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FEDERAL COURT
OF APPEAL
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December 22, 2023
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Imrana Ahmed
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Court File No: A-_____-23
(T-1488-20)

FEDERAL COURT OF APPEAL

B E T W E E N:

STEELHEAD LNG (ASLNG) LTD. and
STEELHEAD LNG LIMITED PARTNERSHIP

Appellants

- and -

ARC RESOURCES LTD., ROCKIES LNG LIMITED PARTNERSHIP,
ROCKIES LNG GP CORP., and BIRCHCLIFF ENERGY LTD.

Respondents

NOTICE OF APPEAL

TO THE RESPONDENTS:

A LEGAL PROCEEDING HAS BEEN COMMENCED AGAINST YOU by the Appellants. The relief claimed by the Appellants appears below.

THIS APPEAL will be heard by the Court at a time and place to be fixed by the Judicial Administrator. Unless the Court directs otherwise, the place of hearing will be as requested by the Appellants. The Appellants request that this appeal be heard in Toronto, Ontario.

IF YOU WISH TO OPPOSE THIS APPEAL, to receive notice of any step in the appeal or to be served with any documents in the appeal, you or a solicitor acting for you must prepare a notice of appearance in Form 341A prescribed by the *Federal Courts Rules* and serve it on the Appellants' solicitor or, if the Appellants are self-represented, on the Appellants, WITHIN 10 DAYS after being served with this notice of appeal.

IF YOU INTEND TO SEEK A DIFFERENT DISPOSITION of the order appealed from, you must serve and file a notice of cross-appeal in Form 341B prescribed by the *Federal Courts Rules* instead of serving and filing a notice of appearance.

Copies of the *Federal Courts Rules*, information concerning the local offices of the Court and other necessary information may be obtained on request to the Administrator of this Court at Ottawa (telephone 613-992-4238) or at any local office.

IF YOU FAIL TO OPPOSE THIS APPEAL, JUDGMENT MAY BE GIVEN IN YOUR ABSENCE AND WITHOUT FURTHER NOTICE TO YOU.

December 22, 2023

Issued by: _____

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APPEAL

THE APPELLANTS (collectively "Steelhead") APPEAL to the Federal Court of Appeal from the Judgment and Reasons of the Honourable Mr. Justice Manson dated December 13, 2023 (the "**Judgment**") in Federal Court File No. T-1488-20 (the "**Action**"), where he held in respect of Canadian Patent No. 3,027,085 (the "**085 Patent**"):

a. Claims 24, 25, 27, 28, and 29 are valid;

b. Claims 26, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, are valid insofar as they depend on claims 24, 25, 27, 28, and 29, directly or indirectly, and are otherwise invalid;

c. Claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, and 84 are invalid; and

d. The Respondents (Defendants/Plaintiffs by Counterclaim) are awarded 30% of reasonable legal fees, plus 100% of reasonable disbursements, less those reasonable fees and disbursements wasted by the Defendants by Counterclaim on the abuse of process counterclaim. They are also awarded full indemnity costs, inclusive of fees and disbursements, in relation to Mr. Paul Sullivan's testimony. Azimuth is not liable for any costs.

THE APPELLANTS ASK that:

1. The Judgment of the Honourable Mr. Justice Manson relating to the invalidated claims of the 085 Patent be set aside and replaced by an Order or Judgment of this Honourable Court allowing this appeal;

2. Costs be awarded to Steelhead in this appeal and in the Federal Court below; and

3. Such further and other relief as this Honourable Court may permit and as counsel may request.

THE GROUNDS OF APPEAL are as follows:

Overview

4. This appeal concerns the appropriate legal test for anticipation when a patent claims a combination of elements. Among other questions, this appeal requires the Court to decide the question of whether prior disclosure of certain essential claim elements, uncombined, is sufficient to anticipate the claimed combination of those essential elements.

5. The trial judge erred at law by applying an incorrect legal test in finding certain claims of Steelhead's 085 Patent invalid on the basis of anticipation. The cited prior art disclosed, at best, some features of the patented invention along with a list of "options" which would remain to be carefully selected and combined by a skilled person before they could arrive at the claimed combinations of the

085 Patent. It was an error to find that disclosure of options was the disclosure of the combination.

6. The trial judge further erred by requiring an enhanced disclosure standard of the patentee, by conflating the law of anticipation and obviousness. The Judgment creates an unprecedented standard that is contrary to the *Patent Act* and decades of appellate jurisprudence.

