneration technology that converts waste heat into electricity. It also seeks to deal efficiently and responsibly with industrial by-products, for example developing new markets for the supply of slag and Ferric Oxide. In addition, the Emissions Trading Scheme has been a regulatory mechanism of particular significance for the steel industry.

33.2 *HSE*: Health and safety issues have grown in prominence over the past 10 years, particularly following the events at the Pike River coal mine.

Recent mergers

34 There have been no mergers of steel producers in New Zealand in the last three years.

PART 3: MARKET DEFINITION

Product and functional level

35 There are separate product markets for the provision of:

35.1 flat steel products to distributors and flat steel product processors / converters; and

35.2 long steel products to distributors.

36 A detailed description of:

36.1 the flat steel products produced by NZS and sold into the New Zealand market are set out in ***Appendix D***; and

36.2 the long steel products produced by PSG and sold into the New Zealand market are set out in ***Appendix E***.

37 The relevant flat and long steel products can broadly be categorised in the following way:

	Relevant flat products	**Relevant long products**
Crude steel output	Slab	Billet
Steel products	Hot rolled coil and plate	Reinforcing bar / reinforcing coil Rod bar / rod coil
Secondary processing products	Cold rolled coil Metallic coated coil Painted coil Pipe and hollow sections Welded beams	Wire
Light conversion products	Roll formed product	Reinforcing products Reinforcing mesh Wire products

NZS products PSG products

38 Although there is customer cross-over, the products produced by NZS and PSG are not substitutable on the demand side.

39 The only scenarios in which there could conceivably be any overlap between NZS' products and PSG's products is:

39.1 fencing materials (i.e. NZS produces COLORSTEEL® and ZINCALUME® and PSG produces wire); and

39.2 multi-storey building materials (i.e. NZS manufactures welded beams, via its subsidiary Steltech Structural, and PSG produces long steel products used to reinforce concrete).

40 These overlaps are largely theoretical as the products are seldom used in similar situations. For instance, materials for multi-storey buildings are largely determined by design efficiencies, determined early on in any building project. Building design and product selection is determined by owner and/or user requirements, location (and seismic) requirements, building use, time of construction and cost. Similarly, PSG's wire products are thin drawn wire which are typically sold into the farming and rural markets, whereas COLORSTEEL® products are typically used in building markets such as residential housing. Wire fencing is commonly used for the management of livestock, while COLORSTEEL® fencing is commonly used to achieve privacy. For both multi-storey buildings and fencing, the products are certainly not in the same market if applying a SSNIP test (in either direction).

41 Note that there are some types of steel product which can be produced from both slab and billet. These include steel pipe and structural beams. Currently, NZS manufactures structural beams (via Steltech Structural) and steel pipe, and PSG produces neither. We would not expect this to change in the counterfactual as setting up the production capability for converting billet into pipe or beams is both capital intensive and sophisticated, and it is unlikely that the level of domestic demand justifies such an investment. This is particularly so for beams, as the billet PSG produces is not large enough to produce beams. PSG would therefore need to invest in the processing mills in addition to an entirely new billet caster. Further, the pipes and beams produced from slab and billet have different specifications, meaning that the products will not always be directly substitutable.

42 From a supply side perspective, it is possible to envisage a single steel producer producing both flat and long steel products, including rationalising the early stages of the production process across both sets of products. The process for producing both flat and long steel products is equivalent only up to the point at which specific alloys (which determine the properties of the steel, particularly its suitability for use for either flat or long steel products) are added to the molten metal. Rationalising these aspects of the production process is what NZS proposes to do if the Acquisition proceeds. However, there are considerable costs to be incurred by either party to enable them to enter the "other" market, particularly the capital intensive exercise of installing a billet caster or a slab caster (as relevant). That would not occur in an environment where another steel production plant existed in New Zealand as the capacity of the existing plants already significantly exceeds aggregate domestic demand for products of that type.

Geographic area

43 Both NZS and PSG distribute their products nationally, so the relevant geographic area is New Zealand. Both NZS and PSG export their remaining product — each plant's steel production capacity exceeds domestic demand for each plant's steel products.

Customer and temporal dimension

44 NZS and PSG do not typically sell directly to end users. Instead, they sell to a range of intermediaries who either distribute the product to retailers or end users, or further process the products.

45 Key participants in the New Zealand steel industry are set out at ***Appendix F***.

46 NZS' customers can be separated into five broad categories:

Type of customer	Typical products purchased	Products produced	Key entities
Distributor	Plate Pipe and hollow sections Cold rolled coil Galvanised coil	Provide service centre processing, by providing a sheeting, slitting, blanking and stocking service for fabricators.	**[**
Manufacturer	Cold rolled coil Hot rolled coil	Steel drums Large diameter steel pipe	
Fabricator	Plate	Flanges Vessels Beams	
Roll former	Zinc-aluminium coated coil Painted coil Galvanised coil	Longrun steel roofing sheets	
Pressed steel tile manufacturer	Zinc-aluminium coated coil Painted coil	Painted steel tiles Stone chip coated tiles	
Coil coater	Zinc-aluminium coated coil Galvanised coil	Painted coil	**]**

47 Descriptions of each type of customer are set out in ***Appendix G***.

48 PSG's customers are reinforcing steel and wire processors and distributors:

Type of customer	Typical products purchased	Products produced	Key entities
Reinforcing steel fabricators and distributors	Reinforcing Bar Reinforcing Coils Wire Rod Coils	Cut and bent reinforcing steel either available ex works or installed on site Reinforcing Mesh available ex works or delivered to site	**[**
Wire processers and distributers	Galvanised Wire Bright Wire	Galvanised wire mesh used for fencing Galvanised wire with no or little transformation for distribution Bright wire typically used for manufacturing small components for example; springs, bucket handles, wire racks	**]**

49 A number of customers operate in more than one category. As a result, NZS and PSG have a number of common customers, the more significant of which include:

49.1 Industrial Investment Group Limited (*Metalcraft / United*);

49.2 Steel & Tube Holdings Limited (*Steel & Tube*); and

49.3 FSL.

50 The Applicant considers it is not useful to define distinct markets in different customer dimensions. The relevant competition dynamics, and accordingly the implications of the Acquisition, are identical for all categories of customers. In particular, regardless of where the customer sits in the supply chain (i.e. a distributor or any level of steel processor / converter):

50.1 no customer is able to source either flat or long steel products from the producer of the other type of product; and

50.2 all customers are able to import both flat and long steel products (and, where relevant, use substitutable materials) as a means of constraining the exercise of market power by NZS and PSG respectively as the domestic producers of those products.

Vertical integration

51 The Acquisition gives rise to no concerns in terms of vertical integration. Importantly, because NZS (unlike FSL) does not have a substantial downstream steel distribution business, there is a lessening of existing vertical integration.

52 The relevant downstream FSL entities are Cyclone, Fletcher Easysteel and Fletcher Reinforcing. As it stands, of the downstream FSL entities' demand for the long steel products which PSG produces, PSG supplies over 95%. Because the Acquisition will result in FSL exiting steel production, this vertical integration will no longer exist. Instead, FSL will be securing the long steel products it requires for domestic use from the Applicant on an arms-length commercial basis.

