ICC (INTERNATIONAL CHAMBER OF COMMERCE)

ICC Case No. 22034/RD/MK

ARCELORMITTAL EXPLOITATION MINIÈRE CANADA AND ARCERLORMITTAL CANADA INC. V. METSO MINERALS CANADA INC AND METSO MINERALS INDUSTRIES, INC.

FINAL AWARD

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20 March 2019

Tribunal:
Yves Derains (President)
Louise Otis (Appointed by the claimant)
Jesse Barrett Grove III (Appointed by the respondent)
Michel Lemoine (Appointed by the claimant (replaced))

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Final Award

I. PROCEDURE

1. On 17 June 2016, the Deputy Secretary General of the International Court of Arbitration of the International Chamber of Commerce ("the Deputy") acknowledged receipt of Claimants' Request for Arbitration dated 14 June 2016 and indicated that Ms. Rocio Digon, based at the following address: International Chamber of Commerce ("ICC"), SICANA, Inc., 1212 Avenue of the Americas, New York, NY 10036, USA, was in charge of the case. In the course of the proceedings, Mr. Marek Krasula became counsel in charge of the case and the address of the ICC changed to 140 East 45th Street, Suite 14 C, New York, NY 10017. The Request for Arbitration was introduced on the basis of Section 42 of Appendix 17 (the "General Conditions for Capital Purchase") to the contract for capital purchase entered into between ArcelorMittal Mines Canada Inc. and Metso Minerals Canada Inc. dated 21 February 2011 ("the Contract"), which reads as follows:
"42.1 Any dispute between the BUYER and the CONTRACTOR arising out of or in connection with this CONTRACT which cannot be settled by mutual agreement shall be settled finally under the Arbitration Rules of the International Chamber of Commerce by an Arbitral Tribunal appointed in accordance with the said Arbitration Rules.

42.2 The place of arbitration will be in:

42.1.1 New York, USA, where the applicable law of the CONTRACT is Canadian or American;

42.1.2 Zurich, Switzerland where the applicable law of the CONTRACT is that of a country of the European union;and

42.1.3 Johannesburg, South Africa where the applicable law of the CONTRACT is South Africa.

42.3 The arbitration shall be conducted in English language.

42.4 The arbitration award shall be final and binding upon the PARTIES and may be enforced in any court having jurisdiction.

42.5 Nothing is this clause 42 shall prevent a PARTY from seeking from any court of competent jurisdiction an interim order restraining the other PARTY from doing any act or compelling the other PARTY to do any act.

42.6 The performance of the CONTRACT shall not be suspended cease or be delayed by the reference of a dispute to arbitration."

Section 10 of the Contract states as follows:

"(...) this contract and the rights granted or arising hereunder, shall be governed by, and interpreted in accordance with the laws applicable in the province of Quebec".

Further, Section 41 of Appendix 17 to the Contract states that:

"The GENERAL CONDITIONS and each CONTRACT shall exclusively be governed by and construed in accordance with the LA WS of the place where the concerned SITE is located provided that the country where the SITE is located in Canada, the European Union (except the countries becoming members of the European Union after 2000), South Africa, or the United States of America. For the countries becoming members of the European Union after 2000), the applicable law shall be the Swiss law unless otherwise specified in the concerned CONTRACT. Should the concerned SITE not be located in any of the above-mentioned countries, Swiss law shall apply. In any case, the UN Convention on Contracts for the International Sale of Goods of 1980 shall be expressly not applicable."

The applicable rules to these proceedings are the ICC Rules of Arbitration in force as from 1 January 2012 ("the Rules").

2. On 20 June 2016, the Secretariat of the International Court of Arbitration of the International Chamber of Commerce ("the Secretariat") notified the Request for Arbitration to Respondents, underlined that in the absence of indication in the arbitration agreement Claimants proposed to have three arbitrators, that they each be fluent in English and French and that the first two arbitrators be allocated thirty days to reach an agreement as to the third arbitrator. The Secretariat asked Respondents to comment on these proposals in its Answer to the Request for Arbitration as well as on the place of arbitration.

3. On 21 June 2016, Mr. Guillaume Leahy informed the Secretariat that Langlois Lawyers LLP was representing Respondents and that all correspondence to their attention should be sent at the address of the said law firm.

4. On 22 June 2016, the Secretariat acknowledged receipt of Respondents' correspondence dated 21 June 2016, indicated that unless otherwise advised by 27 June 2016, the 30-day time limit for Respondents to submit their Answer to the Request for Arbitration or any request for an extension of time would expire on 21 July 2016, added that Claimants had to jointly nominate a co-arbitrator by 5 July 2016 and that if Respondents would agree to three arbitrators, they would have to jointly nominate one by 21 July 2016. Finally, it requested the parties to provide their comments on the place of arbitration by 21 July 2016.

5. On 23 June 2016, Claimants submitted their comments regarding the place of arbitration, indicating that even though Section 42.2.1 of the arbitration agreement provided that the place of arbitration was New York, USA, they proposed that in the interest of efficiency of the proceedings it be in Montreal, Quebec, Canada.

6. On 27 June 2016, the Secretariat acknowledged receipt of Claimants' correspondence of 23 June 2016, invited Respondents to comment on Claimants' proposal regarding the place of arbitration by 21 July 2016, reminded Claimants that their joint nomination of a co-arbitrator by 5 July 2016 would accelerate the constitution of the arbitral tribunal and that Respondents' comments in that regard were expected by 21 July 2016.

7. On 4 July 2016, Claimants indicated having jointly nominated Mr. Michel Lemoine as co-arbitrator.

8. On 5 July 2016, the Secretariat acknowledged receipt of Claimants' correspondence dated 4 July 2016, recalled that it was expecting to receive Respondents' comments regarding the place of arbitration by 21 July 2016 and indicated having taken note of Claimants' nomination of Mr. Michel Lemoine as co-arbitrator.

9. On 12 July 2016, the Secretariat submitted to the Parties a copy of Mr. Michel Lemoine's Statement of Acceptance, Availability, Impartiality and Independence and invited them to provide their comments on the disclosure made by Mr. Michel Lemoine by 21 July 2016.

10. On 18 July 2016, Respondents indicated that they agreed to have a panel of three arbitrators, added that the seat of arbitration should be New York, requested an extension until 19 August 2016 to be able to provide the name of an arbitrator upon joint nomination of Respondents as well as to provide their Answer to the Request for Arbitration, and provided a list of questions to be sent to Mr. Michel Lemoine regarding his prior work at SNC Lavalin Inc. ("SNC").

11. On 18 July 2016, the Secretariat acknowledged receipt of Claimants' and Respondents' respective correspondence of the same day, indicated that failing an agreement of the Parties as to the requested extension for Respondents to jointly nominate a co-arbitrator, the time limit for Respondents would be 21 July 2016, invited the Parties to comment on the requested extension to submit the Answer to the Request for Arbitration and Claimants to comment on Respondents' suggestion that the place of arbitration be New York by the same date.

12. On 21 July 2016, Respondents informed the Secretariat that Claimants had consented to an extension until 19 August 2016 for Respondents to submit their Answer to the Request for Arbitration and provide their co-arbitrator's joint nomination. Respondents further indicated that they agreed to a panel composed of three arbitrators as well as to Claimants' proposal regarding the appointment of the president of the arbitral tribunal but not to the requirement that the arbitrators speak both French and English as the language of the arbitration was English. Finally, they reiterated that the place of arbitration should be New York, New York, USA and indicated that they were also represented by Mr. Bernard John and Ms. Sandra Desjardins from Langlois Lawyers LLP.

13. On the same date, the Secretariat acknowledged receipt of Respondents' correspondence, indicated having taken note of Respondents' additional counsel, requested Claimants to confirm, by the same day, their agreement to the said extension, provided a correspondence of Mr. Michel Lemoine and invited the Parties to comment by 29 July 2016.

14. On the same date, Claimants confirmed their agreement to an extension until 19 August 2016 for Respondents to jointly nominate a co-arbitrator and submit their Answer to the Request for Arbitration. Claimants added that they agreed that the place of arbitration be New York but considered that the hearings should be conducted in Montreal. As to the language of arbitration, they explained that the native language of many witnesses being French, the arbitrators should be fluent in both languages.

15. On 21 July 2016, the Secretariat acknowledged receipt of Claimants' correspondence of the same day, noted Claimants' confirmation of the Parties' agreement to extend until 19 August 2016 the time limit for Respondents to provide their Answer to the Request for Arbitration and their joint nomination of a co-arbitrator, indicated that it understood that the Parties agreed that the place of

arbitration be New York unless otherwise advised by 29 July 2016 and finally invited the Parties to direct any submissions with respect to the venue of the hearing to the arbitral tribunal.

16. On 26 July 2016, the Secretariat provided a copy of a correspondence from Mr. Michel Lemoine dated 23 July 2016.

17. On 16 August 2016, the Secretariat indicated that as it did not receive any comments regarding Mr. Michel Lemoine's correspondence, it understood that the Parties did not object to Mr. Lemoine's confirmation. The Secretariat further confirmed that New York, New York was the place of arbitration.

18. On 19 August 2016, the Secretariat acknowledged receipt of Respondents' correspondence dated 18 August 2016 providing an electronic copy of their Answer to the Request for Arbitration and noted that Respondents jointly nominated Mr. Jesse B. Grove III, P.O. Box 158,270 Jackson Street, Scottsville VA 24590, USA, as co-arbitrator.

19. On 22 August 2016, the Secretariat acknowledged receipt of a hard copy of Respondents' Answer to the Request for Arbitration, provided a copy of Mr. Jesse B. Grove's Statement of Acceptance, Availability, Impartiality and Independence, indicated that unless otherwise informed by 29 August 2016 it would proceed with the constitution of the Arbitral Tribunal and reminded the Parties that pursuant to their agreement they were granted 30 days from the date of the co-arbitrators' confirmation or appointment to jointly nominate the President, failing which the Court would appoint the president.

20. On 23 August 2016, the Secretariat provided the Parties with a letter from Mr. Michel Lemoine dated 22 August 2016.

21. On 29 August 2016, the Secretariat acknowledged receipt of Claimants' correspondence of the same date, noted that while Claimants made some comments regarding Respondents' joint nomination of Mr. Grove, they did not object to his confirmation.

22. On 1 September 2016, the Secretariat acknowledged receipt of Respondents' correspondence of the same date, noted Respondents' comments regarding Mr. Grove, added that it did not receive any additional comments from Claimants regarding Mr. Grove's confirmation as co-arbitrator, and noted Respondents' comments regarding the characteristics and nationality of the President.

23. On 6 September 2016, the Secretariat informed the Parties that the Secretary General had, pursuant to Article 13 (2) of the Rules, confirmed Mr. Michel Lemoine and Mr. Jesse B. Grove III as co-arbitrators. It was added that the Parties had to jointly nominate the president of the arbitral tribunal within 30 days from the date of the co-arbitrators' confirmation, i.e. by 6 October 2016, failing which the Court would appoint the President.

24. On 4 October 2016, Claimants requested on behalf of the Parties that the Secretariat extend the time for them to reach an agreement on a President of the Arbitral Tribunal by 14 October 2016.

25. On 5 October 2016, the Secretariat acknowledged receipt of Respondents' correspondence dated 4

October 2016 and granted an extension until 14 October 2016 to nominate jointly the President of the Arbitral Tribunal.

26. On 27 October 2016, the Secretariat acknowledged receipt of Claimants' correspondence of the same day requesting on behalf of the Parties an extension until 4 November 2016 to jointly nominate the President of the Arbitral Tribunal and granted the request.

27. On 3 November 2016, the Secretariat acknowledged receipt of Claimants' correspondence dated 2 November 2016 indicating that the Parties had jointly nominated Mr. Yves Derains, Derains & Gharavi, 25 rue Balzac, 75008 Paris, as President of the Arbitral Tribunal.

28. On 8 November 2016, the Secretariat provided the Parties with a Statement of Acceptance, Availability, Impartiality and Independence as well as the curriculum vitae of Mr. Yves Derains and invited the Parties to comment on the disclosure made by the latter by 14 November 2016.

29. On 15 November 2016, the Secretariat indicated having taken note that no comments were submitted by the Parties and that it understood that they accordingly did not object.

30. On 16 November 2016, the Secretariat informed the Parties that the Secretary General had confirmed on the same day Mr. Yves Derains as President of the Arbitral Tribunal upon the joint nomination of the Parties.

31. On 18 November 2016, the Arbitral Tribunal acknowledged receipt of the case file and informed the Parties that it would send a Draft Terms of Reference rapidly. The Arbitral Tribunal also proposed dates for a Case Management Conference.

32. On the same date, Respondents requested that the Arbitral Tribunal arrange *"for the finalization of the Terms of Reference and for the discussion that would attend a case management conference to be held in person".*

33. On the same date, Claimants indicated that it found that a conference call would be sufficient at this stage.

34. On 21 November 2016, the Arbitral Tribunal acknowledged receipt of the Parties' respective emails regarding the Case Management Conference and indicated that it would revert to them shortly in that respect.

35. On 24 November 2016, the Arbitral Tribunal informed the Parties that it had decided that a conference call would be held in the interest of time and in order to avoid considerable costs.

36. On 28 November 2016, the Arbitral Tribunal confirmed that a Case Management Conference would take place by phone on 14 December 2017. It further provided the Parties with a Draft Terms of Reference, invited them to submit their respective positions and reliefs, as well as their general comments on the draft, by 7 December 2016. It also proposed to appoint Ms. Catherine Schroeder, Derains & Gharavi, as Secretary to the Arbitral Tribunal, attached her resume and Statement of Independence and Impartiality and specified that she would not be remunerated and that only her

reasonable costs would be refunded.

37. On the same date, Respondents requested that Clare Pincoski and Lori Ramsey of Pillsbury Winthrop Shaw Pittman LLP be added to the email list.

38. On 8 December 2016, the Parties provided their respective positions for insertion in the Draft Terms of Reference as well their comments to the latter and to Draft Procedural Order No. 1.

39. On the same date, the Arbitral Tribunal acknowledged receipt of the Parties' respective emails.

40. On 9 December 2016, the Arbitral Tribunal sent the Parties a revised Draft Terms of Reference including their comments as well as revised version of Procedural Order No.1. It was specified that the Provisional timetable as well as Draft Procedural Order No. 2 would be discussed at the Case Management Conference scheduled on 14 December 2016.

41. On 13 December 2016, Claimants submitted their revised comments regarding the provisional timetable contained in Draft Procedural Order No. 1.

42. On 14 December 2016, Respondents also provided their revised proposals on Procedural Order No. 1. Claimants subsequently provided a revised Draft Provisional Timetable for the consideration of Respondents and the Arbitral Tribunal.

43. On the same date, the Case Management Conference was held by phone.

44. On 15 December 2016, the Final version of the Terms of Reference, as agreed at the Case Management Conference, was sent to the Parties for signature. The Arbitral Tribunal added that the Parties had been invited to try and agree on the remaining dates of the calendar and of the hearing as well as on the opportunity or not for Respondents to ask for disclosure of documents after the submission of the Reply. The Parties were also invited to comment on the proposal for electronic submissions made at point 2.3 of Procedural Order No. 1 by 16 December 2016 and to provide their proposals/comments to the Draft Procedural Order No. 2 by the same time limit.

45. On 17 December 2016, Claimants submitted a revised Procedural Order No. 1 agreed upon by the Parties. They added that they disagreed with Procedural Order No. 2 provided by Respondents and submitted a revised version for the Arbitral Tribunal's consideration. They also indicated having noted that there was an error on the first page of the Terms of Reference regarding the status and laws of incorporation of the ArcelorMittal entities, submitted the amended first page of the Terms of Reference and added that Respondents agreed to that change.

46. On the same date, Respondents submitted a revised proposed Procedural Order No. 2.

47. On 18 December 2016, Respondents sought leave to submit a correspondence regarding Procedural Order No. 2.

48. On the same date, the Arbitral Tribunal indicated having taken note of Claimants' requested modifications regarding the status and laws of incorporation of ArcelorMittal entities on the first

page of the Terms of Reference as well as Respondents' agreement in that regard. It added that it agreed to Claimants proceeding with the amendments.

49. On 19 December 2016, the Arbitral Tribunal issued Procedural Order No. 1.

50. On the same date, the Arbitral Tribunal noted that Claimants' comments as to Procedural Order No.2 were made on the initial version submitted by Respondents by email of 8 December 2016, that Respondents provided a new version on 17 December 2016, and admitted the comments made by Respondents on 18 December 2016. It also invited Claimants to provide their comments on Respondents' latest version of Draft Procedural Order No. 2 and the new comments by 28 December 2016, indicating that the debate would then be closed and that the Arbitral Tribunal would decide.

51. On 28 December 2016, Claimants made their comments regarding the new version of Procedural Order No.2

52. On 2 January 2017, the Arbitral Tribunal sent to the Parties the signed version of the Terms of Reference.

53. On 4 January 2017, the Secretariat acknowledged receipt of the Arbitral Tribunal's correspondence dated 2 January 2017 enclosing the signed Terms of Reference. It added that the Court would examine whether to fix a different time limit for rendering the final award, based on the procedural timetable, than the six months from the signature of the Terms of Reference deadline.

54. On 6 January 2017, the Arbitral Tribunal provided the Parties with a Confidentiality Agreement for the Parties' review, explaining that it was in fact the latest version of Procedural Order No. 2 with one modification from the Arbitral Tribunal in section 5 but that it was suggesting it took the form of a Confidentiality Agreement as the basis of the text was an agreement among the Parties. The Parties were invited to submit their comments on that proposal by 9 January 2017.

55. On 9 January 2017, Respondents indicated that the change in the format from Procedural Order to Confidentiality Agreement was acceptable to them and proposed a revision to paragraph 5.

56. On the same date, Claimants indicated that they also agreed to the form of a Confidentiality Agreement as well as to Respondents' suggested modifications but proposed some modifications to paragraph 7.

57. On 10 January 2017, the Arbitral Tribunal acknowledged receipt of the Parties' respective emails of 9 January 2017 and invited Respondents to comment as soon as possible on Claimants' proposed modification at paragraph 7.

58. On the same date, Mr. Jaffe informed the Arbitral Tribunal that he would not be able to coordinate that day with his co-counsel and asked for the Arbitral Tribunal's indulgence to respond the next day.

59. On 12 January 2017, Respondents provided their comments on the modification proposed by Claimants.

60. On the same date, the Secretariat indicated that the Terms of Reference had been transmitted to the Court at the session of that day and that the procedural timetable would be transmitted at the Court's session of 6 January 2017.

61. On 16 January 2017, the Arbitral Tribunal indicated having noted the Parties' disagreement regarding Article 7 of the Confidentiality Agreement and proposed that a new version of the Confidentiality Agreement deleting paragraph 7 be signed if the Parties could not find an agreement on this point by 19 January 2017. It added that if the Parties would refuse such proposal, it would submit a Procedural Order No. 2 without the indication of the applicable law.

62. On 19 January 2017, Respondents indicated that the best approach for them would be for the Arbitral Tribunal to issue Procedural Order No. 2 as proposed, leaving it to the Parties to advance arguments on the choice of law issue if, and when a privilege/protections issue would arise.

63. On the same date, Claimants indicated that they understood that the Arbitral Tribunal would submit Procedural Order No. 2 without reference to paragraph 7 concerning the applicable law.