7. The trial judge's errors on anticipation also coloured his analysis of obviousness. Since the trial judge did not conduct an independent obviousness analysis of the claims he found anticipated, his errors on anticipation are dispositive of at least those claims on this appeal.

8. Additionally, the trial judge's errors on anticipation also led him to err on obviousness: his analysis was founded on the same prior art alleged for anticipation and on the premise that his conclusions regarding those references for anticipation would also apply to obviousness, without any independent analysis on the relevant obviousness factors. This is contrary to the principle that anticipation and obviousness are distinct statutory and legal bases of invalidity and must be considered independently and on a claim-by-claim basis. A claim that is anticipated may be non-obvious.

9. The trial judge also erred in his obviousness analysis of claim 11. The trial judge's findings in respect of this claim are founded on an assumption that certain physical components of an electrical connection are depicted or would

be inferred by the skilled person. Such an assumption is unsupportable by the evidence, particularly having regard to the relationship between the inventive concepts of essential claim terms.

The Proceedings Below

10. Steelhead commenced an action against the Respondents (collectively "**ARC**") for infringement of the 085 Patent on December 9, 2020. Steelhead alleged that ARC infringed certain claims of the 085 Patent by their activities.

11. On June 3, 2021, ARC defended and commenced a Counterclaim (the "**Counterclaim**") against Steelhead and added certain third parties as defendants to the Counterclaim. The only issue at the trial below were portions of the Counterclaim seeking a declaration of invalidity of all claims of the 085 Patent.

12. The Counterclaim was heard at a full trial from September 11-15 and 18-22, 2023. ARC led two fact witnesses (Andrew Loose and Paul Sullivan) and one expert witness (Michael Wyllie) in support of its invalidity allegations. Steelhead led two fact witnesses (Alex Brigden and Victor Ojeda) and one expert witness (Wim Ravesloot) in response.

13. The draft unsigned copy of the Judgment on the Validity Counterclaim was provided to the parties on November 29, 2023 for confidentiality redactions. The signed public and confidential versions of the Judgment were issued December 13, 2023.

The Trial Judge's Errors

14. The trial judge erred in his statement and understanding of the appropriate legal principles on patent validity and in his application of those principles to the facts based on the record before him. The trial judge also erred in making certain findings based on the evidence at trial. In some instances, the trial judge entirely ignored the available evidence and, in others, made conclusions without any evidentiary foundation whatsoever.

Anticipation Analysis Errors: Claimed Combinations

15. The trial judge erred by misconstruing the law on anticipation and therefore applied a lower threshold for anticipation in invalidating the claims of the 085 Patent than he was bound by jurisprudence to apply.

16. As illustrated in paragraphs 92-98 of the Judgment, the trial judge made a fundamental error in holding that any prior art reference which discloses a mere list of options would be anticipatory of a claim to the novel combination of those options.

17. At paragraphs 93-94 of the Judgment, the trial judge misconstrued the legal test for anticipation set forth in Beloit, which has been repeatedly endorsed by appellate courts, including the Supreme Court of Canada.

18. The trial judge also erred by distinguishing *Beloit* on the basis of the number of patents cited as prior art in that case. Contrary to the trial judge's understanding of the law, there is only one test for anticipation regardless of the number of

cited prior art. In any event the principle from *Beloit* regarding disclosure of a combination of elements was made in the context of anticipation, which necessarily relate to a single prior art reference.

19. As illustrated in paragraph 95 of the Judgment, the trial judge also misunderstood the legal test stated by the Supreme Court in *Sanofi*. The principle that there is "no room for experimentation or trial and error at the disclosure stage" is not dependent on the type of patent at issue. In respect of this issue, the trial judge ignored long-established case law relating to the appropriate standard for anticipating disclosure. The trial judge erred by distinguishing *Sanofi* on the basis that it was applicable only to cases involving experimentation that results in the discovery of a new use or benefit.

