24 August 2018

The Director
Operations 3
Anti-Dumping Commission

EMAIL investigations3@adcommission.gov.au

Dear Director,

Review of Measures No. 465 concerning *Hot Rolled Structural Steel Sections Exported from Korea:*
Industry applicant response to SEF No. 465 and exporter verification report for Hyundai Steel Company

OneSteel Manufacturing Pty Ltd, trading as *Liberty OneSteel*, provides this submission in response to the verification visit report for Korean exporter Hyundai Steel Company (**Hyundai**) and the Statement of Essential Facts No. 465 (**SEF 465**) placed on the public record on 26th July 2018[1] and 30th July 2018[2] respectively.

Liberty OneSteel requests that based on evidence that may not have been before the Commission during Investigation 223, the Commission reassess the proposed recommendations with respect to:

1. Model matching for the purposes of price comparability.
    a. Recent changes to the Korean Standards need to be considered.
2. Form of Measure to ensure that the most appropriate form of measure is applied to achieve the intending aim of removing the injurious effects of dumping.

1. Proper comparison between the normal value and export price of the goods for the purposes of calculating a dumping margin

Liberty OneSteel's view is that the Commission has the ability during Review 465 to change its assessment of which domestically produced models are the most directly comparable to the models exported to Australia. The Commission acknowledges this in its recent policy and practice guidelines published as Attachment C to the Notice concerning the introduction and implementation of Model Control Codes (**MCC**) commencing 9 August 2018 which states:

> "*The Commission will consider modifications to the MCC structure from the original investigation in subsequent reviews and continuations, where justified.*"

The Commission has indeed accepted a change to the 'model' criteria based on shape as defined by the exporter for this review, identifying 'I section' which was previously included in the 'H section' model for *Investigation No. 223*, as a separate model in this review.

[1] EPR Folio No. 465/011.
[2] EPR Folio No. 465/010

> *"Hyundai Steel advised that it was more accurate to separate I beam from H beam as they are distinct products (H beam is stronger and takes more force than I beam and is typically used in buildings whereas I beam is normally used for mines).*
>
> *The verification team observed a difference in the domestic sales data between I beam and H beam and has undertaken model matching on the basis of the classification of model submitted by the exporter in the present review."*[3]

Liberty OneSteel requests that the same consideration be given to the information presented by the industry applicant in this submission to decide whether a further change in model matching approach is justified.

It is Liberty OneSteel's view that when considering steel products, where products are manufactured to comply with different Steel Standards developed by each country, finding an exact domestic model match across all properties for the goods exported to Australia is likely to be the rare exception. This means that the selection of domestically sold models that are "*most directly comparable to the particular models exported to Australia*" (**model match**) will necessarily be required in the majority of investigations involving steel products.

Determining the correct model match is fundamental to ensuring dumping margin calculations have a sound basis – if the model match is not correct, the investigation outcome will be incorrect also.

A critical part of assessing the model match is a technical understanding of the key physical, mechanical, and chemical properties required by the Standards that they're being produced to that determine selection (by a customer) and are likely to affect price comparability. The properties selected will typically form the basis for Model Control Codes for a given steel product in future investigations.

Liberty OneSteel's view of the key properties for model matching Structural Steel Sections given their typical application in building construction are as follows:

a) Are they intended to be welded? If so, relevant Standards will impose a restriction on the Carbon Equivalent (**CE**)[4] value the steel chemistry must meet to ensure it is readily weldable and does not require extensive testing to establish the best weld process for a range of potential chemistry variations.
   - AS/NZS 3679.1 requires a CE value of 0.44%max ie. grades produced to this standard, meeting this chemistry criteria, are considered pre-qualified or readily weldable.
   - Korean Standard KS D 3503 applies to "General Structures", no CE value requirement, these steels are not pre-qualified for welding. Grades contained in this standard are not suitable for comparison to AS/NZS 3679.1 grades.
   - Korean Standard KS D 3515 applies to "Welded Structures" with maximum allowed CE values required for all grades ie. they are considered pre-qualified or readily weldable.