64. On the same date, the Secretariat indicated that the Court had fixed 28 September 2018 as the time limit for rendering the Final Award.

65. On 20 January 2017, the Arbitral Tribunal issued Procedural Order No. 2.

66. On 1 March 2017, the Parties indicated, upon a question from the Secretariat on 27 February 2017, that they had no objections to the names of the arbitrators being published in these proceedings in accordance with the Note to the Parties and Arbitral Tribunals on the Conduct of the Arbitration under the ICC Rules of Arbitration.

67. On 6 March 2017, the Secretariat informed the Parties that Mr. Michel Lemoine had tendered his resignation as co-arbitrator, adding that the Court would examine whether to accept such resignation and to fix the arbitrator's fees if need be.

68. On 9 March 2017, the Secretariat indicated that the Court had, at its session of the same day, accepted the resignation of Mr. Michel Lemoine as co-arbitrator jointly nominated by Claimants and granted them until 24 March 2017 to jointly nominate a co-arbitrator failing which one would be appointed by the Court.

69. On 17 March 2017, Claimants informed the Secretariat that they had jointly nominated the Honourable Louise Otis, 408-1000 rue de la Commune est, Montreal (Qc), Canada, as co-arbitrator.

70. On 22 March 2017, the Secretariat acknowledged receipt of Claimants' letter dated 17 March 2017.

71. On 29 March 2017, the Secretariat sent to the Parties a copy of the Statement of Acceptance, Availability, Impartiality and Independence of the Honourable Louise Otis and indicated that the Secretary General or the Court would be soon invited to examine whether to confirm the Honourable Louise Otis.

72. On 6 April 2017, the Secretariat informed the Parties that the Secretary General had confirmed the Honourable Louise Otis that day and that it would be reported to the Court.

73. On 8 May 2017, Claimants submitted their Statement of Claim.

74. On 13 July 2017, Claimants submitted their Exhibits and Authorities' Translations.

75. On 17 July 2017, the Arbitral Tribunal acknowledged receipt of Claimants' communication of 13 July 2017.

76. On 2 August 2017, Respondents sent a *"Petition for Amendment of the Timetable and Request for Hearing".*

77. On the same day, the Arbitral Tribunal invited Claimants to comment on the Petition by 8 August 2017.

78. On 8 August 2017, Claimants provided their comments to Respondents' Petition.

79. On 9 August 2017, Respondents acknowledged receipt of Claimants' comments and requested leave to submit a short letter reply for the next day before 9.00 am US-EDT.

80. On the same date, the Arbitral Tribunal acknowledged receipt of Claimant's letter dated 8 August 2017 as well as Respondents' request to submit a short reply. The Arbitral Tribunal granted the request. It added that Claimants were authorized to file a short letter in rejoinder by 12.00 pm the next day if they found it necessary. The Arbitral Tribunal added that the debate would then be considered closed and that no communication would be accepted unless requested or authorized by the Arbitral Tribunal.

81. On 10 August 2017, Respondents submitted their Reply to Claimants' 8 August letter.

82. On the same day, Claimants submitted their Rejoinder to Respondents' Response of 10 August 2017.

83. On 11 August 2017, the Arbitral Tribunal decided that Claimants were authorized to file experts' reports on quantum updated until July 2017 with analysis and data but no additional pleadings or new witness statement, specifying that only the amount of the relief sought could be modified on this basis. The Arbitral Tribunal also decided that the date for the submission of the Statement of Defense remained 9 October 2017 as scheduled in Procedural Order No.l but that Respondents could submit an updated Statement of Defense by 11 December 2017 in light of Claimants' updated expert reports on quantum. It was specified that the other dates in Procedural Order No. 1 were confirmed and that in case the Updated Statement of Defense would trigger specific request for disclosure of documents Claimants would be authorized to ask leave to the Arbitral Tribunal.

84. On the same date, Respondents requested some clarifications and requested the Arbitral Tribunal to adjust the date for the Statement of Defense to 16 October 2017.

85. On 12 August 2017, the Arbitral Tribunal thanked Mr. Jaffe for having spotted a material error in its

ruling of 11 August 2017 and specified that the date for Respondents to file their Statement of Defense was adjusted to 16 October 2017.

86. On 28 September 2017, Claimants indicated that they would not be able to submit the Amended Statement of Claim and expert reports on quantum by 30 September 2017 but only by 3 October 2017, adding that it had accordingly proposed to Respondents to offer them three additional days to file their Statement of Defense, which they accepted.

87. On 29 September 2017, Respondents confirmed their agreement to a three-day extension for Claimants to submit their Amended Statement of Claim as well as for them to submit their Amended Statement of Defense. They however noted a discrepancy between what Claimants considered to be an *"Amended Statement of Claim"* and what the Arbitral Tribunal authorized in its ruling of 11 August 2017.

88. On the same date, the Arbitral Tribunal indicated having taken note of the Parties' agreement regarding the extension of time and invited Claimants to answer to Respondents' request for clarification.

89. On the same date, Claimants provided the requested clarifications, indicating that they did not intend to provide additional pleadings, materials and witness statements with their Amended Statement of Claim as feared by Respondents.

90. On the same date, Respondents indicated that Claimants' confirmation responded to their comments.

91. On 10 October 2017, Respondents wrote to the Arbitral Tribunal regarding documents submitted by Claimants in French and not translated into English and requested that the Tribunal only review and consider material presented to it in English.

92. On 11 October 2017, the Arbitral Tribunal acknowledged receipt of Respondents' email of 10 October 2017 and invited Claimants to comment by 13 October 2017.

93. On 13 October 2017, Claimants provided their comments.

94. On 15 October 2017, Respondents requested leave to submit a brief reply no later than noon on 17 October 2017.

95. On the same date, the Arbitral Tribunal granted Respondents' request.

96. On 16 October 2017, Respondents submitted their reply.

97. On 17 October 2017, Claimants indicated that they were resting on their comments submitted on 13 October 2017.

98. On 18 October 2017, the Arbitral Tribunal decided that the documents submitted in French, with their translation, by Claimants were admitted to the record and that Respondents should within

their Statement of Defense provide as well the original materials in French accompanied by the translation in English for the parts on which they relied on, specifying that the Arbitral Tribunal would only consider materials submitted into English.

99. On 2 November 2017, Claimants wrote regarding an expert report submitted by Respondents, authored by Ms. Nathalie Vezina on the applicable law in Quebec and indicated that it was unnecessary in light of the qualification of both Parties' counsel and contrary to the ICC Rules and usual practice in international arbitration. Claimants requested that the report be removed from the record and all issues of Quebec law addressed by the Parties.

100. On the same date, the Arbitral Tribunal acknowledged receipt of Claimants' communication of that day and invited Respondents to comment by 8 November 2017.

101. On 8 November 2017, Respondents objected to Claimants' request.

102. On the same date, the Arbitral Tribunal acknowledged receipt of Respondents' letter of the same day, declared the debate closed on this issue and indicated that it would revert to the Parties in a short while.

103. On 13 November 2017, the Arbitral Tribunal dismissed Claimants' Application dated 2 November 2017, indicating that the Parties are free to choose to submit an expert report to explain their positions on the law governing the dispute and that there is no obligation from the other party to file an expert report in reply.

104. On 5 December 2017, the Parties submitted to the Arbitral Tribunal their respective Requests for documents production.

105. On the same day, the Arbitral Tribunal acknowledged receipt of the Parties' respective Redfern Schedules and requested them to send a word version of the schedules, which the Parties did on the same day.

106. On 8 December 2017, the Arbitral Tribunal provided Procedural Order No. 3 with the Parties' Redfern Schedules.

107. On 11 December 2017, Respondents submitted their Supplemental Statement of Defense.

108. On 25 January 2018, Claimants indicated that in light of the fact that Respondents provided documents only by 15 January 2018, they were not in a position to file their Statement of Reply by 5 February 2018 and requested an extension to 28 February 2018, specifying that they would agree to provide an equivalent extension to Respondents to file their Statement of Rejoinder. Claimants added that the date for the Parties to indicate which witnesses/experts would be cross-examined could be extended to 20 April 2018 and specified that the other dates would remain the same.

109. On 26 January 2018, the Arbitral Tribunal acknowledged receipt of Claimants' email of 25 January 2018 and invited Respondents to comment by 29 January 2018.

110. On 29 January 2018, Respondents objected to the requested extension.

111. On 30 January 2018, the Arbitral Tribunal granted Claimants until 20 February 2018 to submit their Statement of Reply, considering that an extension of three weeks was disproportionate and until 24 April 2018 to Respondents to submit their Rejoinder. It also decided that the Parties would indicate by 11 May 2018 which witnesses/experts they wanted to cross-examine and specified that the other dates would remain unchanged.

112. On 20 February 2018, Claimants submitted their Statement of Reply.

113. On 13 March 2018, the Arbitral Tribunal asked the Parties whether they had agreed on the venue of the hearing, as contemplated in Section 9.1 of Procedural Order No.l dated 19 December 2016 and made the necessary arrangements regarding court reporters.

114. On 26 March 2018, the Arbitral Tribunal reverted to the Parties again as to the venue of the hearing and requested that they informed it of their position before the end of that week.

115. On 26 March 2018, Respondents indicated that they were discussing with Claimants and expected to be able to respond to the Tribunal that week.

116. On the same date, the Arbitral Tribunal indicated that it expected to hear from the Parties and indicated that it was experimenting difficulties to send emails to Langlois and requested confirmation that Messrs. John and Leahy as well as Ms. Rogers and Mrs. Desjardins had received its email.

117. On the same date, Respondents informed the Arbitral Tribunal that Ms. Rogers was no longer at Langlois having been selected to serve as Judge on the Superior Court of Quebec.

118. On 27 March 2018, the Parties indicated having reserved the following venue for the Hearing: New York International Arbitration Center, 150 E.42nd Street, 17th Floor, New York, NY 10017 USA. They also indicated that they were discussing court reporters and that they would revert shortly.

119. On 30 March 2018, Respondents wrote to the Arbitral Tribunal regarding their request to Claimants to produce the AG mill proposals submitted by Outotec, FLSmidth, CITIC and Polysius after September 2010 that Claimants indicated not being able to locate. Respondents consequently requested that the Arbitral Tribunal advise Claimants to consent to the production of these post-September 2010 proposals by SNC.

120. On the same date, the Arbitral Tribunal acknowledged receipt of Respondents' email and invited Claimants to comment thereupon by 2 April 2018.

121. On the same date, Claimants requested that the delay to submit comments be extended to 3 April 2018.

122. On the same date, the Arbitral Tribunal granted the requested extension.

123. On 3 April 2018, Claimants provided their comments to Respondents' letter of 30 March 2018.

124. On 4 April 2018, Respondents made some briefs comments to Claimants' letter of 3 April 2018.

125. On 5 April 2018, the Arbitral Tribunal acknowledged receipt of Respondents' letter of 4 April 2018 and invited Claimants to comment by the next day.

126. On the same date, Claimants indicated that they were standing by the content of their letter dated 3 April 2018 and had no further comments.

127. On 9 April 2018, the Arbitral Tribunal provided its Procedural Order No. 4.

128. On 12 April 2018, Respondents asked the Arbitral Tribunal to direct Claimants to ensure that the post-September 2010 proposals be made available to Respondents no later than noon on 17 April 2018, having to submit their Rejoinder on 24 April 2018.

129. On 13 April 2018, the Arbitral Tribunal acknowledged receipt of Respondents' letter dated 12 April 2018 and invited Claimants to comment thereupon by the same day.

130. On the same day, Claimants provided their comments and indicated that they would review and provide the documents as soon as reasonably practicable upon receipt from SNC Lavalin.

131. On 15 April 2017, the Arbitral Tribunal acknowledged receipt of Claimants' letter of 13 April 2018 and noted that they would provide the requested documents to Respondents as soon as possible.

132. On 24 April 2018, Respondents submitted their Statement of Rejoinder for which the Arbitral Tribunal acknowledged receipt on 25 April 2018.

133. On the same date, Respondents wrote to the Arbitral Tribunal regarding the selection of court reporters and translation services.

134. On 25 April 2018, the Arbitral Tribunal proposed to hold the pre-hearing conference call scheduled on 18 May 2018 at 3.00 pm (Paris time), which was agreed by all the Parties.

135. On the same date, the Arbitral Tribunal acknowledged receipt of Respondents' letter dated 24 April 2018 and invited Claimants to comment by the next day.

136. On the same date, Claimants provided their comments on the selection of court reporters and translation services.

137. On 26 April 2018, the Arbitral Tribunal indicated that it had examined the parties' positions regarding the choice of the court reporter and decided that since Claimants had accepted Respondent's proposal regarding translation services, Respondents should accept Claimants' proposal regarding the court reporter. It consequently stated that Transperfect should be the court reporter for the upcoming hearing.

138. On the same date, Claimants indicated having noted the decision of the Tribunal and confirmed that all the necessary arrangements would be made with Transperfect as court reporters for the upcoming hearing.

139. On 29 April 2018, Respondents sought leave from the Tribunal to provide a brief Supplement to the Rejoinder to address Claimants' production of Post-September 2010 proposals received on 26 April 2018.

140. On 30 April 2018, the Arbitral Tribunal acknowledged receipt of Respondents' letter dated 29 April 2018 and invited Claimants to comment by the same day specifying that in the meantime the Parties had to refrain from doing anything.

141. On the same date, Claimants submitted their response to Respondents' letter dated 29 April 2018.

142. On 1 May 2018, the Arbitral Tribunal noted that Respondents had indicated that they would not oppose to Claimants submitting *"within this week a response limited to Metso's comments on the Post September 2010 Proposals"'* and consequently allowed Respondents to submit a Supplemental Rejoinder regarding the Post-September 2010 Proposals by 3 May 2018 and allowed Claimants to comment thereupon by 7 May 2018.

143. On 3 May 2018, Respondents submitted their Supplement to the Statement of Rejoinder.

144. On 4 May 2018, the Arbitral Tribunal acknowledged receipt of Respondents' Supplement to the Statement of Rejoinder.

145. On 7 May 2018, Claimants submitted their comments on the Supplement to the Statement of Rejoinder.

146. On 9 May 2018, Claimants informed the Arbitral Tribunal and Respondents that they would not pursue anymore their claim relating to damages caused by the Vibrating Feeders supplied by Metso.

147. On 14 May 2018, the Arbitral Tribunal indicated having taken note of Claimants' letter dated 9 May 2018 and added that Respondents would have until 17 May 2018 to comment should they wish to do so.

148. On 17 May 2018, Respondents provided their comments on Claimants' letter dated 9 May 2018.

149. On 18 May 2018, Claimants sent a draft agenda discussed with Respondents for the Pre-hearing conference call. They also requested that one factual new exhibit be allowed. On the same date, Respondents asked the Arbitral Tribunal to reserve review of the materials submitted by Claimants before the Parties were heard at the conference call.

150. On the same date, a Pre-hearing conference call was held between the Arbitral Tribunal and the Parties.

151. On the same date, Claimants indicated that the transmission email of the memo sent on 18 May 2018

had been omitted and thus submitted it to the Arbitral Tribunal.

152. On 22 May 2018, Claimants further commented on Respondents' letter dated 17 May 2018.

153. On the same date, the Arbitral Tribunal acknowledged receipt of Claimants' email and declared that the debate on this question was now closed.

154. On the same date, the Arbitral Tribunal indicated that it had taken note of Claimants' withdrawal of their claim relating to damages caused by the Vibrating Feeders supplied by Metso and added that there was no need to render an Interim Award on this question as the claim was not any longer before it. It thus decided that the costs relating to this claim would be dealt with in its Final Award.

155. On 23 May 2018, the Arbitral Tribunal sent to the Parties the minutes of the Pre-hearing conference call.

156. On 30 May 2018, the Parties submitted to the Arbitral Tribunal an indicative hearing schedule.

157. On the same date, Claimants sought leave to file three additional exhibits in the record.

158. On the same date, Respondents submitted their comments on Claimants' letter.

159. On 31 May 2018, the Arbitral Tribunal acknowledged receipt of Claimants' letter dated 30 May 2018 and invited Respondents to submit their comments by the end of the day.

160. On 1 June 2018, the Parties submitted their list of attendees for the hearing to be held as of 4 June 2018.

161. On the same date, the Arbitral Tribunal decided to admit Claimants' new exhibits on the record.

162. On the same date, Claimants sent electronic copies of the new exhibits (C106.1, C-109.1 and C-109.2).

163. From 4 to 13 June 2018 a hearing was held between the Parties and the Arbitral Tribunal at the New York International Arbitration Center in New York.

164. On 15 June 2018, the Arbitral Tribunal provided its Procedural Order No.5 which decided the following:
"1. The Parties shall submit simultaneously their Post-Hearing Briefs limited to 75 pages by 1 October 2018 and their Replies limited to 10 pages by 22 October 2018.

2. The Parties and the Arbitral Tribunal shall have a conference call or in person meeting for further questions on 27 November 2018.

3. The Parties shall submit their Costs submissions by 14 December 2018."

165. On 1 October 2018, the Secretariat informed the Arbitral Tribunal and the Parties that the Court had, at its session dated 6 September 2018, extended the time limit for rendering the Final Award

until 28 February 2019.

166. On 2 October 2018, the Parties submitted their respective Post-Hearing Briefs.

167. On 16 October 2018, Respondents requested the approval of the Arbitral Tribunal to submit a Reply to the Post-Hearing Brief of 12 pages instead of 10 pages, specifying that Claimants had consented to that modification. On the same date, the Arbitral Tribunal agreed to that modification.

168. On 22 October 2018, the Parties submitted their respective Reply to the other party's Post-Hearing Brief.

169. On 31 January 2019, the Arbitral Tribunal declared the proceedings closed pursuant to Article 27 of the Rules.

170. On 28 February 2019, the Secretariat indicated to the Parties that the Court had, at its session of 7 February 2019, extended the time limit for the Arbitral Tribunal to render its Final Award until 29 March 2019.

II. FACTS

171. ArcelorMittal was considering expanding its open-pit mine located at Mont-Wright Quebec which consisted in the addition of a 7th production line which would include a new autogenous grinding mill ("the AG Mill"). In August 2010, ArcelorMittal then issued a request for quotations ("the Request for Quotation") for an AG Mill to all prospective bidders. This contained the technical specifications ("Technical Specification") of the AG Mill prepared by BBA Inc ("BBA"), engineering firm retained by ArcelorMittal. Proposals were made by Polysius Corporation, Outotec (USA) Inc, CITIC Heavy Industries Co. Ltd, FLSmidth and Metso. An addendum No. 1 dated 21 October 2010 and an Addendum No. 2 dated 2 November 2010 to the Mill design specifications were then issued by BBA.

172. A contract was finally concluded on 21 February 2011 between ArcelorMittal Mines Canada Inc and Metso Minerals Canada Inc. ("the Contract") by which the latter was to the AG Mill for a price of US$12,593,333.00 to ArcelorMittal.

173. The AG Mill was delivered by Metso in May 2012 at ArcelorMittal's mining complex in Mont-Wright.

174. A dispute occurred between the Parties regarding the AG Mill supplied by Metso to ArcelorMittal.

III. POSITION OF THE PARTIES

A. Claimants' position

175. In 2010, the expansion project aimed at increasing ArcelorMittal's annual iron ore output by 8

million tonnes through the addition of Line 7. The AG Mill was designed, manufactured and supplied by Metso Minerals Canada Inc ("Metso") pursuant to the Contract.