20. The trial judge erred in failing to follow both *Beloit* and *Sanofi*. In particular, the trial judge erred by failing to follow the rule that "the matter relied upon as prior art must disclose subject matter which, if performed, would necessarily result in an infringement of the patent" and instead applied a different threshold for anticipation. Both cases were binding on the trial judge and are consistent with the longstanding law of anticipation.

21. Further, at paragraph 96 of the Judgment, the trial judge erroneously held that "[s]electing one combination from a variety of known options is not novel unless that combination offers a unique benefit that was previously unknown." The law of anticipation requires only that the claimed combination has not been previously disclosed and enabled, not that the claimed combination has a

"unique benefit". By creating and applying this unprecedented requirement, the trial judge in effect reversed the burden of proof, improperly requiring the patentee to claim and prove a "unique benefit" of a combination patent, contrary to the long-established requirement that the party alleging invalidity must prove that the prior art discloses the claimed invention.

22. Further and/or in the alternative, the trial judge conflated the law on combination patents with the law on selection patents. The trial judge erroneously created a new criterion for anticipation requiring the patentee to "discover a new use or enhanced benefit from the selected invention when compared to the wider genus of known inventions" (Judgment at paragraphs 95-96). At paragraph 98 of the Judgment, the trial judge also misapplied the test for disclosure by relying on the test from *Schering Plough* that "if a person carrying out the prior disclosure in a piece of prior art would infringe a claim, then the test for anticipation would be met".

23. The trial judge's misapprehension of the law resulted in an unprecedented requirement under anticipation that Steelhead's "patent must disclose a new use or enhanced benefit to the combination that was not previously known" (Judgment at paragraph 101). Furthermore, by requiring Steelhead to meet an enhanced disclosure standard under the test for anticipation, the trial judge erroneously conflated the disclosure requirements under s. 27(3)-(4) with novelty requirements under s. 28.2(1) of the *Patent Act*.

24. Given the trial judge's misapprehension and resulting misapplication of the legal test for anticipation, the trial judge also erred in holding that the expert witness Mr. Ravesloot "applied the wrong legal standard in his analysis" with respect to whether the disclosure of a set of options constitutes disclosure of a combination invention (*e.g.* Judgment at paragraphs 99-100). Contrary to the trial judge's findings, Mr. Ravesloot applied the appropriate legal test. Had the trial judge understood and applied the correct legal test, he could not and would not have been able to make the findings he did with respect to Mr. Ravesloot's testimony.

25. Further and/or in the alternative, the trial judge's error on the test for anticipation led him to erroneously dismiss or reduce the weight to be given to Mr. Ravesloot's testimony on anticipation (*e.g.* Judgment at paragraphs 41 and 97). Accordingly, the trial judge's legal errors are inextricable from his findings with respect to the weight of Mr. Ravesloot's opinions (*e.g.* Judgment at paragraphs 97-100 and 103-105).

26. Additionally, the trial judge misconstrued and misunderstood Mr. Ravesloot's evidence. In the section titled "Implementation and Feasibility" (Judgment at paragraphs 103-105), the trial judge erred by characterizing Mr. Ravesloot's opinion as requiring "full commercial implementation" for anticipation. Rather, Mr. Ravesloot's opinion was directed at the lens of how a person of ordinary skill in the art would understand the prior art at the relevant date – a perspective which is required of the trial judge and for which he failed to properly account.

27. The trial judge's anticipation analysis was limited to two sets of prior art, namely the "Talib papers" and the "Sullivan presentations". The trial judge erred in his findings in respect of both, flowing from his misapprehension of the law of anticipation including as addressed above.

i. Errors in analysis of Sullivan presentations

28. The trial judge erred in finding that the prior art references of "Sullivan 2016" and "Sullivan 2017" (collectively, the "**Sullivan presentations**") disclosed and enabled elements of the invalidated claims in the 085 Patent.

29. The trial judge erred by combining disparate options or elements purportedly disclosed in different slides in finding that certain claims were anticipated by the Sullivan presentations, directly as a result of his misapprehension of the test for anticipation.