[3] EPR Folio No. 465/010 at p5

[4] https://en.wikipedia.org/wiki/Equivalent_carbon_content : *In welding, equivalent carbon content (C.E) is used to understand how the different alloying elements affect hardness of the steel being welded. This is then directly related to hydrogen-induced cold cracking, which is the most common weld defect for steel, thus it is most commonly used to determine weldability. Higher concentrations of carbon and other alloying elements such as manganese, chromium, silicon, molybdenum, vanadium, copper and nickel tend to increase hardness and decrease weldability.*

b) What is the minimum yield strength the steel, as certified to a particular Standard will deliver ie. at what point will the structural steel member start to yield and undergo permanent plastic deformation? This is the key property used for structural steel design material selection.

Note : minimum tensile strength is also included in structural steel Standards as an indication of how far beyond the yield point the steel can be loaded before complete failure occurs – this is not the key property considered in material selection for structural steel design.

These views are in line with steel construction resources and guidelines available in various countries:

The UK's Steel Construction Info website states:

> "Yield strength is the most common property that the designer will need as it is the basis used for most of the rules given in design codes. In European Standards for structural carbon steels (including weathering steel), the primary designation relates to the yield strength, e.g. S355 steel is a structural steel with a specified minimum yield strength of 355 N/mm².
>
> The product standards also specify the permitted range of values for the ultimate tensile strength (UTS). The minimum UTS is relevant to some aspects of design."[5]

Hong Kong's Explanatory Materials to the Code of Practice for the Structural Use of Steel 2011 (the 'Code') similarly references yield strength as the basis for comparison of steels from various sources to be used in structural steel design:

> "Hong Kong does not produce structural steel and the intention of the Code is to allow use of steel and steel materials, such as nuts and bolts, from the major worldwide suppliers on a "level playing field" basis. Section 3 covers the use of **hot rolled steel sections**, flats, plates, hot finished and cold formed structural hollow sections and cold formed sections conforming to acceptable international steel product standards from Australia, China, Japan, United States of America and United Kingdom versions of European Union standards. In addition to covering normally available steel with **yield stresses** in the range from 190 N/mm2 to 460 N/mm2, this section gives design recommendations on the use of high strength steel with **yield stresses** between 460 and 690 N/mm2, and uncertified steel, whereby the **design strength** is limited to 170 N/mm2."[6]

c) Shape and size of the domestically sold and exported structural sections should also be matched as closely as possible for the models selected as being most closely aligned in terms of CE and yield strength Standard requirements.

In the verification report for Hyundai, the Commission describes the "*product code number structure that Hyundai Steel produced for the purposes of this review*" as the following:[7]

- *'Model' – classified on the basis of shape (H beam; channel; angle; I beam)*
- *'Grade' – classified on the basis of minimum tensile strength (MPa<400; 400<=MPa<450; 450<=MPa<500; 500<=MPa)* [emphasis added]

[5] https://www.steelconstruction.info/Steel_material_properties
[6] https://www.bd.gov.hk/english/documents/code/EMSUOS2011e.pdf at p1
[7] EPR Folio No. 465/010

- *'Dimension' – classified on the basis of web height (web<230mm; 230<=web)*

Based on the coding structure that the exporter had '*produced for the purposes of the review*', the verification report concluded:

> *The matching of comparable grades by Hyundai Steel on the basis of tensile strength means that sales of the Australian grade are being compared to SS400 and other grades falling within the 400<=Mpa<450 band.*[8] [emphasis added]

The Commission decided to base their domestic grade selection on a range of tensile strength groupings selected by the exporter, despite advising at the outset that during the review period "*Hyundai Steel exported HRS to Australia, with a nominal yield strength of 300MPa, which were produced to the Australian Standard AS/NZS 3679.1"*[9] Given that the Commission's own policy guidance in establishing model control codes recognises the importance of selecting *the domestically sold models that are most directly comparable to the particular models exported to Australia,* the Commission's starting point in grade selection ought to have been establishing the domestic grade with a nominal yield strength closest to 300MPa produced to the relevant Korean Standard.