53 NZS' current vertical integration is largely limited to the upstream components of the supply chain. In particular:

53.1 another wholly owned New Zealand subsidiary of BlueScope mines iron sands, the key raw material input NZS uses to produce steel;

53.2 NZS produces semi-finished flat product (i.e. slab) as well as further processing that slab to produce flat steel products; and

53.3 Steltech Structural, a domestic manufacturer of columns and beams who sources steel plate from NZS, is a subsidiary of NZS.

54 The vertical integration referred to in paragraph 53.1 above will remain with the Acquisition.

55 The scope of the vertical integration referred to in paragraphs 53.2 and 53.3 above will increase with the Acquisition because it will be extended to include the production of billet (by NZS) and the production of long steel products (by the Applicant). Note though that this scenario is not dissimilar to the counterfactual, in which PSG would remain vertically integrated into:

55.1 the acquisition of its primary input (PSG currently acquires scrap metal via its joint venture with international metal recycler Sims Metal Management); and

55.2 the further processing of the semi-finished long product which it produces.

PART 4: COUNTERFACTUAL

56 There are three possible "without the merger" scenarios. These are:

56.1 continuation of the status quo; or

56.2 sale of PSG (or of certain PSG assets) to a third party; or

56.3 PSG exiting the market by closing down its steel production operations.

57 We consider the continuation of the status quo a more appropriate (and conservative) basis on which to undertake competition analysis and this application has been prepared accordingly. Obviously, to the extent that the Acquisition facilitates the maintenance of domestic long steel production capacity in New Zealand, the Acquisition is pro-competitive when compared to the scenario in which PSG simply shuts down its operations.

58 We are not aware of any logical third party buyer of PSG. In fact, given the significant cost pressures facing PSG and the unique position of the BlueScope group to overcome a number of these pressures, we are of the opinion that the sale of PSG to a third party is unlikely.

59 In the counterfactual, we think PSG would continue to face a number of fundamental challenges in meeting market demand as a resilient, profitable business. Those challenges would include:

59.1 increasing cost pressures as the high price of scrap, combined with the strong competitive pressures on export prices, adversely impacts margins; and

59.2 significant capital outlays being required to maintain a number of its steel production assets, meaning it would be challenging to secure an appropriate return on that capital expenditure.

60 In the counterfactual, NZS would continue as it currently does, but would be a less resilient business to the extent that the quotient of its domestic business would be lower. For so long as PSG continued to operate, NZS would not consider investing in a billet caster and thereby expanding its production capability into long steel products. That is because for so long as PSG's plant is operational (either under current ownership or otherwise), there is more than sufficient capacity to meet total domestic demand for the long steel products that it produces. Accordingly, given that export volumes are inherently more risky, and generally less profitable, market conditions simply would not support such an investment.

61 Similarly, in the counterfactual, unless PSG shut down its operations, PSG would continue as it currently does. For so long as NZS continued to operate, PSG would not consider investing in the plant necessary to produce flat steel products. That is because, for so long as NZS' plant is operational, there is more than sufficient capacity to meet total domestic demand. Accordingly, given that export volumes are inherently more risky, and generally less profitable, market conditions simply would not support such an investment.

62 Critically, it is clear that there is no counterfactual in which NZS (or any other party) invests in and operationalises a new billet caster in competition with PSG (or any

new owner of PSG). NZS and PSG are not and never will be competitors. The domestic market for long steel products is already over supplied with the existing capacity in PSG's plant. By adding to that capacity in this version of the counterfactual, NZS would effectively be building capacity for export markets in a location that could hardly be more remote and at a scale that could never be competitive. In short, there could be no plausible business case for NZS to incur the capital costs of diversifying into the production of billet without certainty that it is able to step into PSG's shoes and acquire PSG's domestic customer base as the sole domestic producer of billet.

63 The Acquisition has been structured to include a requirement that PSG decommission and dismantle its steel plant at the end of the transition period. At that point, billet production will migrate from PSG's plant to NZS' Glenbrook plant. The BlueScope group could instead have acquired PSG's plant itself, and decommissioned it at the relevant time, but this was ruled out largely with a view to managing closure of the steel plant most effectively and ensuring appropriate allocation of environmental and other risks associated with the closure. From a practical perspective, it makes sense that PSG effect the decommissioning, as it has the familiarity with the plant and will likely undertake the task more efficiently.

PART 5: COMPETITION ANALYSIS

Existing competitors

64 NZS' key competitors are importers of flat steel products produced offshore and imported into New Zealand. Similarly, PSG's key competitors are importers of long steel products produced offshore and imported into New Zealand. However, there are examples of domestic steel producers who compete directly with certain flat steel products produced by NZS.

Domestic competitors

65 PCC, a FSL entity (which will remain with FSL post-Acquisition), is a domestic producer of painted coil. PCC purchases NZS' ZINCALUME® product, paints it on its paint line and sells it as ColorCote®. It also imports a portion of its coated steel inputs. ColorCote® competes directly with COLORSTEEL®. One subset of the COLORSTEEL® product range which PCC does not compete with is the painted galvanised steel product.

66 D&H Steel Construction and Eastbridge Engineering are domestic manufacturers of welded beams, using plate as an input. Both businesses purchase plate from NZS as well as import plate. The beams manufactured by D&H Steel Construction and Eastbridge Engineering compete directly with the beams manufactured by Steltech Structural.

67 Steelpipe Limited, Industrial Tube Manufacturing and Atlas Steel (NZ Tube Mills) are domestic producers of steel pipe. Further information on the types of pipes produced by each business (and NZS) is set out in ***Appendix D***. There is some overlap in the domestic producers' product ranges.

68 Again, the dynamics which play out with each of these competitors will not be affected by the Acquisition.

Market share

69 The market share of NZS products (excluding COLORSTEEL® and Steltech®) relative to imports can be represented broadly in the following table:

NZS products	2008 (%)	2009 (%)	2010 (%)	2011 (%)	2012 (%)	2013 (%)
Hot rolled coil	[					
Plate						
Cold rolled coil						
ZINCALUME®						
GALVSTEEL™						
Hollow sections						]

Source: Trade Statistics, Statistics NZ and NZS data

70 The market shares of COLORSTEEL®, PCC's product ColorCote® and imports of painted coil can be represented broadly in the following table:

3 month period	NZS sales		PCC		Imports	
	Sales (tonnes)	Market share (%)	Sales (tonnes)	Market share (%)	Sales (tonnes)	Market share (%)
Feb 2012	[					
May 2012						
Aug 2012						
Nov 2012						
Feb 2013						
May 2013						
Aug 2013						
Nov 2013						]

Sources: Trade Statistics, Statistics NZ and NZS data

71 Steltech® beams, along with all other domestically manufactured steel beams, are manufactured using plate. Both competing domestic manufacturers (D&H Steel Construction and Eastbridge Engineering) purchase plate from NZS as well as import plate. NZS estimates that, of the total domestic consumption of beams over the period 2008-2012, between **[ ]**% and **[ ]**% were manufactured using its plate. The balance of domestically consumed beams is represented by imported hot rolled "H" and "I" beams, manufactured from bloom. Bloom is essentially large rectangular billet, which PSG does not have the capability to produce.