30. Additionally, in respect of the facilities that were depicted in the Sullivan presentations, the trial judge erred by finding that they included the element of electrically-driven compressors "by process of elimination" in the face of contrary evidence. The trial judge did not at all address any portions of the evidentiary record including from the expert witnesses on how a person of ordinary skill in the art would understand these publications. Given that this disputed evidence was central to the trial below, the trial judge's failures to discuss – let alone substantively address – any of these controversies demonstrates that he erred in understanding the test required of him. Further

and/or in the alternative, the trial judge's reasons were insufficiently clear to understand the rationale for finding the claims anticipated.

31. Furthermore and/or in the alternative, the evidentiary record could not have supported the trial judge's "process of elimination". Given the evidence at trial that there were more than two materially different compressor driver options, and given the undisputed evidence that the compressor drivers were not shown in any facility depicted in either Sullivan presentation, a "process of elimination" could not have resulted in a finding that electric compressors (in combination with the other elements of the claimed invention) were disclosed beyond a balance of probabilities.

32. The trial judge also erred in his analysis of the "enablement" criterion under the anticipation test. At law, enablement asks whether the prior disclosure is sufficiently detailed as to enable a skilled person to perform the claimed invention without undue effort. By contrast, the trial judge's analysis focused on whether the POSITA would "understand" the subject matter of the claims without undue hardship (*e.g.* Judgment at paragraph 111).

ii. Errors in analysis of Talib papers

33. The trial judge also erred in finding that the prior art references of "Talib 2013" and "Talib 2014" (collectively, the "**Talib papers**") disclosed and enabled elements of the invalidated claims in the 085 Patent. These errors also flowed from the trial judge's misapprehension of the law of anticipation set out above.

34. The trial judge also erred in making various assumptions and findings relating to the Talib papers without referring to other evidence. The trial judge compounded his error by making conclusory findings (*e.g.* at paragraphs 155-160 of the Judgment) that are not based on any evidence cited in his reasons.

35. Like with the Sullivan presentations, the trial judge erroneously combined disparate elements from different sections of Talib papers without regard for context and the perspective of a person skilled in the art. This was a result of the trial judge's misapprehension of the law of anticipation including in the standard applicable to assessing prior disclosure of options.

36. For example, the trial judge ignored differences in the two fundamentally distinct facility concepts depicted in the Talib papers. As acknowledged by both parties' expert witnesses, neither concept alone could have anticipated any claim of the 085 Patent. The trial judge's inference that a skilled person would select elements from one facility for application in another fundamentally different concept is therefore unexplained and contrary to the trial record.

37. The trial judge also erred in his application of the enablement test in respect of the Talib papers. In particular in the Judgment at paragraph 159, the trial judge conflated disclosure with enablement and deemed that a table of options was enabling, without any basis for doing so.

38. The trial judge erred by reading in claim elements that were not found in the Talib papers under the "disclosure" branch of the anticipation test. For example,

the trial judge erred in finding that "an FLNG facility will typically have sensors that serve an automation function … it would take them little effort to arrive at the subject matter of claim 67". The trial judge's findings could only mean that automation functions (including those claimed in claim 67 and its dependent claim set) were not "disclosed". In doing so, the trial judge conflated disclosure with enablement. An element that is not "disclosed" cannot be "enabled" – both are required for anticipation.

Errors in Obviousness Analysis

39. The trial judge erred in his obviousness analysis by failing to consider relevant factors and facts under the appropriate legal principles. For example, the trial judge failed to turn his mind to factors relevant to obviousness such as motivation, teaching away, climate of the field, time and effort required, and others.

i. Conflating obviousness and anticipation

40. The trial judge's errors in the anticipation analysis are also inextricable from his errors in his obviousness analysis. In particular, the trial judge started his obviousness analysis on an assumption that the claims he found to be anticipated were necessarily also obvious, contrary to the principle that anticipation and obviousness are distinct statutory and legal bases of invalidity. Since the trial judge did not independently assess obviousness of the claims that he found were anticipated (namely, claims 1, 2, 3, 5, 7, 8, 13, 14, 15, 16, 18, 19, 20, 21, 22, 26, 36, 37, 38, 39, 41, 42, 56, 57, 58, 59, 64, 65, 66, 67, 70, 82,

83, and 84), his errors on anticipation cannot be meaningfully separated from his errors on obviousness.

ii. Errors relating to the law of obviousness

41. The trial judge's statement of the law at paragraph 209 that a party may present the Court with a "mosaic" of prior art in assessing obviousness is incomplete and therefore erroneous when applied in this context. The trial judge must, but did not, explain how and why the skilled person would combine the art in the proposed fashion and how they would regard such a combination. This error is related to and similar in nature to the trial judge's error in respect of anticipation, where he assumed that prior disclosure of a number of options necessarily disclosed the combination of those options. Additionally, in the obviousness analysis, trial judge was required to but failed to explain how a skilled person would arrive at those combinations without inventive ingenuity.