176. After a ramp-up period in December 2013, the AG Mill appeared to be affected by a latent defect and was unable to meet the required design criteria set out in the AG Mill Contract.

177. The design criteria had to be determined with precision and detail particularly regarding its capacity and sizing so that Line 7 would be able to achieve its intended purpose. A Request for Quotation ("RFQ") was thus issued in August 2010 to prospective bidders, among which Metso. BBA Inc. ("BBA") prepared the objective and specifications of the AG Mill which were set out in the technical specification as part of the RFQ. ArcelorMittal's objectives were included in the Technical Specifications. Similarly, it was specified that the vendor was responsible for determining the mill size required to achieve the production objectives.

178. The design criteria of the AG Mill was set out in Appendix E of the Technical Specification and was entitled "Datasheet- Autogenous Mill" ("the Datasheet"). More specifically, the mill feed rate was to be determined in metric tonne per hour ("mtph") and the operating work index metric was to be determined in energy level per tonne ("kWh/t). It was specified in the Datasheet that the quantity of tonnes of ore which needed to be processed was at 3,452 mtph with a hardness at 3.8 kWh/t.

179. ArcelorMittal received five proposals in the course of September 2010. Polysius, Outotec and CITIC proposed an AG Mill of 38 feet in diameter. Metso proposed an AG Mill of 36 feet and FLSmidth proposed a semi-autogenous grinding mill ("SAG Mill") of 36 feet diameter.

180. The proposals can be summarized as follows [1]:

BIDDERS	PROPOSED MILL	PRICE
Polysius Corporation	38 AG Mill	US$17 808 000
Outotec (USA) Inc.	38 AG Mill	US$20 653 700
CITIC Heavy Industries Co. Ltd.	38 AG Mill	US$20 778 600
FLSmidth Inc.	36 SAG Mill	US$16 265 000
Metso Minerals Industries Inc.	36 AG Mill	US$22 413 687

181. In September 2010, a meeting took place between Mr. Grandillo, Lead Engineer of BBA, Mr. David Runnels, Project Director, Mines and Metallurgy of BBA, on the one hand, and Mr. Brunot Audet, Project Manager of ArcelorMittal, at which was discussed the design criteria of the AG Mill. Mr. Grandillo indicated that the design criteria of the AG Mill should be relaxed to a better suited level, the design criteria of 3452 mtph at 3.8 kWh/t being too demanding.

182. On 1 October 2010, the bidders were asked to provide by 4 October 2010 client references where

[1] Amended Statement of Claim, 3 October 2017, para 33, page 9.

they had installed 36 feet AG Mills. On 2 October 2010, Mr. Grandillo recommended to Mr. Audet and Mr. Platon Manoliadis, Study Manager of SNC, that the production rate be lowered to 3002 mtph when hard ore (i.e. 3.8 kWh/t) would be processed and the production rate should be maintained at 3452 mtph at the average ore hardness (i.e. 3.4 kWh/t).

183. On 4 October 2010, Mr. Grandillo informed Messrs. Audet and Manoliadis that Metso, FLSmidth and Polysius were the only bidders to have responded to his client reference request. He further advised that only Metso and FLSmidth should be invited to present their proposals.

184. On 6 October 2010, another meeting between Messrs. Manoliadis, Grandillo and Audet took place at which it was decided that the criteria of the AG Mill would be reviewed.

185. On 13 and 14 October 2010, another meeting took place in the presence of Messrs. Audet and Laberge as well as representatives of Metso and FLSmidt at which the AG Mill criteria were discussed. Following that meeting, Mr. Cacchione, Manager, Project Sales for Eastern Canada of Metso, sent to Mr. Grandillo and Mr. Audet three Excel spreadsheets with three cases concerning the use of a 36 feet diameter AG Mill of different lengths (21.5, 21 and 19 feet), of mtph parameters varying between 3002 and 3452 and kWh/t parameters ranging between 3.0, 3.3 and 3.8.

186. On 21 October 2010 and 2 November 2010, BBA issued two addenda to the AG Mill specifications of the RFQ providing that the size of the Mill should be 36 feet x 20.5 feet. The addenda ultimately sent to the 5 bidders also provided that the mtph was reduced to 3002 and the kWh/t was 3.3 on average and 3.8 (75th percentile). Consequently, on 23 November 2010, Metso, FLSmidth, Outotec and CITIC sent revised proposals to BBA. Metso, FLSmidt and Outotec were then recommended by Mr. Grandillo.

187. On 7, 8 and 9 December 2010, technical review meetings took place between the representatives of BBA and Outotec, FLSmidth, and Metso to validate the final length of the AG Mill. It is then on 13 December 2010 that BBA recommended that Metso and FLSmidth be shortlisted as the lead bidders, their proposals being conformed to the technical specifications. The final size of the AG Mill was determined in the report and was to be 36 x 21'6 [2].

188. After discussions on the price, Metso issued on 20 January 2011 a final proposal to SNC, retained by ArcelorMittal as its Engineering, Procurement and Construction Management Contractor ("EPCM") for its Expansion Project. On 9 February 2011, ArcelorMittal issued a purchase order to Metso and on or about 21 February 2011, both parties entered into the AG Mill Contract in the amount of US$ 12,593,333.00 for the design, manufacture and supply of the AG Mill. The datasheet incorporated at Appendix 1 the revised parameters of the AG Mill which were as follows [3]:

Description	Data
Mill feed rate design, design (t/h new feed, dry basis)	3002
Operating Work Index, measured at motors lead, metric (kWh/t)	Average 3.3 3.8 (75th percentile).

[2] Amended Statement of Claim, 3 October 2017, para 53, page 14.

[3] Amended Statement of Claim, 3 October 2017, para 60, page 15.

189. After designing and manufacturing the AG Mill for over 60 weeks, Metso delivered the AG Mill at ArcelorMittal's mining complex in Mont-Wright in May 2012. The assembly and installation of the AG Mill was done by a third party. Line 7 was then commissioned in two stages: a first-half-line on 22 June 2013 and a second half-line on 3 August 2013.

190. It is in December 2013 that it became apparent that the AG Mill was not performing according to the obligations and standards set out in the Contract and, after having been informed by ArcelorMittal of the situation on 6 December 2013, SNC indicated to Metso on 7 February 2014 that the AG Mill was not meeting the contractual performance standard and asked it to make all the necessary repairs at its own expense. Metso replied on 19 February 2014 that an action plan had been submitted directly to ArcelorMittal for its approval.

191. In August 2014, ArcelorMittal allowed Metso to install a curved grate and pulp dischargers as suggested by the latter. These measures were implemented during the week of 18 May 2015 but they were not sufficient: the AG Mill was still not meeting its production requirements.

192. On 8 March 2016, ArcelorMittal sent a letter to Metso, BBA and SNC holding them solidarity liable and requesting that they carry out corrective work. Metso has however failed to perform that work.

193. The firm Starkey & Associates ("Starkey"), mandated by ArcelorMittal, has issued two reports analyzing the AG Mill and has concluded each time that the AG Mill was too small to meet the required criteria design and added that the correct AG Mill size should have been 38 feet diameter x 18.3 feet. A third report was then issued by Mr. Starkey identifying the defaults and mistakes of Metso during the design process. It concluded that the failure of the AG Mill to meet the design target (3002 mtph of 3.8 kWh/t ore) was due to the mill's excessive length to diameter ratio and Metso's use of aggressive operating conditions in the design process. For it, such failure impaired the ability of Line 7 to meet its annual production of 8 Mtpa iron ore concentrate [4].

Metso's faults

194. Hence, Metso failed to design, manufacture and supply an AG Mill capable of processing 3002 tonnes per hour of crude ore of a hardness of 3.8 kWh/t and 3452 tph when the ore hardness is 3.3 kWh/t, with, in any case, a drawing power of 11.4 MW. That such were the design criteria has been confirmed by Mr. Starkey but also by Dr. Sepulveda, the expert proffered by Metso [5].

195. The Contract indicates that the AG Mill is 36'x 21,5'. Metso played an integral and determinative role in the sizing of the AG Mill and ArcelorMittal relied on Metso's expertise in choosing a Mill of that size. Contrary to Metso's argument, it did not only supply a pre-selected equipment dictated by ArcelorMittal, SNC and BBA. The initial design criteria was specified in the Budgetary RFQ in order to confirm that the mill size and mill power were to be specified by vendor, which Mr. Cacchione conceded at the hearing. Further, the emails exchanged internally from 17 to 26 August 2010, following the issuance of the Firm Price RFQ also confirm this understanding. Further discussions were engaged in September 2010 and then the Firm Price proposal for a 36' x 25' AG Mill was issued

[4] Amended Statement of Claim, 3 October 2017, para 80, page 19.

[5] Claimants' Post-Hearing Brief, 1 October 2018, para 4.

on 24 September 2010. Here again, Mr. Cacchione confirmed that Metso represented in that proposal that the AG Mill would meet the Initial Design Criteria.

196. After that, BBA developed "Relaxed Design Criteria" which provided that the AG Mill would now process 3002 tph at 3.8 kWh/t and would process 3452tph when the ore hardness was at 3.3 kWh/t or below. This was submitted to Metso on 6 October 2010 and was discussed at a meeting on 13 October 2010 where Metso again played a leading role in determining that a 36' diameter AG Mill would be capable of meeting the Relaxed Design Criteria. This was also confirmed by Mr. Audet at the hearing and by an email from Metso to ArcelorMittal of 14 October 2010.[6] As for the two addenda that were then issued, on 21 October 2010 and November 2010, providing revised datasheets, ArcelorMittal did not dictate the size of the Mill. Mr. Cacchione in fact conceded that the size of the Mill was based on case No. 2 presented by Metso during the 13 October 2010 meeting. Further, as explained by Mr. Audet, the addenda were issued for the sole purpose of comparing AG mill vendors' different power models and in fact the length of the AG Mill was increased twice after that: on 9 December 2010 and on 7 January 2011. It is finally in February 2011 that ArcelorMittal issued a Purchase Order to Metso for one 36' x 21.5' AG Mill and the Contract was signed on 21 February 2011. Again, Metso represented that the said AG Mill would be capable of meeting the relaxed Design Criteria and the datasheet included in the Contract was based on Metso' Case No. 2.[7]

197. The Parties disagree on the interpretation of the datasheet dated 26 January 2011. For ArcelorMittal, it reads as follows: the AG Mill must be capable of producing the tonnage of 3002 tph at an ore hardness of 3.8 kWh/t (75th percentile). Mr. Audet explained at the hearing that this meant that 75% of the time, the AG Mill would be capable of producing 3002 tph or more while 25% of the time the production would fall below the 3002 tph rate. Mr. Starkey confirmed that this implies that at an ore hardness of 3.3 kWh/t or softer the AG Mill would be capable of processing 3452 tph. Metso's interpretation that the 3002 tph at 3.8 kWh/t is not a contractual target cannot be sustained, more particularly because it is based on the BBA Technical Recommendation, which cannot be construed as a description of the AG Mill Contract, as well as on two paragraphs of the FEL 3 document issued by SNC in April 2011, which is not a description of the AG Mill Contract but a mere description of Metso's Case Nos. 1 and 3.[8]

198. In any case, Dr. Sepulveda has agreed with the findings of Mr. Starkey that the harder of the two hardness is the governing value and that the industry standard is to use the 75th or 80th percentile for mill design. Furthermore, it has been confirmed at the hearing by Mr. Cacchione that the AG Mill was to be designed for a throughput of 3,002 tph at an ore hardness of 3.8 kWh/t. He however indicated that it was not designed to do that continuously as it was in fact designed for continuous operation of 3002 tph at 3.3 kWh/t. This is however contradicted by the express terms of the AG Mill Contract at Appendix 10 and by Dr. Sepulveda who indicated that the datasheet requires power of 11.4 MW which is obtained by multiplying the tonnes per hour (3002 t/h) by the ore hardness (3.8 kWh/t).[9] Further, the argument that the power draw of 11.4 MW can be obtained on some occasions cannot be sustained as Metso's position is that the AG Mill is expected to operate at 3002 tph when processing ore of 3.3 kWh/t, which draws approximately 9.9 MW of power. It is thus firmly established that the AG Mill criteria called for an AG Mill designed to process 3002 tph for ore

[6] Claimants' Post-Hearing Brief, 1 October 2018, para 26, pages 11-12.
[7] Claimants' Post-Hearing Brief, 1 October 2018, paras 27-30, pages 12-13
[8] Claimants' Post-Hearing Brief, 1 October 2018, paras 31-35, pages 14-16.
[9] Claimants' Post-Hearing Brief, 1 October 2018, paras 37-41, pages 17-18.

hardness of 3.8 kWh/t while drawing a minimum of 11.4 MW of power, which necessary implies that when the ore was of 3.3 KWh/t hardness or softer, the AG Mill would process 3452 tph, corresponding to the explication of the Relaxed Criteria. Yet, the AG Mill did fall short of these criteria. Both Mr. Starkey and Dr. Sepulveda agreed on that, the latter emphasizing that the design criteria had only been reached three days out of the 29 month period he examined. [10]

The damages

199. As a result, ArcelorMittal claims loss of profits, as assessed by the accounting firm Richter Advisory Group Inc ("Richter"). Further, in order to mitigate its damages, ArcelorMittal started in October 2016 corrective works to convert the AG Mill to a SAG Mill, as recommended by the firm Hatch Ltd ("Hatch"). The costs for these works are included in the claimed loss of profits.

200. Mr. Starkey determined that during the period of 22 June 2013 to 30 November 2015, a production loss of 6.16 tonnes of ore was attributable to the AG Mill and for the period of 1 December 2015 to 16 July 2017 found that a production loss of 5.62 million tonnes was found to be caused by the AG supplied by Metso. [11]

201. In order to determine whether the AG Mill was capable of performing in accordance with the design criteria, Mr. Starkey performed a benchmark test, which was reliable. In any case, he did not rely on this test for his conclusions but on the 18 data points that he used for the regression curve. Mr. Starkey also carried out a downtime analysis to take into account the periods when Line 7 was not in operation. [12]

202. Metso is undeniably responsible for the shortfall in production as it played a leading role in the sizing of the Mill and committed major design errors such as absence of historical references, excessive D/L ratio, etc. Metso also admitted failure to follow industry standard and to design for the 75th percentile. The crude ore production shortfall has been determined by Mr. Starkey at 11.78 million tonnes. Further, in light of the report of Mr. Starkey, Metso's argument that the mill is not the only one component of line 7 and cannot as such be responsible for the production losses is to be disregarded as he took care to isolate only the production losses attributable to the AG Mill. Similarly, the production shortfalls could not be attributed to ArcelorMittal, having, according to Mr. Godin, operated AG Mill and SAG Mills for 40 years in accordance with well-established industry practices. Metso also claims that corrections need to be made to the loss calculation due to ore size, ore hardness and the liberation size. But that should not be the case as Line 7 processes the same ore as Lines 1-6 to produce the same concentrate. [13]

203. Mr. Guy St Georges of Richter determined that for the period of 22 June 2013 to 30 November 2015, the loss of profits caused by the underperformance of the AG Mill is in the amount $66,066,452 CAD [14] and the ones from 1 December 2015 to 30 June 2017 are estimated at $84,360,842 CAD. [15] The

[10] Claimants' Post-Hearing Brief, 1 October 2018, paras 6-47, pages 21-22.
[11] Claimants' Post-Hearing Brief, 1 October 2018, para 48, page 22.
[12] For details on the method, see Claimants' Post-Hearing Brief, 1 October 2018, paras 54-67, pages 24-30.
[13] Claimants' Reply to Respondents' Post-Hearing Brief, para, 15, page 6.
[14] Claimants' Post-Hearing Brief, 1 October 2018, para 142, page 61.
[15] Claimants' Post-Hearing Brief, 1 October 2018, para 142, page 61.

assumptions relied upon by Richter as well as well as its calculations are being objected to by Dr. Snail. [16]

204. Further, the costs incurred by ArcelorMittal as a result of the conversion of the AG Mill into a SAG Mill, as of 30 June 2017, are estimated at $25,369,573 CAD. These costs would not have been incurred but for the underperformance of the AG Mill. Metso's arguments that SAG future profits will offset damages must be disregarded, Dr. Snail's arguments being speculative and his conclusions unfounded. [17]

205. There is no reason why ArcelorMittal should not recover its losses in full, Metso having played a leading role in determining the size of the AG Mill which was too small and unfit for its intended use. Metso breached its contractual obligations and the Civil Code of Quebec ("C.C.Q").

206. Pursuant to Article 1458 C.C.Q. when a person fails to honour their contractual undertakings, they are liable for any injury caused to the other party. ArcelorMittal is claiming damages. In order for damages to be awarded, they have to constitute an *"immediate and direct consequence"* of the debtor's default, which includes both actual losses and loss of profits. The damages must also be direct and *"foreseen and foreseeable at the time the obligation was contracted".* This is the case here: the damages are based on the lost tonnes attributable to the underperformance of the AG Mill. The loss of profits were foreseeable at the time of contract as the inability of the AG Mill to operate as required would necessarily result in lost throughput of iron ore, leading to lost concentrate and thus lost profits. As to the costs associated with conversion, they were incurred as a means to mitigate ArcelorMittal's damages. Case law admits that expenses aimed at mitigating a defect constitute direct damages. [18]

Classification of the Contract

207. Pursuant to Section 10 of the Contract [19] and Section 41 of its Appendix 17 [20], the dispute is to be governed by the laws of the province of Quebec, i.e. by the provisions of the C.C.Q. The Contract contains elements specific to the contract of enterprise and to the contract of sale and thus a classification exercise of the Contract must be undertaken.

208. ArcelorMittal submits that the Contract is to be qualified as a contract of enterprise. Indeed, pursuant to Article 1708 C.C.Q. a contract of sale is a contract by which there is a transfer of property rights on goods from one person to another. In contrast, pursuant to Article 2098 C.C.Q, the contract of enterprise is one by which a person, the contractor or the provider of services, undertakes to

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[16] Claimants' Post-Hearing Brief, 1 October 2018, paras 143-154, pages 61-67.

[17] Claimants' Post-Hearing Brief, 1 October 2018, parasl58-160, pages 68-70.

[18] Claimants' Post-Hearing Brief, 1 October 2018, paras 162-166, pages 70-72.

[19] *"(...) This contract and the rights granted or arising hereunder, shall be governed by, and interpreted in accordance with the laws applicable in the province of Quebec*

[20] *"The GENERAL CONDITIONS and each CONTRACT shall exclusively be governed by and construed in accordance with the LA WS of the place where the concerned SITE is located provided that the country where the SITE is located in Canada, the European Union (except the countries becoming members of the European Union after 2000), South Africa, or the United States of America. For the countries becoming members of the European Union after 2000), the applicable law shall be the Swiss law unless otherwise specified in the concerned CONTRACT. Should the concerned SITE not be located in any of the above-mentioned countries, Swiss law shall apply. In any case, the UN Convention on Contracts for the International Sale of Goods of 1980 shall be expressly not applicable."*

carry out physical or intellectual work or to supply a service to another person, the client, for a price which the client must pay to the contractor. Article 2103 C.C.Q. provides guidance to help distinguish the two kinds of contracts indicating that *"a contract is a contract of sale, and not a contract of enterprise or for services, where the work or service is merely an accessory in relation to the value of the property supplied".* Based on case law of the Quebec Superior Court, ArcelorMittal submits that the Contract must be classified as a contract of enterprise.