72 The market share of PSG products relative to imports is set out at Table 4 of NERA's report, attached as ***Appendix A***.

Constraint by imports

73 The key dynamic in the competition analysis relevant to this Acquisition is the lack of substitutability between the products produced by NZS and PSG respectively. In that context, the constraint represented by imports will be neutral in the context of analysing the competitive effects of the Acquisition. Still, the Applicant expects that the Commission will want to understand the role of imports as a constraint on the two businesses.

74 With the exception of NZS' COLORSTEEL® product, both NZS and PSG currently make specific reference to IPP when setting domestic prices. NZS estimates IPP by reference to various published sources, and then sets the domestic price for the next period by negotiation with customers. It is common for customers to provide quotes from importers during negotiations with NZS. These can be particularly significant

in scenarios where the New Zealand Customs code categories do not align with the products produced by NZS. The important point here is that the pricing dynamics will not change with the Acquisition.

75 The impact of imports can be especially disruptive for domestic producers to the extent that imported product is priced at levels that imply "dumping" by the offshore producer. In that context, there are remedies potentially available to local producers to the extent that the relevant statutory criteria in the Dumping and Countervailing Duties Act 1988 are met. These scenarios present from time-to-time and NZS actively considers its options — and it expects that PSG does the same. There is no reason to expect that the Acquisition will impact on the appetite for either NZS or PSG respectively in the counterfactual to pursue anti-dumping remedies in particular circumstances.

76 More detailed analysis of the constraint posed by imports is set out in NERA's report, attached as ***Appendix A***.

77 It is notable that NZS often achieves a premium over IPP. That premium is generally attributable to a range of factors, including the demonstrated ability of the domestic producers to deliver reliable supply of a range of products, even in relatively small runs, shorter lead times and the domestic service offer. The observed IPP relativity will not change with the Acquisition.

COLORSTEEL®

78 A more complex dynamic emerges for COLORSTEEL® because of the specific characteristics of these products. For example, there are over 100 colours in the COLORSTEEL® range and over 60 product dimensions, meaning that making orders for imports of a scale that commands a competitive price internationally is difficult. Further, UV levels in New Zealand are higher than elsewhere, so most imported products (other than from Australia) are not specifically manufactured to address this issue. Accordingly, they may not perform as well in New Zealand conditions.

79 Accordingly, COLORSTEEL® pricing is less sensitive to IPP. **[**

]

80 There is also constraint from PCC as the producer of rival product ColorCote®. **[**

]

81 There is also constraint from Kiwi Steel as the importer of rival product KiwiColour®. Kiwi Steel has chosen to source their zinc-aluminium alloy coated steel, galvanised steel and painted steel requirements from Korean steel producers. Kiwi Steel roll forms a portion of this product and on-sells the balance to other roll formers. Kiwi Steel's painted steel product is sold as KiwiColour®.

82 Again, the important point here is that the prevailing pricing dynamics around COLORSTEEL® will be unaffected by the Acquisition.

Conglomerate effects

83 One possible topic of discussion might be "conglomerate effects" (or "portfolio effects") and in particular the extent to which the merged entity might be in a position to "leverage" from one product to another. As the Commission has pointed out:[3]

> A conglomerate merger involves the acquisition of a complementary good or business, or the acquisition of a firm that trades in a separate but closely related market. Conglomerate acquisitions are often associated with efficiencies. However, in some instances, they may give rise to competition concerns.
>
> …
>
> … to be of concern, the merged entity would need to gain both the ability and the incentive to foreclose its rivals through [bundling]. … An additional requirement … is that foreclosure would need to have the effect of substantially lessening competition due to a post-foreclosure increase in prices.
>
> …
>
> To have the effect of substantially lessening competition, a firm would need to have the ability to raise prices after competitors have been (partially) foreclosed from the market.
>
> …
>
> The Commission notes that for there to be a substantially lessening of competition as a result of anti-competitive foreclosure via bundling, the conditions of entry would need to be such that an exercise of market power by Vodafone post foreclosure would not attract price disciplining entry or expansion.

84 We do not see anti-competitive conglomerate effects arising here.

85 The practical commercial context here is that the conduct of the merged entity is likely to reflect that which would be expected in the aggregate from NZS and PSG separately in the counterfactual. We must assume that each business currently does (and in the counterfactual would) price to maximise its profits relative to the given constraint presented by imports. The Acquisition does not generate any additional pricing power for either set of products that could be "leveraged" across into other aspects of the portfolio.

[3] Vodafone New Zealand Limited and TelstraClear Limited [2012] NACC 33 at paragraphs 359, 375, 420, 423.

86 In short, NZS' pricing is currently optimised having regard to market conditions for each of its products, and we must assume the same is true for PSG. That means that there will be no additional scope to leverage further price increases under the Acquisition.

87 The practical commercial context is that the end uses and ultimate channels to market for long and flat steel products are distinct. On the supply side, even when the commercial conversation regarding the pricing of the two types of products will be had with a single customer, there will be limited opportunity to merge the considerations relevant to each separate product set. From the Applicant's perspective:

87.1 **[**

]

87.2 the business case for the Acquisition is driven by the ability to increase the proportion of domestic sales (as compared to export sales), not by general market or product considerations;

87.3 for the most part, the end uses of the products are different, and they are required at different stages of the construction cycle; and

87.4 all channels have viable import alternatives, meaning that prices are generally driven by IPP.

Potential competition

88 There are significant barriers to entry for any party seeking to domestically produce either slab or billet. Most obviously, there is already excess capacity and the export business is challenging and risky given the likely lack of scale as well as New Zealand's geographic isolation. These are the same dynamics that mean that NZS and PSG would not expand into each other's product markets in the counterfactual.

89 There are significant capital outlays involved in setting up or acquiring a steel plant, and it would be challenging to secure an appropriate return on that capital expenditure, either in the counterfactual where both NZS and PSG are operating, or in the factual where NZS alone would still be producing more than sufficient quantities to meet domestic demand. In addition, a new entrant would face significant barriers in terms of the Resource Management Act as well as other commercial challenges such as sourcing a reliable supply of feedstock at economically viable prices.

90 The barriers to entry for producing finished flat or long steel products produced by NZS and PSG would be less extensive than for setting up a crude steel manufacturing plant, but they would not be insignificant.

91 There are few material barriers to competing with domestic producers by importing product. This simply requires access to funds, the establishment of commercial arrangements with offshore producers as well as supporting logistical services (such

as freight), infrastructure (such as warehousing) and compliance arrangements (such as third party certification). One example of a successful importing arrangement is Kiwi Steel, as described at paragraph 81.

Countervailing power of buyers

92 Steel distributors and processors / converters have strong countervailing power due to their ability to easily acquire substitutable imports at competitive prices. Current volumes of steel imported into the New Zealand market, relative to domestic product sold in New Zealand, are set out in the tables at paragraphs 69–70 and at Table 4 of NERA's report. These distributors have supply arrangements with a number of foreign steel mills for products outside of NZS' and PSG's capability.

