

Court of King's Bench of Alberta

Citation: Dow Chemical Canada ULC v NOVA Chemicals Corporation, 2025 ABKB 452

Date: 20250728
Docket: 0601 07921
Registry: Calgary

2025 ABKB 452 (CanLII)

Between:

Dow Chemical Canada ULC and Dow Europe GmbH

Plaintiffs

- and -

NOVA Chemicals Corporation

Defendant

Restriction on Publication

This decision has been redacted so that it may be published.

The unredacted decision may not be published to protect confidential proprietary information in accordance with orders made at trial and shall be sealed in the court file in accordance with paragraph 1465

**Reasons for Judgment
of the
Honourable Justice B.E. Romaine**

I. Introduction

[1] This second remand directed by the Court of Appeal as part of this lengthy litigation involves the scope of appropriate severance to the Operating and Services Agreement between the parties arising from the illegality of certain covenants in the agreement. It also involves the issue of whether NOVA's preferred remedy for such illegality is the presumptive remedy, or whether Dow can establish that such remedy will cause prejudice and unfairness.

II. The Remand

[2] In order to provide context to the issues before the Court in this second remand, it is necessary to review the comments of the Court of Appeal in 2020 ABCA 320 ("COA 1"), and the facts found in the first phase of the trial at 2018 ABQB 482 (the "Trial Reasons").

[3] The remand arises from NOVA's appeal of this Court's dismissal of its counterclaim during the first phase of the trial. The Court of Appeal dismissed NOVA's appeal "excepting that the remedial effect of the illegality of the performance of [the] Ethane Pooling covenant is referred back to the trial court": COA 1 at paras 165, 168 (d).

[4] The remand requires a review of the circumstances that existed at the time the joint venture to construct E3 was entered into by NOVA and Union Carbide in 1997. The joint venture was established through a series of project agreements that would ultimately guide the operational decisions and accounting protocols of the joint venture between the parties for the 80-year duration of the contracts.

[5] E3 was developed to take advantage of the low-cost ethane feedstock then available in Alberta, the economies of scale associated with a world-scale plant, and the use of the existing infrastructure at Joffre, including maintenance personnel "with" ... "the objectives of: (1) maximizing efficiency, flexibility and safety in the operation of the Site, without discrimination on the basis of ownership; and (2) achieving overall lower costs": Trial Reasons at para 140.

[6] As the Court of Appeal described in summary:

...At that point, NOVA and Dow dominated the ethane market in Alberta: reasons at paras. 1266-67. Union Carbide was not in the ethane market. In order to provide feedstock for its proposed polyethylene plant at Prentiss, Union Carbide needed a supply of ethylene, which in turn required a supply of ethane.

As previously noted, Union Carbide could have developed its own supply of ethane and ethylene to feed its proposed polyethylene plant. Instead, it entered into the joint venture with NOVA to construct E3. A part of the arrangement was that the parties would develop an ethane "Pool" at Joffre. NOVA would be responsible for acquiring the necessary ethane for all of the facilities at Joffre, including E3. NOVA would provide Union Carbide with pricing and other information about the supply of ethane: reasons at para. 1251. If Union Carbide required ethane for other purposes, it agreed to acquire such "Union Carbide Proprietary Ethane" from the Pool: reasons at para. 1253. Because NOVA assumed the obligation of sourcing ethane, Union Carbide covenanted that it would not acquire any ethane in the Pool Area, as that would create competition between it and NOVA: reasons at paras 1243, 1259. Since Union Carbide was not

in the ethane market, none of this raised any issues. [2020 ABCA 320 at paras 118-119].

[7] In 2001, shortly after E3 went online, Dow acquired Union Carbide by way of merger. The Court of Appeal then referred to the Trial Reasons for what occurred subsequent to the merger.

[8] NOVA had concerns about the merger from August, 1999, when the merger was announced, about having to share ethane contract information as required by the E3 joint venture agreements with the only other major purchaser of ethane in Alberta, and its major competitor. From the time of the announcement of the merger, NOVA management explicitly directed staff that information with respect to contracts for ethane supply that had been made available to Union Carbide, including information with respect to contract volumes, prices and terms, was not to be made available to Dow. NOVA requested UCC not to share with Dow existing information of that kind that it had received from NOVA pursuant to the agreements.

[9] NOVA was concerned that if it did not do something to address the flow of information under the E3 agreements, Dow would have access to information about the costs of making ethylene at all four ethylene crackers in Alberta through their cost-of-service agreements at E2 and the E3 agreements.

[10] On April 3, 2000, Dow and UCC filed an application for approval of the merger with the Competition Bureau and the US Federal Trade Commission (FTC).

[11] A senior employee of NOVA, Graeme Flint, testified that he had asked George Pan, then the head of NOVA's Ethylene Business Team "EBT" for his thoughts on the merger. Mr. Pan noted in an internal email of May 11, 2000 to Mr. Flint that, without the merger, Dow had access to about 40% of ethylene supply in Alberta. NOVA had about 30% and UCC had about 30%. With the merger, the ratio became Dow 70% and NOVA 30%. Mr. Pan suggested that Dow should be required to divest its ownership in E3 in order to reduce its potentially dominant control of ethylene supply in Alberta. Mr. Pan was also concerned with Dow's access to NOVA's cost data. Mr. Flint agreed with these concerns, and in a May 11, 2000, email raised them with a senior vice president of NOVA.

[12] NOVA made submissions to the FTC and the Competition Bureau objecting to the merger, and arguing that, as a condition of approval of the merger, Dow should be required to divest its interest in E3.

[13] NOVA complained that the merger would give Dow Canada:

- a) an unfair advantage in the ethylene market because of Dow's access to and understanding of NOVA's cost structure, including its ethane costs; and
- b) market power in the purchase of ethane by reason of its access to and knowledge of NOVA's ethane supply arrangements. NOVA requested that Dow Canada be required to divest its interest in E3 or, alternatively, that Dow Canada's access to information be restricted. (emphasis added)

[14] NOVA's submission was not successful.

[15] On May 15, 2000, NOVA notified the Competition Bureau that the E3 joint venture transaction had closed and E3 was substantially complete.

[16] Dow and UCC received approval of the merger on February 6, 2001, with a letter indicating that the Competition Bureau had conducted a comprehensive review of the proposed merger, had worked with the FTC in doing so, and had not found any issues with ethane or ethylene in Western Canada: Trial Reasons, paras 1208 -1217.

[17] Dow cites a statement in a letter to the Competition Bureau requesting approval of the E3 joint venture to the effect that the OSA was an agreement for NOVA to purchase and pool all ethane feedstock required for the Joffre site. Nowhere in the letter is reference to the restrictions at issue. While the Co-owners can ask the Operator to supply Ethane from the Pool for other uses, that provision has not been used, and requires the Operator's agreement.

[18] NOVA also told the Competition Bureau that the joint venture was going to retain the competition for ethane that already existed. Dow suggests that the way the submission to the Bureau was described may help explain why the Bureau did not find that the Article 5 restrictions were anticompetitive but that is mere speculation: Trial Reasons, paras 1276-1277.

[19] According to notes of a NOVA strategy meeting on February 14, 2000, participants noted the option of buying Dow out of E3 and using the existing NOVA/ Dow E1 toll and the LP7 ethylene supply as "potential deals". Under the heading "Dow Issue/Interfaces", the notes reflect outstanding issues with the E1 and E2 tolls. Under "E3", the notes reference "supply of feedstock to E3 – conflict, independence". Under the heading "NOVA's Wish List", the notes include reference to "minimize ethylene to Dow" and: back Dow out of E3". Under the heading "Dow out of ethane pool", the notes reference "2 separate buyers", "Dow help out NOVA ethane shortage", and "increases NOVA autonomy in managing pool". A NOVA witness conceded that the conclusion was that in the wake of a merger, NOVA came to the view that it could not interact with Dow as it had with UCC.

[20] Despite the lack of conditions imposed by the Competition Bureau, NOVA continued to refrain from complying with section 5.1(e) of the OSA, which entitles the Co-owners of E3 to access to contracts entered into by the Operator for ethane, including a synopsis of each contract "having a material effect on the Pool", and section 5.2 of the OSA, which provides for meetings of a feedstock committee with representation from each Co-owner to review the Operator's strategy for ethane, and seek advice and consensus. A senior NOVA witness testified on cross-examination that those meetings stopped due to competition law concerns shared by both parties.

[21] Following this, Dow continued to purchase ethane to supply to LHC-1 and for the E1 toll without objection from NOVA. NOVA concedes that it was aware of Dow's ethane acquisitions in the Pool area from the time of the merger: Trial Reasons, paras 1218-1220.

[22] For five years, NOVA was the sole purchaser of ethane for the Pool. Dow continued to acquire ethane for LHC-1 or for the E1 Toll or for other purposes not related to E3. NOVA did not object and promoted the use of the E1 Toll because it was financially advantageous to NOVA. NOVA purchased spot ethane from Dow on a number of occasions.

[23] NOVA stopped sharing ethane contract information with Dow and stopped holding Feedstock Subcommittee meetings in breach of sections 5.1(e) and 5.2 of the OSA without complaint from Dow because both parties recognized that compliance would improperly interfere with continued competition between Dow and NOVA: Trial Reasons para. 1279-1280.

[24] On June 23, 2006, Dow served NOVA with a Notice of Default pursuant to section 9.01 (c) of the Co-owners Agreement alleging defaults of the Co-owners Agreement and the OSA

relating to ethane allocation, failure to optimize production at E3 and other breaches, all of which are the subject of the Trial Reasons. Dow issued the statement of claim that commenced this litigation on June 29, 2006.

[25] On July 21, 2006, NOVA responded, stating that the Notice was invalid and the allegations baseless. NOVA also noted that “[i]f further action is taken... NOVA... will pursue all remedies available to it for Dow’s improper actions under the Project Agreements”.

[26] On July 25, 2006, NOVA served Dow with a notice of Default pursuant to Article 9 and section 5.1 (a) of the OSA, alleging that Dow’s acquisition of ethane from the Pool area was contrary to section 5.1(a) of the OSA. The Notice references a variety of named facilities, “amongst others”, that cover the majority of Dow’s ethane supply portfolio. NOVA has described this as “just a listing of all the agreements that they had that were producing spec ethane into the Alberta gathering system”. NOVA acknowledges that it has known about all of the named facilities except one for years before the Notice was issued. NOVA described this as an “omnibus notice”: Trial Reasons, paras 1221- 1223.

[27] By letter of July 27, 2006, Dow informed NOVA of its position that the covenant not to purchase ethane in the Pool area was unenforceable. The letter states:

... We examined this issue prior to the consummation of the Union Carbide merger and did so again before issuing Dow’s Notice of Default ... We have received firm advice of counsel that those provisions of the OSA that purport to preclude [Dow] from acquiring Ethane in the Pool Area and the consequences of breach of them should be regarded as unenforceable. This is because [Dow] and NOVA would be parties to an agreement to prevent or lessen, unduly, competition ... if they were to abide by the exclusivity provisions...

...

NOVA Chemicals has sanctioned, built on and profited by [Dow’s] acquisition of Ethane in the Pool Area as a result of various commercial arrangements with [Dow] with respect to the processing for [Dow] or acquisition from [Dow] of some of that Ethane. Until the last few days, we had believed this was because you understood and shared our analysis: Trial Reasons, para 1224.

[28] In a responding letter, NOVA denied having any “conversation with or written notice from” Dow on this issue, but, as noted earlier, NOVA had halted the information flow and meetings mandated by the OSA even prior to the merger due to competition law concerns shared by both parties.

[29] Further Notices of Default were issued.

[30] Trial Reasons were issued on June 20, 2018. The Court of Appeal described the outcome of the trial and the subsequent appeal at 2021 ABCA 153 (“COA 2”) as follows:

The trial judge found NOVA had engaged in a deliberate and continuing course of conduct to favour its own interests to the legal detriment of Dow, with respect to both imposing ethane allocation and failing to operate E3 with the objective of optimizing production. The trial judge further found NOVA was in breach of its contractual obligations, its actions constituting gross negligence and wilful misconduct. Specifically, she found:

[236] From the evidence, I am satisfied that NOVA's imposition of ethane allocation, with the result that it deliberately took for itself some of the ethylene and co-products that Dow was entitled to was a repeated course of conduct in the nature of conversion.

...

[1084] I find from the evidence that NOVA, to the extent that it acted as Operator, engaged in a deliberate and continuing course of conduct to favour the interests of NOVA as Co-owner, both with respect to imposing ethane allocation and failing to operate E3 with the objective of optimizing production. This conduct both breached the terms of the OSA [Operating Services Agreement] and constituted a failure to act in accordance with the terms of that agreement, in other words, with Wilful Misconduct.

...

[1116] As I have noted, the conduct of NOVA as Operator that forms the basis of this litigation consistently reflects both Wilful Misconduct and Gross Negligence as defined. To the extent that NOVA acted as Operator when it failed to run E3 to its capacity and its failure to prevent conversion of part of Dow's share of the products produced at E3 were not the result of inadvertence or oversight. They were not accidental. Rather they were deliberate actions and failures to act, in violation of the terms of the OSA, or at best in utter disregard for harmful, foreseeable and avoidable consequences.

...

[1144] Section 3(3) establishes when a claim arises, including:

- a) a claim or any number of claims based on any number of breaches of duty, resulting from a continuing course of conduct or a series of related acts or omissions arises when the conduct terminates, or the last act or omission occurs;
- b) a claim based on a breach of duty arises when the conduct, act or omission occurs;

[1145] The claims at issue are all claims that fall under (3)(a).

The trial judge awarded Dow damages in excess of \$1 billion up to and including December 31, 2012, the date at which the parties had agreed to cut off their evidence of operations:

This lawsuit involves the operation of E3 and spans the years between 1997, when the joint venture was formed until the end of 2012 when the parties to the litigation have agreed to cut off their evidence of operations for the purpose of this action: COA 2 at paras 6-8.

[31] This Court reserved on certain issues, including the necessity of a “top-up” damages hearing to account for the period January 1, 2013 through the date of judgment, if the parties were unable to agree to the quantification of damages in accordance with the principles set out in the Trial Reasons. The parties were unable to agree.

[32] The Court of Appeal released its decision on the Trial Reasons on September 16, 2020.

[33] At para 20 of COA 1, the Court recited NOVA’s specific challenges to the trial decision: (a) that under the OSA NOVA was obligated to maximize ethylene production at E3 (the “Optimization Claim”); (b) that the exclusion of liability clauses did not limit Dow’s damages in whole or in part; (c) the failure to convert Dow’s damages to Canadian dollars using a monthly exchange rate; (d) the award of pre-judgment interest; and (e) the dismissal of NOVA’s counterclaim. The Court held in respect of each ground of appeal:

- a) Optimization Claim: NOVA “failed to identify any reviewable error in the trial judge’s findings that it was under an obligation to try to operate E3 at full capacity, and that it was in breach of that obligation”; COA 1 at para 42;
- b) Exclusion Clauses: Dow wrongly calculated the damages claim based on lost polyethylene sales which, on a proper interpretation of the contract failed to recognize the impact of the exclusion clause. “The core evidence on the issue, however, was on the record. The capacity of E3 to produce ethylene, and what happened to the ethylene it did produce was well established. The quantum of the ethylene that Dow was entitled to but did not receive was also established. The value of the shorted ethylene could be found in the expert reports”. “This is not a case where further or different evidence would have been introduced if the damages assessment had been properly focused”: however, the Court was in a position to consider whether, as NOVA contended, the incremental “downstream” profits that would result from turning the ethylene into polyethylene is “indirect or consequential” damages unrecoverable under a proper interpretation of the operative exclusion clauses, which clearly intended to limit what otherwise would be recoverable”: COA 1 at paras 68-70, 79.

In a contract like this, for the delivery of a product, the loss of the value of the product is the direct damage: *Syncrude Canada v Canadian Bechtel Ltd.* 1997 ABCA 179 at para 50, 51 Alta LR (3d) 1 at para 50. Anything above the market value of the undelivered product is *prima facie* “indirect or consequential”. The “downstream polyethylene profits fall within the phrase ‘indirect or consequential damages (including without limitation loss of profits and damages arising from loss of production)’ and are Excluded Damages” for which NOVA was not liable. The appeal with respect to the computation of damages must be allowed in part, and the calculation of direct damages resulting from the ethylene shortages is referred back to the trial court”: COA 1 at paras 80, 82 and 101.

- c) Conversion to Canadian Dollars: “The Allocation damages should be converted using a monthly or other periodic exchange rate, such as the ones proposed by Dow’s expert. If the parties cannot agree on details of conversion, the issue is referred to the trial judge.” The trial judge’s conclusion that the balance of the damages should be converted to Canadian currency as of the date of judgment revealed no reviewable error: COA 1 at paras 110-111.

- d) Interest: “The interest should accordingly be calculated on the last day of each calendar month, applying the Prime Rate plus two percentage points on that date to all of the damages that accrued during that month”: COA 1 at para 117.
- e) Counterclaim: “Dow’s takeover of Union Carbide has rendered performance of the Ethane Pooling covenants illegal, making them unenforceable”. “The appropriate remedy in the circumstances was not fully argued on appeal, so the effect of the illegality of the covenants is referred back to the trial court for further consideration. However, at the end of the day the ultimate outcome is not changed. Since performance of the restriction on the purchases of ethane from the Pool Area found in the Ethane Pooling covenants are illegal under the *Competition Act*, the counterclaim was properly dismissed”: COA 1 at paras 157, 165-166.

In sum, the Court of Appeal’s Judgment Roll:

- a) directed the trial judge to determine direct losses arising from NOVA’s breaches, excluding indirect or consequential damages;
- b) directed the trial judge to determine all issues arising from the recalculation of direct damages, including whether NOVA overpaid damages to which Dow is entitled after damages are recalculated, the quantum of same, the timing of repayment and set-off rights arising;
- c) gave direction for conversion of allocation damages to Canadian dollars; and
- d) dismissed NOVA’s counterclaim, except that the remedial effect of the illegality of the performance of the Ethane Pooling covenant was remitted to the trial judge in accordance with the Court’s reasons.

The balance of NOVA’s appeal was dismissed: COA 1 at paras 24-26.

