

Snowy 2.0 Steel Supply

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Hi Paul & Roger,

With respect to steel supply for Snowy 2.0, FGJV has updated the source of the various types of steel required for the Project. The following table outlines the source of these different types of steel for the Project:

Steel Type	Australian Sourced, tons	Overseas Sourced, tons	Total Sourced, tons
Sheds - Structural Steel	1,900	0	1,900
Waterway Steel Lining	2,810	6,960	9,770
Steel Reinforcement	29,000	5,000*	34,000
Fabricated Structural Steel	790	0	790
Steel Fibres for Segments	5,000	0	5,000
Rockbolts for Drill & Blast	3,500	0	3,500
Total	43,000	11,960	54,960

So, as indicated previously by FGJV, the penstock steel for the high pressure sections of the waterway (6,960 tons), are being sourced from an Austrian steel mill via an Italian subcontractor, ATB Riva. The procurement process is set out below for this steel. The other steel that FGJV has flagged for overseas supply is 5,000 tons of reinforcement steel, and according to FGJV, this is for "buffer to prevent any disruption in case of material shortages" and is still under evaluation. The steel fibres for segments are sourced from a NSW supplier, but are manufactured in Indonesia as there are no longer any steel fibre manufacturers in Australia. For this reason, I have classified this as "Australian sourced" in the table above.

In summary, about 80% of the 55,000 tons of steel for the Project is being sourced in Australia.

Penstock Steel Procurement Process:

- Prior to commencing the procurement process, the Contractor took a number of steps to identify Australian suppliers capable of providing the steel lining required for the Project, including advertising for expressions of interest through the ICN Gateway in early February 2021.
- ICN Gateway advised the Contractor on 25 February 2021 that it had received 23 expressions of interest from potential bidders;
- Based on ICN Gateway responses, the Contractor identified 4 capable Australian suppliers, who were invited to participate in the procurement process. 2 further Australian suppliers, that did not participate in the ICN Gateway process were also invited to participate in the procurement process.
- The Procurement process commenced with a Request for Quotation issued in March 2021 to 9 potential bidders.
- 6 out of 9 potential bidders were Australian companies.
- During the initial 2 month period of technical and commercial clarification process, 3 Australian companies formally withdrew from the procurement process.
- Subsequently, 6 bidders submitted technical and financial proposals.
- Except for ATB (the successful tenderer) and another international bidder, the rest of the proposals were not fully compliant with the RFQ.

The process above shows that FGJV has provided full, fair and reasonable opportunity to the Australian tenderers to participate in the procurement process.

Reason for Non-selection of Australian Companies:

- None of the Australian tenderers had previous experience in manufacturing penstocks or high strength steel lining works.
- None of the Australian companies are capable of supplying 100% of the steel plate requirements in compliance with the quantities/specifications required.
- None of the Australian companies are capable of manufacturing steel plates of the minimum dimensions required by FGJV, particularly the length of the plates.
- Plates of shorter lengths manufactured by these companies require significantly more welding, which increases the risk potential for cracking at the welds.
- The Australian tenderers are unable to achieve the tight tolerances as set in the Employer's Requirements and other applicable standards. This means that any penstock plates sourced locally would need to be sent overseas for final fabrication.

ATB Selection:

- ATB is an industrial group based in Italy, operating in 20 countries with over 1500 employees.
- ATB has been working with Webuild, in many of its overseas hydropower projects and is a reputable company in the fabrication and erection of high strength steel components.
- In the last 50 years, ATB has worked in more than 700 dam and hydropower projects providing more than 2000 gates and more than 200 penstocks.
- In addition to the penstock steel, ATB is sourcing the 2810 tons of steel for the Collector Tunnels and Draft Tubes from Australian companies and this steel will be processed locally by a subcontractor.

Please let me know if you need more detail or clarification about the project's steel supply.

Best regards
Kieran

FGJV's detailed table of information:

Steel Supply (source of material)



February 10th, 2022

Package description	Total Quantity (Tons - approx)	Australian Sourced (Tons - approx)	Overseas Material (Tons - approx)	Vendor	State / Country
Subcontracts - main scope					
s-1 Shed - Structures - Polo Flat Precast Factory	450	450	-	IDEC Solution	QLD
s-2 Shed - Structures - Marica	90	90	-	IDEC Solution	QLD
s-3 Shed - Structures (Site Facility)	990	990	-	Ahrens Group	SA
s-4 Shed - Structures - Lobs Hole Precast Factory (ongoing Tender)	370	370	-	t.b.a	t.b.d.
s-5 Steel Lining	9,770	2,810	6,960 ⁽¹⁾	ATB Riva Caizoni	ITALY Australia t.b.d.
Material (Steel Reinforcement) - main scopes					
m-1 Steel Reinforcement (in-situ and precast scopes)	2,000	2,000	-	Auserco (material from Infrabuild)	NSW
m-2 Steel Reinforcement (in-situ and precast scopes)	2,000	2,000	-	AKZ (material from Infrabuild)	VIC
m-3 Steel Reinforcement (balance for the Project)	30,000	25,000	5,000 ⁽²⁾	t.b.a	t.b.d.
Material (Fabricated Steel) - main scopes					
m-4 Fabricated Structural Steel (miscellaneous items)	70	70	-	Baker & Provan	NSW
m-5 Fabricated Structural Steel (miscellaneous items)	550	550	-	Roddy Engineering	NSW
m-6 Steel Ribs - Drill and Blast Operations (ongoing Tender)	170	170	-	t.b.a.	t.b.d.
Other Materials - main scope					
t-1 Steel Fibers (Precast Lining Segments)	5,000	-	5,000 ⁽³⁾	Bosfa	NSW
t-2 Rockbolts - Drill and Blast Operations (ongoing Tender)	3,500	3,500	-		t.b.d.
TOTAL	54,960	39,000	16,960		

note⁽¹⁾: Penstocks' Steel Plates (approx. 6,960 Tons) from the Austrian Steel Mill Voestalpine AG (www.voestalpine.com), however approx. 2,810 Tons of steel (PV500 for collector tunnels & draft tubes) equal to approx. 30% of the overall quantity will be Australia sourced steel

note⁽²⁾: buffer to prevent any disruption in case of material shortage (mitigation measure still under evaluation)

note⁽³⁾: Supplier is NSW based, however material is manufactured in Indonesia (there are no any longer manufacturers in Australia, 100% of steel fibers are imported)

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