209. Indeed, the object of the Contract encompassed much more than a simple transfer of ownership of an AG Mill. Metso undertook to carry out material and intellectual work to design and manufacture an AG Mill that would comply with technical documents in order to achieve its intended purpose. The work that Metso had to undertake is illustrated by sections 1.1 and 1.2 of the Contract, 2.1.1, 1.1, 1.2, 1.2.1 and 2.3 of Appendix 1 to the Contract. The technical standards that Metso had to ensure were also mentioned in Appendix 1. This shows that the work provided was not *"merely accessory"* as provided by Article 2103 para 3 C.C.Q.

210. Metso has also actively participated in the design of the AG Mill. It has proposed an AG Mill of 36 feet in diameter x 25 feet in length and participated in various meetings and technical exchanges regarding the AG Mill design criteria. It also carried out a lot of internal analyses and calculations regarding various technical aspects relating to the size of the mill. Further, Metso required more than a year of work to manufacture and deliver the AG Mill and Appendix 18 confirms that the AG Mill was to be designed and manufactured by Metso. The intellectual work was not merely accessory as contended by Metso, since the value by the parties of the materials and of their works is not determinative, according to Hon. Baudouin.[21]

211. Articles 2098 to 2129 will govern this contract of enterprise.

212. Yet, the classification of the Contract as a contract of enterprise does not preclude the application of the legal warranty of quality pursuant to Article 2103 al. 2 of the C.C.Q. which states that the contractor *"shall supply only property of good quality"* and that it is *"bound by the same warranties with respect to the property as a seller".* Pursuant to case law,[22] it is admitted that when one provides material and intellectual work as well as supply property to his client, the warranty of quality applies to the seller. The legal warranty of quality thus applies to the property supplied by Metso i.e., to the AG Mill, contrary to Metso's contention that it applies only to the components of the AG Mill. This is however contrary to case law in Quebec which finds that even if a contract is classified as a contract of enterprise, the legal warranty of quality applies to the work as a whole.[23] Further, the legal warranty of quality protects the purchaser from the "loss of use". ArcelorMittal's claim is not, as Metso contends, related to the performance of Line 7 but to underperformance of the AG Mill. Moreover, the defects of the AG Mill are functional[24]- since the design prohibits ArcelorMittal from consistently using the AG Mill to process iron ore efficiently- and conventional in nature- as it was unfit for the purpose stipulated in the Contract or in light of the seller's representations[25]- as recognized in the Domtar case.

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[21] Claimants' Post-Hearing Brief, 1 October 2018, para 89, page 39.

[22] Amended Statement of Claim, 3 October 2017, pages 29 and seq.

[23] Claimants' Post-Hearing Brief, 1 October 2018, para 102, page 46.

[24] Claimants' Post-Hearing Brief, 1 October 2018, paras 106-108, pages 47-49.

[25] Claimants' Post-Hearing Brief, 1 October 2018, paras 109-111, pages 49-50.

213. Pursuant to Article 1726 C.C.Q., the buyer is protected against latent defects. Pursuant to Article 1730 C.C.Q. the manufacturer and the supplier of the property are also protected by the warranty against latent defects. For the legal warranty to apply, the defect must i) be latent, ii) be sufficiently serious, iii) must have existed at the time of the sale and iv) must have been unknown to the buyer. In fact, for professional sellers, there is a presumption of prior existence of the defect at the time of the sale.[26] The Supreme Court of Canada also established another presumption applicable to the manufacturer, the one of knowledge of the defect at the time of the sale,[27] which exposes accordingly the manufacturer to liability for all damages caused by the defect. Claimants submit that the AG Mill was indeed affected by a latent defect meeting the characteristics described above and that Metso was presumed to have known of the existence of this defect.

214. The AG Mill supplied by Metso was unable to meet the design criteria which rendered it unfit for its intended purpose. As to the latency of the defect, the test is to determine whether a reasonable buyer in the same circumstances would have realized that there was a defect. The AG Mill has not been reaching and maintaining its design capacity since installation, which according to Mr. Starkey was due to the inadequate size of the AG Mill. This is not a discoverable defect by a prudent and diligent buyer. Further, ArcelorMittal's expertise does not lie in mill design or in the development of design criteria but in operating an AG Mill. In this light, a reasonable buyer placed in the same circumstances could not possibly have ascertained the presence of the defect.[28] Secondly, the defect must be serious i.e., that it has to reduce significantly the usefulness of the good, in which case the buyer would not have bought it or paid so high a price. Yet, again, the AG Mill has been underperforming since its installation, its actual capacity corresponding to approximately 83.7% of the required design capacity. The default is serious given that the AG Mill is incapable of meeting its design target as specified in the Contract and as a consequence of meeting its annual production objective of 8 million tonnes of iron ore concentrate. In that light, Mr. Audet and Mr. Robinson confirmed that they would not have recommended or contracted with Metso had they been aware that the AG Mill was incapable of meeting the design criteria.[29] Moreover, the defect existed at the time of the sale and because Metso is a professional seller, the defect affecting the AG Mill is presumed to have existed at that time pursuant to Article 1729 C.C.Q. The burden of proof to reverse this presumption is high and Metso' arguments in that respect relating to the feed size are not determinative. The evidence in fact shows that the underperformance of the AG Mill has very little to do with the feed size.[30] Finally, the defect was unknown to ArcelorMittal at the time of the purchase of the sale. This was confirmed by Messrs. Godin, Audet and Robinson.[31]

Metso's obligations under Quebec civil law

215. Pursuant to Article 2100 C.C.Q, Metso was to act in the best interests of its client, ArcelorMittal, with prudence and diligence. This refers, according to the commentators Beaudoin and Deslauriers, to the choices, decisions and judgment calls that a professional is called upon to take in the context of its work. In that light, Metso had to apply its expertise in order to accomplish the objective that eight

[26] Article 1729 C.C.Q.
[27] CLA-1, Domtar.
[28] Claimants' Post-Hearing Brief, 1 October 2018, para 117, page 52.
[29] Claimants' Post-Hearing Brief, 1 October 2018, para 113, page 51.
[30] Claimants' Post-Hearing Brief, 1 October 2018, paras 122-123, page 54.
[31] Claimants' Post-Hearing Brief, 1 October 2018, para 119, page 53.

million tonnes of iron concentrate be produced annually. It however failed to supply an AG Mill capable of meeting the design criteria.

216. Metso was also bound to act in accordance with usage and good practice i.e., to use well-established and recognized methods in particular practice. This duty was also part of Section 3 of the General Conditions for Capital Purchase of the Contract, thus well known to the Parties. Metso failed to perform its obligations in compliance with this provision. Indeed, despite best industry practices, Metso initially proposed a 36'x 26' AG Mill which had no historical reference. Moreover, its budgetary proposal was based on operating parameters which were as *"unchartered waters"* for mill operators according to Mr. Cacchione. He thus confirmed that a mill based on 30% mill load and 78% critical speed would not be capable of sustained operation, although this corresponded to its Case No. 2 which ultimately became the basis of the contractual datasheet. However, Metso did not provide any warning in that regard or explain any risk inherent in that proposal at the meeting of 13 October 2010[32]. Despite knowing that the operating parameters were not sustainable, Metso executed the AG Mill Contract for 36' x 21.5' AG Mill based on those same parameters, without informing ArcelorMittal that the performance required could thus not be achieved.

217. Moreover, Metso had the duty to act in compliance with the Contract pursuant to Article 2100 C.C.Q. The Contractor has in that respect an obligation of result. One of the key obligations of the AG Mill Contract was to meet the design criteria. It also had to take ArcelorMittal's needs and objectives into account in designing, manufacturing and supplying the AG Mill. Metso however failed to comply with these two obligations.

218. Metso was also bound by a duty to inform pursuant to Article 2102 C.C.Q. consisting in providing the client with all information useful and/or relevant to the works or project contemplated in the Contract. Metso had the duty to inform ArcelorMittal of any problems or difficulties regarding the performance of the Contract. This is an obligation, which remains throughout the Contract pursuant to the Supreme Court.[33] Metso thus had the duty, before the Contract was entered into, to inform ArcelorMittal with any useful information concerning the nature of the task that it undertook to perform. This duty is also in accordance with Sections 4.1 and 4.2 of the General Conditions of the AG Mill. ArcelorMittal submits that Metso should have informed it of the risks with respect to the AG Mill or that it would be unable to perform according to the design study.[34] More particularly, Metso did not inform ArcelorMittal of the concerns that were identified internally regarding the 36' x 25' AG Mill.[35]

219. Metso was also bound by Article 2118 of the C.C.Q pursuant to which it is subject to a presumption of responsibility for the *"loss of work"* occurring within five years after the work was completed. This is a provision of public order and one can only be exempted if it proves the existence of one of the exemption conditions contemplated in Article 2119 C.C.Q. In the instant case, Metso acted both as an engineer and a contractor with respect to the design, manufacture and supply of the AG Mill. As it was involved in the faulty design of the AG Mill, it cannot exonerate itself from the presumption of liability provided at Article 2118 by attempting to impart liability on BBA and SNC.

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[32] Claimants' Post-Hearing Brief, 1 October 2018, para 93 and also para 95, pages 41 and 43.

[33] Amended Statement of Claim, 3 October 2017, para 192, page 52.

[34] Amended Statement of Claim, 3 October 2017, paras 195-196, page 54.

[35] Claimants' Post-Hearing Brief, 1 October 2018, para 94, page 42.

220. In order for the presumption to apply, Claimants submit that five conditions must be met: 1) immovable work, 2) Metso' participation in the work, 3) loss of work, 4) faulty design and 5) occurrence within 5 years.

221. The AG Mill constituted *"work"* as contemplated at Article 2118 and interpreted by case law. Indeed, it is of a permanent nature located in the concentrator and forms an integral part thereof. As such, it constitutes immovable. Further, the concentrator has no purpose without the AG Mill and vice versa. This is not disputed between the Parties.

222. Metso' participation in the work cannot as well be contested: it has been established that since 2010 it played a determinative role in the establishment of the mill size and parameters and that it designed and supplied the *"work"* i.e., the AG Mill.[36] In fact, the defects were so serious that after a series of failed attempts at implementing measures recommended by Metso, ArcelorMittal was forced to convert to SAG Mill operations.

223. Further, ArcelorMittal could not meet its production objective of eight (8) million tonnes of iron ore concentrate annually because of the size of the AG Mill. Yet, it has been decided by the Quebec Court of Appeal that *"a serious defect causing important inconveniences and rendering the work unfit for its intended use does constitute a loss"?*[37]

224. The AG Mill is also affected by a faulty design according to the findings of Mr. Starkey.

225. Finally, the AG Mill has not been reaching and maintaining its design capacity since the commissioning of line 7 in June 2013, the loss of work thus incurred well within the five year time limit.

226. Metso is thus in breach of the warranty against loss of work and as it is of public order, it cannot invoke any limitation of liability clause against ArcelorMittal. The Contract contains limitation of liability clauses at Section 6.0 and 3.0 of Appendix 10.2 of the Contract. Appendix 17 also provides an additional limitation of liability clause (clause 27.1)[38]. However, they cannot be invoked by Metso. Indeed, pursuant to Article 1728 C.C.Q., Metso is a professional seller and has presumed knowledge of the defect at the time of the sale of good. Pursuant to Article 1733 C.C.Q., Metso is thus barred from setting up any limitation of liability clause against ArcelorMittal. This has been recognized by the Supreme Court of Canada.[39] Metso will thus be unable to rely on limitation liability clauses and will moreover be liable to make reparations for the losses suffered by ArcelorMittal. The presumption of responsibility of Article 2118 C.C.Q is indeed of public order and limitation liability clauses or conventional warranties will be set aside. Further, under Article 1474 C.C.Q, a gross fault also prevents a party from invoking a limitation of liability clause. Metso's

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[36] Claimants' Post-Hearing Brief, 1 October 2018, para 130, page 56.

[37] *Amended Statement of Claim, 3 October 2017, para 218, page 61.*

[38] *Article 27.1 states as follows: "In any case, the global aggregate amount of contractual liquidated damages to be paid by the CONTRACTOR under any CONTRACT pursuant to Clause 29.2 of the GENERAL CONDITIONS shall be expressly limited to fifteen percent (15%) of the total CONTRACTUAL PRICE of the said CONTRACT. The maximum aggregate CONTRACTOR'S liability toward the BUYER under the concerned CONTRACT shall be expressly limited to one hundred fifteen (115%) of the contractual price of the WORKS AND/OR EQUIPMENT. Notwithstanding the foregoing, the CONTRACTOR undertakes to compensate the BUYER for any and all damages suffered by the BUYER's existing promises and/or installations up to the maximum amount of Twenty million euros (EUR 20,000,000) per incident unless explicitly agreed."*

[39] Amended Statement of Claim, 3 October 2017, paras 229 and seq, page 66.

conduct throughout the procurement phase and design phase is akin to a gross fault.[40] Further, Metso's behaviour was tantamount to intentional fault since it proposed budgetary proposal and a price proposal for mills that were unproven in design and based on parameters that could not be sustained in practice.[41]

227. Finally, Metso must be held solidarily liable with SNC and BBA which also participated actively in the development of the AG Mill. It was indeed Metso, along with BBA and SNC, which had to provide an AG Mill capable of performing according to its design criteria in order to reach the objective of an annual production of iron ore concentrate by eight million tonnes. This is why, after the issuance of Metso's report in May 2015 where it was admitted that the AG Mill was not reaching its design capacity, ArcelorMittal issued a demand letter on 8 March 2016 to BBA, SNC and Metso where it held them solidarily liable. Yet, civil judicial proceedings before the Quebec Superior Court against BBA and SNC are pending in parallel to these proceedings because of Metso's refusal to forego arbitration.

228. The AG Mill supplied by Metso is unfit for its intended purpose and thus constitutes a loss of work pursuant to Article 2118 C.C.Q. Pursuant to the same article, those involved in a *"work"* are solidarily responsible, which has been confirmed by the Quebec Court of Appeal. As Metso participated in the determination of the AG Mill design criteria, it is solidarily liable with BBA and SNC for the resulting loss of work. By virtue of solidarity however, ArcelorMittal is entitled to claim the full amount of its losses and damages directly from Metso.

229. *"On the grounds set out above, ArcelorMittal hereby respectfully request the Tribunal to render an award granting the following relief:*

• An order requiring the Respondent Metso Minerals Canada Inc. to pay to Claimants the following sums resulting from the defects affecting the AG Mill:

(a) $150,427,294 CAD in respect of the production loss from 22 September 2013 to 30 June 2018[42]; and

(b) $25,369,573 CAD in respect of the mitigation costs incurred by ArcelorMittal, namely related to the conversion to a SAG mill;

• An order requiring Respondent Metso Minerals Canada Inc. to pay the Claimants' legal fees and costs of the arbitration;

• An order requiring Respondent Metso Minerals Canada Inc to pay the Claimants interest on the above amounts at such rates and for such periods as the Tribunal considers appropriate;

• An order granting such further or other relief as the Tribunal may deem appropriate in the circumstances.[43]"

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[40] Amended Statement of Claim, 3 October 2017, para 241, page 69

[41] Claimants' Post-Hearing Brief, 1 October 2018, para 168, page 73.

[42] *The Arbitral Tribunal notes that there must be a clerical mistake as the Richter report refers to 30 June 2017 (page 7199 of Report, C70, ASOC, Vol 15) and so do Claimants in their Post-Hearing Brief (para 142).*

[43] *Claimants' Post-Hearing Brief, 1 October 2018.*

B. Respondents' position

230. ArcelorMittal is a global enterprise with annual revenues ranging from USD59 billion to USD79 billion in the 2014-2016 period, with electrical, mechanical, metallurgical and mining engineering expertise, which combined such expertise with the one of two of Canada's major mining industry engineering firms, BBA and SNC (together with Arcelor "Arcelor Design Team"), for the Mont-Wright's operations.

231. Five equipment suppliers competed at first. Initially the design target for the mill to process ore was 3452 tph at a specific harness of 3.8 kWh/t. ArcelorMittal Design Team found that a 36' diameter mill would be operating. However, to manage the cost, ArcelorMittal decided to relax the design criteria, which lowered the design target from 3452 tph to 3002 tph. ArcelorMittal then asked the equipment suppliers to provide data in three operations conditions and Metso was selected having presented the most favorable price. Metso and ArcelorMittal then met to negotiate the terms and conditions for the purchase. Two metrics were agreed upon: power draw and conveyance but no throughput guarantee, i.e., the number of tonnes per hour that the mill would grind under defined conditions, was given. [44]

232. The allegation from ArcelorMittal that the AG Mill was undersized and did not meet its expectations is based on the Starkey design criteria only. [45] Metso delivered precisely the mill that it should have supplied and which met fully with the Contract and its intended purpose claimed under Quebec law. It delivered a mill that was capable of accepting a steel ball charge that allowed it to overcome the out of specification feed and sub-optimal operating conditions. [46] Mr. Starkey in fact conceded that the Metso AG Mill could accept steel media and operate in SAG mode. [47] It did so despite out of specification ore, upstream and downstream limitations caused by the equipment not supplied by Metso, sup-optimal operating choices by ArcelorMittal and a Line 7 with light duty components when heavy duty equipment was needed. Further, Metso did not have any responsibility for the performance of the many ill-suited components of Line 7 that it did not supply. It was only responsible for the AG Mill it supplied.

The qualification of the Contract

233. Based on the Parties' intentions, it is clear that the Contract is a contract of sale, the object of which was the delivery of the AG Mill consistent with the design criteria. A contract of sale is defined as a contract by which one person transfers ownership of a good, product, or piece of equipment to another person for an agreed price. On the other hand, a contract of enterprise is one by which one person undertakes to carry out material or intellectual work or to supply a service for an agreed upon price. [48] The vendors were not the ones who designed Line 7 or developed the specifications for the equipment to be supplied. These were the duties of SNC and BBA who in fact were paid over

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[44] Statement of Rejoinder, 24 April 2018, paras 2.3 and seq, page 3.

[45] Metso alleges that the requirement that the mill operate at 3002 tph with a hardness of 3.8 kWh/t was invented by Mr. Starkey and refers to these requirements as the "Starkey Design Criteria".

[46] Respondents' Post-Hearing Brief, para 2.2, page 1.

[47] Respondents' Post-Hearing Brief, para 2.4, pages 2-3.

[48] Statement of Defense, paras 11.1.2 and 11.1.3, pages 96-97.

$100 million dollars to oversee the design, procurement and construction of line 7. Metso did not perform design functions and did not issue the datasheet specifications. As a result, pursuant to Article 1726 C.C.Q, the only warranty that can be invoked is the one of quality which guarantees that the good sold is fit for the purpose for which it was intended.[49] The warranty of quality on the other side cannot be applied, as the defect was not latent.

Metso's contractual obligations

234. The Parties had a broad-based commercial relationship covering transactions across the globe. ArcelorMittal had in that view negotiated globally applicable terms and conditions for its purchases from Metso which were accepted by the latter in 2009. The Contract between the Parties was negotiated against that backdrop and the standard terms were thereby incorporated into the Contract.