III. Procedural History of the Second Remand

[34] In a “Pool Dissolution” application filed April 30, 2021, NOVA sought an order “vacating or setting aside, this Court’s findings that NOVA was in breach of sections 4.3(b) and 4.4 (a) of the OSA, and setting aside all damages awarded to the Plaintiffs with respect to any breach thereof”, and, relatedly, “severing NOVA’s Ethane Services obligation (ss. 4.3(c) and 1.1(c)), Article 5, and all miscellaneous provisions related to the supply of Ethane... effective February 6, 2001”. Further, “to the extent the parties are unable to reach a commercial resolution to the dissolution of the Ethane Pool”, NOVA requested an order “providing this Court’s advice and direction with respect to a just and equitable manner for the dissolution of the Ethane Pool on a go-forward basis”.

[35] On July 8, 2021, NOVA tendered a draft order for the second remand relief it sought. The form of order appended an “E3 Pool Dissolution Term Sheet” that NOVA had previously proposed as the sort of “consensual resolution” mentioned by the Court of Appeal, which provided for the appointment of an unnamed “Receiver for the purposes set out in the Term Sheet”. Among other things, NOVA’s draft order further provided for the assignment to the Receiver of a “Dow FF Share” of the Pool contracts, the amendment of the OSA and other project agreements to delete dozens of obligations and definitions and to create and modify

others, and the negotiation of a new transportation services agreement. Revisions would be made to the OSA's production and nomination framework, allowing NOVA to cap E3's monthly production and the parties' corresponding nominations based on its "best estimate" of the ethylene E3 could produce. The Receiver would be appointed for an initial five-year term, with annual renewals thereafter.

[36] On May 24, 2022, while the first remand was underway, NOVA filed an updated version of its April 30, 2021 application. Its previous request for "advice and direction with respect to a just and equitable manner for the dissolution of the Ethane Pool on a go-forward basis" was discarded, as was any mention of the draft Order or Term Sheet. Suggesting that the issue could be determined by "a half-day or, alternatively, full-day hearing", NOVA sought to make its revised application returnable three days later, but the Court directed the parties to work out a schedule to complete the first remand.

[37] However, when the second remand process began on November 2, 2023, NOVA would not say whether this was still its position.

[38] Therefore, this Court directed the parties to provide their proposals relating to the effect of the illegality of the performance of section 5.15.

[39] On November 10, 2023, NOVA filed a "Position of NOVA Chemicals re Second Remand of Court of Appeal as per Directions of Justice Romaine of November 4, 2024" [sic]. Neither confirming nor denying whether its 2021 application documents set out its current position, NOVA asserted that its "position remains that the Pool is terminated as of the day that Dow stepped into UCC's shoes". NOVA then stated that it "proposes that the Ethane Pool be wound up and dissolved in accordance with the process contemplated in section 5.17 of the OSA".

[40] In its position statement, NOVA proposed that a large number of provisions of the OSA be severed as of February 2001, including the section 1.1 definitions of Ethane Services, Ethane Fixed Cost, Ethane Variable Cost, Pool, Pool Area and Pool User, section 3.4, NOVA's obligation to provide Ethane Services, all other references in the OSA to that term, all of Article 5, section 11.3, section 11.6, Schedule F (including the monthly feedstock cost statement by which NOVA currently accounts to Dow for the majority of the Ethane Services provided), parts of appendices to the Accounting Procedure, and other unidentified provisions that it described as "minor", "consequential" or "obsolete". NOVA stated that these provisions would all be struck, not because of illegality of performance, but because NOVA deemed them to be "[n]o longer applicable" if the Court were to implement NOVA's proposed dissolution of the Pool.

[41] In its position statement, NOVA noted the following:

The consequence of the Pool Remand and severance of NOVA's Ethane Services obligation as of February 6, 2001 is that the following of this Court's finding [sic] in *Dow Chemical Canada ULC v NOVA Chemicals Corporation*, 2018 ABQB 482 must be varied:

- a) This Court's finding that NOVA was in breach of sections 4.3(b) and 4.4(a) of the OSA;
- b) This Court's award of Optimization Damages, and damages for "Failure to receive correct volume of co-products due to E3 not running at design conversion...."

[42] NOVA's red-lined version of the OSA identified 52 provisions that it would like to see removed, and new obligations and defined terms that it would like to see added. It is attached as Appendix A to these Reasons. In particular, the additions would change the nomination framework to require each Co-owner to "supply Ethane to the Plant in quantities sufficient to produce the quantities of the Ethylene nominated by such Co-owner", based on the Operator's [NOVA's] new monthly estimates of the ethane required in order to receive its EPP share of E3's production.

[43] When the parties appeared next before the Court on November 24, 2023, questions arose as to how this new contract would work in practice. NOVA counsel advised that "[O]ur election is dissolution of the Pool. Over to you, Dow". Contradicting the position statement, he said "our position is *not* that the Pool has to be dissolved in accordance with 5.17".

[44] The Court asked "if it's not pursuant to 5.17, how... does NOVA propose that the Pool be dissolved?" Although NOVA counsel said he would "come to that" there was no direct response. NOVA counsel conceded that, "just to be clear, there's three triggering provisions that would allow 5.17 to be applied under the OSA", but "[n]one of those specific triggers apply in a severance case".

[45] The Court directed each party "to prepare a redline indicating all of the provisions of the OSA that it wished to sever for purposes of the second remand. Dow counsel noted, as it had previously, that based on NOVA's stated preference to assign a portion of the Pool contracts to Dow, Dow would need to see the contracts.

[46] On December 1, 2023, the parties exchanged their redline versions of the OSA. In its accompanying submissions, NOVA repeated its November 24, 2023 position that "section 5.17 is not expressly triggered". While not disclosing how it proposed that the Pool would be dissolved, NOVA alluded to "future commercial issues arising from the dissolution of the Pool", and submitted that its desired Pool dissolution was "a commercial issue to be negotiated by the parties".

[47] The parties appeared again on December 7, 2023. Noting that "NOVA... is submitting that I don't have to get into the process by which... the Pool would be divided", the Court pointed out that "I need to know what that process is... in order to determine whether or not there's any prejudice or unfairness to Dow". Again, Dow counsel noted that Dow would need to see the ethane contracts.

[48] NOVA again submitted that "[t]he parties will have to sort out any business consequences", and that "the chips fall where they may" The Court summarized NOVA's stated position process for dissolution of the Pool to be "a business decision and that the two of you could work it out". NOVA appeared to be returning to its pleaded trial and appellate position that "all of Article 5 of the OSA must be found unenforceable so that the Pool is terminated *and all of the Ethane acquisition agreements are returned to NOVA Chemicals' exclusive benefit*".

[49] In a February 21, 2024 endorsement (2024 ABKB 98 at para 103) the Court directed NOVA to disclose "the process that NOVA propose[d] to be followed to wind up and dissolve the Ethane Pool", observing:

NOVA submits that this is a "commercial issue" that should be negotiated by the parties, but the history of this litigation belies the success of any such negotiation.

This is an issue that this Court must consider in terms of determining whether it gives rise to any prejudice or unfairness to Dow or third parties.

[50] On February 29, 2024, NOVA counsel acknowledged the Court's "direction to us... that we should set out our position on our proposed process to unwind the Pool". Repeating that "your endorsement asked us to confirm the process by which ... we would advocate to unwind the Pool", he advised that "we're going to make submissions". The Court directed NOVA to turn over the Pool contracts to Dow, on certain confidentiality conditions, by March 7, 2024; NOVA began to turn them over on March 8, 2024.

[51] However, on April 3, 2024, the parties' next appearance, NOVA insisted that "what dissolution of the Pool means" is that Dow "simply has to go and buy its own ethane to bring to E3. That's it". This Court directed NOVA "to provide Dow and the Court with its proposed process to dissolve the Pool, including any involvement of a receiver, within one week".

[52] On April 10, 2024, NOVA finally delivered its second remand proposal in the form of a "Statement of the Defendant on the Process For Dissolving the Pool", in which it proposed (a) a dissolution of the Pool (without the protections of section 5.17) (b) the severance of many provisions of the OSA, and (c) the addition of some new ones.

IV. Positions of the Parties

[53] NOVA's second remand proposal, as now set out in the combination of its November 10, 2023 position, its December 1, 2023 redline of the OSA, and its April 10, 2024 Statement, has four primary steps.

[54] First, NOVA proposes that the Ethane Pool be wound up and dissolved, so that the Pool should be terminated as of a certain date (the Pool Termination Date). Then, "[o]nce that occurs...[t]he contracts that currently comprise the Pool will be the subject of an 'equitable division' between the Co-owners in accordance with their Feedstock Fraction percentages". NOVA proposes that it would "assign to Dow a fraction interest in the Ethane Commitments currently comprising the Pool... in the amount of Dow's Feedstock Fraction share of the Pool as at the Pool Termination Date".

[55] Second, NOVA proposes that "[t]he parties will jointly consent" to the appointment by the Court of a Receiver. In a change from its 2021 Term Sheet, NOVA no longer proposes an assignment of the "Dow Interests" in the Pool contracts to the Receiver; it now instead proposes their assignment to Dow, but proposes that the Receiver would take possession of, manage and administer them to the exclusion of Dow, for a "period that starts on the Pool Termination Date and ends when the last contract currently in the Pool is either terminated or expires on its own terms, without renewal", defined by NOVA as the "Ethane Commitment Wind-Down Period".

[56] Third, NOVA proposes that 52 provisions of the OSA would then be struck out, as described previously. NOVA does not allege that all these provisions are tainted by the illegality of the performance of section 5.15, but, in its submission, they would be "[n]o longer applicable" if the Court were to implement NOVA's proposed dissolution of the Pool.

[57] Finally, NOVA proposes the addition to the OSA of new provisions for the management of future E3 ethane supply. NOVA proposes that it would provide newly defined "Fuel Gas Services". Rewriting section 3.4 of the OSA, NOVA proposes that "[e]ach Co-owner shall supply Ethane to the Plant in quantities sufficient to produce the quantities of the Ethylene

nominated by such Co-owner pursuant to Article 7. In a footnote to its redline, NOVA noted that the new section 3.4 would now establish “the obligation of the Co-owner to supply Ethane to Plant in accordance with their own needs”. NOVA proposes the addition of new steps in the Article 7 nomination procedure to have the Operator determine how much ethane is required from a Co-owner based on its nomination, and then it proposes the addition of a condition requiring the Co-owner have its own excess ethane at the ready should it seek to acquire the other’s under-nominated portion. NOVA proposes to rewrite Article 13 to limit a Co-owner’s entitlement to ethane, and the Operator’s delivery obligation, to “the lesser of the Products attributable to the Ethane supplied by such Co-owner and its respective Ethylene Production Proportion thereof”. NOVA also proposes changes to the calculation of the value of ethylene under Article 12.1 (b)(v), to base the value entirely on US indices, a position that was rejected in the damages hearing.

[58] NOVA’s redline of the OSA is set out in Appendix A.

[59] In summary, NOVA’s position has been that the only thing the Court of Appeal meant NOVA to disclose about its “preferences” was “whether the Pool should be dissolved by severance”, with no consideration of “how dissolution is practically effected” and that “the process to terminate the Pool is not part of the remand before the Court”.

[60] In November and December of 2023, Dow proposed severance of section 5.1(a) and 5.15 of the OSA. Later, it revised its proposal to include the severance of the majority of sections 5.1(e) and 5.2.

V. The Issues Before this Court

[61] NOVA submits that the sole issue before this Court on the remand is whether Dow has rebutted the presumptive remedy of termination of the Pool by demonstrating prejudice or unfairness.

[62] This is clearly incorrect. As noted earlier in this decision, the Court of Appeal articulated its remand in two places in its decision. The remand is to determine “the effect of the illegality of the covenants”, also expressed as “the remedial effect of the illegality of the performance of the Ethane Pooling covenant”: COA 1, paras 165, 168(d).

[63] Thus, the primary issue is to determine the effect of the illegality of the covenants.

[64] While the Court of Appeal commented that NOVA’s preference with respect to the now illegal clause should prevail unless Dow can demonstrate some prejudice or unfairness, it also commented that “[i]t is an open question whether the invalidity of the covenants taints all of section 5, or only the particular section 5.15”. Most importantly, the Court noted that the appropriate remedy in the circumstances was not fully argued on appeal, so the effect of the illegality of the covenants was referred back to the trial court for further consideration.

[65] NOVA also submits that the issue of prejudice or unfairness must be determined without reference to Dow’s interests.

[66] Again, this is not what the Court of Appeal said. “[NOVA’s] preferences with respect to the now illegal clause should prevail unless Dow can demonstrate some prejudice or unfairness”. (emphasis added). The Court of Appeal’s reference to a “presumptive remedy” was conditional, not absolute.

[67] The Court also noted that “[s]everance should not be done in a way that gives one party a windfall or imposes an unfair burden on the other”: COA 1, para 164. While it found that simply “blue-penciled” section 5.15 out of the agreement would leave NOVA with all of the obligations, but none of the protections of the covenants, thus “bootstrapping Dow’s current interests”, these comments were made in reference to this Court’s “reading-down” of the Ethane Pooling covenants, and the submission that section 5.15 could be simply “blue-pencilled” out of the OSA. Giving either party a windfall or imposing an unfair burden on the other would be “bootstrapping”.

[68] It is certainly the case that the Court of Appeal noted that severance should be done in a way that is consistent with the original intentions of NOVA and Union Carbide, but the Court’s direction that the presumptive remedy was subject to Dow demonstrating some prejudice on unfairness does not leave Dow wholly out of the analysis.

[69] If, as NOVA suggests, the Court of Appeal’s direction that in referring to prejudice or unfairness, it narrowed the direction to mean from the perspective of the bargain struck by Union Carbide and NOVA without reference to Dow’s interests, the Court could have used this language. It did not. Neither did the Court issue a “presumptive judgment that the Pool be terminated”, as NOVA suggests.

[70] This Court directed that there are specific sub-issues to be determined during the second remand:

- (a) What is the process that NOVA proposes to be followed to wind up and dissolve the Ethane Pool?
- (b) What portion of the operating agreement should be severed or declared unenforceable, given that NOVA’s preferred remedy is the dissolution of the Pool and the termination of its obligation to provide Ethane Services, and will any such severance proposed by NOVA give rise to prejudice or unfairness to Dow or third parties?
- (c) When should any findings of severance or declarations of unenforceability be made effective?
- (d) May this court’s finding at trial that NOVA breached its optimization obligation pursuant to, *inter alia*, sections 4.3(b) and 4.4 (a) be varied?
- (e) If so, may the Court’s award of optimization and co-production damages and related interest award be vacated as a result?
- (f) If so, should Dow be required to repay any amounts previously paid by NOVA, with or without interest?

IV. Preliminary Issues

A. The Record

[71] NOVA submits that the Court of Appeal directed that the second remand should have been determined on the record of the first phase of the trial. This is incorrect. As noted in *Harle v 101090442 Saskatchewan Ltd.*, 2016 SKCA 66 at para 21, “the trial court may look at the

appellate court's reasons and to the original trial decision to determine the scope of the matter remitted".

[72] The Court of Appeal did not direct a remand based on the evidence previously adduced at trial. The Court agreed that performance of section 5.15 would be illegal, and that severance is an appropriate remedy. The Court introduced a potentially new element with respect to the appropriate remedy: a presumptive remedy subject to Dow's entitlement to adduce evidence of prejudice or unfairness. This presumptive remedy was not argued during the first phase of the trial, or, as the Court of Appeal noted, fully argued on appeal, and it necessarily invites and requires additional evidence.

[73] NOVA suggests that its position is not a collateral attack on the pre-hearing procedural directions of the Court set out in 2024 ABKB 98. While the main issue in that decision was whether Dow requests for documentation were appropriate, the submissions made by NOVA were substantially the same, and my response is the same as set out in paras 110-127 of the decision. This Court noted at para 127:

To be clear, this endorsement does not constitute a ruling on either NOVA or Dow's threshold positions with respect to the appropriate remedy arising from the remedial effect of the illegality of the performance of the Ethane Pooling covenant. It is simply a ruling on disclosure of the information that Dow seeks, which is relevant both to the proposed extent of severance and to the issue of whether NOVA's preferences with respect to severance are prejudicial or unfair. It does not preclude submissions on admissibility of evidence at the hearing proper.

[74] Admissibility of evidence was thus properly to have been dealt with at the hearing proper, as evidence was introduced.

B. Section 5 of the OSA

[75] The Court of Appeal noted that it is "an open question whether the invalidity of the covenants taints all of section 5...or only the particular section 5.15". Section 5 is included in Appendix A.

[76] It is clear that section 5.1 (a), "only the Operator shall acquire Ethane from the Pool Area" is illegal and should be severed. As the Court of Appeal noted, section 5.15, which deals with termination of the Pool if UCC acquires Ethane from any source in the Pool area, is similarly tainted and illegal. Equally, the parties recognized from the beginning that sections 5.1 (e) and 5.2 would be anti-competitive, and NOVA thus did not comply with them.

[77] It should be noted that section 5.15 does not call for immediate termination of the Pool. The first step in a multi-step procedure is whether NOVA considers the acquisition not to be in the best interest of NOVA as a Pool User. If so, the next step is that "NOVA may provide" written notice of objection: 5.15 (a). UCC must next provide NOVA with full particulars of the acquisition contract and, within 60 days, must (a) pay NOVA an amount equal to the lesser of 10% of the payments made by UCC over the first 12 months of the contract or \$ 1 million, and dispose of the contract, either by terminating it, assigning it to an unrelated third party, or requesting the Operator to accept assignment of the contract: 5.15 (b). If UCC chooses to either terminate the contract or assign it to a third party, that is the end of it. If it requests the Operator to accept an assignment of contract, NOVA has the right to request the Operator to a) accept the

contract, (b) accept the assignment of the contract, but not to include the Ethane volumes in the Pool, with the costs of Ethane acquisition associated with the contract being for the account of UCC, or (c) dissolve the Pool in accordance with section 5.17 of the agreement: 5.15 (c).

C. The Presumptive Remedy

[78] The parties disagree about the impact of the Court of Appeal’s comment at para 164 that: ...on the issue of severance the equities favour NOVA, and its preferences with respect to the now illegal clause should prevail unless Dow can demonstrate some prejudice or unfairness. If NOVA, for example, favours the termination of the Pool as the remedy for the illegality created by Dow’s ownership interest in E3, that should be the presumptive remedy.

[79] NOVA characterizes this as a “*res judicata*” ruling, and submits that “the presumptive remedy is the de facto remedy barring extraordinary circumstances”, and that “it is the remedy unless [Dow] can demonstrate something specifically defined by the Court or the law”. That is not what the Court of Appeal said.

[80] Dow submits that this presumption is “a starting point for any legal analysis”, and that “[i]f, on the balance of probabilities and on the whole of the evidence, a presumptive remedy is found to be unsuitable, then the presumption is rebutted”.