93 The ability of customers to exercise their countervailing market power is illustrated by **[**

]

94 There are also examples of customers who split their steel supply needs between domestically produced products and imports. For instance, **[**

]

95 Similarly, there are examples of customers who split their steel supply needs between different domestic producers. For instance, **[**

]

96 Some customers are particularly well placed to exercise countervailing market power due to the sheer volume of their demand relative to the total domestically consumed output of both NZS and PSG. These customers clearly have the ability to import steel.

Coordinated market power

97 Given that there are no competing steel producers in the New Zealand market, both with and without the Acquisition, we cannot identify any characteristics of the post-Acquisition market which would facilitate coordination.

Efficiencies

98 The Acquisition will generate significant efficiencies in the New Zealand steel industry, making New Zealand steel production more resilient and sustainable and less vulnerable to cyclical economic events outside of the control of domestic participants. This generates long-term benefits for consumers in terms of the supply chain advantages that emerge from local production.

98.1 **[**

]

98.2 ***Increase in domestic sales versus exports***: Reducing the proportion of domestically produced product diverted into export markets at a sub-optimal commercial return (assuming sales levels remain constant for each set of products), meaning that the resources are allocated more efficiently.

98.3 ***Productive efficiencies***: Consolidating production into NZS' plant at Glenbrook, which operates more efficiently due to the technology deployed and the fact that it is located on a non-urban site, allowing greater flexibility both from an environmental management and logistics point of view.

Scrap metal market

99 The impact upon the scrap metal market can be dealt with as a discrete topic.

100 Sims Pacific Metals (a joint venture between FSL and international metal recycler, Sims Metal Management) is the sole supplier of scrap to PSG and also exports scrap metal. **[**

] National Steel is an example of a scrap metal recycler who sells solely into export markets.

101 As domestic scrap prices are set by the international scrap price — **[**

]

PART 6: FURTHER INFORMATION AND SUPPORTING DOCUMENTATION

102 Please find below contact details for relevant market participants:

	Name of company	Contact details	Relevant contact person
Domestic long and flat product customers	**[**		

Domestic flat product customers			

Foreign flat product customers			

Domestic long product customers			

Foreign long product customers			
			]
Importers (who are not also domestic customers)	Kiwi Steel	12 Hautu Drive, Wiri +64 9 277 2700	Keun Hong Lee
PSG joint venture partner	Sims Metal Management	c/- Sims Pacific Metals Ltd Cnr Kahu and Manu Streets PO Box 22-648,Otahuhu AUCKLAND Angus.barrett@simsmm.com www.simsmm.com	Angus Barrett

103 The most recent annual report for BlueScope / NZS is available at: http://www.bluescopesteel.com/media/315592/bsl%202013%20annual%20report_web.pdf.

104 The most recent annual report for FBL is available at: http://www.fletcherbuilding.com/media/24290/fblannual-report-2013-final.pdf.

105 Management accounts for PSG are provided at ***Appendix H***.

PART 7: CONFIDENTIALITY

Specific information contained in or attached to the notice

106 Confidentiality is requested for all the information contained in this version of the notice. A "public version" of this notice will be provided subsequently that will specifically identify all information that is commercially sensitive to the Applicant and/or FSL.

107 The parties request that they be notified if a request is made to the Commission for release of the information under the Official Information Act 1982.

This Notice is given by BlueScope Steel (NZ) Limited.

The company hereby confirms that:

- all information specified by the Commission has been supplied;
- if information has not been supplied, reasons have been included as to why the information has not been supplied;
- all information known to BlueScope Steel (NZ) Limited and New Zealand Steel Limited which is relevant to the consideration and determination of this application has been supplied; and
- all information supplied is correct as at the date of this application.

The company undertakes to immediately advise the Commission of any material change in circumstances relating to the application.

Dated this 21st day of February 2014

_____

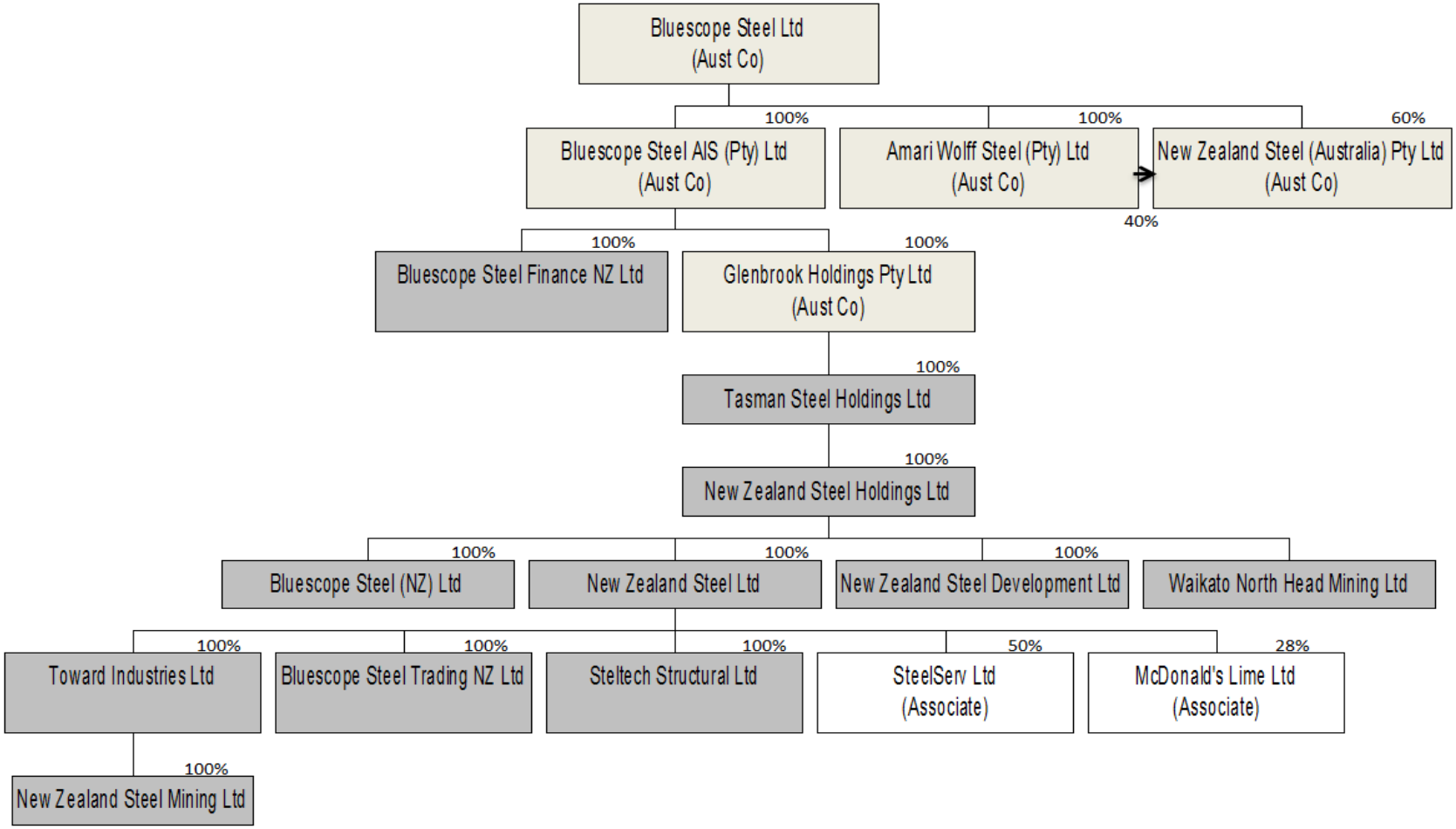
Andrew Garey
I am the General Manager of New Zealand Steel and Pacific Islands and am duly authorised to make this application