The Commission appears to justify their approach by stating that "*in the original investigation,* "*the Commission determined that the SS400 was the most comparable Korean grade to the Australian G300 grade*" ie. the findings are consistent with what was found before. Apart from acknowledging that Liberty OneSteel did not agree with the comparison of grades in the original investigation, the Commission offers no clarification of why the extensive justification provided by Liberty OneSteel at the briefing prior to the exporter verification visit that the grade match ought to be based on yield strength and chemistry/weldability considerations rather than tensile strength was rejected in favour of the tensile strength grade-grouping categories provided by the exporter. The only mention of yield strength was in reference to Hyundai noting that the yield strength required for the Korean SS400 grade had been increased with effect from 1 January 2017 and "*now has a yield strength of 245-275 MPa, which is closer to that of the Australian Standard.*" Any comparison undertaken of Standard comparisons for CE values has also been omitted from the report – if such a comparison had been undertaken, grade SS400 could not have been selected as the most comparable grade with the properties defined in Standard KS D 3503 for General Structures (not Welded Structures) with no restrictions imposed on chemical composition for weldability ie. no maximum CE value requirement. This is a significant omission and error by the Commission.

Liberty OneSteel notes that the Review of Anti-Dumping Measures report into hot-rolled structural steel sections from Korea, *Trade Measures Report No. 79* (August 2004), provided the first assessment of the most directly comparable Korean domestic model to the Australian export goods. That initial assessment (based predominantly on yield strength comparison) stated:

> "*Customs found the specifications of the exported grade RL* **[AS 3679.1 grade 300]** *and domestic grade HK* **[KS D 3515 grade SM490A]** *to be very similar, and considers the grade HK is the most appropriate for comparison with the exported grade RL. Customs calculated normal values using domestic sales of only grade HK*."

[8] EPR Folio No. 465/010 p.4
[9] EPR Folio No. 465/010 p.5

In the verification report for Hyundai Steel in the "original" subsequent investigation 223, the verification team chose to disregard these findings once presented with the tensile strength groupings prepared by the exporter, stating that "*Customs review report No 79 only showed yield strength for the model exported to Australia, and for that reason the review report cannot be directly or easily compared.*"

The ADRP upheld the Commission's finding in relation to the Hyundai model match considering the Commission's approach to be "*thorough and reasonable*".[10] With respect, the ADRP's satisfaction expressed with the Commission's approach to rely on a "*sampling methodology of mill test certificates as part of the verification process*" and the finding that (batch) "*mill test certificates were found to be the most reasonably reliable evidence to support claims about actual specifications to which HRS is produced and sold, both in domestic and export market*" rather than a comparison of the steel standards to which domestic and exported steels are produced and certified to, is not based on a sound technical understanding on which to form a "*reasonable*" conclusion, and therefore constitutes a factual error. The Commentary to AS4100.1 Steel Structures (the Australian Standard for the design of structural steel in buildings and the only complying Standard referenced by the Building Code of Australia) specifically warns against using "*the actual values of yield stress or tensile strength on mill test reports*" to determine the grade of a steel for design (page 9).

By way of justification for reconsideration of the model match approach by the Commission, Liberty OneSteel now provides an assessment of the different Standards and versions of Standards applicable to the production of HRS in Korea during the review period.