[81] Neither party has provided any case authority that is directly on point to this issue.

[82] In *Pecore v Pecore*, 2007 SCC 17, a case dealing with the issue of the common law presumptions of advancement and resulting trust, the Court noted as follows:

In certain circumstances... there will be a presumption of resulting trust or presumption of advancement. Each are rebuttable presumptions of law... A rebuttable presumption of law is a legal assumption that a court will make if insufficient evidence is adduced to displace the presumption. The presumption shifts the burden of persuasion to the opposing party who must rebut the presumption; see Sopinka et al., at pp. 105-6...

...

The presumptions provide a guide for courts in resolving disputes over transfers where evidence as to the transferor’s intent in making the transfer is unavailable or unpersuasive.

...

The presumption of resulting trust is a rebuttable presumption of law and general rule that applies to gratuitous transfers. When a transfer is challenged, the presumption allocates the legal burden of proof.

...

There has been some debate amongst courts and commentators over what amount of evidence is required to rebut a presumption.

...

The weight of recent authority, however, suggests that the civil standard, the balance of probabilities, is applicable to rebut the presumptions ... This is also my view. I see no reason to depart from the normal civil standard of proof.

...

As in other civil cases, regardless of the legal burden, both sides to the dispute will normally bring evidence to support their position. The trial judge will commence his or her inquiry with the applicable presumption and will weigh all the evidence in an attempt to ascertain, on a balance of probabilities, the transferor's actual intention. Thus, as discussed by Sopinka et al. In *The Law of Evidence in Canada*, at p. 116, the presumption will only determine the result where there is insufficient evidence to rebut it on a balance of probabilities. (paras 22-24, 42-44; see also *Madsen Estate v Saylor*, 2007 SCC 18 at para. 17)

[83] In *Potts v McCann*, 2002 ABQB 734 at para 43, Slatter, J. (as he then was) commented in a case involving the breach of a restrictive covenant that “the presumptive remedy is an injunction, although the Court always has a discretion to exercise if an injunction would be inappropriate.”

[84] In *Gany Holdings (PTC) SA v Khan and others*, [2018] UKPC 21 at para 17, a more recent Privy Council case involving the principles by which equity provides for identification of beneficial interests arising from a gratuitous transfer of property, the Court noted that:

Finally, recourse may be had to time-honoured presumptions, such as the presumption of advancement or the presumed resulting trust, where there really is no evidence from which an inference as to common intention may properly be drawn. But these are, in modern times, a last resort, now that historic restrictions on the admissibility of evidence have been removed, and the forensic tools for the ascertainment and weighing of evidence are more readily available to the court.

[85] This “modern” trend has been noted in D.M. Waters, M.R. Gillen & L.D. Smith, eds, *Waters' Law of Trusts in Canada*, 5th ed (Toronto: Thomson Reuters Canada Limited, 2021, p. 5.

[86] Professor Waters notes that the modern inclination of courts, is “to play down the presumption by saying that they will look at the evidence (with an open mind)”. There is a “desire to let the evidence tell its own tale”, so that the court is “weighing everything ...As a consequence, it is only in the relatively rare case where all the evidence is completely ambiguous that the presumption of a resulting trust has real significance”: paras 10.11 B.1, 10.11.B2.

[87] All of these cases and commentaries refer to presumptions of law, not what appears to be a presumption directed by the Court of Appeal. However, the principles are apposite.

[88] The issue is further complicated by the fact that Dow notes, and NOVA does not disagree, that neither NOVA nor Dow sought a presumptive remedy at trial or on appeal, and neither of them suggested why or how one might apply. The idea appears to be new to this case when the Court of Appeal introduced it, and it appears to be novel in the law of contractual severance. As NOVA itself has commented, it “never had this benefit before” the Court of Appeal's decision.

[89] It appears that, as the Court of Appeal noted, the subject of appropriate severance was not fully argued on appeal: COA 1 at para 165. Dow submits, and NOVA does not deny, that

severance had not been mentioned in the appeal factums, and only briefly by NOVA counsel in the reply argument.

[90] There appears to be no reason to elevate the presumptive remedy directed by the Court of Appeal beyond the principles articulated by the Supreme Court and the Privy Council with respect to presumptions of law into what NOVA submits is a “*de facto*” remedy or a “presumptive judgment that the Pool be terminated”. Thus, this Court has looked at the evidence to determine whether Dow has met its burden to establish prejudice or unfairness on a balance of probabilities.

VI. Evidence

A. *Jack Broodo*

[91] Jack Broodo is a former President of Dow Canada, and a longtime former Dow executive with over 41 years of experience in the upstream side of the ethylene industry. He retired in 2022.

[92] After extensive oral and written submissions on the admissibility of Mr. Broodo’s evidence, I found him to be qualified as an expert to give opinion evidence with respect to the upstream side of the ethylene industry, including the supply, transportation, and storage of ethane and its integration into the operations of an ethylene plant.

[93] In extensive oral reasons, I found that NOVA had not raised a realistic concern with respect to whether Mr. Broodo was unwilling or unable to comply with his duties as an expert witness, and that any alleged issues with respect to Mr. Broodo’s independence did not outweigh the benefits of hearing his opinion evidence. I noted that issues with respect to the weight to be accounted to Mr. Broodo’s evidence is an issue for final submissions.

[94] Mr. Broodo was asked to review NOVA’s second remand proposal and to provide an independent expert opinion on what commercial, operational, accounting, or financial harms or disadvantages if any, would arise during or after the Ethane Commitment Wind Down Period if NOVA’s severance and Pool dissolution proposal were to be adopted.

[95] Mr. Broodo’s opinion is that NOVA’s second remand proposal “would result in numerous specific commercial, operational, accounting, and financial harms or disadvantages to Dow that would arise both during and after the Ethane Commitment Wind Down Period.” Many of those harms and disadvantages, he testified, stem from “gaps” in the proposal, or “omissions of critical activities.”

[96] Mr. Broodo testified that he had expected that some of the gaps evident in NOVA’s redline of the OSA would be filled by its subsequent process statement, but he found that the process statement “not only didn’t fulfill all the gaps created by the blackline but, instead, created new gaps.” NOVA has dismissed these gaps as “a commercial issue to be negotiated by the parties”, but as Mr. Broodo explained, NOVA would “hold all the cards” in any such negotiations because, as the Operator of E3, it could implement its own protocols and procedures to fill the gaps and refuse to accept in negotiations anything less favourable to itself. By using these gaps to maximize its own profits at the expense of Dow, Mr. Broodo explained, NOVA would be doing what any commercial counterparty would do: he would do the same if he were running NOVA.

[97] NOVA submits that there remain protections in the OSA that would preclude NOVA using its advantaged position in negotiations. These broad principles do not, however, account for NOVA's ability as Operator to fill the gaps without input or consent from Dow as Co-owner as has been illustrated by past conduct. Mr. Broodo made it clear that his opinions about harms and disadvantages to Dow would apply to any independent petrochemical manufacturer in UCC or Dow's non-operating position.

[98] While UCC may have encountered a similar issue with contractual gaps, section 5.17 would have provided it with the benefits of negotiation over an entire contract, and arbitration if the parties could not come to agreement.

[99] Mr. Broodo noted that he had to couch his opinion because NOVA failed to produce the process flow diagrams or any other similar "behind the fence" records that might have helped to resolve this and other gaps in NOVA's proposal. As the Operator of the Joffre site, NOVA has complete information and control over Joffre's meters, ties, delivery points, pumps, treatment equipment, personnel and other resources needed to deliver ethane from the AEGS, JEEP and JRP network to E1, E2 and E3 on a daily basis.

[100] Mr. Broodo identified eight categories of gaps and disadvantages of NOVA's proposal. His evidence about each of these categories is summarized below. I have relied extensively on Dow's summary of Mr. Broodo's evidence, which I find to be accurate and thorough.

[101] First, since NOVA's proposal requires the assignment to Dow of a fractional interest in every Pool contract, it would require the consent of each counterparty to every contract [REDACTED] in Mr. Broodo's opinion, is unlikely to be achievable. As Mr. Broodo explained, [REDACTED]

[REDACTED] Such a conversion would disadvantage the counterparties in several ways, including the following:

- (a) it would increase the burden and occurrence of invoicing disputes, and the burden of both financial and technical audits;
- (b) gas processing plants cannot function at less than 50-60% capacity, so, for example, if NOVA were to nominate less than 25% of a supply contract and Dow nominated its full 25% share, the supplier would be physically unable to meet its contractual obligations; and
- (c) in various other ways, [REDACTED]

[REDACTED] Mr. Broodo gave several examples of the problems that could be encountered in splitting contracts of this nature.

[102] As Mr. Broodo explained, any rational counterparty asked to consent to the sort of fractional assignment required by NOVA's proposal, even if prepared to entertain it, would extract at a minimum "a pound of flesh" for its consent, without which NOVA's proposal could not be implemented. Of course the many pounds of flesh would add extra costs for Dow and NOVA.

[103] NOVA submits that Mr. Broodo was not qualified to speak about this, but I disagree. His extensive experience in dealing with these types of contracts and their assignment falls within the

scope of his qualifications, being the supply, transportation and storage of ethane, and his involvement with the negotiation, management, and oversight of contracts.

[104] NOVA has apparently entered into [REDACTED] third party contracts in recent years that provide for [REDACTED] and includes the following:

[REDACTED]

[105] Other existing contracts contain a [REDACTED] provision that provides

[REDACTED]

[106] Second, Mr. Broodo addressed NOVA’s proposed appointment as Receiver of “a designated accounting firm” to “take possession of, and manage and administer, the Dow Interests” in the Pool contracts. He opined that such a Receiver would lack “the requisite experience necessary to handle decisions on behalf of Dow effectively” – decisions that would need to be made “on a real-time basis”. A Receiver, he testified, would not “have the knowledge to do that and, frankly, won’t have the industry contacts.” As he explained several times, for any integrated petrochemical producer, managing feedstocks is fundamental, and is “where you make the money”. For that reason, such producers typically have a “highly experienced team of accountants, business leaders, lawyers, technology specialists and engineers with decades of experience managing feedstock operations” – support and experience that the Receiver would not have. Mr. Broodo testified that he has “never seen a receiver manage feedstock for any company anywhere”.

[107] Asked whether Dow or NOVA would provide the experience and support that the Receiver would need, Mr. Broodo explained why neither could do so. As he pointed out, under NOVA’s proposal the Receiver would be unable to provide relevant Dow personnel with critical information about the subjects for which it would need support. As he also pointed out, expecting the Receiver to rely on NOVA would be “a fantasy approach”. He noted that, even if NOVA’s proposal required NOVA to provide any support, which it does not, NOVA’s “priority is always going to be take care of NOVA business”.

[108] Ultimately, Mr. Broodo explained, even if the Receiver’s lack of experience could be overcome, NOVA’s proposal would enable NOVA to manage its feedstock portfolio itself, while Dow’s share of the Pool contracts would be managed by a Receiver “in isolation from the rest of Dow’s business”. In his opinion, this imbalance would inherently disadvantage Dow vis-à-vis NOVA because “discussions on any one supply point or transportation and storage provider are affected by other assets, providers, and supply points in the region”. For example, some Pool contracts “include provisions [REDACTED]

Additionally, many Pool contracts “include provisions [REDACTED]

[REDACTED].” The Receiver would **not** be focused on the

entirety of Dow's supply, transportation, and infrastructure assets, which would limit Dow's ability to benefit from this flexibility. And, of course, the interposition of a long-term Receiver in Dow's ethane acquisition would involve substantial costs. Mr. Broodo was of the opinion that the person who was assigned the duties to be assigned to a Receiver under NOVA's proposal should be someone who would have to look at the situation "with a Dow lens... to create benefit for Dow when there's opportunity", not a neutral, impartial party. Mr. Broodo freely admitted that he did not know anything about receivership, as he had never been involved with a bankruptcy or insolvency. However, he analyzed the task that NOVA's proposal gives to a receiver, and the duties that would be given to the person in the role of receiver in giving his opinion about whether a receiver would be able to fulfill those duties, giving concrete examples from his experience managing feedstock positions indicating the need for experienced and well-connected people working in a team who would have the support and operational experience needed to manage incidents. Mr. Broodo made it clear that having Dow "silo" its business and take away contract and context from people who have experience in the industry was "a nonstarter".

[109] It is important to note that Union Carbide in a Pool dissolution would not suffer this disadvantage, as it would have full information about the contracts to be assigned, or partly assigned to it and would be entitled to manage its interests directly and indirectly.

[110] Third, Mr. Broodo explained that "ensuring regular and stable delivery of feedstock demand[s] a contemporaneous understanding of E3's operations, because E3's feedstock consumption varies with both transient operational upsets as well as planned maintenance". Currently, under the OSA, NOVA as Operator performs both the feedstock and operations functions, so it has the crucial understanding that Dow does not have, and no contractual obligation to help Dow obtain it. Problems in the delivery by Dow of ethane to E3 would inevitably arise and solving them would be NOVA's "lowest priority". In fact, unresolved problems could benefit NOVA: if Dow were unable to get some of its ethane to E3, NOVA could use the available excess E3 capacity itself, at a reduced cost and without violating the severed agreement.

[111] Mr. Broodo also explained that NOVA's proposal could enable NOVA to use "its existing contractual agreements to limit Dow's ability to bring ethane to E3 in the future", [REDACTED], something that "is critical to Dow getting supply down to Joffre".

[112] Fourth, and relatedly, Mr. Broodo noted that NOVA's redline of the OSA strikes out all the existing requirements by which NOVA accounts to Dow for Ethane Services, but it makes no provisions for new protocols, technical audit rights, custody metering or handling of other services still to be performed by NOVA as the Operator. As Mr. Broodo explained, NOVA's proposal would require new and more complex accounting, including to address the ethane related services that NOVA would continue to provide, and technical audit rights for the new custody (pay) meters that would be needed to confirm that the ethane that Dow delivered to Joffre would be handled appropriately and that Dow received all the ethylene produced from that ethane. As Mr. Broodo pointed out, under the current Pool structure, the Joffre site is unlikely to have any pay meter infrastructure of the sort that would be required. Mr. Broodo noted that these issues are not specific to Dow or Dow's current interests; they are specific to the gaps in the NOVA proposal with ethane for any non-operating party.

[113] Fifth, Mr. Broodo explained that the gap created by NOVA's proposal with respect to renewal rights, along with NOVA's vital information advantage – only NOVA would know for each contract the price, counterparty termination date, geographic location, quantity and the forecasted quantity of gas behind the processing plant – would allow NOVA to “front run Dow and get to those contracts before Dow can”, on “more advantaged terms”. Mr. Broodo made it clear that he was not saying that NOVA would do anything unethical, but that it would be normal competitive behaviour.

[114] Sixth, Mr. Broodo described a cost flow-through disadvantage that would result for Dow under NOVA's proposed fractional assignment of the Pool contracts. Because operating costs for processing plants do not decline proportionally as production is reduced, if NOVA were to decline its much larger share of a contractual volume, then the operating costs passed through to Dow by the supplier would potentially go up 300%. In contrast, if Dow declined its much smaller (roughly 25%) share of the volume, then the operating costs passed through to NOVA would only go up 33%. This, Mr. Broodo explained, would be a “disadvantage to Dow that's structural in any processing contract that has these operating cost pass-throughs. Moreover, since gas processing plants cannot function at less than 50% to 60% of capacity, a supplier would be physically unable to meet its contractual obligations to Dow if NOVA decided to turn back all of its share of a supply contract volume. NOVA would hold the power to determine whether Dow could receive supply, even under Pool contracts purportedly partially assigned to Dow.

[115] Seventh, Mr. Broodo noted that NOVA's proposal would assign to Dow only its “Feedstock Fraction” share of the Pool contracts, rather than a share reflecting the current ethane requirements for E3. As he pointed out, the current Feedstock Fraction used by NOVA “does not accurately reflect the capacity of any of the three plants” at Joffre, but NOVA does not propose any recalculation of it to ensure that Dow would receive a share of the Pool contracts reflecting sufficient ethane to fill its 50% share of E3.

[116] Eighth, Mr. Broodo identified how changes proposed by NOVA to the E3 OSA nomination framework would operate to the disadvantage of Dow and to the advantage of NOVA. Under NOVA's proposal, there would be a new, “significantly... more complicated” nomination process. Nominations would be changed in two important ways – NOVA's response to each monthly Dow nomination for ethylene would now state the amount of ethane supposedly required to meet the nomination, and then Dow would be obligated to supply that amount. NOVA's obligation to deliver ethylene to Dow for the month would be reduced to the lesser of Dow's Ethylene Production Proportion and the proportion attributable to the ethane supplied. Further, if NOVA were to under-nominate, then for Dow to benefit from the unused E3 capacity, Dow would now need to deliver to E3 the ethane required to fill it.

[117] Mr. Broodo explained various disadvantages to Dow that would result. For example, he opined that NOVA's proposal (a) “fails to explain how the parties would account for variations in storage inventory balances and ethane being delivered on AEGS to Joffre against what each party contracted for with various third-party ethane suppliers”, (b) fails to explain how Dow “would go about disputing NOVA's assessment of E3's Productive Capability (and corresponding ethane needs)”. (c) “fails to explain what happens when a Co-owner inevitably delivers more or less ethane to E3 than what is required to obtain the Co-owner's EPP share”, and (d) “is also silent on what would happen if one party under-nominates its share of E3 production on short notice, requiring the other Co-owner to supply additional ethane necessary to achieve E3's productive capability to Joffre, or otherwise lose out on the right to take that

additional ethylene production. Again, Mr. Broodo noted, the nomination disadvantages that he identifies would apply to anyone that would be subject to the NOVA proposal, whether it is Dow, UCC or any other non-operating party.

[118] Mr. Broodo was asked whether he would rather be on the NOVA side or the Dow side of NOVA's proposal. He was clear, testifying that "100 percent I'd want to be on the NOVA side of the negotiation. I could definitely extract a lot of value for the company and put big advantages for the NOVA side versus the Dow side." Mr. Broodo testified that the NOVA blackline created omissions in a normal contract between parties. It struck out accounting; it struck out nomination; "it just struck out a bunch of things, agreements that the parties had had. And I expected the April proposal to backfill in all of those and to answer all of those things, how the parties are going to work together to fairly and equally utilize their joint asset".

[119] After almost two days of vigorous cross-examination, Mr. Broodo's evidence remained unshaken.