235. The Parties agreed in Appendix 10, sections 10.2 and 10.3 of the Contract upon the performance metrics of the AG Mill. A power draw and a conveyance warranty were thus given, based on an agreement that the feed would meet defined characteristics, but no throughput guarantee was given in accordance with the custom in the industry and as acknowledged by Mr. Starkey.[50] Any power draw shortfall would be compensated by liquidated damages in accordance with Section 10.2 subsection 3 of Appendix 10. Further, Metso conditioned the mill's performance on the feed conforming to certain characteristics: maximum size, size distribution, specific gravity and hardness (operating work index). It was in that light contemplated that *"the ability of the equipment to perform as warranted shall be conclusively established for all purposes....if the feed to the mills does not meet the specification given in the tender enquiry".* There can thus be no basis to a contract-based claim as the ore never conformed to the tender specifications.

236. The AG Mill met the Contract requirements. It is in fact not disputed by ArcelorMittal that the AG Mill met the power draw and conveyance guarantees, as attested by Dr. Vien.[51] Instead, ArcelorMittal seeks the protection of the legal warranty of quality under Article 1726 of the C.C.Q. based on an alleged failure to maintain a throughput of 3002 tonnes per hour at a specific energy of 3.8 kWh/t. The Starkey Design criteria are however meritless. There is no warranty of quality for productivity. Performance measured in production can only be guaranteed by contract, as explained by Professor Vezina, production or throughput of the AG Mill is outside the control of the equipment supplier as it has no ability to control the feed or other variables. The Contract and the facts of the case here show that the terms of the Contract focused on particular performance criteria but not on throughput. Further, even if it did apply, the legal warranty of quality would not benefit ArcelorMittal as to trigger this legal warranty, it has to show a *"defect"* in the mill. For that, it must show that Metso supplied a malfunctioning AG Mill compared to autogenous grinding mills or that the AG Mill was not capable of meeting ArcelorMittal's expectations.[52] Yet, ArcelorMittal failed to prove a functional defect. It did not offer any proof that the 36'AG Mill supplied by Metso is defective in the sense of being dysfunctional in its design or manufacture as compared to other mills of similar kind. Mr. Starkey and Mr. Audet in fact testified that the AG Mill was essentially the same as

[49] Statement of Defense, paras 10.2 and 10.3, pages 91-92.
[50] Respondents' Post-Hearing Brief, para 4.1 and seq, pages 5-7.
[51] Respondents' Post-Hearing Brief, para 5.2, page 9.
[52] Respondents' Post-Hearing Brief, paras 5.1-6.6, pages 8-11.

other 36'- diameter mill. Further, contrary to ArcelorMittal's allegation, the presumption of defect is not *"virtually irrefutable in fact".* Justice Baudouin, expert proffered by ArcelorMittal, claims for a presumption of causation, which can be reversed on a simple basis of probabilities. Metso has established that improper use reverses this presumption and that ArcelorMittal in fact misused the mill. Finally, a defect that relates to contractual requirements, such as the design feed rate, falls outside the scope of Article 2118 C.C.Q. as stated by the Court of Appeal in 2018. [53]

237. Similarly, ArcelorMittal failed to prove a conventional defect, i.e., that the mill does not meet its expectations as known to Metso at the time of the purchase. ArcelorMittal's claim is that the AG Mill is conventionally defective because it could not grind 3002 tonnes per hour with an ore having a specified energy of 3.8 Wh/t and 3452 tonnes per hour with an ore having a specific energy of 3.3 kWh/t. Yet, to prevail to establish a conventional defect under Quebec law, ArcelorMittal must establish that (i) its intended purpose at the time of the sale was to procure a mill that would meet the Starkey Design criteria with ore that was not specified in the Contract; (ii) this was known to Metso and (iii) the AG Mill was incapable of achieving this purpose. [54]

238. Indeed, the criteria of Mr. Starkey were not mandated by Contract and ArcelorMittal thus asks the Arbitral Tribunal to ignore the Contract. ArcelorMittal's witnesses in that light were claiming that the AG Mill was supposed to be capable of grinding ore with a hardness of 3.8 kWh/t at the rate of 3002 tph but on cross-examination conceded that the actual metric, as stated in the Data Sheet was that the mill, on average, would grind the ore at a rate of 3002 tph at an average ore hardness of 3.3 kWh/t. Mr. Godin, expert proffered by ArcelorMittal, testified that the expected performance was 3002 tph at 3,3 kWh/t and Mr. Starkey indicated expecting that the mill would operate at 3.8 kWh/t on average. In fact, the AG Mill was expected, on average, to be capable of grinding the nominal value of 3002 tonnes per hour of ore with a hardness of 3.3 kWh/t, provided the ore feed would not exceed 200mm, that the ore density would be 3.4 t/m, and that the mill would be operated at 75-78% critical speed. [55] ArcelorMittal however keeps ignoring the distinction between the design criteria and the expected nominal (average) performance, using design values to assess long-term performance instead of average values. [56] Dr. Sepulveda confirmed that distinction even though he admitted the arithmetic conducting to a power draw of 11.4 MW. However, again, the 11.4 MW was not the minimum power draw that the AG Mill was to draw consistently but a design extreme, reflecting a 15% safety factor over the anticipated nominal power draw. In fact, the 11.4 MW power draw requirement was satisfied if the mill achieved that power during 24-hours periods, which it did. The 11.4 MW power draw for 3002 tph at 3.8 kWh/t is a *"design value",* 1.15% of the intended average production value of 3002 tph at 3.3 kWh/t. In fact, it was acknowledged by the experts that the mill was expected to perform at 3002 tph with 3.3 kWh/t on average. The alleged requirement that the mill processed 3452 tph with 3.3kWh/t ore is not in the Contract and the numbers do not add up. Indeed, if the mill processed an average of 3452 tph with the datasheet average work index of 3.3 kWh/t using the design 34.48% WREC and the design 90% utilization value, the yield would be more than 9 million mtpa concentrate. [57]

239. ArcelorMittal failed to prove that its real expectations for the Mill were not met. Indeed, at the

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[53] Respondents' Reply to Claimants' Post-Hearing Brief, para 9.3, page 9.

[54] Respondents' Post-Hearing Brief, para 8, page 12.

[55] Respondents' Post-Hearing Brief, para 9, pages 14-15.

[56] Respondents' Reply to Claimants' Post-Hearing Brief, para 6, page 5.

[57] Respondents' Reply to Claimants' Post-Hearing Brief, para 7, pages 6-7.

hearings, Metso demonstrated that the AG Mill was capable of grinding 3002 tph of ore with hardness of 3.8 kWh/t (eight times according to Dr. Snail) and it was admitted previously by ArcelorMittal that the AG Mill could reliably and continuously grind 3002 tph at 3.3 Kwh/t. This corresponded in fact with what Metso's understanding of ArcelorMittal's expectation was. Further, Metso expected that the mill would be fed with ore that met the specifications identified in the datasheet. No other intentions were communicated to Metso and there is no proof that Metso knew that ArcelorMittal (i) was expecting the mill to constantly maintain production levels not specified in the Contract or (ii) was planning to use ore different from the one specified in the datasheet.

240. There is also no proof that the AG Mill did not meet even the non-contractual Starkey Design criteria. The Line 7 Expansion Project was according to Mr. Starkey *"pretty much a disaster from the crushers to the spirals".* It was however incumbent on ArcelorMittal to prove that the mill itself was unable to meet the Starkey design criteria [58]. Yet, it relied solely on Mr. Starkey's benchmark test and his benchmark regression analysis which does not establish that the mill was defective or incapable of meeting the Starkey design criteria. ArcelorMittal has in fact conceded that the test was not to establish the maximum throughput of the mill [59]. Further, the benchmark test lasted only one hour and was flawed since the ore used did not meet the specifications described in the Contract, 14% of the ore fed being larger than the maximum ore size (Fl00) required by the Contract. Yet, according to Mr. Starkey, larger ore requires more time and energy to grind. Consequently, the ore used lowered the mill's throughput rate and resulted in an under-statement of the mill's capabilities. Mr. Starkey admitted that the benchmark was flawed. He however did not perform another test as ArcelorMittal did not provide him the budget for that.

241. At the hearings, Mr. Starkey however states that the *"benchmark regression analysis"* provides evidence that the mill is defective. However, the analysis is derived from eighteen twelve shifts, cherry picked among a total of 1,582, in which the operating conditions were similar to what Mr. Starkey consider *"optimal"* conditions. ArcelorMittal however ignored that conclusion of Dr. Snail. Thus, for the other 1,564 shifts, ArcelorMittal was operating the mill under less than optimal conditions. Any shortfall in the throughput during these 1,564 shifts must consequently have been caused by something other than the mill. Moreover, as emphasized by Dr. Snail, the benchmark examples show that the mill actually performed better than what was predicted by the benchmark test. The throughput values suffered additional errors such as being based on nuclear weigh scales not properly calibrated. Yet, by correcting for the nuclear weigh scales underreporting, the AG Mill met the performance objectives that ArcelorMittal claims apply. ArcelorMittal however failed to address that issue.

242. In addition to the fact that the benchmark test was unreliable and that the weigh scales were underreporting the fresh feed tonnage, the feed supplied to the mill was nowhere near what was specified in the Contract. In fact, by correcting to account for the out-of-specification fresh feed- the oversize material (Fl00), the feed distribution (F80) and the hardness (kWh/t), the AG Mill supplied by Metso is capable of achieving more than the production rate claimed by ArcelorMittal. [60]

243. Thus, ArcelorMittal failed to offer any proof sufficient to trigger the presumption of liability under Article 1729 C.C.Q. ArcelorMittal indeed did not operate the AG Mill under the contractually

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[58] Respondents' Post-Hearing Brief, para 12.2, page 17.

[59] Respondents' Reply to Claimants' Post-Hearing Brief, para 4, page 4.

[60] Respondents' Post-Hearing Brief, para 13, pages 17-24.

specified conditions, which constitutes an improper use of the equipment that would relieve Metso of any liability even if there were evidence of a shortfall in the mill's performance. ArcelorMittal conceded that the feed was out of specification, that it was having the ore ground to a liberation size of 480 to 500 microns rather than the 100 microns size specified and that there were numerous bottlenecks unrelated to the AG Mill. Mr. Starkey conceded that the ore was oversized. However, this was not the only deviation as the Data Sheet provided that 20% of the feed was to be between 180 mm and 200 mm and that in fact only 2% to 3.8% of the feed was that size. The density of the ore was also of 3.21 tonnes/meter while it should have been 3.4 tonnes/meter. Finally, the average operating work index was specified at 3.3 kWh/t on the datasheet while the actual average ranged from 3.5KWh/t to 3.89 kWh/t.

244. The out-of-specification ore affected the AG Mill's throughput. Every deviation in fact affected the throughput as testified by Mr. Audet and confirmed by the testimony of Mr. Starkey. Dr. Vien also explained the effect on grinding where the principal grinding media represented only between 2 and 4% of the ore body while it should have represented 20%.[61] That the AG Mill was operated with a discharge product at 480 to 500 microns instead of 1000 adversely affected the throughput as explained by Mr. Starkey. And so did the fact that the Mill was operated at 73% rather than 75% to 78% critical speed. Mr. Starkey also indicated that 30% of the time the mill was limited by downstream problems. In fact, multiple pieces of poorly functioning equipment on Line 7 led to bottlenecks that adversely affected the mill's performance.

245. ArcelorMittal dictated the dimensions of the AG Mill. Any error or insufficiency resulting from the dimensions is thus attributable to ArcelorMittal. Indeed, on 30 August 2010, before the initial responses to the Request for Quotation were submitted, Metso inquired whether ArcelorMittal would consider a 38' diameter AG Mill with a ring motor. BBA responded that a ring motor was not acceptable. ArcelorMittal did not want to be the first to order a 38' diameter mill that would be gear-driven. ArcelorMittal thus prescribed a 36'diameter. After discussions with Metso and FLSmidth on 13 and 14 October 2010, and internal discussions among ArcelorMittal, BBA and SNC, Addendum No. 1 to the Request for Quotation required bidders to propose a 36'-diameter AG Mill. The bidders were consequently directed to provide power draw charts for a mill with a 36' diameter and a 20.5' length. Mr. Starkey confirmed that in dictating the size of the mill at 36'x 20.5' it eliminated the bidders' ability to propose a different size mill.

246. Further, ArcelorMittal was aware when it purchased the AG Mill of the risks and potential for production shortfalls if the operating conditions were compromised. That rendered the warranty of quality inapplicable because one of the characteristics- that the defect be latent and unknown to the buyer- was missing. The Arcelor Design Team was aware of the capabilities and limitations of a 36' diameter AG Mill and ArcelorMittal reviewed and weighted the benefits and risks associated with the design decisions and the overall operational parameters of Line 7 that could have an impact on the throughput of the AG Mill. There was consequently a backup plan to convert the AG Mill to a SAG Mill. In this light, and taking into consideration the expertise of BBA and SNC as well as ArcelorMittal's familiarity with the ore at Mont-Wright, Metso finds that ArcelorMittal cannot claim ignorance and cannot invoke a breach of the duty to inform on Metso.

247. There is also no loss of work pursuant to Article 2118 C.C.Q. Indeed, for that, ArcelorMittal needs to prove that i) the Purchase Contract is a contract of enterprise, ii) Metso is either a contractor,

[61] Respondents' Post-Hearing Brief, paras 16-1 to 16-96, pages 27-28.

subcontractor, architect or engineer who has directed or supervised the construction of the AG Mill, iii) the AG Mill is an immovable work and, iv) the AG Mill is affected by faulty design or construction that results in the loss of work. There can be no loss of work since ArcelorMittal admitted that the AG Mill functions as other similarly sized mills and because the AG Mill can grind ore on average 3002 tph at the average ore hardness of 3.3 kWh/t specified in the datasheet. Further, the assessment of the AG Mill's performance is based on the benchmark test which is flawed and a regression analysis which highlights the inadequacy of the benchmark test. Honourable Justice Baudouin has indicated that in order to have a loss of work, the expectations must have failed by a *"significant margin"* and the work must require major repairs. If there was a shortfall in production, it was not significant and in fact the out-of-specification ore and the uncalibrated nuclear weigh scales account for virtually all of the claimed shortfall. There is also no evidence that the alleged production shortfall results from faulty design, construction or production of the AG Mill. The flawed benchmark test does not establish with any credibility any shortfalls that are attributable to the AG Mill. Furthermore, converting the AG Mill to SAG was not a major undertaking as the AG Mill was able to accept at least a 5% ball charge and thus the conversion did not require structural change to the mill. This was confirmed by Mr. Godin and Mr. Cacchione. In any case, should the Arbitral Tribunal consider that the alleged *"loss of work"* were proven, the defenses available under Article 2119 C.C.Q apply as the alleged production shortfall is due to the decisions made by ArcelorMittal Design Team. Thus, there is no proof that there was a shortfall by *"a significant margin"* nor was there any proof that the mill required major repairs or a substantial overhaul.

248. As to the alleged duty to inform, it requires that, before the contract is entered into, the contractor or provider of the services provide its client with any useful information concerning the nature of the task that they undertake to perform, the materials used and the time required. ArcelorMittal must establish i) knowledge of the information by the party which owes the obligation to inform, ii) the fact that the information is of decisive importance and iii) the fact that it is impossible for the person receiving the information to inform itself. Yet, there was nothing to disclose- the AG Mill was suitable for its intended duty- and ArcelorMittal and its Design Team knew more than Metso about the capabilities of a 36' diameter.

249. The complaint appears to be that the AG was too small. It is however a complaint rooted in the physical characteristics of 36' diameter AG mills. In fact, the power draw information provided by the suppliers and the ore hardness provided by ArcelorMittal allowed the ArcelorMittal Design Team to project design throughput: gross power draw stated in kilowatts divided by the ore hardness stated in kWh/t equals projected design throughput per hour. After meetings that took place with Metso and FLSmidth, the Arcelor Design Team submitted Addendas Nos 1 and 2. The suppliers had to provide power draw in the context of three situations: a maximum power draw of a 36' diameter mill under hardest ore conditions (3.8 k Wh/t), power draw under average hardness ore (3.3 kWh/t) and power draw when the feed was called soft ore (i.e 3.0 kWh/t). The ore characteristics derived from ArcelorMittal experience in operating Lines 1 to 6. With that information, the Arcelor Design Team assessed the data and narrowed the field to Metso and FLSmidth, after which Metso was selected. The Arcelor Design Team had more information than Metso on the capabilities of a 36' diameter mill to process Mont-Wright ore. Nothing of decisive importance was identified by ArcelorMittal. Further, the AG Mill met the power draw requirements set by ArcelorMittal, and did so under conditions characterized as misuse of the equipment. There was thus no breach of the duty to inform.

250. To conclude, whether in terms of the Contract or the legal warranties and duties availed under the C.C.Q, Metso met all of its obligations. ArcelorMittal knew what it was buying and got exactly what it requested. There can thus be no basis for a finding of liability.

251. If the Arbitral Tribunal were however to find a breach of duty by Metso, ArcelorMittal would have to prove on the balance of probabilities that damages have arisen as an *"immediate and direct consequence"* of that breach and that the damages are sufficiently certain. The alleged breach is not that the AG Mill is defective in the sense of dysfunctional but that Metso provided the wrong mill. ArcelorMittal thus has to prove the amount of profits that it would have earned if Metso had supplied a different mill but everything else about Line 7 remained exactly the same. If these other problems had resulted in the same losses, regardless of the mill, then Metso's breach would not be the cause of the alleged loss. ArcelorMittal has failed to show that the mill was the cause of the lost production. First, ArcelorMittal's experts assume that an additional 18.4 million *"lost tonnes"* of ore could have been mined, transported, crushed, ground, converted into concentrate and sold even though Mont-Wright was already producing *"well above its nominal capacity of 24Mt".* There is no evidence in the record that Mont-Wright is physically or technically capable of operating even further in excess of capacity. In fact, Mr. Guy St-Georges, expert proffered by ArcelorMittal, admitted that he ignored whether the plant was capable of producing the alleged shortfall. Yet, it is the contrary as even at current production levels, Mont-Wright has difficulty to handle the volume of throughput. Indeed, the tailings pumps and spirals become overloaded, which limits throughput, and the ore silos feeding Line 7 frequently run low. Further, the production was limited on Lines 1-6 in 2016-2017 and this would have persisted even if a different mill had been supplied. There is no proof that the alleged *"shortfall"* of 18.4 million tonnes actually could have been processed in the but-for world.

252. Further, if one assumed that Mont-Wright could have processed 18.4 million additional tonnes of ore, it has not been demonstrated that the amount of that shortfall is attributable to the design or manufacture of the mill. There is no defect and if there were one, Mr. Starkey's method cannot be relied upon to quantify these losses. First, because he sets out unrealistic production targets that no mill could have achieved. Second, because it relied on unintelligible logs to allocate alleged losses. Third, because it ascribed all the operating time loss to the mill despite multiple other problems.