42. This misapprehension of the appropriate legal test to be applied led the trial judge to fail to consider whether a skilled person would combine different elements purportedly disclosed in the prior art, such as the Talib papers and Sullivan presentations. These references are combined throughout the obviousness section in the Judgment but without any consideration of whether the skilled person would do so.

43. For many claims, the trial judge erred by relying solely on the notion that a skilled person would "know" or "understand" a particular feature, without any

consideration of the context in which that knowledge was derived and the motivation to combine (or not combine) those features with other claimed elements.

44. For example, in respect of claims related to gas redistribution systems (claims 30, 31, 32, 54, 55, 60, 61 and 62), the trial judge inferred from the skilled person's common general knowledge in relation to the collection of gas vapour in the context of LNG production that the skilled person would "only have to apply this understanding in the context of a nearshore FLNG facility" without any explanation of how, why or whether one would do so. The trial judge committed the same error in his obviousness analysis of claims related to gas redistribution to external source (claim 4), sensors, controllers, and coordination (claims 17, 33, 34, 52, 53, 63, 68, 69, 71-78, 80, and 81) and balanced topsides configuration (claim 40).

45. Additionally, throughout the obviousness analysis in the Judgment, the trial judge made conclusory findings without any or sufficient supporting evidence, and/or in the face of undisputed contrary evidence from both parties. By making said findings absent any evidentiary foundation, the trial judge overstepped his role as finder of fact.

46. Likewise, the trial judge's obviousness analysis was based on impermissible hindsight reasoning. The trial judge made several conclusory findings that the skilled person would be able to bridge the gap between purportedly known

elements in the context of onshore or offshore floating LNG without any regard to the context of at-shore floating LNG facilities at the relevant date.

47. Further and in any event, the trial judge made additional errors with respect to claim 11. The trial judge's finding that claim 11 was obvious in view of the Sullivan presentations was contrary to expert evidence and contradicted by findings of fact elsewhere in the Judgment.

48. Contrary to the opinion of both experts, the trial judge found that there was no difference between the system of claim 11 and the state of the art at the relevant date. In support, the trial judge only refers to slide 9 of Sullivan 2017 and slide 13 of Sullivan 2016[1], which he found purportedly show "power cables on a transit bridge that is fixed to the shoreline" and which the skilled person would understand to connect to "the FLNG facility depicted" in those slides.

49. The trial judge's findings in respect of obviousness of claim 11 (and its dependent claims) rely on a bald inference that the figure shows (or would be understood by a skilled person to show) an electrical connection. There is no evidence to support that conclusion. Even assuming there is such a connection, there was no finding relating to any prior disclosure of the physical components of claim 11. In paragraph 238 of the Judgment, the trial judge held the claim

[1] The trial judge found that slide 13 of Sullivan 2016 shows the same information and therefore presents the same elements as slide 9 of Sullivan 2017: Judgment at para 109. Reference to slide 13 of Sullivan 2016 or slide 9 of Sullivan 2017 (as the case may be) in the Judgment and this Notice should be understood as being applicable to both corresponding slides.

term “transit bridge” refers to “an elevated support structure that power lines would pass through”; no such structure is shown or can be inferred from the evidence.

50. Further, the trial judge did not consider the relationship between the inventive concepts of “received electricity” in claim 11 and the “AER System” in claim 1 (from which claim 11 depends) in his obviousness analysis. As a result, the trial judge erroneously assumed that any electrical connection was relevant to this claim. He did not at all consider that claim 11 (read with claim 1) requires the “received electricity” to power the “AER System”. The trial judge could not have made this inference with the record he had before him, including all of the evidence cited in the Judgment at paragraph 239.

51. Steelhead proposes that this Appeal be heard in Toronto, Ontario.

December 22, 2023

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Court File No.: A-_____-23

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