APPENDIX A: NERA REPORT

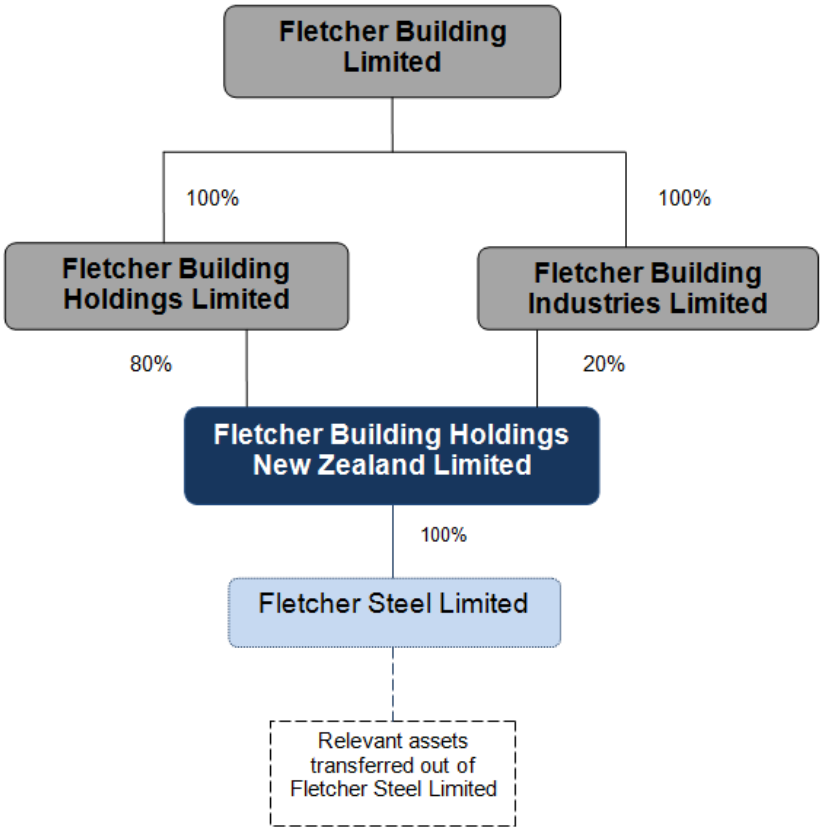
APPENDIX B: AGREEMENT FOR SALE AND PURCHASE BETWEEN THE APPLICANT AND FSL [CONFIDENTIAL ANNEXURE]

APPENDIX C: CORPORATE STRUCTURE DIAGRAMS

Corporate Structure Diagram for the BlueScope New Zealand group



PSG Corporate Structure Diagram



APPENDIX D: FURTHER DETAIL ON FLAT STEEL PRODUCTS

Flat steel products

1 Flat steel products are made from flat rectangular semi-finished solid steel products known as slabs. Slabs are hot rolled to produce coil or plates, before being further processed to achieve the desired final shape. There are four basic flat products:

1.1 Hot rolled coil and plate;

1.2 Cold rolled coil;

1.3 Steel pipe hollow sections; and

1.4 Pre-painted and metallic coated products.

NZS' products

2 NZS produces the following products:

2.1 *COLORSTEEL*®: is a pre-painted steel product used for roofing, fascia, cladding, guttering and fencing.

COLORSTEEL® coil off the line

2.2 *ZINCALUME*®: is a zinc/aluminium alloy coated steel which is used for a range of building and manufacturing applications.

ZINCALUME® and galvanised steel coil

2.3 *GALVSTEEL*™: is a hot-dipped, zinc-coated steel available in a range of yield strengths and thicknesses for a wide variety of applications across the building, agricultural and automotive sectors. Its mechanical properties make it suitable for forming, welding, fastening and painting.

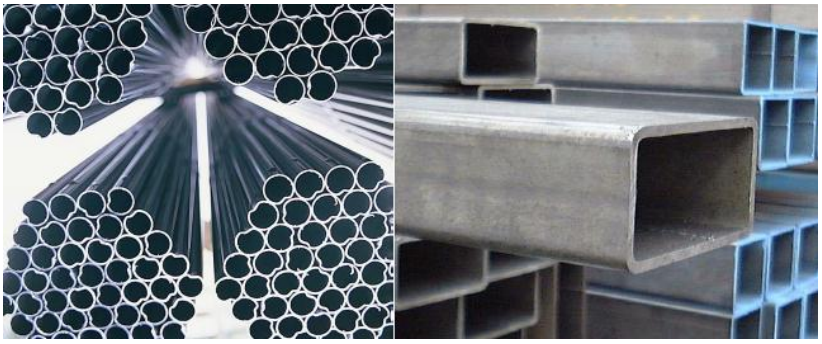
2.4 *Hot rolled steel*: is produced in a variety of grades for high strength, structural applications, including flooring, steel beams, tanks, flanges and welded pipes (i.e. coil and plate).

Steel plate

2.5 *Cold rolled steel*: is available in a range of grades, each with a variety of properties to suit applications ranging from shelving to the manufacture of steel drums, saw blades, hinges, automotive parts and steel tube.

Cold rolled coil

2.6 *Pipe and hollow sections*: are used in a large number of applications, as key components of agricultural equipment through to bridges and railings.



Pipe and hollow sections

2.7 *AXXIS® Steel for Framing*: is a brand of galvanised, high-tensile steel used for house framing.

2.8 *Steltech®*: are beams manufactured (from hot rolled plate) for optimised steel structures.

Plate being fabricated into beams

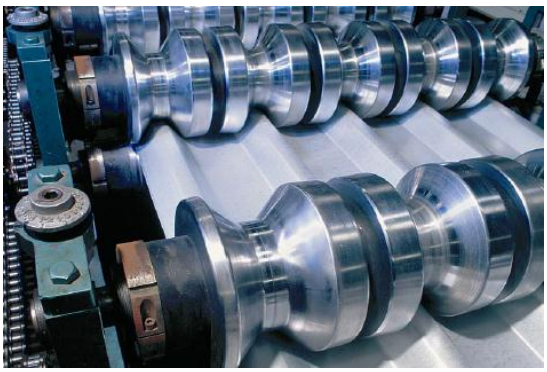
ZINCALUME®

3 ZINCALUME® steel is supplied to three major customer groups:

3.1 *Pressed steel tile manufacturers*: These customers are supplied ZINCALUME® coated with a very thin tinted resin. The customers first press the steel to the finished profile, then apply a number of resin coats and selected coloured stone chips. AHI Roofing is the largest manufacturer in NZ.