[120] NOVA mischaracterizes Mr. Broodo's evidence, claiming that he only considered Dow's current interests" or "current business interests" rather than considering harm or disadvantage that UCC would have suffered if NOVA's second remand proposal were to be implemented. However, Mr. Broodo was clear. On several occasions in his testimony, he emphasized that the harms and disadvantages that he identified would have been the same for UCC or any other non-operating joint venturer.

[121] NOVA faulted Mr. Broodo and Dow for not proposing an alternative version of Pool dissolution, but the Court of Appeal never suggested that Dow had any burden to do that. Dow was neither required to propose some different approach to Pool dissolution nor to try to *cure* the prejudice and unfairness resulting from NOVA's preferences. Dow has the burden of proof in respect of all assertions of fact that it makes with respect to its allegations, but is not required to go further.

[122] In any event, Mr. Broodo testified, that he tried but was unable to devise *any* alternative proposal that would involve a dissolution of the Pool but would not harm Dow, as the non-operating joint venture partner.

[123] For example, Mr. Broodo was asked to confirm in cross-examination that he had not concerned himself with the original negotiations, interests, or the agreement between Union Carbide and NOVA. His response was as follows:

Only to the extent that when I wrote my report, I tried to think through consistently did it matter - - you know, what would have had to happen today - - if Union Carbide was there today, if Dow was there today, if another party was there today, what would have - - what would have happened, and would the proposal have applied differently?

[124] Later, in cross-examination, it was suggested to Mr. Broodo that "[c]ertainly you were not instructed to look hypothetically at possible harms or disadvantages to Union Carbide had Union Carbide still been a party to the OSA?" He responded:

No, I wasn't asked that, but I tried to do that in every circumstance. I tried to always think through, you know, what would have happened, what would have triggered Carbide getting into the situation today and what would -- what would

have happened to Carbide, and I never could convince myself it was any different than what Dow would be going through today.

[125] There was a further exchange:

Q So your reference to Dow's current business interests is based on an assumption about what they are today and in the future?

A In my commentary, ... I try to look at the situation of the Pool dissolution proposal versus no pool dissolution proposal. That's it.

Q But when you say - -

A Doesn't really have anything to do with Dow strategy or interest today.

Q I thought you agreed earlier harm or disadvantage is harm or disadvantage to Dow's business interests; right?

A Within that narrow definition I just gave you, yes.

And later

Q And when you looked at Dow's business interests, you looked at Dow's business interest proper in the sense, not just E3, LHC-1 and other possible business interests; correct?

A I looked at Dow's interests as the nonoperating party at Joffre.

[126] During his testimony in chief, Mr. Broodo explained as follows:

Q I think you alluded to this a moment ago, but are the harms that you identify in your report specific to Dow and Dow's business interests?

A I mean, I use the word "Dow" and "Dow interest" throughout because Dow is the nonoperating party, but - - I think I spoke about this with Mr. Leil - - for me, for Carbide to get in a - - in a - - to be - - for NOVA to invoke covenant 5.17, Carbide would have had to have been buying ethane in the pool. Why would they do that? They do it 'cause they had a cracker. They - - they were building an ethylene plant, and they decided to buy ethane, and, therefore, they were in breach of that covenant.

So if it was Carbide, it would have been the same situation. And, in general, my view was that any nonoperating party that was subject to this relationship where the operator had operation of the plant and the - - and the - - and support facilities at the Joffre site and so forth, the nonoperating party would have been subject to it, and that happens to be Dow. But if Dow sold its share to INEOS, INEOS would have exactly the same problem if it - - if it was buying ethane in the province.

[127] At the same time, NOVA submits that Mr. Broodo inappropriately focuses on Dow's current business interests, it argues that he does not know anything about them. Mr. Broodo was clear: he did not talk to any Dow employees, and he did not demand any Dow documents because his focus was on whether there were any harms or disadvantages to Dow or any other nonoperating party in Dow's position at Joffre arising from NOVA's severance proposal.

[128] NOVA submits that Mr. Broodo’s evidence exceeds the scope of his qualifications, as it touched on subjects like “accounting, finance, economics, competition, the management of a contract pool, the operation of Joffre and E3. His evidence, however, did so only in instances where these subjects intersected with his industry expertise, including feedstock commercial management and the integration of ethane into ethylene plant operations. Markedly, NOVA did not object during his testimony if it considered that Mr. Broodo’s evidence was beyond the scope of his qualification. An example of Mr. Broodo giving an opinion beyond the scope of his expertise, on “commercial inequalities” arose as a response to a cross-examination question.

[129] I find that Mr. Broodo’s testimony and opinions fell within his lengthy experience in feedstock management and in the integration of ethane into ethylene plant operations, and did not exceed the scope of his qualification as an expert.

[130] NOVA also submits that Mr. Broodo’s opinion was hampered by Dow’s “restrictive approach” in instructing and providing information to him. There is no evidence that Dow did not provide Mr. Broodo with the evidence it received from NOVA with respect to relevant “behind the fence” NOVA records. NOVA has taken the position that it provided Dow with records suitable to gain a proper understanding of the integration of ethane into E3 operations after its delivery to the Joffre site. In April 2024, NOVA insisted that it had “produced the records that exist. To the extent that’s not sufficient, there aren’t any records that would be sufficient. They don’t exist.”

[131] NOVA now submits that “Dow failed to identify process flow diagrams (a term of art in engineering), Joffre meter tickets or Historian data in its requests for documents”, NOVA contends that it was entitled to withhold relevant records because Mr. Broodo and Dow did not identify them *specifically enough*.

[132] However, Dow asked for all “documents describing the current process by which NOVA performs the Ethane Services under the Operating and Service Agreement”, including “documents describing the *process* by which NOVA directs, controls, monitors, administers, managers, or assesses the transportation, delivery, storage, segregation, or purity of ethane from the AEGS delivery point(s) at NOVA’s Joffre Site to the E3 ethylene production facility at the Joffre Site”. NOVA cannot blame Mr. Broodo or Dow for its own failure to produce process flow diagrams, which certainly would fall within the wide request. That NOVA did not produce all relevant documents was clear from the evidence of NOVA witness Tammy Ardolino, which referred to the significance of certain withheld “SOX” documents that (a) describe a process of monthly calibration of custody meters that measure the quantity and quality of the incoming ethane volumes from the pipelines to Joffre at the points of custody transfers, (b) that NOVA has employees called “Pipeline Technicians” who witness the calibrations to monitor and check the incoming volumes, and to make appropriate records or reports, (c) [REDACTED], (d) [REDACTED], (e) that there are diagrams showing the exact locations of the flow meters, (f) [REDACTED]

[REDACTED]. None of these records appear to have been turned over to Dow.

[133] It is noteworthy that, NOVA belatedly identified 24 further documents that it never mentioned when it made its scant production in March 2024, that it never mentioned when Dow complained of the scantiness of that production, that it never mentioned when it received Mr. Broodo’s report on May 31, 2024, that it never mentioned when it delivered an additional 531

documents on October 2, 2024, shortly before the hearing, and that it never put to Mr. Broodo when he was on the witness stand, so that he could say whether they would have made any difference to his opinions.

[134] Of these 24 documents now identified by NOVA in submissions after the evidence was heard, 7 (all meter tickets) were entered as second remand hearing exhibits. The remaining 17, all but one of which were produced either in 2014 or 2021, are not anywhere in the record at all.

[135] NOVA submits that, in his opinion, Mr. Broodo “makes no reference to, and does not consider, the Court of Appeal’s ruling that severance should be done in a way consistent with the original intentions of NOVA and Union Carbide, not by bootstrapping Dow’s current interests”. Mr. Broodo was not asked to interpret the Court of Appeal’s words nor was he qualified to interpret them. He provided an expert perspective on the operational consequences of the NOVA proposal, which was within the scope of his qualifications.

[136] On cross-examination, Mr. Broodo was faced with the suggestion that the Court should order the OSA to be severed in accordance with the NOVA blackline, and no process statement, and the Court would say “you guys now go figure it out”. He was asked whether he would agree that it would be in Dow’s interests and NOVA’s interests to come to a solution, that there would be incentives to doing this. Mr. Broodo testified that he did not think that NOVA would have the incentive to do this, that NOVA would not have any commercial incentive to cooperate with Dow. He said that “on an opened ended situation like that I think NOVA would be totally in the driver’s seat”.

[137] NOVA submits that some of the evidence that Mr. Broodo gave was incorrect because he was incorrect about the involvement of AEGS. It cites Ms. Ardolino’s evidence in that regard. NOVA submits that Ms. Ardolino testified that [REDACTED]

[REDACTED] but I agree with Dow that this is not what she said. Ms. Ardolino explained, [REDACTED]

[REDACTED]. In other words, Mr. Broodo and Ms. Ardolino agree that while it is desirable to reject the ethane that is easiest to reject, that may not be possible, and the purchaser could end up saddled with heavy costs. Ms. Ardolino did not explain how or even whether the AEGS operator might try to meet conflicting NOVA and Dow priorities.

[138] NOVA submits that Mr. Broodo contradicted Dow’s admission that AEGS manages certain balancing issues. Mr. Broodo did not insinuate that NOVA was responsible for balancing the entire AEGS system, however, or that a Receiver would be either. His opinion was simply that the parties will be delivering ethane with different compositions to E3, which requires a true-up system for which NOVA has made no provision. As he explained, “the parties should both know what happens to ethane once it goes through the last AEGS meter into the Joffre site...Dow would—should be privileged to see all that, what’s coming into the Joffre site, so that...it can do its own accounting and balancing, that it’s getting its appropriate share of that supply”. However, Mr. Broodo noted, the proposal “says that NOVA will agree with the receiver and Dow” on that process later.

[139] NOVA challenges Mr. Broodo’s independence. I addressed this in my oral reasons during the hearing. There was nothing in Mr. Broodo’s testimony, including challenges in cross-

examination about possible financial interest or possible involvement in the litigation that caused this Court to question Mr. Broodo's independence or his willingness or ability to provide the Court with fair and objective evidence or to fulfill his duty as an expert witness. Mr. Broodo was a knowledgeable and credible witness with relevant evidence on the issue in this litigation, and I accept his testimony.

B. Dr. Ramsay Shehadeh

1. Qualification

[140] Dr. Shehadeh was extensively examined and cross-examined on his qualifications during the hearing.

[141] Dow submitted that Dr. Shehadeh was qualified to give opinion evidence as he had previously been qualified: first, as an expert to give opinion evidence on economics as it relates to the assessment of markets and the competitive effects of actual or proposed conduct, including through the application of quantitative economic methods; second, economics, specially the economic principles and methods applicable to the assessment of the value of goods and services; and third, in addition for the purpose of the second remand, as an expert in the area of the economics of contracts, including transaction-cost economics and bargaining and the economic benefits of contracts.

[142] In cross-examination, Dr. Shehadeh was asked to comment on why his qualifications for each phase of the trial were "a little bit different." He responded that his qualifications were the same, but that the qualifications as they relate to the question at hand have changed over time. He confirmed that, for the last 35 years, his area of research has been industrial organization and econometrics.

[143] NOVA objected to Dr. Shehadeh's qualifications on the basis that he "expresses opinions which are outside the scope of his expertise". NOVA submitted that, when it came to the economics of contract, Dr. Shehadeh was unable to point to any example of a credential or qualification that he had in the area that was not consulting or expert witness engagement, and that he had not written any articles dealing with the economics of contract.

[144] This misses the point. As set out in the seminal case of *R. v Mohan* [1994] 2 S.C.R. 9, the relevant question with respect to qualifications is whether the expert has been shown to have acquired special or particular knowledge through study and experience in respect of the matters on which that expert is proposed to testify.

[145] As Dow established in examination-in-chief respecting Dr. Shehadeh's qualifications, he has extensive and varied experience in applying the economics of contracts, bargaining and transaction costs through advisory engagements and economic analyses, more than sufficient to satisfy the requirement of a properly qualified expert.

[146] I accepted Dow's proposed qualification language.

2. Opinion

[147] In the following section, I adopt much of Dow's summary of Dr. Shehadeh's opinions, which I find to be accurate and thorough.

[148] For the second remand, Dr. Shehadeh was asked to evaluate the parties' respective severance proposals using economic principles, and to identify, and if identified, to explain (i)

economic implications or harm, if any, that would result from the proposals and (ii) competition economics effects, if any, that would result from the proposals.

[149] He did not cite any unproduced Dow documents in giving his opinion. While Dr. Shehadeh had access to both NOVA and Dow ethane contracts while preparing his first opinion, that opinion was based in part on actual conduct. His recent opinion refers to the effect of NOVA's severance proposal in the hypothetical world that would follow from the dissolution of the Pool and the severance of much of the OSA.

[150] Dr. Shehadeh defined economic harm as "higher costs, lower efficiency or production, or lower prices or lower returns from output". Dr. Shehadeh concluded that NOVA's proposed elimination of the Pool and NOVA's related provisions of Ethane Services, including accounting and monitoring currently provided by NOVA, would result in economic harm to Dow and to the public interest. Applying the same economic perspective, he concluded that Dow's proposal, as it existed at the time of his report and as updated subsequently, would not result in economic harm to Dow, NOVA or the public interest. Dr. Shehadeh made it clear that his opinion about economic harm to Dow would apply equally to UCC.

[151] In determining the objectives of the project agreements relevant to his economic analysis, Dr. Shehadeh referred to certain statements of this Court in the Trial Reasons, as follows:

- (a) Using "the application of legal principles of interpretation to determine the objective intent of the parties at the time the contract was made", this Court stated that "E3 was developed as a joint venture between NOVA and UCC which would be able to take advantage of the low-cost ethane feedstock then available in Alberta, the economies of scale associated with a world-scale plant, and the use of the existing infrastructure at Joffre, including maintenance personnel" with "...the objective of: (1) maximizing efficiency, flexibility and safety in the operation of the Site, without discrimination on the basis of ownership; and (2) achieving overall lower costs.": Trial Reasons at para 140; Trial Reasons Appendix A, para 5.
- (b) This Court stated that E3 was the "newest, most efficient cracker and could produce more ethylene at a lower cost." The Court further stated that, "NOVA's duties as Operator under the OSA" include to "acquire ethane feedstock with the objective of optimizing the production of ethylene and other products from E3.": Trial Reasons, para 102. To achieve efficient input sourcing, the Court stated that "the contracting parties thus provided for the Operator to acquire 'for the Co-owners the lowest cost, secure supply sources of Ethane for the Pool' until enough had been acquired.": para 160.
- (c) Further, this Court stated that "the OSA provides that it is the intent and objective of the Co-owners that E3 continually operate (subject to scheduled turnaround) at not less than the "Ethylene Nameplate Capacity" and that "each Co-owner continually take 100% of its Ethylene Production Proportion of Product produced at [E3].": para 60. Citing section 4.3.(b) of the OSA, the Court further stated that the Operator "will optimize Product production and achieve first decile performance when compared to other ethylene plants in North America.": para 632. With respect to section 4.6 of the OSA, the Court stated that "I find that section 4.6 is a recognition of NOVA's role in providing services to other

facilities on the Joffre site, that because of this, economies of scale may be achievable, and that section 4.6 is the Co-owners' acknowledgment that this is a permissible state of affairs as long as NOVA did not favour itself over its Co-owner's interests": para 145

[152] Dr. Shehadeh concluded that the economics of contract, transaction, cost economics and bargaining provide an appropriate economic framework for his mandate.

[153] Dr. Shehadeh commenced his analysis by considering the project agreements in the context of the petrochemical industry in Western Canada, including the dynamic nature of supply, demand and competition in that industry. He cited two examples of that dynamism – the continued evolution of natural gas and ethane supply, and the actual and potential changes in ownership and/or operatorship of infrastructure that facilitates the ethane supply. Dr. Shehadeh testified that these examples of dynamism "...go to whether or not the joint venture under the current structure can respond flexibly and efficiently to [these dynamics] and whether or not, under the severance proposals, the parties will be able to respond flexibly and efficiently to [them]". He noted that the project agreements, including the Pool, facilitate commercial responses to this dynamism by aligning the parties' incentives. In his opinion, without the Pool, this alignment is reduced, and the joint venture is likely to be less efficient, "certainly for Dow that has no other investments at Joffre".

[154] Consistent with the real-world factual matrix to which he referred, and with this Court's findings in that regard, Dr. Shehadeh testified that the contracting parties' economic motivations, evident from the project agreements, include an alignment of incentives and economies of scale. From an economic perspective, the project agreements address the tension between the "high-powered" incentives to pursue the goal of the parties' joint venture, and the incentives to engage in strategic (profit maximizing) behaviour, especially given sunk relationship-specific investments. As he explained, the project agreements, notably the provisions regarding the Pool and NOVA's provisions of Ethane Services, create a "pooling of economic interests" that "align the incentives of the Operator with those of the Co-owners", leading to optimal outcomes for both parties and reducing the incentives for either of them to pursue strategic conduct in its own interests. Dr. Shehadeh noted that economic harm to a party from strategic behaviour might arise if the profits to a party under a particular severance proposal were lower than what would have been achieved under the project agreements, through higher input costs (such as feedstocks or infrastructure), reduced output (including from reduced efficiency) or through lower output prices or returns on output. He testified that "the E3 joint venture was formed to take advantage of the economies of scale associated with a world-scale plant [,] and the use of the existing infrastructure at Joffre", and the "flexibility for ethane procurement supply that the scale of the pool provides". He pointed out that efficiencies achieved through economies of scale are particularly important in the Western Canada petrochemical industry, where the dynamic nature of supply and demand for ethane and ethylene requires joint venture partners to respond flexibly to changing conditions.

[155] In Dr. Shehadeh's opinion, a severance proposal that failed to recognize these implications of the economics of contracts for a joint venture would fail to achieve this balance between high-powered incentives and strategic behaviour. From an economic perspective, two principles would need to be embraced. First, the parties' post-severance economic relationship, including contractual or market-based economic transactions, should align or maintain the alignment of the incentives of the parties, and should ensure that neither party has the incentive

to engage in strategic behaviour that undermines fundamental goals of the joint venture. The result of this type of strategic behaviour would be disproportionately high costs, lower output or reduced profits than would have been achieved under the joint venture as originally conceived. Dr. Shehadeh testified that this principle is satisfied under the existing agreements, because they address that tension between the parties of pursuing the interests of the joint venturer versus pursuing strategic behaviour. As he noted, given the current structure, NOVA as Operator has high-powered incentives to acquire low-cost ethane and to operate E3 efficiently and at capacity.