1a. Changes to the Korean construction steel Standards

The Hyundai verification report referred to a 2016 change to the Korean Standard for grade SS400:

> *"Hyundai Steel noted that the yield strength required for the Korean SS400 grade was increased in 2016, with effect from 1 January 2017. As a result the SS400 grade now has a yield strength of 245-275 MPa, which is closer to that of the Australian standard."*[11]

Liberty OneSteel had been unaware of changes to the Korean structural steel standards and on closer examination found that the changes made by Korean Standards were not minor ones but rather a complete rework of the Standards driven by a number of factors:

- The Korean Iron and Steel Association advised on 29 December 2016 under the heading "Construction Steel New & Old KS Concurrent Notice":
    - "In order to support the strengthening of the export competitiveness of domestic enterprises, the National Technical Standards Agency (KDNO) issued the Korean Industrial Standards revised notification on Dec. 5, 2016 for 24 kinds of construction steel."[12]
    - The Association also provided a link to Notification No. 2016-602 (**the Notification**) of the National Institute of Standards and Technology published in the Republic of Korea Official

[10] ADRP Report No. 20 at Par 59.
[11] EPR Folio No. 465/010 at p5
[12] http://kosa.or.kr/statistics/sIssue_view_2013.jsp?index=7746

Gazette No. 18918 (Part 2) 2016.12.30 providing further detail around the Standards that have changed and the timing of the change implementation.

- The Notification confirmed that KS D 3503 and KS D 3515 applicable to Hot Rolled Structural Sections (for General Structures and Welded Structures respectively) had changed.
- The Notification indicated that the 2014 and 2016 versions of the Standards would run concurrently from 1 January 2017 to 31 December 2017 to allow for the relevant Building, Housing and Architectural Acts to be updated (and presumably allow Korean producers to transition to the new Standards). As from 1 January 2018, the 2016 versions of the Standards would apply.

o The 2016.12 edition of the monthly publication of the Korean Iron and Steel Association contains an article titled "*Expansion of dynamic steel: seismic design mandatory targets and KS standardization of steel materials*" which provides further context around the changes (as per translation):

- "**The revised standard (KS) 24 types will be enforced from January 1, 2017. The revised Korean Industrial Standard (KS) is based on the ASTM (American Society for Testing and Materials) standard and EN (European standard), which have been upgraded to meet the demands for strengthening the safety of buildings and to strengthen the export competitiveness of domestic companies.**" [emphasis added)
- "It seems that it is a good opportunity to generalize the field application of high-grade steel to increase the safety of buildings and to prevent the entry of low-grade imported steel."
- "the society and the industry should prepare the revised KBC Korean Building Code in a hurry and prepare it carefully."[13]

The intent to align the Korean Standards with the ASTM and EN standards means that the grades were necessarily required to be designated according to their minimum yield strength requirements and these yield strength requirements have shifted considerably. The outcome of the change means that the **2016 versions of KS D 3503 and KS D 3515 no longer contain steel grades designated as SS400 or SM490A**, the grades compared and advocated for by Hyundai and Liberty OneSteel respectively as the closest domestic match to G300 exported to Australia in previous investigations and the current review to date.

Given that the 2014 and 2016 versions of the Standards were reportedly operating concurrently during the review period (January to December 2017) with a requirement for Hyundai to fully transition to the 2016 version from 1 January 2018, it is concerning to Liberty OneSteel that sales to both new and old grades have not been reported in the verification report for Hyundai or SEF 465 and the Commission has not clarified their consideration of which new domestic grades are considered most comparable to grade AS/NZS 3679.1 G300. The Hyundai Steel Products Guide Part 02 printed July 2017[14] provides further evidence that the exporter had progressed with transitioning to the new Standards' grades midway through the review

[13] http://www.kosa.or.kr/statistics/KOSAZine/Book201612/#/8

[14] https://www.hyundai-steel.com/kr/down/2017_ProductGuide_Part2.pdf

period. Liberty OneSteel provides a summary of chemical and mechanical properties for the new grades defined by the new Standards, as per the Hyundai product guide referenced previously:

Table 1 : Chemical Requirements of Standards Comparison

		Chemical Composition max %					
Standard	Grade	C	Si	Mn	P	S	CEV
AS/NZS 3679.1:2010	300	0.25	0.5	1.6	0.040	0.040	0.44
KS D 3503 (2016) Rolled Steel for General Structure	SS275	0.25	0.45	1.40	0.050	0.050	-
	SS315	0.28	0.50	1.50	0.050	0.050	-
	SS410	0.30	0.55	1.60	0.040	0.040	-
	SS450	0.30	0.55	1.60	0.040	0.040	-
KS D 3515 (2016) Rolled Steel for Welded Structure	SM275A	0.23	-	2.5 X C min	0.035	0.035	0.42
	SM275B	0.20	0.35	0.05-1.40	0.030	0.030	0.42
	SM275C	0.18	0.35	1.40	0.025	0.025	0.42
	SM275D	0.18	0.35	1.40	0.020	0.020	0.42
	SM355A	0.20	0.55	1.60	0.035	0.035	0.47
	SM355B	0.18	0.55	1.60	0.030	0.030	0.47
	SM355C	0.18	0.55	1.60	0.025	0.025	0.47
	SM355D	0.18	0.55	1.60	0.020	0.020	0.47
	SM420A	0.20	0.55	1.60	0.035	0.035	0.48
	SM420B	0.20	0.55	1.60	0.030	0.030	0.48
	SM420C	0.18	0.55	1.60	0.025	0.025	0.48
	SM420D	0.18	0.55	1.60	0.020	0.020	0.48
	SM460B	0.18	0.55	1.70	0.030	0.030	0.49
	SM460C	0.18	0.55	1.70	0.025	0.025	0.49
KS D 3503 (2014)	SS400	-	-	-	0.050	0.050	-
KS D 3515 (2014)	SM490	0.20	0.55	1.6	0.035	0.035	0.44

$$CEV = C + \frac{Mn}{6} + \frac{[Cr+Mo+V]}{5} + \frac{[Ni+Cu]}{15}$$

Table 2 : Mechanical Property Requirements of Standards Comparison

		Yield Point or Yield Strength (N/mm2)				Tensile Strength
		Thickness (mm)				N/mm2
Standard	Grade	<11	≥11 & ≤17	≥17 & <40		
AS/NZS 3679.1:2010	300	320	300	280		440 min
		t<=16	16<t<=40	40<t		
KS D 3503 (2016) Rolled Steel for General Structure	SS275	275	265	245		410-550
	SS315	315	305	295		490-630
	SS410	410	400	-		540 min
	SS450	450	440	-		590 min
		t<=16	16<t<=40	40<t<=75	75<t	t<=100
KS D 3515 (2016) Rolled Steel for Welded Structure	SM275A SM275B SM275C SM275D	275	265	255	245	400-510
	SM355A SM355B SM355C SM355D	355	345	335	325	490-610
	SM420A SM420B SM420C SM420D	420	410	400	390	490-610
	SM460B SM460C	460	450	430	420	520-720
KS D 3503 (2014)	SS400	245	235	215		400-510
KS D 3515 (2014)	SM490A	325	315	295	295	490-610

Conclusion: Model Matching

Based on the comparison of the key chemical and mechanical properties required by the new 2016 Korean Standards, it is Liberty OneSteel's view that the current grades that most closely match Grade 300 exported to Australia are grades SM275A-D. Despite new grade SS315 being a close match in terms of minimum yield strength required, there is no CE value required to be met for that grade while there is a CE value of 0.44%max required for Grade 300 to ensure pre-qualification for welding. In the absence of an SM315 grade defined for welded structures, Grade SM275 variations A-D which all have the same CE requirement defined, must be considered the closest match given the yield strength requirements for SM355 (A-D) are further away from the Grade 300 requirements.

It remains Liberty OneSteel's view that Korean grade SS400 or any of the other grades produced to the 2014 or 2016 versions of the Standard for General Structures (KS D 3503), on the basis of no control requirements around chemistry ie. no CE value required to be met, ought not to be considered eligible for comparison with a grade which has chemistry control (through the CE value equation) clearly defined.