3.2 *PCC*: PCC is supplied with bare ZINCALUME® (with a protective oil coat). PCC then cleans and paints the steel. The resulting product, ColorCote®, competes directly with NZS' COLORSTEEL® products. There are more than 80 colours in the ColorCote® range. NZS and PCC supply their painted products to roll forming customers, both in New Zealand and in select export markets.

3.3 *Roll formers*: ZINCALUME® (with a clear resin coat) is sold direct to roll formers. This product is subsequently sold to building owners as roofing or cladding. These end users may decide to have the roof painted some time in the future.



Roll forming ZINCALUME® steel for roofing

4 NZS supplies ZINCALUME® to most roll formers. Imported ZINCALUME®-substitutable product appears to be sold to roll formers AHI Roofing and PCC. Actual volumes are difficult to measure as NZS believes that some imports are being miscoded. Import statistics suggest about 10kt-12kt pa is currently imported. The local market for ZINCALUME® is subject to both volume and price pressures.

AXXIS®

5 AXXIS® steel framing is not sold directly to end users by NZS. While NZS markets the final product, the product it sells to the further processors is GALVSTEEL™ galvanised coil.

Steel pipes

6 There are four manufacturers of steel pipe in New Zealand: Steelpipe Limited, Industrial Tube Manufacturing, Atlas Steel (NZ Tube Mills) and NZS.

7 Steelpipe Limited manufactures large diameter spirally weld pipe with the following specifications:

7.1 Wall thickness range: 4.8mm – 12.7mm;

7.2 Feed stock: hot rolled coil;

7.3 Pipe diameter: 508mm – 3000mm; and

7.4 Typical applications include water pipes and piling.

8 Industrial Tube Manufacturing produces round tube, squares, rectangular hollow sections, flat sided ovals and elliptical, with the following specifications:

8.1 Wall thickness range: 1mm – 3mm;

8.2 Feed stock: hot rolled coil, cold rolled coil and galvanised coil (purchased from NZS) – imported aluminised steel is also used for tube manufacture;

8.3 Pipe diameter: 12.7mm – 101.6mm (1/2" – 4"); and

8.4 Typical applications include steel furniture, lawnmower handles, children's play equipment, fencing, automotive exhaust systems, trailers, agricultural support structures, lightweight structures, balustrades, home appliances and mechanical components.

9 Atlas Steel (NZ Tube Mills) manufacture round tube, squares, and rectangular hollow sections, oval and flat sided oval, with the following specifications:

9.1 Wall thickness range: 1mm – 3mm;

9.2 Feed stock: hot rolled coil, cold rolled coil and galvanised coil (purchased from NZS) – imported stainless steel and aluminised steel are also used for tube manufacture;

9.3 Pipe diameter: 12.7mm – 101.6mm (1/2" – 4"); and

9.4 Typical applications include furniture manufacturing, automotive exhausts, architectural, general engineering, fencing, shop-fittings, cattle rails, playground handrails and glass house components.

10 NZS manufactures pipe and hollow sections, mill finish (black) and galvanised, with the following specifications:

10.1 Wall thickness range: 2mm – 6mm;

10.2 Feed stock: hot rolled coil;

10.3 Finished pipe diameter: 15mm – 100mm;

10.4 Hollow sections: 25x25 – 125x75; and

10.5 Typical applications include scaffolding, agricultural equipment and general engineering.

11 There is some overlap in the product ranges by the domestic producers.

Structural beams

12 There are three structural beam manufacturers in New Zealand: Steltech Structural Limited (a subsidiary of NZS), D&H Steel Construction and Eastbridge Engineering. All three manufacture welded beams from plate.

13 Both D&H Steel Construction and Eastbridge Engineering purchase plate from NZS as well as import plate. The beams produced by both businesses compete directly with Steltech Structural.

Examples of flat products which NZS does not produce

14 Examples of flat products will NZS does not produce include:

14.1 Wide galvanised coil products, i.e. >1260mm;

14.2 Galvanised coil thickness >2.25mm;

14.3 Plate thickness >50mm;

14.4 Plate width > 1550mm; and

14.5 Pipe (black and galvanised) > 102mm diameter.

15 All of these products are outside the operational capability of NZS' equipment, but can in some cases be directly substitutable by the user.

NZS' production process

16 See the diagram below.

THE NEW ZEALAND STEEL PRODUCTION PROCESS

Iron Plant

Coal and Concentrated Iron Sand

Coal delivered by rail from Huntly

Iron sand pumped via a slurry pipe line from the mine site at Waikato North Head

Hot gases produce steam and 60% of the site's electricity needs

Multi Hearth Furnaces (4)

Volatile fractions in the coal are burnt off

Air

Rotary Kilns (4)

Iron oxide is reduced to sponge iron as charcarbon is burnt

Hot Reduced Primary Concentrate and residual carbon

Elevated Transfer Container

Electrical energy

Carbon paste electrode

Molten Slag Layer

Molten Pig Iron

Slag Bowl

Melters (2)

Primary concentrate is melted by electric arc. Impurities are removed as slag.

Iron ladle

Oxygen

Steel-making Plant

Vanadium Recovery Unit (1)

Controlled oxygen blowing releases a vanadium rich slag

Vanadium oxide slag is racked off

Molten iron & scrap are charged into the vessel

Oxygen

The vessel is rotated and oxygen is blown through the bottom tuyeres and top lance. Carbon is consumed and the temperature rises. Sulphur and phosphorous are removed as slag in the steel conversion process

Hot gases are cleaned

KOBM Oxygen Steel Converter Vessel (1)

Oxygen & Lime

Molten steel is tapped into casting ladle

Manganese, silicon are added as required to achieve the grade

Slab Casting Machine (1)

Continuous casting is achieved by rotating the turret when a ladle is empty. The tundish maintains the flow to the moulds.

Rotating Ladle Turret (1)

Tundish

Water cooled moulds

Water sprays cool the slab

Rollers support the outer crust of the slab until the core solidifies

Slabs are cut to length

Oxygen

Hot Strip Mill

Slabs are profiled outside and scheduled for rolling according grade and width

Slab Yard

Slabs are organised according to rolling schedule

Gas Fired Reheat Furnace

Red hot slab 210 mm thick is ready for rolling

Descaler scale is removed

Loading edge and tail ends are removed

Water Blast Scale Remover

Crop Shear

Coil Box

The strip is coiled and uncoiled to make the roll oval bad

Slab is reduced to a long strip approx 25mm thick

Reversing Rougher Mill

Roll reverses after each pass (5 or 7) and the mill gap is reduced each time

Water Blast Scale Remover

The strip is progressively reduced to the required thickness

Four Stand Finishing Mill

Laminar Flow Water Cooling

Strip is coiled and up-ended or passed through if heavy plate

Downcoiler

Plate 10mm to 52mm thk

To Plate Line

Coiled steel 2mm to 10mm thk 735mm to 1560mm wide

Coil Conveyor to Skinpass Mill and Pickle Line

Plate Line

Plate is cut to length

Plate Conveyor from Hot Strip Mill

Plate Leveller

Cut to length heavy steel plates are dispatched to customers

Skin Pass Mill

Coils are cooled to air temperature

Coil Conveyor from Hot Strip Mill

Skin Pass Mill

Hot rolled steel is passed once through the skin pass mill to improved its shape and flatness