[156] The second principle is that both parties should continue to benefit from the efficiencies generated by the joint venture, particularly those “generated through the Joffre-specific operation of the site and the Joffre-specific role of NOVA as Operator”.

[157] With respect to competition economics, Dr. Shehadeh testified that contractual commitments are procompetitive when they align and maintain parties’ incentives for efficiency-enhancing actions, because they lead to increased output, lower prices, and the creation of new and better products. While the project agreements result in procompetitive outcomes by aligning incentives for efficiency and other goals, a change to them could have negative competition economics effect; “a severance proposal that results in reduced alignment of incentives, reduced efficiencies and economies of scale, higher costs, higher cost output would result in a substantial lessening of competition or prevention of competition for ethane as well as for production or supply of ethylene”.

[158] In Dr. Shehadeh’s opinion, NOVA’s proposal would reduce these economic and procompetitive rationales for, and effects of, NOVA and UCC’s Co-ownership of E3. Because each party would now be acting in its own self-interest in supplying (or not supplying) ethane to E3, the “alignment of incentives... achieved through the pool and the ethane services... enabling the achievement of efficiencies and economies of scale across Joffre site would be reduced and diminished”.

[159] As Dr. Shehadeh explained, “without the Pool, each of the joint venturers would be going out to not only acquire their own ethane but also... pipelines, storage, various sources of production”, for which “the costs... would be higher... and the alignment of incentives would be reduced in the absence of the Pool and the Ethane Services”. As Dr. Shehadeh noted, there would be the requirement to have two operators, at least up to the Joffre fence line. NOVA’s proposal would provide NOVA with a greater ability and incentive than currently exists under the project agreements to affect Dow’s ability to supply ethane efficiently to E3 and to benefit from E3’s operational efficiencies, and it would impose on Dow higher feedstock, services, and operational costs at E3, resulting in lower production and yield of E3 ethylene for Dow. As Dr. Shehadeh noted, “NOVA as a profit-maximizing entity can be expected to...pursue its own interests across E1, E2, and E3 at the expense of Dow”, and that “whatever replaces [the provisions eliminated by NOVA’s proposal] will favour NOVA”. Dr. Shehadeh also concluded that NOVA’s proposal would cause a substantial lessening or prevention of competition and thereby harm the public interest.

[160] Dr. Shehadeh presented a detailed and extensive written opinion, and was examined and cross-examined on the opinion for nearly three days. The following describes in greater detail the elements of Dr. Shehadeh opinion.

[161] As Dr. Shehadeh discussed in cross examination, he did not consider Dow’s business interests outside of Joffre and the formula in his Appendix B did not address economic harm to

Dow's "interests outside of Joffre," however, he considered NOVA's interests "outside of E3 at Joffre because the goals of the joint venture are informed by that, as are the alignment of incentives through the Pool to deal with that versus whether UCC or Dow at E3 do not involve that".

[162] Dr. Shehadeh testified that, by eliminating the Pool and NOVA's provision of Ethane Services, NOVA's proposal would eliminate the alignment of the incentives – the "pooling of economic interests" – that allows NOVA and Dow to achieve lower costs and higher efficiencies at E3, and would enhance NOVA's ability and incentive to "pursue its own profits... informed not only by E3 but by E1 and E2 in a manner that ... may reduce its own cost but at Dow's expense," in a way that would also reduce Dow's competitiveness downstream to NOVA's benefit. According to Dr. Shehadeh, either or both outcomes would result in economic harm to Dow.

[163] Dr. Shehadeh focused on two specific aspects of NOVA's proposal – one, "what disappears when the Pool and the Ethane Services go away; and, two, what replaces them and how they're replaced". Under the Pool structure, NOVA's operational decisions implicate entire Pool performance, providing alignment of incentives of the Operator with the interests of both E3 Co-owners, but dissolution of the Pool would undermine this alignment and require new E3 operational structures, a number of which would have to be left for negotiation. Dr. Shehadeh noted that, under NOVA's proposal, NOVA would also continue to provide services inside the Joffre fence line for ethane delivered to the Joffre site by Dow. Importantly, for his analysis, this circumstance would leave "open to future determination what will replace a number of the services that were provided currently through the ...Pool", such as "cost management, cost reporting, cost accounting, operational accounting and the like" that either would need to be negotiated or would be subject to NOVA's unilateral imposition.

[164] As Dr. Shehadeh explained, the need for future negotiation engages two important implications of the economics of bargaining. First, the outcome of a bargain will depend on the outside options available to each of the parties in the absence of the negotiation. Second, the parties' outside options change after a contract has been entered into and investments have been sunk. Although both UCC and NOVA made specific investments in E3, Dr. Shehadeh concluded that UCC forewent a broader scope of outside options than did NOVA, including by committing itself to having NOVA be the Operator of the full Joffre site. As a result, relative to its *ex ante* bargaining position, the *ex post* bargaining position of UCC (now Dow) has changed much more than has NOVA's. Accordingly, these asymmetric changes mean that NOVA's proposed new operational structures would "favour NOVA's interests at the expense of Dow's...[irrespective] of whether it's resolved through the imposition of a replacement or resolved through *ex post* bargaining".

[165] As Dr. Shehadeh testified, "contracts are incomplete". Because of that, "the economics contract recognizes what we often see, contracts that involve structures or terms that align incentives so that the contract isn't directing an action for every state of the world, but aligning incentives in a way that other parties have the interest and incentive to pursue the contract under whatever state of the world comes to pass".

[166] Dr. Shehadeh testified that NOVA's proposal would result in a permanent loss of efficiencies associated with NOVA's centralized ethane acquisition, storage, transportation, inventory management and supply risk management, causing economic harm to Dow by

increasing E3's cost and reducing E3's production. He noted lost efficiencies relating to conduct outside the Joffre fence line, such as "greater flexibility with the high volume upstream in choosing which facilities to turn on and off", and "greater flexibility into which facilities to choose first...[which] flexibility enables lower cost operations". He also notes lost efficiencies relating to conduct within the Joffre fence line, "whether it's taking advantage of shared maintenance personnel across the site or similar economies of scale, they result in lower costs per unit, specifically for the Joffre site".

[167] Under NOVA's proposal, Dow would need to fill its share of E3, including through not only ethane acquisition but also logistics such as storage and transportation. In the event that NOVA is not using 50% of E3 or of supply disruptions effecting E3, Dow would face "the challenge of either not having ethane delivered at the right time or in the right volume because [it] did not receive sufficient notice." This challenge would cause economic harm to Dow, such as by imposing higher inventory management costs on Dow, requiring it to incur additional costs to maintain extra inventory and/or pipeline capacity to maintain necessary operational flexibility.

[168] Dr. Shehadeh noted that, under the Pool arrangements created by the OSA, NOVA as the Operator, with the benefit of full and timely information, can effectively handle supply and operational disruptions within the Joffre fence line, including for E3. Under NOVA's proposal, though, Dow would have none of these benefits. In Dr. Shehadeh's opinion, the proposal requires "that Dow engage in those activities that today are handled by NOVA as the Operator in the Pool, but to do so in a disadvantaged position relative to NOVA, less information, less timely information, given the contractual incompleteness, and NOVA's acting in its own interest, would lead to harm to Dow". Moreover, under the new nomination procedures contemplated by NOVA's proposal, Dow would face potential challenges of not having enough ethane delivered at the right time or in the right volume because of insufficient notice of a NOVA under-nomination.

[169] With respect to lost operational efficiencies, Dr. Shehadeh noted that ethane supply contracts, as well as pipeline and storage agreements would be implicated, both during and after the Ethane Commitment Wind-Down Period. He testified that "how that puzzle fits together is... as important for the operational efficiencies as any one piece of it. For example, "[y]ou don't want to buy ethane in the Bakken if you can't ship it to AEGS, and you don't want to have capacity on the pipeline if you don't have the ethane to fill it". During the Ethane Commitment Wind-Down Period alone, Dr. Shehadeh noted that NOVA's proposal indicated that Pool contracts were to be equitably divided "without renewal", and he opined that this apparently non-renewal approach would cause economic harm to Dow should NOVA propose to forgo low-cost renewal options.

[170] Dr. Shehadeh testified that NOVA's proposed appointment of a Receiver to manage Dow's "Ethane Commitments" during the "Ethane Commitment Wind-Down Period" would inevitably compound this harm to Dow. He testified that a Receiver would "not have the scope or ability to optimize ethane supply as would be achieved under the Pool", and even simply the addition of a layer between Dow and E3 would cause strained communication and delay, adding to the challenge of responding to outages and interruptions. In Dr. Shehadeh's opinion, Dow would have to accept either less flexibility in the management of ethane, or have the same flexibility achieved at a higher cost by maintaining new, surplus inventory and pipeline capacity to ensure responsiveness. NOVA, on the other hand, would have the same flexibility it exercises today. The result, Dr. Shehadeh testified, would be that "that role of the Receiver and the

information challenges and coordination challenges that arise will benefit NOVA and create harm to Dow”.

[171] Dr. Shehadeh explained that NOVA’s proposal would likewise impose on Dow higher operational costs and higher management costs for its feedstock procurement and inventory systems, including the cost of the Receiver, monitoring costs, risk and uncertainty and reduced operational flexibility. As he testified, these costs and loss of flexibility might also lead to lower volumes of feedstock supplied for Dow to E3, a lower yield, and lower ethylene production at E3, because Dow would need to manage its demand and supply balances in the presence of greater risk from, for example, disruptions in ethane supply. Further, because certain ethane extraction assets might operate less efficiently without Pool demand aligned and might require effective unanimity among customers to run efficiently or at all, if NOVA declined its larger share of production from an ethane supplier, the supplier could shut down, harming Dow.

[172] As Dr. Shehadeh testified, the economic harm to Dow is unrelated to whether Dow is able to contract for the ethane it needs to supply E3. Rather, “[t]he question is at what cost? At what level of efficiency?” Given NOVA’s proposal, Dow would need to react to inevitable outages and interruptions independently. Under the current project agreements, the Operator has greater flexibility to respond: Dow’s more limited options would lead to either “less flexibility or it’s going to be the same flexibility but achieved at a higher cost, again, by maintaining extra inventory, by maintaining extra pipeline capacity to enable responsiveness”. Dr. Shehadeh testified that these issues would be exacerbated during the Ethane Commitment Wind-Down Period, including with respect to questions of timeliness of notice to the Receiver and to Dow, and coordination between the Receiver and Dow.

[173] Dr. Shehadeh noted that under the Pool structure and prioritization of E3, UCC (now Dow) has operational protection if Pool supply reduced, for example by an issue upstream of E3. Under NOVA’s severance proposal that operational protection would be lost. As Dr. Shehadeh explained, this “operational protection” refers to the protection of the parties through the alignment of incentives. Dr. Shehadeh did not suggest that NOVA provided “insurance” to UCC (now Dow), stating that “[t]here is no increase in risk for the Operator from Dow purchasing ethane in the Pool for the reasons we’ve talked about, namely, Dow was already doing so, would have been anticipating doing so, and if anything, after Dow steps into UCC’s shoes, would recognize the implications of that risk on its own interests through the Pool.”

[174] Dr. Shehadeh’s opinion was that lost efficiencies arising from the NOVA proposal would ultimately result in economic harm to the public interest. I have not relied on Dr. Shehadeh’s opinions with respect to the public interest in determining whether Dow has established prejudice or unfairness.

[175] Dr. Shehadeh was of the opinion that Dow’s proposal preserves the economic benefits and efficiencies of the project agreements, removes provisions that could undermine competition, and does not harm NOVA.

[176] Dow’s second remand proposal results in no additional incentive or ability for NOVA to engage in strategic behaviour, and importantly, would “avoid the need for *ex post* negotiations”. He concluded that Dow’s proposal would maintain competition by maintaining the alignment of incentives and the efficiencies associated with E3, and that it would address the competition issues previously identified by the Court by removing the further provisions that undermine or could undermine competition.

[177] While the focus of his economic analysis was on the potential competition economics implications of the provisions, in Dr. Shehadeh's opinion, the obligations placed on NOVA that would be taken away by its severance proposal provide important protections for Dow.

[178] Asked to consider whether Dow's proposal could cause economic harm to NOVA, Dr. Shehadeh "focused on the ways that UCC's role in the joint venture would change under Dow's proposal." First, Dr. Shehadeh "evaluate[d] whether or not the loss of the non-complete provision will cause harm to NOVA in light of its expectations at the time of the original project agreements with respect to the competition it was anticipating and would be expecting to face." He concluded that when Dow acquired UCC, NOVA no longer faced competition from UCC in the same way that it was anticipating. It would continue to face competition from Dow as it had anticipated and moreover "other potential competitors, either anticipated or actual in the future, would also have been anticipated by NOVA". As he explained, "[t]here's nothing about Dow's activity in the Pool area that is a result of something that would come out of [Dow's] severance proposal or that would be different from what would be expected in light of its participation in the joint venture".

[179] NOVA submits that the Court of Appeal rejected the fact that Dow was already in the ethane market had no bearing on the original intentions of NOVA and UCC: COA1 at para 161. However, the Court of Appeal's comment that this fact was not determinative was in relation to the issue of whether there was a connection between the covenant to provide Ethane Services under section 4.3 of the OSA and the Ethane Covenants in section 5.15. Dr. Shehadeh does not reference this fact with respect to the issue of connection of the covenants, but in relation to whether Dow's proposal could cause economic harm to NOVA.

[180] Second, he considered whether the loss of participation of UCC (now Dow) in the information sharing provisions in Article 5 of the OSA would raise NOVA's costs or reduce its returns. He concluded that NOVA would not be harmed, since UCC was not acquiring ethane in the Pool area when the E3 joint venture was formed and has no "particular expertise" that NOVA lacked.

[181] Dr. Shehadeh further considered the effect of Dows proposal on competition for ethane. Noting that Dow's was already competing for ethane before the E3 joint venture was even formed, he concluded that "Dow stepping into UCC's shoes does not change that competition", and "NOVA would end up facing the same competition for ethane that it would have anticipated at the time of the project agreements". Accordingly, he testified, no higher cost of ethane would result from Dow's proposal. He concluded that "Dow has not competed and will not compete with NOVA in a manner that would have affected NOVA's economic returns from ethylene or derivative sales differentially relative to having UCC as the [joint venture] partner."

[182] NOVA submits that Dr. Shehadeh's analysis is flawed and should be given no weight. It dedicated more pages of its written brief to criticisms of Dr. Shehadeh's opinions alleging that his analysis has rendered his opinion irrelevant and unreliable:

- (a) NOVA submits that Dr. Shehadeh advanced opinions about subjects that he acknowledged were quantifiable, but admitted that he had not quantified them. There was no requirement in the Court of Appeal decision to quantify unfairness or prejudice, but in any event, in order to quantify efficiency effect, Dr. Shehadeh testified that it would be necessary to understand, not only the cost structure at E3, but also the cost situation at E1 and E2. He noted that NOVA would likely have

“a model of... how incentives would change across those three plants and how the optimization across those three plants would arise in the absence of the pool structure”, but (as NOVA counsel conceded) he did not have access to such information.

- (b) NOVA submits that NOVA exercising its right to terminate the Pool following purchases of ethane by UCC, while indisputably resulting in costs to Union Carbide, is not “prejudice”; it is an agreed contractual consequence. In contrast, a severance proposal that is *inconsistent* with the original intentions of NOVA and Union Carbide would be prejudicial and unfair, as it would impose a bargain upon them that they would not have agreed to. I accept that additional costs and reduced efficiency was anticipated by NOVA and UCC as an agreed possible consequence, and I have not taken this into account as an element of prejudice or unfairness. However, this does not address the additional costs to Dow arising from Dow’s inability to access information with respect to the details of the existing contracts in the Pool, the costs of a Receiver and the costs arising from the intervention of a Receiver in terms of Dow’s ability to ensure that it delivers adequate ethane to the Pool to support its nominations.

While it may be correct that section 5.17 contemplates *ex post* negotiations between NOVA and Union Carbide in the event of a breach of the covenant to acquire ethane from the Pool area, and the resulting process under section 5.15, these negotiations would be undertaken in a situation where Union Carbide would be aware of all of the pertinent details of the existing contracts in the Pool. In addition, if Union Carbide did not agree that the division of ethane commitments was equitable, it would have resort to arbitration, again in the context of full disclosure of the details of the contracts in question. None of this is possible given that disclosure of the contracts would be illegal as uncompetitive. As Dr. Shehadeh noted, of the three distinct time periods contemplated by NOVA’s process statement, only during the third time period after the Pool had been completely dissolved would the severance aspect of NOVA’s proposal stand alone.

As Dr. Shehadeh noted, during the first time period, which is when the residual ethane commitments may be sufficient for some unknown period of time, Dow would be reliant on a Receiver, with the prejudice described herein.

During the second time period, Dow would still be subject to the intervention of a Receiver. Union Carbide would not be subject to these restrictions, as a matter of “contractual consequences”.

- (c) NOVA submits that Dr. Shehadeh’s evidence seeks to preserve the status quo which the Court of Appeal has already said is unfair. This is not accurate. The Court of Appeal rejected what it understood to be Dow’s submission on appeal that section 5.15 of the OSA could simply be severed. That is not the position of Dow in this remand hearing, nor the position of Dr. Shehadeh.
- (d) NOVA submits that “Dr. Shehadeh ask[s] this Court to” adopt a form of severance “where Union Carbide (now Dow)” (i) is free to violate the purchasing restrictions in the OSA, but NOVA is not”, (ii) “retains the ability to terminate

and dissolve the Pool in a number of different circumstances”, and (iii) “is freed from all of its contractual obligations”. This is inaccurate hyperbole. The ethane purchasing restrictions are illegal, as found by both this Court and the Court of Appeal. As Dow notes, Dow can be no more “free to violate them” than NOVA can be to enforce them. Dow’s “ability to terminate the Pool” has been discussed previously. It is inaccurate to say that Dow is freed from all of its contractual obligations”. Dow’s severance proposal does not affect other legal contractual obligations.

- (e) NOVA submits that Dr. Shehadeh’s reference to the need for further negotiations between NOVA and Dow was based solely on a misunderstanding of NOVA’s proposal with respect to fuel gas services. This is a mischaracterization of Dr. Shehadeh’s evidence. So are NOVA’s submissions about Dr. Shehadeh’s evidence of the need for additional monitoring of ethane purity.
- (f) NOVA submits that the prioritization of E3 is a “windfall” to Dow. Again, this is a mischaracterization. The prioritization of E3 is built into the OSA, an “operational protection” that counters any incentive NOVA would have as Operator of the Joffre site to favour its own interests over those of the joint venture.