253. ArcelorMittal has not indicated what mill should have been provided. It rejected three bidders' proposals for 38' diameter AG mills and Mr. Starkey indicated the appropriate mill was a 36' diameter mill with SAG conversion capabilities, which in fact was the case of the AG Mill submitted by Metso. ArcelorMittal has portrayed SNC Lavalin and BBA as having played a little role in the design but however, in the Quebec Superior Court proceedings, have conceded that they were "(...) *responsible for designing a new production line with annual capacity of 8 million metric tonnes of ore concentrate."* Further, ArcelorMittal does not refer in its Post-Hearing Brief to the other bidders and to the fact that three of them also proposed a 36'diameter AG mill. Similarly, Mr. Starkey's observations regarding the choice of the mill were ignored. [62]

254. Mr. Starkey relies on the McNulty Series 1 ramp-up curve. However, even if Metso had provided a different mill, there were so many other problems with Line 7 that it could not have ramped-up on it. Mr. Starkey has indeed admitted that Line 7, with all the problems encountered, became *"at best a Series 2 project"* but has however used a Series 1 curve claiming that it represents ArcelorMittal's

[62] Respondents' Reply to Claimants' Post-Hearing Brief, para 3, pages 2-3.

"reasonable expectations" for the project. Its expectations are however irrelevant, what matters is what it would have gained *de facto.* Further, even if another mill had been supplied, ArcelorMittal would have had to grapple with the consequences of its mistakes in specifying the wrong ore top-size (Fl 00).[63]

255. Additionally, the Starkey Design Criteria could not have been met by a mill of any kind, due to constraints elsewhere in the plant. He sets the design criteria of 3002 tph for ore of 3.8 kWh/t hardness and 3452 tph for ore of 3.3 kWli/t hardness or softer and then calculates the lost tonnes as the shortfall for these targets. Many problems in Line 7 would however prevent any mill from reaching them. For instance, Mr. Starkey admitted that the Line 7's throughput rate was limited by an underperforming recycle conveyor from 2013 until summer 2016. Other limitations, such as the recycle conveyor bottleneck, were ignored by Mr. Starkey.[64] There were also problems with overloading of spirals or tailing pumps that also limit the throughput of the entire line and that has nothing to do with any problem of the mill. The oversized ore, much larger than the maximum size in the contract, also caused lower throughput as they take longer to grind the product size. Similarly, ArcelorMittal used steel balls which had slots and thus were too narrow and exacerbating the clogging. This also limits throughput. ArcelorMittal does not refute that these problems slowed but did not entirely stop the throughput of Line 7.

256. Further, when converting to SAG operation, ArcelorMittal bought new mill liners from a t hir d party vendor that became packed with ore which became jammed in between the lifters that are part of the liners, reducing thereby the available volume of the mill and impacting its ability to tumble the ore. Mr. Starkey again did not take into account this limiting factor in setting his target for what the mill should have produced.

257. Mr. Starkey is also mistaken when assuming 90% of availability when setting his production targets and *de facto* imposed such obligation on Metso. Hence, any shortfall from 90% is charged in part to Metso. As a result, the daily production targets set by Mr. Starkey were too high. Moreover, the 90% availability is unrealistic, Lines 1 to 6 having been historically available only 86% of the time and even this was exceptional. Applying 80% availability lowers the damages but this question should not be reached because Metso did not guarantee the availability of the entire line. Further, the calculation for allocating shortfalls from the targets is indefensible. As to the calculation of the downtime, Mr. Starkey has admitted that his methodology is flawed because the logs relied upon are fully inconsistent. He however ignored them and assigned all the downtime losses to the mill.[65] Similarly, Mr. Starkey's AG Mill Low Throughput calculation is also indefensible. Again, he ascribed all low throughput for the entire Line circuit to the AG Mill despite uncontroverted evidence that there were multiple process limitations elsewhere in the circuit that limited production. To conclude, ArcelorMittal has not proven that Mr. Starkey's lost tonnes represent what Line 7 would actually have processed if Metso had supplied a different mill. In this circumstance, there can be no award of damages for the alleged lost production and resulting lost profits and even if the tribunal would consider it sufficient, the Richter calculations cannot be relied upon to determine the existence or amount of lost profits. He indeed only devised a simple formula but did not provide any useful expert opinion. There is no proof that the Lost tonnes of ore calculated by Mr. Starkey would have been converted to iron concentrate at a particular percentage rate. Indeed, Richter

[63] Respondents' Post-Hearing Brief, par 27, pages 48 and seq.

[64] Respondents' Post-Hearing Brief, paras 28, pages 51 and seq.

[65] Respondents' Post-Hearing Brief, paras 30, pages 58 and seq.

determined a WREC based on representations from ArcelorMittal that the WREC rates were actual while in fact this was the WREC for past operations at the low throughput which failed to take into account that in the but-for world, the WREC would decrease as production levels increased. Further, Richter's selling prices are unreasonably high as it assumed that ArcelorMittal had a pool of demand at average prices for every lost tonne of concentrate. ArcelorMittal also created a new breakdown of fixed and variable costs solely for purposes of litigation which drove up its damages claims. Richter failed to take into account for future profits to be earned from operating the Metso mill in SAG mode, which will however exceed the total lost profits and the costs for changing from AG to SAG mode. In any case, ArcelorMittal cannot recover the costs of SAG conversion as it would have incurred them in any event. The mill was capable of accepting steel gridding media without modification. The costs were thus not the costs of modifying the mill structure. They are not damages arising from the alleged breach but costs for additional equipment that it would have incurred even if it bought the FLSmidt correct mill that Mr. Starkey refers to. Furthermore, ArcelorMittal failed to mitigate its claimed losses because it did not follow the recommendations of Mr. Starkey to convert into SAG mode as from the beginning.

258. There is thus no evidence that Metso's mill was the cause of a reduced production on Line 7. On the contrary, it seems that ArcelorMittal's errors in the design and operation of Line 7 may have caused such alleged loss. Metso supplied an AG Mill that met the Contract performance criteria (power draw and conveyance) and achieved the throughput rates in the datasheet. It also exceeded the Starkey performance criteria although not included in the Contract documents. It did so even with out of specification ore and sub-optimal conditions. In any case, the benchmark test did not establish that the mill could not meet the anticipated production or that any shortfall in the production could be attributed to the mill.

259. *"On the record in these proceedings, ArcelorMittal's evidence was no evidence at all-much less evidence satisfying the balance of probabilities standard- of a breach by Metso under either contract or legal principles. Accordingly, it is respectfully urged that the appropriate disposition of this case is an award dismissing the claims against Metso and awarding Metso its costs."*[66]

IV. DISCUSSION

260. In this arbitration, Claimants contend that the AG Mill supplied by Metso was defective because, as it was too small, it did not operate at the level required by the design criteria and consequently could not achieve the objective of the Contract which was that *"the AG Mill process sufficient ore for Line 7 to produce a total of 8 million tonnes of iron concentrate per year".*[67] As a result, ArcelorMittal claims to have suffered significant losses in the form of loss of profits and mitigation costs. Metso denies having been responsible for the design and objects to the allegation that the AG Mill was defective because of its size. The Parties are also in disagreement as to what the design criteria were. The Arbitral Tribunal accordingly has to first determine which Party bears the responsibility for the design of the AG Mill (A). This will enable it to characterize the Contract, the Parties having different views on that question (B). The Arbitral Tribunal will then have to determine whether Metso supplied an undersized mill that prevented it from functioning in accordance with the design criteria and consequently caused the shortfall in production invoked by

[66] *Respondents' Post-Hearing Brief.*

[67] Exhibit C-2-2, vol 1, page 21.

Claimants (C). It is only in that case that the Arbitral Tribunal would have to examine the damages claimed by ArcelorMittal (D).

A. The responsibility for the design of the AG Mill

261. The size of the AG Mill supplied by Metso was of 36' x 21.5 pursuant to Appendix D of the Contract ("the Datasheet"). The Datasheet does not specify which Party is responsible for the design and more particularly which of them determined the size of the AG Mill. The Arbitral Tribunal consequently needs to examine whether any Contract provisions other than Appendix D, any documents leading to the conclusion of the Contract or any correspondence among the Parties provide any information on who was to design and actually designed the AG Mill that Metso thereafter delivered to ArcerlorMittal. While, on the one hand, ArcelorMittal contends that Metso *"played a leading and determinative role, particularly in choosing a mill size"*[68] that allegedly would have led ArcelorMittal to enter into the Contract, Metso, on the other hand, denies having that role and argues that BBA and SNC, the two engineering firms retained by ArcelorMittal, were the parties responsible for determining the design parameters and that Metso accordingly did not have any flexibility with the design of the AG Mill it had to supply.[69]

262. In view of the evidence put before it, the Arbitral Tribunal is satisfied that Metso played a crucial role in the choosing of the AG Mill size. In that light, the Arbitral Tribunal first recalls that Metso was a specialist in that field and that ArcelorMittal was relying on its experience for the Line 7's project. This is indeed evidenced by the fact that ArcelorMittal was having discussions with Frank Cacchione, Manager and Project Sales of Metso, as from 2008, when BBA was in charge of a Pre-Feasibility Study for the Capacity increase of the concentrator, seeking from him advice on the size of a mill that would be capable of meeting that objective.[70]

263. The Arbitral Tribunal secondly notes that the Budgetary Request for Quotation ("RFQ")[71] of August 2010 indicates that the mill size (DxL, m) is to be specified by the vendor, i.e., Metso. Further, the Technical Specification of the Contract[72], although prepared by BBA according to Metso[73], contains many indications going in the same directions. Indeed, Article 1.2 first states that the:

"Vendor's scope shall include all labor, materials, equipment and services to:

- Design, supply, fabricate, assemble, paint, inspect, test, deliver, site supervision for assembly and installation, and commissioning support for the equipment listed in Section 1.2.1 (...)".

264. Article 1.2.1 of the Technical Specification then indicates that the *"Vendor is to determine mill size and power for mill required to achieve the production objectives based on ore characteristics and*

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[68] Claimants' Post-Hearing Brief, para 5, page 2.

[69] Statement of Defense, para 4.3.1, page 17.

[70] Statement of Reply, para 39, page 16, Exhibit C88 where Mr. Gaston Morin of ArcelorMittal thanks Mr. Cacchione for meeting with him and requests more information on AG mills of 38 feet that could be available for 2010 and more particularly information on its capacity to grind ore for Mont-Wright.

[71] Exhibit R33.

[72] Exhibit C2, Appendix 1, Company's Technical Specification, page 21.

[73] Respondents' Statement of Defense, para 2.1.2, page 4.

information provided in the datasheet".

265. Article 2.5 of the Technical Specification adds *"the Vendor shall design the autogenous grinding mill and auxiliaries in accordance with this specification, the applicable codes and standards, reference specifications, drawings/datasheets and local, provincial and federal government regulations, and shall ensure that the equipment is suitable for the use specified."*

266. These two articles thus clearly contemplate that Metso is to design the mill in accordance with the indications provided in the datasheet (this is in fact again repeated in article 3 which states that *"the design operating parameters for the autogenous grinding mill are defined in the datasheet in Appendix D")* and that it has the duty to ensure that it is then *"suitable for the use specified"* i.e., to permit Line 7 to produce 8 million tonnes of iron concentrate per year.

267. On this basis, the Arbitral Tribunal is satisfied that Metso was the one that had to advise on the size of the Mill taking into consideration the design criteria incorporated in the datasheet in order to find the best suitable mill to achieve ArcelorMittal's objective of production on Line 7. Further, Metso also had to respect ArcelorMittal's wish not to use a mill of a type that would not have been used before[74] as well as a mill that would have a ring motor[75]. In that light, Metso argues that excluding the ring motor meant that no mill of 38' diameter would be accepted and that consequently it is ArcelorMittal which decided that only 36' diameter mills would be acceptable.[76] Although it is true that only 36' diameter mills were finally considered, Metso did propose different sizing and subsequently adapted its proposals to ArcelorMittal's requirements. This is in fact the view of Mr. Audet, Project Manager of ArcelorMittal.[77] Thus, the Arbitral Tribunal finds that although Metso had indeed a certain number of constraints to respect when proposing the most appropriate size mill, it remains that, based on its experience, it was the only one able to recommend the proper size.

268. This is further reflected by the exchange of correspondences among the Parties prior to the entry into force of the Contract during which the size of the mill was extensively discussed both internally at Metso[78] and also with SNC/BBA. For instance, an email dated 9 August 2010 from Mary Fu to Fred Pena, both with Metso, requests to review *"enclosed A G Mill data sheet and recommend mill size to be quoted"*[79], after which Fred Pena proposed a budget for a 36' x 26' F/F, 18,000 Hp AG Mill. Similarly, after the issuance of the Firm Price RFQ by ArcelorMittal, discussions at Metso continued and more specifically Mr. Lawruk, Vice President, Global Sales and Product Support of Metso, asked Mr. Cacchione whether there was *"any feed back from our budget offer. Specifically mill size!"*[80] In the same vein, Victoria Herman, Product Manager at Metso, requested Fred Pena to *"review the customer's request for quotation and recommend sizing"* and to *"provide mill size selection by Monday (August 23) as this* [was] *needed urgently."*[81] She explained to Fred Pena that ArcelorMittal's *"original thought was to duplicate the Bloom Lake 36' xl9.75' F/F (18'EGL) AG Mill, for installed*

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[74] Exhibit Cl 05, page 3113, email from Fred Pena to Mary Fu « *Mary for your discussions with project crew : I have worked up several scenarios with a view to Mittal's corporate wanting not to use a mill or size that has not been used before: the options are listed below (...)".*

[75] Exhibit R36.

[76] Statement of Defense, para 5.9.3-5.9.9, p. 36-38.

[77] Second Witness Statement, paras 29- 30, page 6.

[78] Exhibits R94-, R34, R44, R43, C103, C105.

[79] *Exhibit R28.*

[80] *Exhibit R34, page 4.*

[81] Exhibit R94.

power of 15,000 Hp" but that they were now looking at increasing the power to 18000 Hp which is why she wanted advice on *"what we need for shell length for a 36' AG Mill for ArcelorMittal, to pull 18000 Hp, Ore SG 3.4".*[82]

269. Further, that the sizing was also discussed between Metso/ SNC/BBA is reflected by Ms. Herman's email to SNC of 30 August 2010. Indeed, in this email, Metso indicates wishing to *"review the AG mill sizing",* submits different comments concerning the sizing of the mill in the light of the requirements in its possession and concludes that *"our objective is to arrive at a mill size, taking into account the client's priorities."*[83] The sizing was also discussed at the 13 October 2010 meeting between Metso, BBA, SNC and ArcelorMittal and Metso proposed the next day three different cases with different dimensions for the mill but with a 36' diameter. After that, two addenda were issued where it was indicated that the project team established an AG mill size of 36' x 20.5' F/F based on technical meetings with AG Mill vendors[84]. The fact that the datasheet included in the addenda did not specify anymore that the mill size was to be specified by the vendor is irrelevant since it is not the final datasheet, and the size of the mill was in any case established upon the proposals of Metso. Mr. Cacchione has even recognized at the hearing that the Datasheet was reflecting case 2 among those that he had proposed[85]. Moreover, the Arbitral Tribunal finds that BBA's Technical Recommendation to the bidders dated 13 December 2010 is telling as it states that *"in selecting the AG Mill for Line 7, due considerations must therefore be given to assuring that: bidders proposes a correctly sized mill* (...)" and that *"the proposed mill is able to draw the required power (based on throughput, ore hardness, mill speed and % loading of the mill).* Even more importantly, BBA stated that *"it was clear from the proposals that the required mill capacity was pushing the limit of 36' AG mills."*[86] Again, this shows in the Arbitral Tribunal's mind that the size of the mill was determined by the vendors, and more particularly by Metso, as it was in the best position with its expertise, to select the most suited mill for the Line 7.

270. In addition to these emails discussing the size of the mill, the Arbitral Tribunal notes that BBA expressly indicated that the supplier, i.e., Metso was to be in charge of the size of the mill. This results from an email from Angelo Gandillo (BBA) to Bruno Audet (ArcelorMittal) of 15 July 2010[87] stating that *"we have therefore taken the approach of asking the supplier to specify the size of the mill and the HP of the motors. While awaiting confirmation of the KWH/t, here is a draft data sheet for the mill which will be attached to the specification in the tender document."* Metso was thus to propose the mill size in order to comply with the requirements of ArcelorMittal. This is also confirmed by the witness statement of Bruno Audet who explains that *"it had been agreed with BBA and SNC that no guidelines would be given to bidders regarding the dimensions of the AG Mill and that it would be up to the bidders to propose an AG Mill that would be able to meet the requirements of the Expansion Project"*[88]. Further, Mr. Frank Cacchione (Metso) wrote to Mr. Gandillo (BBA) on 14 October 2010[89] thanking him for *"meeting us and holding an engaging discussion to arrive at the best suitable mill size for your specific needs".*

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[82] Exhibit C105.

[83] Exhibit R35.

[84] Statement of Defense, page 42.

[85] Hearing 6 June 2018, page 659, Claimants' Post Hearing, Vol 2, pages 922-923.

[86] Statement of Defense, pages 46-47.

[87] Exhibit R99.

[88] First Witness Statement of Bruno Audet, para 14, Documentary Evidence Vol 14, page 7123.

[89] Exhibit C14.

271. To conclude, the Arbitral Tribunal is thus convinced that Metso, as a specialist in the mining industry, was responsible to advise ArcelorMittal and provide it with the most appropriate size mill to comply with the specifications of Appendix D and to meet the objective of ArcelorMittal in terms of production. In other words, the Arbitral Tribunal finds that although ArcelorMittal, with the help of BBA and SNC, have fixed the design criteria, Metso had the most crucial and determinative role in the design of the mill as it had to determine what mill was to be supplied, and specifically what size of the mill was needed to meet ArcelorMittal's design criteria and objective.

B. The characterization of the Contract

272. Having assessed the role played by Metso in the design of the AG Mill and more particularly its role in determining the appropriate size of the Mill, the Arbitral Tribunal is now able to opine on the characterization of the Contract.

273. There is indeed a disagreement among the Parties on this question, ArcelorMittal contending that the AG Mill Contract is a contract of enterprise pursuant to Article 2098 C.C.Q [90] and Metso arguing that it is a contract of sale pursuant to Article 1708 C.C.Q [91].

274. However, the Parties agree that the contract of sale consists in a mere transfer of property from one person to another while in a contract of enterprise *"the object is carrying out of material/intellectual work by the contractor".* [92]

275. In that respect, Metso explains that in order to determine whether the contract is one of enterprise, it must be looked at the parties' intention or, if not clear, at the expertise of the supplier. One must ask itself whether *"the buyer turn*[ed] *to the supplier for its expertise in designing and building a good, or rely* [ied] *on the contractor's expertise in achieving the client's objective".* Metso adds that if neither these two elements were determinative, the Arbitral Tribunal would then have to assess *"the value of goods to labor in the execution of the contract."* [93] On the basis of each of these criteria, Metso contends that the Contract was not one of enterprise. Metso indeed affirms that i) the Parties' intention at the time of conclusion of the Contract was that it be a contract of sale; ii) that this results from the terms of the Contract, and iii) that the labour or intellectual work was merely accessory to the overall value of the AG Mill. [94]

276. The Arbitral Tribunal finds that it has not been convincingly established that it could be induced from both the intention of the Parties and the terms of the Contract that the latter was just a contract of sale. The Arbitral Tribunal's analysis in paragraphs 260 et seq. above shows, quite to the contrary, that the Parties wanted Metso to be actively involved in the design process, and that the terms of the Contract reflect such intention. Indeed, the above cited articles of the Technical Specification

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[90] *"A contract of enterprise for services is a contract by which a person, the contractor or the provider of services, as the case may be, undertakes to another person, the client, to carry out physical or intellectual work or to supply a service, for a price which the client binds himself to pay to him"*

[91] *"Sale is a contract by which a person, the seller, transfers ownership of property to another person, the buyer, for a price in money which the latter obligates himself to pay".*

[92] *Claimants' Post-Hearing Brief, para 84, page 37 and Respondents' Statement of Defense, para 11.1.2 and 11.2.3, pages 96-97.*

[93] Statement of Defense, paras 11.2.4 and 11.2.5, pages 97 and 98.