Coils of steel are dispatched to customers or other plants for further processing

Pipe and Hollow Sections Mill

Slitter Line

The slitter line produces narrow width coils for pipe forming

Hot rolled coils come from the Hot Strip Mill

Accumulator Loop

Butt welder

Steel coils is unwound and welded into an endless strip

Straightener

Forming mill

Induction Welder

Cooling trough

Sizing mill

Flying Saw

Steel is continuously rolled into an open seam pipe

Pipe seam edges are heated by the welder then fused together under pressure

Upset steel is scarfed off as swarf

Pipe is squeezed to proper size and shape (Round or rectangular)

The flying saw separates the endless pipe into standard lengths

Excess zinc is blown out with high pressure steam

Quench Tank

Zinc Pot

Drying oven

Flux Tank

Rinse Tank

Acid Tank

Rinse Tank

Caustic Tank

Pipe and RHS bundles are dispatched to customers

Pipes are threaded and sockets fitted

Individual pipes are immersed into the molten zinc then air wiped when withdrawn

Bundles of pipes are treated in preparation for galvanizing

COLOUR KEY

- Iron Plant
- Steel-making Plant
- Hot Strip Mill
- Plate Line
- Skin Pass Mill
- Pipe and Hollow Sections Mill
- Continuous Pickle Line
- Cold Strip Mills
- Metal Coating Line
- Paint Line

Continuous Pickle Line

The entry loop car accumulates the strip by increasing its length. When the entry end stops to join on a new strip, the acid pickling continues uninterrupted as the loop car decreases in length.

Pay-off Reel

Shear

Butt welder

Bridle

Bridle maintain correct strip tension between sections

Entry Loop Car

Tension Winch

Coiled steel is unwound and cut square before being welded to the preceding strip

Hydrochloric acid removes the black oxidation scale that results from hot rolling

The hot rolled strip passes through the leveller to improve shape and flatness

Bridle

Bridle

Tension Leveller

Bridle

Rinse Tank

Acid Tank

Acid Tank

Acid Preheat tank

Exit loop maintains process speed while strip is separated into coils at the recoil mandrel

Tension Winch

Exit Loop Car

The loop into the pit assists guidance into side trimmer

Exit Loop Pit

Side Trimmer

Bridle

Shear

Strip is trimmed to to precise width

Recoil Mandrel

Coils of pickled steel are transferred to the Cold Mill or despatched to customers as pickled and oiled steel

Batch Annealing Furnace

In batches of 8 coils, cold rolled steel is annealed to reduced work hardening

Coils are transferred to and from the annealing furnace

Cold rolled, annealed and tempered coils are transferred to the Cold Finishing Section

Cold Strip Mills

The 6 Hi configuration enables this high speed mill to produce steel of high quality with consistent shape and flatness

6 Hi Reversing Cold Mill

Coils up to 40 Tonne enter on a conveyor from the pickle line

Cold rolling reduces the thickness and increases the strength of hot rolled steel. The surface finish and shape improve and work hardening results

20 Tonne coils of cold rolled steel are dispatched to Metal Coating Line

The combination mill has a dual function; Cold rolling and single pass temper rolling

Temper rolling improves the shape of the strip after its workability has been improved by annealing

4 Hi Reversing Combination Mill

Metal Coating Line

The furnace anneals the strip to achieve the correct strength and prepare the strip for coating

Induction Furnace

Annealing Furnace

Air Coolers

Tinsel Remover

Coolers

Dryers

Winch

Delivery Loop

Resistance Seam Welder

Cleaning Tanks

Bridle

Pay-off Reel

Bridle

Air Knives

Chemical Coaters

Tension Leveller & Skinpass Mill

Quench Tank

Pot

Bridle

Recoil Mandrel

Entry Loop

Winch

Coiled steel is unwound and cut square before being welded to the preceding strip

The entry loop accumulates the strip by increasing its length. When the entry end stops to join on a new strip, metal coating continues uninterrupted as the loop car decreases in length.

Recoil coated steel is despatched to customers as galvanised or ZINCALUME® coated steel or it is sent to the COLORSTEEL® painting line.

The shape of the strip may be corrected in the leveller and the surface flattened in the skin pass or if further optional chemical coatings are added to the surface

The two coats of molten metal can be interchanged dependent on coating. Galvanizing is a zinc rich coating, ZINCALUME® is a mix of 45% zinc and 55% aluminium

Air knives wipe off excess molten metal to achieve the correct coating thickness

The many bridle rolls sets maintain fine section tension using friction on the mill surface and speed control of the motors

Paint Line

Prime coater rolls apply an even layer of paint to both sides of the strip

Prime Coater

Flash Off

Prime Oven

Quench System

Roller coater applies pretreatment anti-strip surface before painting

Pre-treatment Coater

Caustic and water rinse cleaning tanks remove any oil to prepare the strip for painting

Cleaning Tanks

Finish Coater

Flash Off

Finish Oven

Quench System

Finish coater rolls apply an even layer of paint to both sides of the strip

Each layer of paint is baked to provide a durable yet flexible coating system

Finished off paint spheres are incremented to assist with even heating

Delivery Accumulator

Bridle

Tension Leveller

Bridle

Inspection & Test Area

Tension Reel

Pay-off Reel

Stitcher

Dabur Rolls

Entry Accumulator

The accumulators increase the height between the mills to temporarily store moving strip to enable joins to be made at the entry and separate coils to be made at the exit

The many bridle rolls sets maintain fine section tension using friction on the mill surface and speed control of the motors

The strip is rewound then cut into individual coils

Coiled steel is unwound and cut square before being stitch-welded to the preceding strip

Coated coils are wrapped and dispatched to customers

APPENDIX E: FURTHER DETAIL ON LONG STEEL PRODUCTS

Long steel products

1 Long steel products are made from semi-finished products with a square cross section known as billet. Billet can be rolled to produce various products of different shapes, sizes and profiles. These products can then be further processed to produce a finished product. There are four basic long products:

1.1 Structural sections;

1.2 Reinforcing bar and coil;

1.3 Merchant bars and profiles; and

1.4 Wire.

PSG's products

2 PSG produces the following products:

2.1 *Reinforcing bar*: The Seismic reinforcing bar range includes Seismic 300E, Seismic 500E MA and Seismic 500E QT. It is used for the reinforcing of concrete.

2.2 *Reinforcing coil*: The reinforcing coil range, made from plain carbon steel, includes Seismic 300E, Seismic 500N, Seismic 500E MA to be used in the reinforcing of concrete. The range also includes Seismic 500E MA Mesh Feed, which is further processed into ductile reinforcement for concrete.

2.3 *Reinforcing wire*: PSG manufactures plain, indented and ribbed reinforcing wire made from plain carbon steel, all of which are available in various diameters.