Dr. Shehadeh testified, that “the operational protection that arises from the Pool is the protection from the alignment of incentives, which means that the actions of NOVA as the Operator implicate the returns to both NOVA and Dow such that the Pool creates the Pooling of economic interests”. NOVA’s obligation to fill E3 first, he explained, “makes perfect sense in light of potential for strategic behaviour in the absence of such a commitment”, noting that, absent such protection “NOVA, as Operator and/or Co-owner, would have the ability to cream skim ethane contracts, so put in the Pool only high-cost ethane contracts and keep for its own benefit at E1 and E2 low-cost ethane contracts and the operational protection which aligns incentives... would be lost”.

As he summarized, when entering into the E3 joint venture NOVA “would have anticipated that it would have to prioritize E3 prior to E1 and E2”, and that if it chose not to acquire enough ethane to fill all three, that could have implications for E1 and E2.

- (g) NOVA submits that there is “not one iota of factual evidence to support” Dr. Shehadeh’s opinion that UCC forewent a broader range of outside options than NOVA, and that “he did not have any knowledge of what outside options NOVA and UCC had at formation”.

In actual fact, Dr. Shehadeh specifically noted that both NOVA and UCC forewent other options, and he identified other opportunities that UCC was considering at the time, specifically citing records in evidence that highlighted those opportunities.

Dr. Shehadeh explained that this commitment by UCC to Joffre highlights the incompleteness of NOVA post-severance contractual terms between the parties since, “[b]ecause UCC was tying itself to NOVA as the Operator, in addition to

tying itself to NOVA as the Co-owner, UCC had greater incentive to establish *ex ante* [rather than *ex post* as NOVA's proposal envisages] the terms that would address the alignment of incentives and the achievement of the efficiencies and economies of scale, and reducing incompleteness". Dr. Shehadeh's testimony focused on the future operation of E3 in light of the increased contractual incompleteness resulting from NOVA's severance proposal.

- (h) NOVA submits that Dr. Shehadeh ignored the "undisputed incentives Dow has today to create shortages in the Pool such that E1 and E2 are under-supplied with ethane, while also demanding NOVA's contractual compliance with its obligation to fill E3 at all times that is in its interest as a profit-maximizing company". NOVA submits no evidence for this statement other than a reference to a paragraph in Dr. Shehadeh's report that says something quite different: para 72. It also cites cross-examination questions and answers that do not support this allegation of Dow's supposed incentives. Dr. Shehadeh agreed that Dow and NOVA are competitors with all the incentives that competitors would be expected to have, but he also referred to Dow's incentive not to create shortages that would implicate its interests in maximizing production at E3.
- (i) NOVA submits that it is Dr. Shehadeh's hypothesis that Dow and UCC were economically the same. This mischaracterizes Dr. Shehadeh's opinion: he limited his analysis of harms and prejudices to Dow's interest at E3, not Dow's global business.
- (j) NOVA states that Dr. Shehadeh's proposal seeks to preserve the status quo, which the Court of Appeal has said is unfair. This is not what the Court of Appeal said. It said that if section 5.15 is simply "blue penciled" out of the agreement, it leaves NOVA with all of the obligations, but none of the protection of the covenants. It follows that on the issue of severance the equities favour NOVA, and its preferences with respect to the now illegal covenant: para 164. This is not Dow's current proposal for severance.
- (k) NOVA submits that Dr. Shehadeh's opinion is that the only severance that would be fair is one in which all of Dow's obligations under Article 5 are severed, leaving NOVA with burdens and obligations to comply with the very provisions that Dow seeks to sever for itself. This is inaccurate. Dow's proposal to sever 5.1 (a) leaves NOVA as Co-owner with the ability to purchase ethane in the Pool area, and deleting sections 5.1 (e) and 5.2 relieves NOVA of the obligations of information sharing and participation in a feedstock committee.
- (l) NOVA submits that, by not severing section 5.8 of the OSA, Dow keeps for itself, but not for NOVA, a possible route to termination of the Pool. This is not accurate. Section 5.8 gives this option to both Co-owners.
- (m) NOVA submits that the OSA as it was originally drafted also had gaps that would require *ex-post* bargaining. However, Dow would not be in the same position as UCC with respect to bargaining, as UCC would be able to bargain with full knowledge of the facts, of the details of the Pool contracts, while Dow is hobbled by its inability to access that information.

- (n) NOVA makes an odd attempt to distinguish between the “remedy” of termination of the Pool and the “process” it has proposed would be necessary to implement such a result, and criticizes Dr. Shehadeh for considering them as one proposal. It is of course necessary to consider the proposed process to execute the remedy in order to consider prejudice or unfairness to Dow in its implementation. NOVA submits that the proposed process is “negotiable” but it is part of NOVA’s severance proposal that it asks the Court to accept. What would be NOVA’s incentive to negotiate the process terms if the Court accepts what is on offer?
- (o) NOVA submits that Dr. Shehadeh advocates only for the severance of objections that burden Dow. This is incorrect: Dr. Shehadeh applied economic principles to the parties’ severance proposals, evaluating whether or not there is economic harm to Dow or to NOVA or to the public interest arising from the proposal.
- (p) NOVA submits that Dr. Shehadeh conceded that Dow’s severance proposal creates the incentive and ability for Dow to act strategically to create or exacerbate ethane shortages in Alberta to NOVA’s disadvantage. This mischaracterizes Dr. Shehadeh’s evidence, as do paragraphs 256 and 257 of NOVA’s brief.
- (q) NOVA submits that Dr. Shehadeh acknowledges that the Pool is anti-competitive. This is a mischaracterization of his evidence. Dr. Shehadeh made a severance proposal in his opinion that is not Dow’s current proposal, so it is not necessary that I address his opinion in that regard.
- (r) NOVA submits that Dr. Shehadeh “resiled” from his position that past strategic behaviour by NOVA was relevant to assessing potential economic harm. To the contrary, he testified that past strategic behaviour by NOVA is highly relevant to assessing NOVA’s ability and incentive to engage in strategic behaviour under NOVA’s second remand proposal that involved contractual incompleteness and would produce a need for further negotiations. As an example, he discussed NOVA strategic behaviour regarding ethane purity, the results of which were quantified by experts and the Court. This example showed that where allowed (or even where not), NOVA would act in its own best interest regardless of the economic harm to Dow. There were other examples. Dr. Shehadeh pointed to ownership of pipelines outside the Joffre fence line, and operational issues (and contractual incompleteness) inside the Joffre fence line should NOVA’s proposal be accepted. Dr. Shehadeh acknowledged that he relied on Mr. Broodo for identification of industry specific strategic behaviours.

[183] In summary, NOVA’s criticisms of Dr. Shehadeh report and testimony are largely based on mischaracterization of the evidence and bare allegations without a basis of support. These criticisms do not affect the credibility of Dr. Shehadeh’s evidence, which was thorough, well-informed, and grounded in existing fact. He was not impeached on his opinions during cross-examination, except as otherwise indicated in the analysis of his opinions.

C. Tammy Ardolino

[184] Ms. Ardolino was called by NOVA as a lay witness. She is NOVA’s Vice President of Feedstock, Infrastructure and Energy, and acting Chief Officer of Supply Chain and

Procurement. Since taking on the role of Manager of Ethane / Feedstock supply in 2008, she has been ultimately accountable for all of NOVA's ethane supply, transportation and storage, as well as its day-to-day operations of the Pool and NOVA's management of ethane. In her testimony, Ms. Ardolino detailed the activities of the specialized team that NOVA uses to manage feedstock supply, transportation and storage.

[185] Ms. Ardolino began working for NOVA in September 1988. Over her career, she has worked in various parts of NOVA's business, including on the finance side, before moving on the ethane side in 2008 as Manager of Feedstock supply. Her responsibilities have included operations, day-to-day contract management, transportation and storage, audits, and negotiation of ethane agreements.

[186] Ms. Ardolino testified that prior to 2008 her only experience with the Pool was to set up some spreadsheets, including the Feedstock Cost Statement that would support the joint venture. Otherwise, she worked primarily in the finance department. She said that transitioning into her new role as Manager of Feedstocks involved 2-3 weeks of reviewing the Pool contracts with her boss, receiving a description of how AEGS functions, and how supply and demand works within the Pool. She remained in that role for about five years and then advanced to more senior roles as she reached her current responsibilities. As Manager of Feedstocks, she had no role in long-term contracts. In addition to her walk-through training, she was supported in the role by a "leader" for "I would say 6-12 months. There would be more questions than there was post-12 months."

[187] After about 10 years, Mr. Ardolino took on the role of ethane supply management for all of NOVA's regions where it requires ethane supply. This was the role that has the accountability for the day-to-day management of all those sites and for the existing contracts that were in the portfolio, as well as recontacting or negotiating any new ethane supply contracts.

[188] Ms. Ardolino testified that her ethane feedstock team at NOVA includes 15 full-time staff, all of whom have at least some role in managing the Pool. One is dedicated to the Pool on a full-time basis; the rest have other non-Pool duties as well. Two "leaders" manage teams and drive strategy, Pool operations, supplier interactions, budgeting, forecasting and maintenance planning. There is a training curve for new members of the ethane feedstock team; she and other team members started in more junior roles, and then advanced as they learned.

[189] The full-time coordinator has the responsibility of the day-to-day management and interactions with the Pool, including working with the AEGS spreadsheet that helps with supply / demand planning, historical supply, forecast future supply and budgeting. He also manages planned and unplanned maintenance, including direct communication with suppliers or service providers as appropriate. The current coordinator previously worked in analytical testing in a NOVA technical centre. His on-the-job training was similar to that of Ms. Ardolino.

[190] One of the other leaders is the manager of operations, whose role is to support the coordinator with respect to managing day-to-day supply interactions with suppliers, budgeting, forecasting, maintenance planning and a focus on short-term contracts.

[191] A "specialist" ensures contract compliance, reviewing the invoices, getting the information onto NOVA's system for Joffre and two other regions.

[192] There is also a "commercial leader", whose role is to determine strategy for Joffre and the other regions, understand what supply is available, what the demand is and "take a longer-term lens to the agreements that are in the Pool to make recommendations on what might need to be

receives and analyzes new information to ensure the right priority and supply is in place to make matters most efficient for NOVA's Joffre site as a whole;

[195] With respect to "behind the fence" matters, Ms. Ardolino testified as follows:

- (a) She confirmed that [REDACTED];
- (b) She confirmed that [REDACTED];
- (c) She confirmed that NOVA receives [REDACTED]; and
- (d) She testified that NOVA maintains [REDACTED].

[196] Ms. Ardolino was a candid and credible witness. However, much of what is at issue with respect to unfairness or prejudice to Dow was not within her purview. As Dow notes, she is not an engineer, she has never been involved in the scheduling, maintenance, or operation of E3 nor has she "any hands-on role in the operation of the Joffre ethylene crackers", and she does not deal directly with either Co-owner. She did not negotiate or write the terms of the Pool ethane contracts and could not speak to a potential assignment of them. To her knowledge, NOVA has never delegated or outsourced its feedstock acquisition and management functions to a third party, and she has never been party to a discussion of any possible delegation or outsourcing of any ethane supply, transportation, and storage function. She is not aware of any procedures developed by NOVA to address how third-party invoicing would be handled as between NOVA and Dow in the case of a potential assignment of part of the Pool contract rights to Dow or a third party, and she is not aware of any discussions or communications by NOVA with suppliers about how that might work in terms of setting up new accounting arrangements if a partial assignment were ever made.

[197] NOVA submits that Ms. Ardolino's evidence supports its suggestion that "[t]he Pool is not complex", but it does not do so. NOVA cites Ms. Ardolino's on-the-job training when she first became involved with ethane management as an example of how managing, administering and complying with the Pool contracts is a job that "can be done by any combination of competent individuals", but NOVA's example is of the brief training that introduced Ms. Ardolino to her first exposure to feedstock management, and it took about 10 years before Ms. Ardolino took on the role of ethane supply management.

[198] Ms. Ardolino did not give expert opinion about receivership nor was she asked to do so. A number of NOVA's assertions about Ms. Ardolino's testimony are not correct:

- (a) While she testified about the AEGS system, she did not testify that the work of NOVA's ethane supplier is free of complexity or of any opportunities to "holdup" Dow. She explained that NOVA's "feedstock team needs constantly to be receiving and analyzing new information in order to make the right priority supply" decisions for E3, and it needs to "remain[] in close contact with our suppliers so we know what they're going to be delivering."

- (b) It is not correct that Ms. Ardolino testified that the [REDACTED]
[REDACTED]
- (c) [REDACTED]. She confirmed that [REDACTED]
[REDACTED]. The difference between Mr. Broodo and Ms. Ardolino on this issue is one of semantics.
- (d) Ms. Ardolino did not testify that “real time” management for feedstock interests is not required. While she confirmed that certain information from the Alberta Energy Regulator regarding ethane production in Alberta is not current, that information from AEGS is at least a day old, that budgeting is completed annually and that E3’s daily forecast of E3 production for the current year is not routinely shared with her team, she also confirmed that NOVA ethane supply coordinators need at least daily access to information in the ordinary course of business, and that they need to “constantly... be receiving and analyzing new information”. NOVA concedes that there is a “need for ‘real-time’ action” when, for example, it is sometimes “required to either reject ethane due to more sudden operational issues at...E3, or add more ethane to the system (e.g. when an ethane supplier goes down)”.
- In summary, Mr. Ardolino’s testimony did not have an adverse effect on Mr. Broodo’s opinions to any great extent as alleged, but in fact confirmed it in certain respects.

D. Dr. Celeste Saravia

[199] Dr. Saravia is an economist retained by NOVA to prepare a responding report to that of Dr. Shehadeh, and, in considering and analyzing the severance positions of NOVA and Dow, to consider the positions of the parties and the terms of the contract between NOVA and UCC at the time the original project agreements were signed. She was qualified, like Dr. Shehadeh, as an expert to give opinions on (a) economics as it relates to the assessment of markets and the competitive effects of actual or proposed conduct, including through the application of quantitative economic methods; (b) economics, specifically the economic principles and methods applicable to the assessment of the value of goods and services; and (c) the economics of contracts, including transaction-cost economics and bargaining and economic benefits of contracts.

[200] Instead of assessing harm or damage arising from NOVA’s proposal for dissolution of the Pool, as Dr. Shehadeh did, Dr. Saravia opined that “the economic analysis of severance in this matter involves the determination of counterfactual Project Agreements that are constrained to not include the term(s) that have been found to be illegal or unenforceable”. She stated that the relevant economic question was “what agreement would the parties have reached if the original

contract was constrained to not include the unenforceable term that UCC (now Dow) cannot purchase ethane in the Pool Area?”

[201] The reason for this focus is described in NOVA’s brief:

While the Court of Appeal did not open the evidentiary record with respect to the remand, to the extent this Court determines that economic evidence is required to determine how severance may be done in a way that is consistent with the original intentions of NOVA and Union Carbide...

[202] Dr. Saravia’s economic analysis focused on whether NOVA and Dow’s respective severance positions were consistent with the terms that would have been reached in a hypothetical negotiation between NOVA and UCC where they were constrained to not include the terms later found to be illegal or unenforceable because of Dow’s merger with Union Carbide. She described her analysis as follows:

In other words, is either [NOVA or Dow’s severance positions] consistent with the parties’ economic goals and what each party would have agreed to in the counterfactual scenario or are there economic reasons they would not have agreed (Section 4.1).

[203] Given her hypothetical about negotiations between NOVA and UCC, Dr. Saravia concluded that the agreement would either not have contemplated a Pool, or “if it did include a Pool, it would still maintain some rights for NOVA to dissolve the Pool”.

[204] In her opinion, NOVA and UCC would not have agreed to a “blanket obligation that NOVA must maintain the Pool... [with] no rights whatever to dissolve” it.

[205] Dr. Saravia opined that the economic analysis of severance in this matter involves the determination of counterfactual project agreements that are constrained to not include the terms that have been found to be illegal or unenforceable and that a given severance position can then be assessed against this counterfactual.

[206] In her opinion, the economics of revealed preferences implies that if the parties could not have a term that restricted UCC’s purchases, then the parties would not reach an agreement that obligated NOVA to maintain the Pool.

[207] Dr. Saravia focused specifically on section 5.15 of the OSA. When asked about whether she had looked at the entirety of the OSA, she said that she had, but in her view:

The relevant parts of the counterfactual are the restrictions on UCC’s purchasing requirements and... NOVA’s right to dissolve the Pool or right to choose to dissolve the Pool if UCC were to become an active participant in the ethane market in Alberta... I don’t think the other ones are relevant to the assessment that I did.

[208] Dr. Saravia determined a counterfactual, and then concluded that it would not have disadvantaged either party because they would have agreed to it.

[209] It is important to note that Dr. Saravia testified that the hypothetical negotiation that she envisaged might include a Pool, but “if the Pool were agreed to, then NOVA’s rights related to dissolving it wouldn’t be deleted and NOVA would never, ever be allowed to dissolve it.” She stated that her key opinion about the hypothetical was: “what would not happen is that you

would get a blanket obligation that NOVA must maintain the Pool, no matter what”. “It is plausible that there would be a Pool in this hypothetical negotiation... But what I think is not plausible is that NOVA would be given no rights with respect to the Pool.”

[210] As Dr. Shehadeh described it, Dr. Saravia’s economic framework involves three steps:

- (a) the determination of counterfactual project agreements that are constrained to not include the terms that have been found to be illegal or unenforceable;
- (b) the assessment of a given severance position against this counterfactual; and
- (c) a determination from that assessment of whether either party has been disadvantaged.