For grades produced to the 2014 version of KS D 3515 (for Welded Structures), Grade SM490A remains Liberty OneSteel's closest match for Grade 300, both in terms of clearly defined CE requirement for chemistry control for welding and a close match on minimum yield strength requirement.

2. Form of Measure

In the original *Investigation No. 223*, Liberty OneSteel requested that the Commissioner recommend the combination form of duty (with the fixed component of the duty being *ad valorem*) as this is regarded by Liberty OneSteel as the most effective form of duty to remove the injurious effects of dumping in both a rising and falling market. At the time, Liberty OneSteel expressed its concern that the size of the *ad valorem* rate had the vulnerability of allowing the exporter to lessen the effectiveness of the duty by lowering the export price further.

> *It (ad valorem duty method) has a potential disadvantage in that export prices might be lowered to avoid the effects of this duty"*[1]

Whilst the November 2013 Guidelines on the application of form dumping duty contains a prediction that:

> *"such behaviour may be addressed through the circumvention activity dealing with the avoidance of the intended effect of the duty – see subsection 269ZDBB(5) of the customs Act 1901. This subsection will take effect on 1 January 2014"*

The language of subsection 269ZDBB(5) relates to the behaviour of an importer rather than an exporter and cannot be relied on to prevent the exporter from lessening the effectiveness of *ad valorem* method by lowering the export price further.

[1] "Guideline on the application of forms of dumping duty – November 2013"

The proposed 7.38 percentage point increase in Hyundai's dumping margin from 2.52% imposed following *Investigation No. 223*, to 9.9% in SEF 465, is evidence now before the Commission that for at least a period of 12 months (ie. the review period, 1 January to 31 December 2017) the *ad valorem* rate of duty has failed to achieve its purpose of removing the full injurious effects of dumping. In fact, during the review period (in which Hyundai's dumping margin increased), exports of the goods from Korea consistently entered Australia in the largest volumes and at the lowest prices, thereby continuing to cause injury to the Australian industry. Given that Hyundai was to the Australian industry. Given that Hyundai was able to increase its rate of dumping during the review period, with impunity, only serves to demonstrate the ineffectiveness of the ad valorem method of interim duty calculation.

The Explanatory Memorandum to the *Customs Amendment (Anti-dumping measures) Bill 2017* highlighted the issue of price sensitivity for commodity products such as hot rolled structural steel:

> *Commodity products are differentiated on little other than price and will be more susceptible to downstream customers switching to dumped goods. The type of damage that is expected includes reduced revenue, production capacity, employment and investment (including foreign investment) for the Australian industry. The damage can be particularly exacerbated in industries with high barriers to entry and exit. Production that ceases in these industries is more difficult, and therefore less likely, to be resumed if the injurious dumping is addressed at a later stage.*

Whilst Liberty OneSteel notes that the November 2013 Guideline expresses concern that the duty can become punitive under a combination method, the guideline provides balance to this concern noting that

> *'in the Australian anti-dumping system if excess duty is collected procedures operate to refund that excess. This is the case no matter what form of duty applies"*[2]

OneSteel also notes that in two previous Reviews of Measures (REV 345 & 346) and an Accelerated Review of Measures (ACC 359) that relate to the original *Investigation No. 223*, the form of duty method has changed from the *ad valorem* method to the floor price method.

As the primary purpose of the anti-dumping system is to remove the injurious effects of dumping, Liberty OneSteel advocates that the Commissioner recommend the combination form of measures be imposed as it is the most effective in preventing dumping.

FOR AND ON BEHALF OF THE AUSTRALIAN INDUSTRY APPLICANT

ONESTEEL MANUFACTURING PTY LTD (trading as LIBERTY ONESTEEL)

[2] "Guideline on the application of forms of dumping duty – November 2013" p 2