2.4 *Plain carbon rod*: Standard industrial quality low carbon steel coil rod for mesh manufacturing customers, available in 1.5 tonne bundles. Rod is produced in standard grades 1006, 1008, 1012, 1015. PSG can also manufacture special rod grades on request ranging from 1006 – 1050.

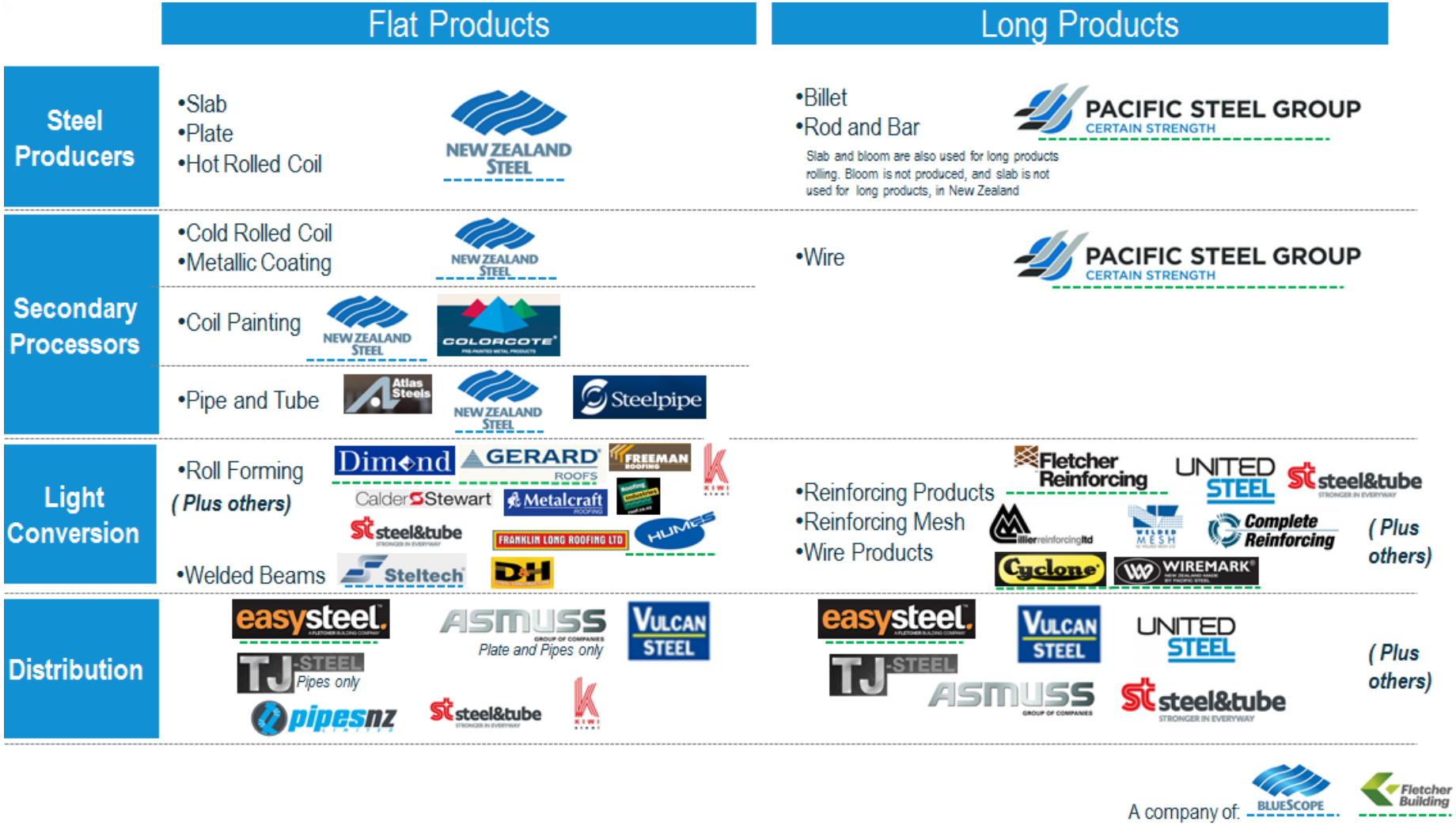
2.5 *Reidbar*: PSG manufactures Reidbar under licence to Reid Construction Systems. Reidbar is a hot rolled, threaded bar, which can be cut and joined on-site using the Reidbar connector system. It is used for the reinforcing of concrete.

2.6 *Bending and cross-welding wire (BWC)*: BWC is manufactured from a specifically developed low carbon grade steel rod. PSG also produces BCW as cleaned wire.

2.7 *WIREMARK® products*: PSG manufactures zinc-aluminium fence wire from wire rod in two coating weight levels: heavily coated and medium coated. The heavy coated zinc-aluminium wire will last up to four times as long as galvanised wire, while the medium-coated wire will last up to twice as long as heavily galvanised wire in most situations.

APPENDIX F: KEY PARTICIPANTS IN THE NEW ZEALAND STEEL INDUSTRY

Note: Does not include all businesses in New Zealand steel industry



APPENDIX G: NZS CUSTOMER DESCRIPTIONS

Distributor

1 The domestic steel distribution network for NZS is primarily through four companies: Fletcher Easysteel, Steel & Tube, HJ Asmuss and Vulcan Steel. They have a nationwide network of warehouses and offices. These companies stock a range of steel products manufactured by NZS, including plate, hollow sections and galvanised coil. They also source and on-sell associated products, including welding rods, couplings, bar etc. As part of their service offer, they provide a cutting service for their customers — profile cutting, blanking, slitting and shearing to customer specification.

Manufacturer

2 Manufacturers are a wide and varied group. Examples of steel products produced by this group include trailers, concrete mixer barrels, tanks, drums, gates, and wheel barrows. Most manufacturers are supplied steel by the steel distribution network. These steel products used are hot rolled plate, cold rolled coil, hollow sections and galvanised sheet.

Fabricator

3 Fabricators produce products such as beams and flanges, and would typically purchase plate as their input.

Roll former

4 Roll formers manufacture customised cut to length profiled coated steel for roofing and cladding applications. Businesses in this group will supply the appropriate steel flashings, steel gutters, downpipes, the fasteners, roofing underlays, safety mesh and roofing tools. Some also sell steel purlins.

5 This sector uses multi-stage roll forming equipment to produce a range of roofing and cladding profiles, trapezoidal, secret fix (klip-lock) and corrugate. Building design (i.e. roof pitch, purlin spacing etc) will determine the profile selection.

6 Roll Formers purchase a range of coated steel products from NZS: ZINCALUME®, GALVSTEEL™ and COLORSTEEL®.

Pressed steel tile manufacturer

7 AHI Roofing and Metalcraft / United both produce pressed steel tiles (using ZINCALUME®), coating with their own coating formulation and stone chips.

Coil coater

8 PCC purchases bare ZINCALUME® (with a protective oil coat) and paints it. As discussed earlier in this application, PCC's product ColorCote® competes directly with NZS' product COLORSTEEL®.

APPENDIX H: MANAGEMENT ACCOUNTS FOR PSG [CONFIDENTIAL ANNEXURE]