[94] Statement of Defense, paras 11.3-11.7, pages 99-107.

underline that the vendor had to *"to determine mill size"* or that it had to *"design the autogenous grinding mill and auxiliaries"* which goes clearly beyond a mere obligation to sell. The Arbitral Tribunal need not come back on these elements again.

277. Moreover, Metso subsequently indicates that as the vendors were not *"the ones who designed Line 7 or developed the specifications for the equipment to be supplied"* and that as they were not *"performing design functions",* the Contract can only be one of sale. It also underlines that Metso *"provided specific information solicited by the ArcelorMittal Design Team so that the Team could assess the offerings in the context of their design of Line 7 and advise ArcelorMittal in finalizing its sizing and selection of the AG mill component."*[95]

278. It is again the Arbitral Tribunal's view that Metso's intervention in the design process, as described by Metso itself, was a key element of its contractual performance. Indeed, it has been shown that if Metso had to comply with the specifications determined by ArcelorMittal/BBA/SNC, it also had to analyze these requirements and on the basis of its own analysis propose and build a Mill which size could permit the respect of such requirements. The discussions between the Parties on that question, which lasted for months, evidence that ArcelorMittal relied on Metso's expertise as a mill designer to achieve its objective and that Metso's work in that regard was not *"merely accessory"* to the value of the AG Mill. Indeed, this last condition was also referred to by Respondent and is of much importance under Quebec case law when assessing whether a contract is a contract of sale or of enterprise. It is in fact the test set out by the legislator at Article 2103 C.C.Q[96] pursuant to which a contract is considered as a contract of sale if the work is merely an accessory in relation to the value of the property supplied. Such assessment is made on a case-by-case basis and, as underlined by the Honourable Justice Baudouin, "(...) *a contract of enterprise deals primarily with the function of elaborating, designing carrying out and manufacturing property."*[97] No doubt that such was the case as already explained. ArcelorMittal in fact could not have determined the size of the mill to comply with its requirements without Metso. In fact, as rightly emphasized by ArcelorMittal, it *"did not purchase a product already manufactured but one that was designed and built specially for it."*[98] The Arbitral Tribunal is therefore satisfied that the Contract was a contract of enterprise.

279. Pursuant to that contract of enterprise, Metso proposed to supply and manufacture a mill of a certain dimension. That mill was to respect certain basic design criteria set out by ArcelorMittal/ BBA/SNC. ArcelorMittal however contends that because of the size of the mill, the basic design criteria could not be respected as from 2013, having prevented the AG Mill from producing sufficient ore to respect ArcelorMittal's objective. The Arbitral Tribunal thus has to examine whether Metso has supplied an undersized AG mill that caused the loss of production invoked by ArcelorMittal.

C. Did Metso supply an undersized mill?

280. Preliminary, the Arbitral Tribunal notes that the objective of the Contract was known by Metso.

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[95] *Respondents' Reply to Claimants' Post-Hearing Brief, para 8, pages 7 and 8.*

[96] *« (...) A contract is a contract of sale, and not a contract of enterprise or for services, where the work or service is merely an accessory in relation to the value of the property supplied ».*

[97] Exhibit Cl20, paras 28 and 29.

[98] *Statement of Reply, para 244, page 79.*

Indeed, the overall goal of the Contract was clearly enunciated at Article 1 of the Technical Specification which states that *"ArcelorMittal Mines Canada is looking to expand the capacity of Mont Wright iron plant by 8 Mt/y concentrate production, by adding a new concentrating line number 7 to already existing 6 lines in operation."* Moreover, Metso had acknowledged being aware of that objective. [99]

281. Then, the Arbitral Tribunal is satisfied that ArcelorMittal does not argue that the mill had a *functional defect* in the sense that the mill supplied by Metso had a default which would have prevented it from functioning as other AG mills. In any event, both Mr. Starkey and Mr. Audet conceded that the AG Mill functioned as any other 36' diameter mills. [100]

282. ArcelorMittal however contends that the AG Mill was affected by a *conventional defect* as it could not meet the design criteria because of its size and that, as a consequence, the AG Mill was underperforming and unable to support the increase in the annual production that had been contemplated for in the Contract. Metso argues that Arcelor Mittal needs to establish that (i) its intended purpose at the time of the sale was to procure a mill meeting the Starkey design criteria with ore not specified in the Contract, (ii) this purpose was known to Metso and (iii) the AG Mill was incapable of achieving this intended purpose.

283. ArcelorMittal explains that in order for the AG Mill to be able to meet its objective of supporting the increased annual production capacity of the Mont-Wright facility by 8 million tonnes of iron concentrate, the AG Mill was to be able to process 3002 tph of crude ore of a hardness of 3.8 kWh/t and 3452 tph when the ore hardness was 3.3 kWh/t, in both cases reaching a power draw of 11.4 MW that was, according to it, guaranteed by the Contract. Metso reads these criteria differently. According to it, the 3002 tph at 3.8 kWh/t were not a contractual target, but the design value [101] and the AG Mill was to have a capacity of 3002 tph when processing ore at 3.3 kWh/t, which constituted the average. The debate between the Parties is thus whether the AG Mill criteria are to be interpreted as requiring the mill to process 3002 tph for ore hardness of 3.8 kWh/t on a constant basis to draw a minimum of 11.4 MW of power or if it was to operate on a constant basis 3002 tph for ore hardness of 3.3 kWh/t.

284. The Arbitral Tribunal first notes that the Design Criteria have changed. Indeed, the Initial Design Criteria in the RFQ of 6 August 2010 [102] specified that the fresh feed rate was of 3002 t/h (nominal), the design feed rate was of 3452 t/h and the operating work index was of 3.8 kWh/t [103]. The AG Mill was thus supposed to have a production rate of 3452 t/h with an ore operating work index of 3.8 KWh/t [104]. These Initial Design Criteria were however relaxed by BBA to reflect what is mentioned in

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[99] Email from John Trescot (Metso) to Frank Cacchione, 14 June 2018 "*Based upon the approvals from the AM board, the targets for AM Mining Canada are: expand the existing facility by 8 mtpy, including new mills, material handling, car dumper, stacker/reclaimer and 8 mtpy straight gratepellet plant (...)",* Exhibit R18.

[100] Transcript Hearing 11 June 2018, page 929 Q: *"But basically the Metso mill operates about the same as somebody's else 36-foot mill would operate?"* A: *"Yes"* and Transcript Hearing 5 June 2018, page 396.

[101] Respondents explain that the design value « *sets the extreme capabilities of the equipment»,* Respondents' Post-Hearing Memorial, para 9.3, page 13.

[102] Exhibit R28.

[103] According to Mr. Cacchione, the distinction between nominal and design is that nominal rate is the steady state and the design rate is the maximum, Hearing, June 6, 2018, page 657, Claimants' Post Hearing Brief, Vol 2, page 920.

[104] Respondents do not seem to have objected that at that time the mill was to operate at 3452 tph at a 3.8 kWh/t, see Rejoinder, para 5.3, page 13 « *when the ArcelorMittal Design Team found that the 3452 tph at a 3.8 KWh/t « work index would not be a realistic design target...* »

the Data Sheet included in the Contract, reproduced below and object of different interpretations by the Parties:

Description	Data
New Mill (1) Line 7	
Mill size (D x L, ft)	36'x 21.5'F/F
Mill size (L, ft.) EGL	19.75 ft.
Mill feed rate design, design (t/h new feed, dry basis)	3002
(•••)	
Ore specificity gravity	3.4
Operating Work Index, measured at motors lead, metric (kWh/t)	3.3 (average) 3.8 (75th percentile)
Mill loading (max design)	30%
Mill critical speed %	75-78
(•••)	
Mill feed size Fl00 (mm)	200
Mill feed size F80 (mm)	180

285. The Arbitral Tribunal notes that BBA explained at the time to SNC and ArcelorMittal in a document entitled "AG Mill Proposal Review" [105], transmitted to Metso on 6 October 2O1O [106], the intent of the relaxed Design Criteria as follows:

"- During periods where 'hard ore' is processed, (i.e. ore with an operating work index as defined above in the order of 3.8 kWh/t), production capacity should be limited to the nominal production rate of 3002 t/h.

- At average ore hardness (i.e ore with an operating work index of 3.3 kWh/t, representing the 50% percentile of the ore index distribution), production rate would be at the design capacity of 3452 t/h. This thus implies that when ore is softer than average, production remains capped at design capacity.

- In the 25°% of the cases where ore is harder than 3.8 kWh/t, production will have to be reduced to levels below nominal production rate of 3002 t/h".

[105] Exhibit Cl2
[106] Exhibit Cl09.

286. This Proposal seems to be consistent with Claimants' interpretation.

287. BBA however issued a Technical Recommendation of 8 December 2010[107] where it stated that the new parameters were to function as follows:

- "When processing hard ore (3.8 Kwh/t), the nominal production rate of 3002 t/h will need to be maintained. When ore hardness increases above this level, production will be curtailed. This is markedly different than the original design parameters which required that design capacity of 3452 t/h be achievable for hard ore;

- The design capacity of 3452 t/h need only be achieved when favorable ore hardness conditions prevail. Therefore design capacity will be attained when ore hardness is in the order of 3.0 Kwh/t."

288. The majority of the Arbitral Tribunal thus notes that in the AG Proposal Review of October 2010 the Relaxed Design Criteria seemed to imply that the AG Mill was to be designed for a capacity of 3002 tph at 3.8 kWh/t when hard ore was processed, and, on average, of 3452 tph at 3.3 kWh/t, thus confirming ArcelorMittal's interpretation. However, while the Technical Recommendation of December 2010 still refers to 3002 tph at 3.8 kWh/t, it states that the design capacity of 3452t/h need only be attained when ore hardness is around 3.0 kWh/t which is less than the 3.3 referred before. Hence, this Technical Specification does not confirm entirely the previous proposal made by BBA. The only common ground between the two proposals is that the AG Mill operate 3002 tph at 3.8 kWh/t. However, the requirement of 3452 tph at 3.3 kWh/t has been abandoned in the Technical Specification.

289. The majority of the Arbitral Tribunal further notes in that respect that there is no reference to 3452 tph in the Contract. In fact, ArcelorMittal deduces this number from dividing the power draw of 11.4 MW, that is, according to ArcelorMittal, a guarantee provided by Metso, by 3.3 kWh/t that is referred to in the Datasheet as the average. The majority of the Arbitral Tribunal does not find however that this justification is sufficient to consider that the AG Mill was to process 3452 tph at 3.3 kWh/t when no mention of that specific requirement is clearly included in the Contract.

290. Additionally, the will of the Parties as to the interpretation of the Datasheet concerning the Design Criteria has to be examined in the light of the witness testimonies. Yet, although Metso alleges that the requirement that the mill operate at 3002 tph with a hardness of 3.8 kWh/t was invented by Mr. Starkey (the Starkey Design Criteria)[108], Mr. Cacchione has conceded at the Hearing that the AG Mill was designed for a throughput of 3002 tph at an ore hardness of 3.8 kWh/t and that this was based on its Case No. 2.[109] Dr. Sepulveda has also affirmed that the design criteria required the mill to process 3002 tph at an ore hardness of 3.8 kWh/t[110]. The explanations for retaining 3.8 kWh/t which is 75th percentile on the Datasheet and not 3.3 kWh/t which is marked as average on the Datasheet has been convincingly explained by Dr. Starkey at the hearing. Indeed, he stated that *"if you design a mill for 3.8 it's going to meet 3.8 and 3.3. But if you design a mill for 3.3, it's going to meet 3.3, but it will be too small for 3.8".* He added that based on his experience *"when two specific energies are*

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[107] Exhibit C8, pages 246-247.

[108] Respondent's Post-Hearing Brief, para 2.7 and footnote 10, page 4.

[109] Transcript Hearing 6 June 2018, page 604. Question: *"So the design criteria expect the mill to be able to operate 3,002 tonnes per hour for an ore hardness of 3.8, correct ?"* Answer: *"Yes."*

[110] Transcript Hearing 12 June 2018, page 1224.

presented at the same throughput, the harder of the two defines the mill required"[111] In that same light, Mr. Cacchione has conceded that if a mill is designed to operate at a throughput rate of 3002 tph for an ore hardness of 3.3, then the throughput rate would be lower when the mill would be processing ore of a hardness of 3.8[112], which cannot be the case on the basis of the Datasheet providing for a throughput of 3002 tph. Dr. Sepulveda has in fact also confirmed that it was *"customary to design a mill in accordance with the 75th percentile of ore hardness."*[113] The majority of the Arbitral Tribunal concurs with that reasoning and finds that it has been convincingly established that the AG Mill was to be able to process 3002 tph with an ore hardness at 3.8 kWh/t and that both Parties were aware of these requirements when entering into the Contract. On the contrary, it is satisfied that there was no contractual requirement that the AG Mill operate 3452 tph at an ore hardness of 3.3 kWh/t.

291. The Arbitral Tribunal has however noted that another debate opposed the Parties. Indeed, for Claimants, pursuant to the Datasheet as well as Appendix 10 of the Contract, the AG Mill had to operate fully at 3002 tph at 3.8 kWh/t to draw 11.4 KW permanently, while for Respondents, there was a warranty that the AG Mill draw power of 11.4 KW but which was limited. According to Metso, only the power draw and the conveyance were guaranteed in the Contract but there was no throughput guarantee. It is consequently Respondents' view that the design criteria were not to be met at all times. In that respect, Mr. Cacchione has explained at the Hearing that operating at 3002 tph at an ore hardness of 3.8 kWh/t was the design limit.

292. This is in the majority of the Arbitral Tribunal's mind the most important element. Indeed, if, as emphasized by Claimants, it was contractually contemplated that the AG Mill would *"draw a minimum of 10,837 KW at pinion"* (which is the net power), this was not only subject to the respect of certain conditions but it was also limited in time. Indeed, it was specified that *"the ability of the equipment to perform as warranted shall be conclusively established for all purposes and Contractor shall be discharged from any further obligations under this warranty: if and when the respective operating results meet the warranted standards of performance for any consecutive 24-hour periods of operation as disclosed by Company's records otherwise, including without limitation, by test at Contractor's option* (...)"[114]. This performance thus had to be reached for a consecutive 24 hours period, which was explained by Respondents because *"11.4 MW power draw for 3002 tph at 3.8 kWh/t is a "design value""*[115]. Claimants' witness, Mr. Godin, has conceded that the mill was not expected to operate at 3002 tph at 3.8 kWh/t on a regular basis[116] and so did Mr. Starkey.[117] Claimants' reliance on the fact that it is mentioned that the Mill must draw 10,837 KW as a *"minimum"* is thus irrelevant. This is justified by the fact that the supplier of the Mill cannot control the production, having no possibility to control the feed and operating parameters.[118] Hence, the majority of the Arbitral Tribunal is satisfied that whether the AG Mill was expected to perform 3002 tph with a hardness of 3.8 KWh/t, hence drawing 11.4 MW of power, it did not have to do so continuously.

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[111] *Transcript Hearing 11 June 2018, page 900.*

[112] Transcript Hearing 6 June 2018, page 605.

[113] *Transcript Hearing 12 June 2018, page 1231.*

[114] Appendix 10 to the Contract, model-Letter of credit, page 139.

[115] *Respondents' Reply to Claimants' Post-Hearing Brief, para 7.3, page 7.*

[116] Transcript Hearing 5 June 2018, page 291.

[117] Transcript Hearing, 11 June 2018, page 980 Q: *"You don't expect the mill on average to operate at 3.8?"* A: *"Of course not."*

[118] Respondent's Post-Hearing Brief, para 6.3, page 10.

293. Metso has indicated that it met the power draw and conveyance guaranteed under the Contract and that ArcelorMittal did not challenge that fact.[119] ArcelorMittal has however clarified that its claim was *"not based on Metso's failure to meet the power draw and conveyance guarantees"* but *"on the failure of the AG Mill to meet the design criteria",* underlying that, as a result of Mr. Starkey's analysis, the AG Mill averaged a throughput of 2562 tph with an average ore hardness of 3.74 kWh/t for the period 22 June 2013-30 November 2015 and a throughput of 2727 tph for an average ore hardness of 3.36 KWh/t[120] thus breaching the contractual requirement of a throughput of 3002 tph. In other words, ArcelorMittal objects to the fact that the AG Mill did not draw permanently power of 11.4 MW while processing 3002 tph at an ore hardness of 3.8 KWh/t.[121]

294. The majority of the Arbitral Tribunal however finds that it has been established that Metso met the performance criteria several times. Indeed, although it had not met these criteria permanently, Dr. Sepulveda indicated that the design criteria performance of 3002 tph at 3.8 kWh/t were reached three days on the period examined, i.e., in 2014, and one day in 2015 which means the mill power draw reached 10,837 KW 19% of the operating time on the evaluation period, i.e., between 1 June 2014 through 31 October 2016.[122] Similarly, Dr. Vien clearly explained at the hearing that *"40 or 50 days during this time [the AG period], the mill came very close to, met, or exceeded the Starkey Design criteria—the 3,002 tonnes per hour at 3.8 kilowatts-hours per ton"*[123] and added that the grinding rate even reached 3,074 tph with hardness at 3.89 on 27 January 2016[124], thus exceeding the required 3002 tph at 3,8 kWh/t. Dr. Snail even demonstrated that regarding the benchmark test made by Mr. Starkey, 12 cases out of 16, i.e. 66 % of the time, *"the mill actually performed better than Mr. Starkey's benchmark test said its maximum capacity was* (...)."[125] Claimants have failed to contradict these findings. On the contrary, the Benchmark Test performed by Mr. Starkey has been revealed to be inapposite and unreliable. In particular, the values of the throughput were underreported because of the nuclear weigh scales which were not properly calibrated.[126] In any case, the AG Mill did manage to have a throughput of 3002 tph at 3.8 kWh/t on several occasions. For that reason, the majority of the Arbitral Tribunal finds that it has not been established that the mill was unable to process the desired throughput of ore because of its size and was accordingly unfit for its intended use. Consequently, Metso neither breached its duty as Contractor nor the warranty of quality and the warranty against loss of work pursuant to articles 2103 and 2118 C.C.Q invoked by ArcelorMittal. The majority of the Arbitral Tribunal thus could conclude that ArcelorMittal's allegation that the AG Mill provided by Metso was defective has not been established. On this basis, the majority of the Arbitral Tribunal is satisfied that the debate regarding Metso's duty to inform ArcelorMittal of possible defects of the AG Mill is meaningless and that it does not need to discuss it.

However, the majority of the Arbitral Tribunal additionally finds that the AG Mill was in any event prevented from processing 3002 tph at an ore hardness of 3.8 kWh/t more frequently than it did

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[119] Respondent's Post-Hearing Brief, para 5.1, page 8.

[120] Claimants' Post Hearing Brief, para 46, page 21.

[121] In that light Mr. Audet explained that they were considering that *"75% of the time, we would be able to meet our criteria of 3,002 tonnes",* Transcript Hearing 5 June 2018, page 346.