[211] Dr. Shehadeh testified that Dr. Saravia’s opinions suffered from a number of flaws from an economics point of view:

- (a) Dr. Saravia’s “report never actually identifies this counterfactual agreement that she believes the parties would have agreed to if those clauses were excluded”. Rather, she evaluates NOVA’s severance proposal for its “consistency” with the project agreements, and “leaves to NOVA’s current interests what would be negotiated to replace” what is eliminated under NOVA’s severance proposal;
- (b) Dr. Saravia’s report incorrectly assumes that reaching agreement in and of itself is sufficient to establish an absence of harm. This ignores the fact that agreement reached *ex post* a relationship-specific investment in E3 and *ex post* signing the project agreements may in and of itself cause harm, because the agreement reached would be different than what would be negotiated *ex ante*, including the contractual incompleteness arising under NOVA’s severance proposal.
- (c) Dr. Saravia’s report misapplies the economics of contracts to infer that Pool dissolution was a desired outcome. The economics of contracts identifies what it calls “off-equilibrium paths.” One of the ways that the economics of contracts identifies that incentives are aligned in contracts is to identify enforcement mechanisms or other mechanisms that increase incentives to stay on the desired path. So, properly interpreted, this conditional part of section 5, section 5.15 specifically, is a conditional off-equilibrium path rather than unilateral entitlement to dissolve the Pool, and as a result, it cannot properly be interpreted as something that the parties would have chosen as an outcome in this counterfactual hypothetical negotiation framework that the report uses. In Dr. Shehadeh’s opinion, the proper interpretation of 5.15 is as an off-equilibrium path enforcement mechanism rather than a revealed preference.
- (d) While Dr. Saravia embraces the economic principle of revealed preference, her opinion dismisses NOVA’s prior profit-maximizing strategic behaviour, for example the ethane purity issue that was revealed in the Trial Reasons. In fact, the opinion concludes that prior behaviour does not shed any light at all on either NOVA’s abilities or incentive to engage in strategic behaviour. But as Dr. Shehadeh has explained previously, the fact of increased contractual incompleteness and the reduced alignment of incentives in NOVA’s proposal both increase NOVA’s ability and incentive to pursue exactly those types of strategies in the future.

- (e) Dr. Saravia's opinion assumes that the parties would have agreed to investment in E3 and agreed to these hypothetical counterfactual project agreements without knowing what accounting and operating principles would replace the Pool structure and the Ethane Services, what alignment of incentives and efficiencies those may or may not provide, and what terms would result from this negotiation *ex post*, not for this counterfactual agreement, but the negotiation *ex post* of that counterfactual agreement for the operating and management and accounting structures that are necessary until after the commitment to the project agreements and after the investment in E3.

[212] As noted by Dr. Shehadeh, Dr. Saravia misapplied economic principles in a number of ways, including by focusing solely on NOVA's Ethane Services obligation and the ethane restrictions, section 5.15, and ignoring the economic principle that contractual terms need to be considered in their overall context, not in isolation.

[213] More specifically, Dr. Shehadeh criticized Dr. Saravia because he said "the revealed preference principle can only be applied across the contract".

[214] I agree with Dr. Shehadeh's opinion with respect to the flaws and limitations of Dr. Saravia's analysis, particularly the failure to consider the entire contract and other documentation that may reveal the interests of the parties.

[215] Applying these principles, Dr. Shehadeh disagreed with Dr. Saravia's assertion that economic logic suggests that if there was a hypothetical negotiation in which the original parties could not place restrictions on UCC's Pool Area ethane acquisitions, then the parties would not reach an agreement that obligated NOVA to maintain the Pool. In fact, Dr. Saravia concedes that such an agreement could have been reached. I agree with Dr. Shehadeh's contention that Dr. Saravia's analysis ignores the many reasons why the parties would have reached agreement to have the Pool and Ethane Services maintained, including the economies of scale, the efficiencies in production, the investment in the first place in E3 and the alignment of incentives. As Dr. Shehadeh testified, Dr. Saravia's logic ignores the benefit to NOVA of being the Operator, including control of the Joffre site and receiving its share of those economies of scale and efficiencies.

[216] Dr. Saravia ignored other provisions in the project agreements that would reveal preferences, such as section 24.5 of the OSA. When asked to explain why, she said that the proper economic framework simply involves determining what NOVA would not have agreed to, absent the ethane restrictions, and that the only relevant disadvantage occurs where there is a diversion from that determination such that either party is worse off relative to what the parties would have agreed to, and any other economic harm flowing from that harm is irrelevant. That may be true from an economist's view of appropriate severance, but it does not address the issue of whether NOVA's proposal results in prejudice or unfairness. She testified that:

I view it as not relevant... if it's not... stemming from the constraint that is being applied by the... unenforceability of the restriction on ethane purchases.

[217] She confirmed that her economic opinion was that, if Dow or UCC pre-merger was shown to be very likely to suffer very substantial economic harm by virtue of the elimination of the Pool and Ethane services, then that harm is irrelevant to her economic framework for determining a disadvantage.

[218] Dr. Saravia did not explain in a satisfactory way why the entire OSA, let alone the project agreements, and the agreements leading up to them, were not relevant to her hypothetical economic analysis. She did not explain why the trial findings regarding objectives of the project agreements were not relevant, again, other than the blanket assertion that she did not focus on parts of the OSA or other matters irrelevant to her assignment.

[219] She was clear that she was not offering any opinion on whether NOVA's process statement formed part of a severance proposal, nor did she assess the process statement. She was clear that she did not analyze whether NOVA's severance proposal would in any way negatively impact Dow. Dr. Saravia testified that what she did analyze is "whether the Co-owner would be disadvantaged or be in a worse position relative to what you would expect from a hypothetical negotiation".

[220] Dr. Saravia's opinion was limited by her narrow approach to the issue on which she was asked to opine. For example, she did not consider NOVA's proposal for the dissolution of the Pool. She could not recall whether she had been instructed not to or merely consider it irrelevant to her hypothetical counterfactual. NOVA's position is that "consideration of the process to unwind the Pool in 2004... is... irrelevant to the application of the law of severance". However, it is highly relevant to the issue of whether it causes prejudice or unfairness to Dow. This was not an opinion that Dr. Saravia was asked to give, although she did critique Dr. Shehadeh's opinion in that regard.

[221] I agree with Dr. Shehadeh that Dr. Saravia's opinion implies that UCC and NOVA would have agreed to invest in E3 and agreed to her hypothetical counterfactual project agreements "without knowing what accounting and operating principles would replace the Pool structure and the Ethane Services, what alignment of incentives and efficiencies those may or may not provide, and what terms would result from this negotiation *ex post* until after the commitment to the project agreements and after the investment in E3, an unlikely scenario.

[222] When asked whether, through application of her economic framework, she was trying to determine what NOVA and UCC would have agreed to absent the ethane restrictions, Dr. Saravia limited her opinion even further:

[i]t's a little bit more limited. I'm trying to determine if the severance positions are consistent with what they would have agreed... may have agreed through the hypothetical negotiation.

[223] However, Dr. Saravia did not seem to be completely aware of the extent of NOVA's proposed deletions and additions to the OSA.

[224] Dr. Saravia was cross-examined extensively about the fact that NOVA did not attempt to terminate the Pool after the merger of UCC and Dow was announced, and that its stated concern at the time was about having to share Pool ethane contract information with Dow. She was asked whether she had read para 41 of the Trial Reasons:

There is no dispute that NOVA was concerned at the senior management level about the merger of Dow and UCC. NOVA management was particularly concerned about the prospect of sharing information about E3 with the only other major purchaser of ethane in Alberta, which was also its major competitor. It took action shortly after the announcement of the merger in August 1999 to ensure that information about ethane supply contracts, previously available to UCC under the

terms of the E3 joint venture agreements not be made available to Dow, and it terminated meetings of the feedstock subcommittee set up under the agreements.

[225] Dr. Saravia was asked whether she knew that the first time that NOVA ever took the position that section 5.15 was enforceable against Dow and tried to use it to terminate the Pool was in July of 2006 after Dow sued NOVA. She responded that she didn't think she was aware of that.

[226] She testified that Dow's lack of information or NOVA electing not to exercise its options to commence termination were "not a relevant part of the analysis for thinking of the hypothetical negotiation... you could say I considered it and thought it wasn't relevant for analyzing my affirmative view of the hypothetical negotiation". While this information was not relevant to the parties intention at the time of negotiation of the contracts, Dr. Saravia's lack of knowledge about these events is relevant to her criticisms of Dr. Shehadeh's opinions.

[227] It appears from the cross-examination that Dr. Saravia was focusing merely on the contractual option of termination. She agreed with the proposition that there is a spectrum of rights and obligations in a contract, and if one is removed, the response of the other side might help tell us which rights and obligations it thought were important in the context of the one that was removed. She agreed that it is appropriate in exploring the revealed preferences of parties to not only look at the provision in the contract that has been found to be illegal, but also facts around the time of the negotiation of the contract, although she later tried to downplay this concession.

[228] Dr. Saravia agreed that there was information in that NOVA's actions post-Dow acquisition were consistent with information sharing being one of the concerns with a co-owner that is purchasing in the Pool Area. But again, her focus was on section 5.15.

[229] Dr. Saravia conceded on cross-examination that if someone was trying to come up with a but-for different imaginary counterfactual agreement that the parties might have reached if the illegal provision was not in it, there would be more than one possible alternative. As noted by the Supreme Court in *Transport*, cited by the Court of Appeal, "the only agreement that one can say with certainty the parties would have agreed to is the one that they actually entered into". Dr. Saravia agreed that when she referred to a "counter-factual agreement", she intended to refer to her thinking about what did not happen, but could have happened without section 5.1(a) and 5.15.

[230] Dr. Saravia testified that she relied on certain of the other project agreements, in addition to the OSA, in formulating her opinion. However, she was unclear whether she had read the Project Management Agreement in any detail. She was referred to the E3 owners' project objectives, which were appended to that agreement, and asked to confirm that the justification for E3 was low-cost ethane feedstock, economies of scale associated with a world-scale plant and use of existing infrastructure. She confirmed that those objectives did not reference preventing competition for the purchase of ethane from a joint venture partner. She did not recall reviewing the memorandum of understanding that the parties had entered into as a first step in the project agreements.

[231] Dr. Saravia was a difficult witness on cross-examination. She was defensive and argumentative. She frequently attempted to reframe the question rather than answer it directly, and her replies were often confusing and sometimes non-responsive.

[232] Her narrow opinion, focused on two contractual provisions of the OSA and ignoring other provisions of the OSA and other project agreements and many of the context of the objections of the parties at the time of the contract formation that may be indicative of revealed preferences on the basis that they were “irrelevant” to her analysis, is unpersuasive. It may be that a hypothetical negotiation of the contract between UCC and NOVA would have resulted in the elimination of the Pool, or at least the right of NOVA to dissolve the Pool on some unspecified basis, but Dr. Saravia concedes that there may have been other outcomes.

[233] Dr. Saravia gave the opinion that, if NOVA’s severance proposal was not adopted, NOVA would have to provide “insurance” to Dow against an “ethane shortage” but is nonetheless exposed to Dow causing one. This allegation refers to NOVA’s contracted duty to provide Ethane Services to E3, independent of its current interests as the owner of E1 and E2. This is an obligation that has been confirmed by the courts, but NOVA now seeks to avoid it.

[234] Dr. Saravia’s ethane shortage insurance argument is a pillar of the NOVA brief in support of its severance proposal and against Dow’s. NOVA’s brief references Dr. Shehadeh’s reference to “operational protection” embodied in NOVA’s obligation to prioritize the supply of ethane to E3 over E1 or E2. Dow submits that Dr. Saravia and NOVA misunderstand and later ignore Dr. Shehadeh’s operational protection evidence as suggesting that NOVA is, through this prioritization providing insurance in exchange for the ethane purchasing restrictions. However, Dr. Shehadeh’s reference to this operational protection related to his discussion of the project agreements’ alignment of incentives that make sure that NOVA cannot engage in strategic behaviour with respect to E1 and E2 that comes at the expense of the joint venture. Dr. Shehadeh was specific. He testified that:

NOVA, as operator and/or co-owner, would have the ability to cream skim ethane contracts, so put in the pool only high-cost ethane contracts and keep for its own benefit at E1 and E2 low-cost ethane contracts and the operational protection which aligns incentives which is the first sentence of this paragraph is all about [and that's the one quoted by NOVA] alignment of incentives. would be lost.

[235] Ignoring this evidence, NOVA asserts that Dr. Shehadeh somehow supports Dr. Saravia’s ethane insurance argument. NOVA says that that evidence supports their assertion that NOVA provides insurance against a province-wide shortage, and it says that Dow competing for ethane would cause that shortage. Dow submits that these arguments are without merit.

[236] NOVA’s insurance argument is based on Dr. Saravia’s evidence. Under cross-examination, Dr. Saravia backed away from the centrality of her insurance argument to her conclusions. She testified that it was not core to her opinion regarding the hypothetical negotiations. Moreover, Dr. Saravia was unaware that this Court had found that NOVA’s obligation to supply ethane to E3 did not amount to an ethane supply obligation or a production guarantee.

[237] She was also not aware that under the OSA’s force majeure provision, a shortage of feedstock would relieve NOVA of its obligation to provide this alleged insurance.

[238] Cross examination also revealed that Dr. Saravia undertook no assessment of the value of the insurance, nor did she consider the cost of NOVA providing it.

[239] In summary, Dr. Saravia’s characterization of what she calls “insurance” is not accurate, and not core to her opinion.

[240] The second part of Dr. Saravia's assignment was to analyze and comment on Dr. Shehadeh's report:

- (a) Dr. Saravia criticized numerous aspects of Dr. Shehadeh's economic analysis of the incompleteness of contracts. Dr. Shehadeh responded to these criticisms as follows:

First, in response to Dr. Saravia's assertion that the parties to complex agreements are able to reach agreement despite incompleteness in contracts. Dr. Shehadeh agreed that parties can reach agreement. However, he stated that:

What matters from an economic of contracts perspective is that they invest in those agreements in the kinds of structures and terms that align incentives so that the incompleteness can be dealt with flexibly. And that's really exactly what's accomplished by the pool and the ethane services...

His second response to Dr. Saravia's assertion that he ignored that essentially all real-world contracts are incomplete. Dr. Shehadeh expressly recognized in his report that incompleteness of contract is a key economic principle in the economics of contracts; however, he said what is relevant:

...is the increase in incompleteness that is envisioned by NOVA's severance proposal and the ignorance of that proposal of what was achieved by the items that would be severed under their proposal, including through that proposed severance, the reduction in the alignment of incentives, and the foregone efficiencies.

Third. Dr. Saravia asserts that Dr. Shehadeh set an economically impossible bar for NOVA's severance position by suggesting that the pool can only be dissolved if there is a complete contract. He did not say that. He said that he set a:

...bar consistent with what the parties set the bar at in the original project agreements, both in terms of its addressing incompleteness and in the manner in which it addresses incompleteness by creating an alignment of incentives to achieve the efficiencies and economies of scale and to reduce the ability and incentive to engage in strategic behaviour.

He said that in light of the increase in incompleteness and the reduced mechanism to align incentives, and given the changed bargaining positions of the parties, his opinion was that "ex post negotiation is not sufficient or efficient in addressing those."

- (b) In response to Dr. Saravia's assertion that Dr. Shehadeh had suggested that the pool cannot be dissolved because the parties would fail to agree on operational matters, Dr. Shehadeh did not say that. He acknowledged that the parties may be able to reach agreement, but he said that would be with NOVA's ability to pursue its interests:

...in a way that harms Dow given the contractual incompleteness and given its bargaining position as operator and co-owner that

those relative bargaining positions are going to lead to outcomes that are less efficient with less alignment of incentives.

Dr. Saravia dismissed Dr. Shehadeh's opinions on the *ex post* bargaining implications of NOVA's severance proposal by arguing that prior agreements between Dow and NOVA demonstrate that the parties can negotiate agreements to transport and accept ethane.

But, again, Dr. Shehadeh never denied that Dow and NOVA could reach agreement *ex post*. His point was that the new agreement would likely prejudice Dow and favour NOVA, given NOVA's advantaged bargaining position.

Dr. Shehadeh pointed out that the two ethane streaming agreements that occurred after the investment in E3 (for example, the May 2005 E3 streaming agreement) illustrated his opinion that *ex post* bargaining would lead to outcomes that favour NOVA.

- (c) Dr. Saravia asserted that Dr. Shehadeh assumed that the adoption of NOVA's severance position would provide NOVA the ability to engage in strategic conduct that harms Dow.

That is not correct. Dr. Shehadeh testified that was something he evaluated economically, and he looked at the NOVA conduct identified in the trial decision regarding ethane purity. He called this "historical economic evidence". He testified that this was:

...specific but also indicative, given that increased contractual incompleteness for NOVA to act in its own interests through strategic conduct... within the Joffre fence line.

Dr. Shehadeh responded to Dr. Saravia's assertion in footnote 222 of her report that Dr. Shehadeh had no economic basis to claim that past behaviour by NOVA which the Court found violated the contract and for which NOVA paid damages was evidence that NOVA would pursue similar actions in the future. He explained that his analysis of NOVA's prior conduct is economic reasoning. Indeed, he said, it applied the same principle of revealed preference used by Dr. Saravia in her report, namely, that NOVA has the physical ability to preferentially stream, in that example, high CO₂ content to E3, and it had the economic incentive. He was not saying the fact that NOVA violated contractual terms in the past means that they will violate them in the future, but rather... evaluating how NOVA's proposal changes the ability and incentive to engage in these activities given the increased contractual incompleteness that will arise.

[241] In summary, Dr. Saravia's criticisms of Dr. Shehadeh's opinions are based primarily on a mischaracterization of his evidence, and are not persuasive.

VII. Analysis

[242] What is the remedial effect of the illegality of the performance of the Ethane Pooling covenant?

[243] The primary issue, the remanded issue, is a question of severance. As the Court of Appeal indicated in COA 1, the open question on the issue of severance is the effect of the illegality of the ethane Pool covenants and whether that illegality “taints” more than just section 5.15.

[244] The secondary issue of whether the severance proposed by NOVA gives rise to prejudice or unfairness to Dow or third parties is also analyzed under sub-issue B.

A. Severance

1. The Law of Severance

[245] The Court of Appeal noted that:

Severance should not be done in a way that gives one party a windfall, or imposes an unfair burden on the other: *Transport North American* at para. 46. Severance should be done in a way that is consistent with the original intention of NOVA and Union Carbide, not by bootstrapping Dow’s current interests: COA 1, para 164. (emphasis added)

[246] The Court of Appeal directed that severance of section 5.15 and possibly other provisions of the OSA should be considered, with the condition that the Court “must attempt to preserve as much of the original agreement as possible, recognizing that any severance is going to alter the terms of the agreement”: COA 1 at para 160. It directed this Court to determine the effect of the illegality of the performance of the Ethane Pooling covenant in section 5.15 of the OSA and to apply the doctrine of severance accordingly.

[247] Specifically, the Court noted that it is an “open question of whether the invalidity of the covenants taints all of section 5 (the Ethane Pooling covenants) or only the particular section 5.15”. COA 1 at para 165.

[248] In recognizing the necessity of preserving as much of the original agreement as possible, the Court of Appeal referred to *Transport North American Express Inc v New Solutions Financial Corp.*, 2004 SCC 7 at paras 28-30.