[122] Transcript Hearing 12 June 2018, page 1235. Dr. Sepulvada clearly answer *«yes »* when asked « *according to the analysis you have done of all those statistical data, the mill only reached the design criteria performance of 3,002 at 3.8 gross hardness on three days out of the whole 29 months, is that right?* ». See also page 1245 mentioning one day in 2015.

[123] Transcript Hearing 13 June 2018, page 1540.

[124] Transcript Hearing 13 June 2018, page 1541.

[125] Transcript Hearing 13 June 2018, page 1383.

[126] Transcript Hearing 7 June 2018, pages 77 and 78 and Mr. Knorr RWS, paras 4-5, pages 6-8.

because it was not operating under the agreed contractual conditions and, in any case, was not tested under such conditions of operation. Indeed, pursuant to the Datasheet, the ore feed would not exceed 200 mm (the Fl00) and that 20% of the feed that would be between 180 mm and 200 mm (the F80) intended to act as grinding media. The Datasheet also provided for specific gravity (t/m) and hardness under certain parameters (mill rotational speed and product size (P80)).

295. Metso states in that respect that ArcelorMittal provided ore that did not meet the said characteristics and did not respect the parameters, the mill having been operated below the specified speed. Dr. Sepulveda has also indicated at the hearing that the daily average would have been higher if the AG Mill had been operated at maximum power draw conditions all the time, which was, according to him, 78% solids, 76% critical speed and load of 34 to 36%. [127]

296. Based on the evidence put before it, the majority of the Arbitral Tribunal finds that when the AG Mill was tested by Mr. Starkey, at least three factors- the feed size, out-of-specification ore and bottlenecks- depending on ArcelorMittal, had a significant impact on the throughput. Consequently, the alleged shortfall of ore concentrate produced could not be validly assessed. Without respecting these parameters, the AG Mill did not process as expected. This was independent of Metso and it could not anticipate that the parameters would not be followed by ArcelorMittal.

297. As to the feed size, the majority of the Arbitral Tribunal has no doubt that ArcelorMittal did not comply with the contractual requirements. Dr. Vien indeed mentioned at the hearing that the feed supplied to the mill never complied with the specifications of the Contract. [128] Pursuant to the Data Sheet, the maximum size of the fresh feed (F100) [129] was to be 200 millimeter and 80% of the mill feed size had to be less than 180 mm (F80), as already mentioned. Mr. Starkey however conceded that *"the actual top size is over 500 mm"* [130], which leads to 250% oversized feed. Mr. Starkey explained that it has been the case for many years and that BBA specified a wrong size. Mr. Godin, witness proffered by ArcelorMittal, has also recognized that fact. [131] The majority of the Arbitral Tribunal does not consider that explanation to be convincing as, even if BBA made an error in that regard, it remains that there was no reason to depart from the Contract and that ArcelorMittal should have complied with that requirement or have requested changes in the Data sheet should it have found it to be necessary. [132]

298. Further, Dr. Vien added that the amount of material oversized [was] not "*1 or 2%, it's 14, 18, 9%>*" [133] which was thus very significant. He further explained that this *"would significantly impact the capacity of the mill"* and in his view, based on simulation results made upon request of

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[127] Transcript Hearing 12 June 2018, page 1244.

[128] Transcript Hearing 7 June 2018, page 786 *"during each of the three campaigns, the feed to the mill did not meet the specifications, and Arcelor has not providing data showing the mill ever had met specifications in the contract documents".*

[129] Transcript Hearing 7 June 2018, page 786, Dr. Vien explained in that light that the specifications meant the fresh feed and not the mill feed as indicated, fresh feed being according to him what comes from the silos.

[130] Exhibit C76, page 62.

[131] Transcript Hearing 5 June 2018, page 264.

[132] In Dr Vien's view « *when ArcelorMittal specified a feed size distribution in its tender, and that that distribution a contract undertaking, in the industry, equipment suppliers- including Metso- would have understood that ArcelorMittal, as part of its billion dollar plus expansion of Mont Wright, was planning to adjust its mine blasting and/or its crusher operations to provide the contractually specified feed* », Dr Vien's RSWS, para 3.4.

[133] Transcript Hearing 7 June 2018, page 787.

ArcelorMittal, concluded in a 2007 report that *"10 to 13% increase in throughput could be achieved if the maximum feed sizer were less than 10 inches (254 mm) (2007 Mont Wright Audit)"* adding that *"the increase in throughput would be somewhat greater if the maximum size feed were at the contract-specified 200 mm"*[134]. Mr. Starkey has tried to minimize that result indicating that *"the elimination, by screening and crushing, of all the plus 200 mm pieces, would result in a throughput improvement in the order of no more than 5%, probably much less, using Starkey's knowledge of the effect offeed size variation on throughput and would add complexity to the crushing plant.*[135]" He added that *"This is so because the specified 80% passing size of 180 mm for the feed is correct and was confirmed in the benchmark test."* The majority of the Arbitral Tribunal finds that this explanation is baseless, Dr. Vien having shown in fact that the majority of F80 was also oversized, which indicates a lack of grinding media rocks.[136] Further, Mr. Starkey's explanation is not supported by any evidence. On the contrary, Dr. Vien's conclusion was credible as it was based on previous simulations. In any case, the majority of the Arbitral Tribunal notes that it is not disputed that larger pieces have an impact on the production. This first element- the oversized material supplied by ArcelorMittal- had thus consequences on the alleged shortfall in production of ore concentrate. Should the feed size have been respected, the result of the test would have been different. ArcelorMittal's argument that Metso had knowledge of the ore's characteristics is irrelevant. These characteristics constitute a mere fact which ArcelorMittal knew perfectly when it determined the criteria in the Data Sheet and Metso's equal knowledge, if established, would not have obliged it to inform ArcelorMittal of a fact it knew already. Metso was entitled to expect ArcelorMittal to comply with the criteria it had established by using appropriate methods to overcome any difficulty.

299. In addition to the feed size, the majority of the Arbitral Tribunal is satisfied that the fact that the ore was out of specification also had a negative impact on throughput. Indeed, the average hardness pursuant to the Data Sheet was 3.3 kwh/t. Mr. Audet has agreed that the harder the mineral is the lower throughput is obtained. He indicated for instance that if the average hardness was 3.5 instead of 3.3 this would amount to a reduction of around 5%.[137] Yet, Dr. Sepulveda indicated that it resulted from the operating records that *"the average specific energy consumption ("ore hardness") was shown to be at 3.70 kWh/t (net) or 3.89 kWh/t (gross)"* indicating that the ore, which was even above the 3.8 kWh/t 75th percentile, was harder than expected.[138] Thus, again, this shows that the fact that ArcelorMittal did not comply with the contractual specification led to a decrease of production.

300. Finally, the majority of the Arbitral Tribunal notes that other factors, although not contractual, contributed to the shortfall. It is for instance the case of the pressure set points. As indicated by Dr. Sepulveda, an operator imposed restriction not to exceed some 3200 t/h of fresh feed ore rate, causing a drop in mill bearing pressure which was limited at 5900 kPa[139]. In fact, ArcelorMittal's own metallurgist, Mr. Gagon and Mr. Rochefort admitted that *"power was not a problem"* but that *"the constraints lie* [d] *with the limitation of pressure setpoints."*[140] This difficulty was answered by Mr. Simonian, Respondent's witness, Chief Metallurgist in a company called Centerra Gold, when he

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[134] *Dr.Vien's second witness statement, RSWS, para 3.6, page 3.*

[135] Dr. Starkey's report of 14 February 2018, C-76, page 63.

[136] Dr.Vien' second witness statement, RSWS, para 3.7, Transcript Hearing, 7 June 2018, page 839.

[137] Transcript Hearing, 5 June 2018, page 466.

[138] Dr. Sepulveda RER, page 3.

[139] Dr. Sepulveda, RER, page 3.

[140] Statement of Defense, para 6.1.3.

came to visit the Mont-Wright facility in May 2015 to perform tests on some parameters of Line 7 AG Mill. He indeed recommended to ArcelorMittal to increase the bearing pressure set point, because of ArcelorMittal's operator which imposed a limit of the amount on fresh feed being introduced into the Mill, overruling thereby the automatic controller and limiting the feed rate fed into the AG Mill.[141] He specified that it would increase the amount of fresh feed brought to the mill and thus increase the mill production.[142] This recommendation was however not followed.

301. Other problems with some equipment- not supplied by Metso- such as the recycle return conveyor[143] produced bottleneck. This was even acknowledged by Manon Bilodeau, Director, Crushing and Concentrator Operations at ArcelorMittal Mining Canada, who indicated that that *"From the commissioning of Line 7 in 2013 until summer 2016, reductions in the grinder feed rate were primarily due to two causes: 1) the stoppage of one of the half-lines for maintenance and 2) the limited capacity of the CB7-4 return convey* or"[144] for which Arcelor Mittal had in fact completed modifications since the summer of 2016. She thus concluded that since then *"the main cause of reductions in the feed rate of grinder 7 was the stoppage of one of the two half-lines or one of the scalping screens for maintenance".* This was not Metso's responsibility. As recorded by the Testwork Report in April 2017 on the conversion of the AG Mill into a SAG Mill, bottlenecks caused by problems with the tailing pumps, the return conveyor, and the thickener had to be fixed as part of the SAG conversion[145]. In fact, one of the recommendations made at the end of the Report is *"to continue to identify and resolve the bottlenecks on line 7".*

302. Mr. Starkey explained that failures in other Line 7 components such as conveyors, feeders and chutes result in *"on/off" behaviour, i.e. they are either working well or require a shutdown."* He added that such shutdowns (i.e. "downtimes") are recorded in the ArcelorMittal logbooks and were accounted for in the downtime analysis.[146] This explanation might be helpful for a calculation of damages in order to distinguish loss of production caused from an alleged deficiency of the AG Mill from causes from which Metso was not responsible. But it does not change the fact that the line 7 was not operated trouble-free, a factor among others which cannot be ignored when assessing the ability of the AG Mill to meet the contractual specifications.

303. It thus results from the above that in fact, for the majority of the Arbitral Tribunal, ArcelorMittal did not operate the AG Mill in accordance with the requirements of the Contract and that the AG Mill encountered some difficulties of operations not caused by Metso, which all had an impact on the throughput. The AG Mill has thus never been tested in contractual and trouble-free conditions. Consequently, this finding added to the finding that the AG proved to be able to meet the contractual performance criteria several times, lead necessarily to the conclusion that ArcelorMittal failed to establish that the AG Mill provided by Metso was defective and inadequate to meet the objectives of ArcelorMittal.

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[141] Statement of Defense, para 8.

[142] Mr. Simonian RWS, para 4.2 *« My report included several recommendations to ArcelorMittal, including measures that would allow it to optimize mill performance by, among other things, investigating increasing the bearing pressure set point, which would increase the amount of fresh feed brought to the mill, which would, in turn, increase mill production."*

[143] Theberge RWS, para 2.4 where he indicates that he was informed by ArcelorMittal that the reason for the reduced bearing pressure *« was that the conveyor for the recycled material was experiencing overload conditions. »*

[144] Witness statement of Manon Bilodeau, para 24, page 4, See also the witness statement of Christian Rochefort, para 48.

[145] Exhibit R95, page 18.

[146] Starkey's Report of 14 February 2018, C-76 page 83.

D. The claimed damages

304. As a result of the alleged underperformance of the AG Mill due to its size, ArcelorMittal has claimed damages in the form of loss of production and loss of profits. ArcelorMittal has indeed clearly stated that its claim *"is for the value of the iron concentrate that would have been produced from the tonnes of crude ore that should have been processed by the AG Mill, but for its underperformance."* [147] In light of the finding by the majority of the Arbitral Tribunal that Metso did not provide a defective Mill, ArcelorMittal's damages claim must be dismissed.

V. COSTS

305. On 14 December 2018, the Parties have provided their respective Statement of Fees and Costs. On 15 December 2018, Respondents provided a Revised Statement of Fees and Costs.

306. Claimants indicated that their Total Costs amounted to USD 3,824,515.59 divided as follows:
- USD 2,318,320.96 for Legal Costs [148];

- USD 1,013,859.15 for Experts Fees and Expenses;

- USD 15,461.40 for witnesses and personnel costs;

- USD 30,709.52 for the hearing room and;

- USD 446,164.56 for the reporting, translation and ICC Costs (USD 418,381.25).

307. Respondents indicated that their Total Costs amounted to USD 7,852,983.31 divided as follows:
- USD 5,059,968 for Legal Cost, out of which USD 222,514 were for the claim relating to Vibrating Feeders and USD 4,837,454 for the AG Mill claim;

- USD 263,223.82 for Disbursements, out of which USD 9,327 were for the Vibrating Feeders;

- USD 72,821.94 for Expert and Witnesses Fees and Expenses for the Vibrating Feeders Claim;

- USD 1,738,575.44 for Expert Fees and Expenses for the AG Mill Claim;

- USD 41,700.25 for witnesses and personnel costs;

- USD 28,125 for the hearing room;

- USD 648,568.86 for the Court Reporting, Translation and ICC Costs.

308. Each party requested that the other party bear its legal fees and the costs of the arbitration.

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[147] Claimants' Post-Hearing Brief, para 9, page 3.

[148] Claimants did not claim any fees relating to the Feeders claim as they withdrew it on 9 May 2018. Moreover, it has been specified that the Legal Fees could vary as they had been based on capped fees in recognition of a variable success fee that ArcelorMittal is liable to pay in the event it succeeds in its claim. See footnote 2 of Claimants' Statement of Fees and Costs.

309. Pursuant to Article 37 (4) of the Rules, the Arbitral Tribunal has to fix the costs of arbitration and decide which party shall bear them or in which proportion they shall be borne by them. In doing so, the Arbitral Tribunal, in accordance with Article 37 (5) of the same Rules *"may take into account such circumstances as it considers relevant, including the extent to which each party has conducted the arbitration in an expeditious and cost-effective manner".*

310. According to Article 37 (1) of the ICC Rules, the Costs of the Arbitration includes the fees and expenses of the arbitrators and the ICC's Administrative Expenses, as well as the Legal Costs of the Parties.

311. The Arbitral Tribunal first notes that the Parties have included in their Total Costs the Advance Payment that they made to the ICC. The advance on costs paid by each Party was USD 437,500. As advances, they are not a final element of the Costs of the arbitration and, pursuant to Article 37 (1) of the ICC Rules, they must therefore be distinguished from the Legal Costs incurred by the Parties. Hence, Claimants' total legal costs amount to USD 3,387,015.59 (USD 3,824,515.59-USD 437,500) and Respondents' total legal costs amount to USD 7,415,483.31 (USD 7,852,983.31 - USD 437,500).

312. The Arbitral Tribunal also notes that Respondents have incurred USD 304,662.94 [149] for costs relating to Vibrating Feeders Claim [150]. No costs relating to this claim should be borne by Respondents as Claimants were responsible for their introduction and their subsequent withdrawal. Consequently, Claimants will bear USD 304,662.94 for the Vibrating Feeders Claim.

313. In addition, the majority of the Arbitral Tribunal finds that although Claimants have failed in their damages claim, the Arbitral Tribunal has followed their reasoning (almost in full) as to what were the Design Criteria as well as the characterization of the Contract. Claimants have thus not lost in full. Consequently, the majority of the Arbitral Tribunal is satisfied that Claimants should bear their own Legal Costs but only 80% of the arbitrators' Fees and Expenses as well as the ICC's Administrative Expenses and 80% of Respondents' Legal Costs, after deduction of the USD 304,662.94 for the Vibrating Feeders Claim that they will bear entirely.

314. At its session of 28 February 2019, the Court fixed at USD 863,000.00 the Fees and Expenses of the arbitrators and the ICC's Administrative Expenses. Claimants has to bear 80% of the total of USD 863,000 fixed by the Court, i.e., USD 690,400. Respondents have to bear 20%, of that amount, i.e. USD 172,600. Since Respondents have made an Advance Payment to the ICC of USD 437,500, and the ICC refunded USD 6000 out of this amount, Claimants will be ordered to refund them an amount of USD 258,900 (USD 437,500 -USD 6000- USD 172,600).

315. As to the Legal Costs, the Arbitral Tribunal notes that pursuant to Article 37 (1) of the Rules, the Costs of Arbitration include the "reasonable" legal and other costs incurred by the Parties. Although the Parties are free to organize the defense of their claims as they see fit, one cannot expect that the other Party contribute in full to the consequences of such choice. In the instant case, there is a great discrepancy between the amounts claimed as legal costs by both Parties, Claimants stating that it

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[149] USD 222,514+9,327+USD 72,821,94=304,662.94.

[150] In a letter dated 17 May 2018, Respondents, responding to Claimants' letter of 9 May 2018 by which they withdrew the claim relating to Vibrating Feeders, indicated that « *regarding an award of fees and costs to Respondents with regard to the feeders claims, it is suggested that Respondents have leave to submit their application for fees and costs related to the feeders at the same time as applications for fees and costs are submitted with regard to the AG Mill claims".* Claimants agreed with that proposal by letter dated 22 May 2018.

incurred a total of USD 3,387,015.59 and Respondents of USD 7,415,483.31 i.e., more than the double. The Arbitral Tribunal does not find that the USD 7,415,483.31 incurred by Respondents are necessarily justified, having made no particular requests or raised any issue that would justify more work and accordingly more costs than those incurred by Claimants. At the same time, the Arbitral Tribunal does not find either that spending more than Claimants would have been necessarily unreasonable as for instance Respondents' fees are increased because of the claim relating to the Vibrating Feeders and that their expert Fees are higher which is independent from them. To assess Respondents' reasonable Legal Costs, the Arbitral Tribunal will retain the average of the Legal Costs incurred by each side, the Arbitral Tribunal considering that it is a fair amount between the two amounts presented by the Parties, taking into account the fact that Respondents incurred more costs than Claimants that were not dependent upon them but that they also requested a significant higher amount for Legal Costs that was not justified. In order to calculate the average, out of which 80% will be borne by Claimants, the amount of the Legal costs relating to the Vibrating Feeders claim must be deduced from the amount borne by Respondents, since Claimants must bear 100% of that amount and thus amount to USD 7,110,820.37 (USD 7,415,483.31 - USD 304,662.94). The average then is USD 5,248,917.98 (USD 3,387,015.59 + USD 7,110,820.37 /2). Hence, Claimants must pay Respondents 80% of USD 5,248,917.98 i.e. USD 4,199,134.38 to which USD 304,662.94 for the Vibrating Feeders Claim must be added. Thus, Claimants must pay Respondents USD 4,503,797.32 (USD 4,199,134.38 + USD 304,662.94).

ON THE BASIS OF THE ABOVE THE ARBITRAL TRIBUNAL DECIDES BY MAJORITY AS FOLLOWS:

1) Claimants' claim as to the payment by Respondents of sums resulting from the AG Mill's alleged defects is dismissed;
2) Claimants must bear 80 % and Respondents 20% of the Fees and Expenses of the Arbitrators and of the ICC's Administrative Expenses fixed by the ICC International Court of Arbitration at USD 863,000.00. Claimants are consequently ordered to pay Respondents USD 258,900;

3) Claimants must bear 80% of the reasonable Legal Costs incurred by Respondents as determined by the Arbitral Tribunal, plus the full amount relating to the Vibrating Feeders Claim i.e. USD 4,503,797.32 and are consequently ordered to pay that amount to Respondents;

4) All other requests and claims from the Parties are dismissed.