[249] In *Transport North*, the Supreme Court noted that “the appropriate approach” to severance “is to vest the greatest possible amount of remedial discretion in judges in courts of first instance”: para 40. Despite the complicated procedural history of this case, this is the Court of first instance on the issue of severance.

[250] Originally, NOVA pled that if sections 5.1(a), (e) and 5.15, or any of them, were to be found illegal, the OSA as a whole should be found unenforceable. That was its position during the first phase of the trial. This Court found, applying the factors enumerated in *William E. Thomson Associates Inc. v Carpenter* (1989) 69 OR (2d) 545 at paras 27-31, leave to appeal refused, that the OSA could be subject to severance: Trial Reasons 1419, 1438. NOVA submitted in the alternative that if section 5.15 was illegal, additional provisions of the OSA must be severed.

[251] Given the Court of Appeal’s affirmation that severance is possible and the appropriate remedy, there can remain no argument that the OSA should be considered void ab initio as a result of the illegal clause. The proper remedy will lie along the spectrum of appropriate severance. That finding is now *res judicata*.

[252] However, comments with respect to whether severance is an available remedy are apposite. The Court in *Transport North* at para 27, when considering the appropriateness of a blue-pencil approach to severance, commented that:

... The resulting set of legal terms should retain the core of the agreement, If the nature or core of the agreement is disturbed, then on this test the illegal clause in the contract is not a candidate for severance and the entire contract is void...

[253] Similarly, the British Columbia Court of Appeal noted that:

[t]he true test is whether the illegal term is substantially the whole or main consideration for the contract... severance is permissible only when the core of the bargain will remain after the unreasonable parts are struck out: *Boult Ent. Ltd v Bissett*, 1985 – CanLII 260 (BCC) at para 6.

[254] In Peel, *the Law of Contract*, 15th ed. (London: Sweet & Maxwell, 2020), the author states at paras 11-162, 11-168:

Where the promises of one party to a contract are partly lawful and partly illegal, the court may cut out the illegal promises and enforce the lawful ones alone... the court will do this only if three conditions are satisfied: it must not be necessary to redraft the contract; the remaining terms must continue to be supported by consideration and severance must not alter the whole nature of the contract.

...where the main purpose of the contract is to impose the restraint, the invalidity of that restraint can lead to the nullity of the whole contract. In such cases, the issue is not whether one part of the restraint can be severed from another without altering the nature of the covenant in restraint of trade, it is, rather, whether the invalidity of the restraint has left the contract as a whole without subject matter.

[255] The Honourable Wilfred Estey in *Legal Opinions in Commercial Transactions*, 3rd ed. (Markham: LexisNexis Canada Inc., 2013) at para 4.45 commented that:

In order for a court to apply the doctrine of severance to a provision that is void, unenforceable, illegal or contrary to public policy... the offending provision must not be so vital to the parties' contract as to undermine, or go to the root of, the bargain between them, having regard to the contract as a whole, if it were to be severed.

[256] NOVA itself conceded in its sur-reply brief during the first phase of the trial that:

185. The law forbids an act of severance where doing so would:

- (a) alter the scope, nature or the intention of the agreement;
- (b) result in an unintelligible economic transaction or one that is no longer commercially reasonable as between the parties; or
- (c) impose a new bargain on the parties.

186. Similarly, severance will not be permitted where it is evident that the Parties would have changed the terms of the contract initially had they known illegality or unenforceability would be the result.

[257] NOVA submits in argument on the second remand question that severance is only permitted “if the obligation that remains can fairly be said to be a sensible and reasonable obligation in itself and such that the original parties would unquestionably have agreed to it”. This may be part of the initial consideration as to whether severance is possible as opposed to whether the entire agreement must be treated as void, but that question has already been decided.

[258] NOVA cites Professor Fridman in G. H.L. Fridman *The Laws of Contract in Canada*, 6th ed. (Toronto: Carswell, 2011) at paras 78-79.

...The true test for determining whether severance is possible is whether the subtraction of the void part of a contract affects the meaning of the remainder, or merely the extent. It is not permitted to change radically the purport and substance of the original contract with the result that the deletion of the invalid obligation “alters the scope [or] the intention of the agreement” so that what is left is no longer “a reasonable arrangement between the parties” or “an intelligible economic transaction”.

[259] NOVA also cites Professor McCamus in J.D. McCamus, *Law of Contracts*, 3rd ed. (Toronto: Irwin Law Inc., 2020) at paras 63-64, who has expressed the test this way:

In determining whether, as a practical matter, the offending provision can be severed from the remainder of the agreement, it must be considered whether the offending provisions “are in substance so connected with the others as to form an indivisible whole which cannot be taken to pieces without altering its nature” ... Assuming that the offending provisions can be deleted from the agreement without impermissibly affecting the nature of the agreement, the second branch of the test requires a determination as to whether the nature of the illegality is such that the entire agreement is tainted.

[260] On this issue, Dow cites C.L. Elderkin & J.S. Shin Doi, *Behind and Beyond Boilerplate: Drafting Commercial Agreements*, 5th ed. (Toronto: Thomson Reuters Canada Limited, 2024), para 9.61:

The cases seem to turn on what is the vital part of a contract. Severance will occur in instances where the provision which is either invalid or unenforceable, is not one which is vital to the contract and which can be deleted without affecting the meaning of the remainder of the contract; severance, however cannot change the purport and substance of the original contract, although it is arguable that it will rewrite the terms thereof.

...Courts first examine the invalid or unenforceable provision to determine if it is a vital provision of the contract. They next review the parties’ intentions: Do they intend that the remainder of a contract operate despite an invalid or unenforceable provision? To determine the parties’ intention, however, the presence of a severability clause will surely be a compelling factor...(emphasis added)

[261] In this case, the parties expressly turned their minds to severance in advance and agreed in section 24.5 that, if illegality rendered a section or part of a section of their contract unenforceable, then the rest of the contract would be preserved:

24.5 Severability

In the event that the whole or any portion of any section of this Agreement or the application thereof to any circumstance shall be held invalid, unenforceable or superseded to any extent, the remainder of the section in question, or its application to any circumstance other than that to which it has been held invalid or unenforceable, and the remainder of this Agreement shall not be affected thereby and shall be valid and enforceable to the fullest extent permitted by law.

[262] It was thus the intention of the contracting parties in this case to preserve as much of their agreement as possible. As noted by the Manitoba Court of Appeal in *Dentalcorp Health Services Ltd v Dr. Kenneth Hamin Dental Corporation*, 2024 MBCA 44, at para 63.

The reality is that the use of severance in such circumstances would have the effect of holding the parties to their bargain, rather than rewriting it, and thus would accord with their reasonable expectations. Faced with a case where parties of equal bargaining power have negotiated restrictive covenants that have a legitimate commercial basis, but which have been found to exceed the bounds of what is reasonable, the courts should not deny the parties blue-pencil severance when they have explicitly intended that it apply. The focus in such circumstances is less on the niceties of doctrinal severance at common law and more on giving “effect to the clearly expressed contractual intent of the parties...”.

[263] NOVA cited the British Columbia Court of Appeal in *Miller v Convergys CMG Canada Limited Partnership*, 2014 BCCA 311 at para 42-44, leave to appeal refused [2014] SCCA no. 424 during the first phase of the trial as follows:

Where the parties anticipated the possibility of severance and chose contractual language to govern this eventuality, severability is not just a remedial question. Before turning to remedy, the starting point must be to give effect to what the parties reasonably intended if a provision of the contract is found unenforceable by reason of illegality.

The severability clause in the Agreement is unambiguous. It stipulates that the units of the Agreement are paragraphs, and each paragraph is a separate and distinct covenant severable from the others. In the event a paragraph is invalid, it provides that the offending provision should be read down to the extent of the invalidity and that all other provisions will remain in full force and effect. The clear intent is that if one clause becomes invalid, the balance of the contract should remain enforceable to the extent possible.

The plain meaning of the severability clause should therefore be given effect if possible and should inform the test set out by Fridman. The question becomes whether the removal of the probation clause affects the substance of the remainder of the Agreement. The answer does not depend on the similarity of subject matter between the probation clause and the termination clause as Mr. Miller contends, but on the impact of severance on the scope and intention of the Agreement. (emphasis added.)

[264] NOVA submits that the Court of Appeal dismissed section 24.5 of the OSA as inapplicable, but that is not what the Court of Appeal said.

[265] What the Court of Appeal said, consistent with accepted law, is that “[t]he presence of a severance clause does not automatically justify a “blue-pencil” approach to the illegal covenant”. COA 1, para 160. What it “rejected” was the notion that section 24.5 automatically justified severing section 5.15 of the OSA and nothing else. However, this position is not argued in this second remand by either party.

[266] It is important to note that the Court of Appeal rejected this Court’s conclusion that notional severance, or the reading-down of section 5.15 was appropriate, and implied in its reasons that “blue-pencil” severance was the preferred route.

[267] “Blue-pencil” severance is “only possible if the judge can strike out, by drawing a line through, the portion of the contract [the Court wants] to remove, leaving the portions that are not tainted by illegality, without affecting the meaning of the part remaining”: *Shafroon v. KRG Insurance Brokers (Western) Inc.*, 2009 SCC at para 29.

[268] It is clear that severance is primarily about subtraction, not addition, about saving existing portions of contracts, not rewriting them. There is no Canadian authority for using of the doctrine of severance to make a wholesale revision of existing provisions in a contract, in effect, to remake the contract between the parties. That is not to say that the exercise of severance cannot encompass adding words to a contract, but it cannot involve a fundamental change to a contract.

[269] Severance is to be exercised with restraint. The Supreme Court of Canada notes that the goal of the “appropriate remedy” is to give “the greatest possible legal effect to the valid aspects of the agreement”: *Transport North* at para 44. The agreement must be brought “within legal boundaries with the minimal possible alteration of the parties’ bargain” (2257573 *Ontario Inc v Furney et al*, 2020 ONSC 6002 at para 87), and the “resulting set of legal terms should retain the core of the agreement”: *Transport North* at para 27. Accordingly, “courts will be restrained in their application of severance”: *KRG* at para 32.

[270] Courts have recognized that severance will always leave a contract somewhat different than it was at formation: *KRG* at para 32; *Transport North* at para 30. However, what remains should be a “reasonable arrangement between the parties” or an “intelligible economic transaction”, even though that “intelligible economic transaction” will inevitably reflect some modification from what the parties agreed to at the time of contract: Fridman at pg. 633; *Amoco Australia Pty. Limited v Rocca Bros. Motor Engineering Co. Pty Ltd.* (1974-1975) 133 C.L.R. 331 (P.C) p. 10.

[271] However, it is not the purpose of severance to remove from a contract valid clauses that a party now wishes did not exist. In *KRG*, the Supreme Court noted that severance has been applied “in limited circumstances to remove illegal features of a contract so as to render the contract in conformity with the law”: para 29.

[272] In *Transport North*, the Court described severance as a “more flexible approach to statutory illegality in contract, often severing the illegal provisions and enforcing the remainder”: para 22. (emphasis added)

[273] There is no authority that valid, legal clauses may be declared void or unenforceable just because they are linked with illegal provisions. It is true that the Court of Appeal found there to be a clear and direct link between the covenant to provide Ethane Services under section 4.3 and the Ethane Covenants in section 5.15 of the OSA, and that the Court commented that “[i]t may

be that the appropriate remedy is to sever as invalid the entire Ethane Pooling covenant, and possibly other provisions in the Operating and Service Agreement (such as the covenant to supply Ethane Services)”: COA 1 at para 165. However, in the same paragraph, the Court stated that:

... it is an open question whether the invalidity of the covenants taints all of section 5 (the Ethane Pooling covenants), or only the particular section 5.15...

The appropriate remedy in the circumstances was not fully argued on appeal, so the effect of the illegality of the covenants is referred back to the trial court for further consideration. (emphasis added)

[274] This Court has now heard full argument on the effect of the illegality of the covenants as directed by the Court of Appeal.

2. *Intentions of the Parties*

[275] It is clear that, by including sections 5.1 (a) and 5.15 in the OSA NOVA’s intention was to prevent the entry of a third competitor into the Alberta ethane supply market. If that happened and UCC entered the market, NOVA would have a conditional right to terminate the Pool. Section 5.15 refers to Union Carbide acquiring ethane from the Pool area, not a “Co-owner”, as the Court of Appeal noted: COA 1 at para 128.

[276] The Court of Appeal, in interpreting the Ethane Pooling Covenant, noted that:

It is meaningless to argue that Union Carbide and NOVA contemplated that they, as Co-owners participating in the ethane Pool, would continue to compete with Dow for ethane. If Dow had been the original participant in the E3 joint venture, the ethane covenants and the whole structure of the joint venture would of necessity have been entirely different. Dow cannot assume the obligations of Union Carbide, and then argue that the Operating and Services Agreement should be interpreted as if Union Carbide was never even a party: COA 1 at para 130.

[277] This is true, and must instruct this Court’s interpretation of the Ethane Pooling Covenants. However, the issue is the effect of the illegality of the covenants through applying the law of severance. The law of severance does not mean imagining an agreement that the parties might have agreed to as an alternative to the one they did create. That may be an appropriate exercise if this Court or the Court of Appeal had found that the core of the parties’ bargaining would have been affected by the excision of section 5.15, and that the OSA must therefore be held void.

[278] Dr. Saravia attempted to do this by focusing on sections 5.1 (a) and 5.15 to the exclusion of other provisions of the OSA and other indicia of the intentions of the parties.

[279] One important provision is section 24.5, which expresses the intentions of the parties with respect to the scope of severability. The Court of Appeal indicated that the presence of a severance clause does not automatically justify a “blue pencil” approach, but the Court followed that with the comment that the Court must attempt to preserve as much of the original agreement as possible: COA 1 at para 160. So, while the presence of such a clause is not itself determinative in defining the appropriate scope of severance, it is indicative of the intention of the parties at the time of foundation of the contract.

[280] As noted by the Supreme Court in *Transport North*, “[t]he genuine intent underlying provisions such as section 24.5 is “to preserve as much of the agreement as possible should any part of it be deemed to be invalid”: para 48. Inclusion of such a severance clause in the OSA is an express agreement by NOVA and UCC that severance would be narrow and limited.

[281] The preamble to the OSA also sheds light on the intentions of the parties. It provides that the “Co-owners wish to appoint the Operator as the operator of the Plant and the Operator is willing to act as operator of the Plant on the terms and conditions hereafter set forth;... NOVA, as Operator, will provide, *inter alia*, Services to the plant”. As a vital part of the parties’ bargain, there would be a Pool and NOVA would provide Ethane Services for it. As NOVA itself concedes, section 5.1 then provides that “[i]ncluding [such supply arrangements,] Ethane Services...will be conducted...with the objective of securing for the Co-owners ‘the lowest cost, secure supply sources of Ethane for the Pool’”. Section 4.6 records the parties’ same expectations and objectives that, by NOVA’s provision of Ethane Services, they would both maximize efficiency and achieve their important goal of “achieving overall lower costs..., based on *inter alia* scale, inventory management and centralized procurement expertise”.

[282] It is noteworthy that, even if NOVA was replaced as Operator, it “shall...remain... the provider of... the Ethane Services: OSA section 8.5. As NOVA pointed out at the opening of the trial, “NOVA was to be the operator of the Pool and NOVA would always be the operator of the Pool. Section 8.5 ensures that NOVA would always be the operator of the infrastructure and provide the services provided through the infrastructure and “the ethane services”. Any new operator would not be entitled to have assigned to it any agreements entered into by the operator of the infrastructure in respect of the infrastructure or any agreement entered into by the operator with respect to the services provided by the infrastructure or ethane services or to have copies of records relating to the infrastructure or the “services”.

[283] Thus, it was clearly the intention of the parties that NOVA would have control of the Joffre site. It is notable that NOVA’s severance proposals do not affect these provisions that benefit NOVA.

[284] One of the other project agreements, the Options Agreement, reflects the importance of the Pool and NOVA’s provision of Ethane Services for it, in discussing the potential construction of an Ethylene - 4 Plant.

[285] At the first phase of the trial, NOVA insisted that the Pool had “primacy” and was “paramount”. The Pool, and NOVA’s duty to provide Ethane Services for it, were an essential part of the commercial bargain between it and UCC for their potentially 80 year relationship. As the Court of Appeal later confirmed, a “key component of the Operating and Services Agreement was the formation of an ethane Pool”, to be administered by NOVA as part of its provision of Ethane Services.: COA 1at para 158.

[286] All of these factors indicate that the Pool structure is a key feature of the parties joint venture that confers benefits on both of them, including substantial convenience, efficiency, and in NOVA’s case, control of the Joffre site.

[287] This Court found that “the reasonable expectations of the parties at the time they entered into the joint venture agreement...was that NOVA would continue to compete with Dow for ethane, as it had in the past. NOVA would be acquiring ethane for three plants on the Joffre Site, and Dow would be acquiring ethane for non-E3 or non-Joffre purposes, such as LHC-1”.: Trial

Reasons, para 1283. This Court also found, “the factual matrix included the circumstances that Dow was an ethane purchaser in the Pool Area, and would be continuing to purchase ethane for LHC-1, despite any agreement between NOVA and UCC that would prevent a third purchaser of NOVA from entering the market”: Trial Reasons, para 1427. The Court of Appeal also agreed: “in 1997...NOVA and Dow dominated the ethane market in Alberta”. So “[a]t the time of the joint venture NOVA knew it was forced to compete with Dow” COA 1at paras 118, 161.

[288] These factors illustrate the misleading simplicity of Dr. Saravia’s opinion, and the flaw of merely equating two isolated provisions of the OSA to indicate the intentions of the parties. As noted, they might include a number of different factors.

[289] NOVA bases many of its submissions on what it says the Court of Appeal directed that this Court could and could not consider in answering the primary issue.

[290] NOVA relies extensively on paragraph 161 of the Court of Appeal’s decision. That paragraph includes the statement that the fact that NOVA had covenanted to ensure a supply of ethane to operate E3 at full capacity “was an onerous obligation and was the obvious reason for Union’s Carbide’s covenant that it would not enter the ethane market”. What the Court did not say was that the ethane services obligation was in consideration of UCC’s Pooling covenant, as NOVA suggests. What this Court found during the first phase of the trial was that “[t]here is no evidence that absent a commitment from Dow or UCC to refrain from acquiring ethane in the Pool area, NOVA would have been unprepared to provide the Ethane Services”. Trial Reasons 1428.

[291] The Court of Appeal found that there was a connection between the covenants to provide Ethane Services under section 4.3 and the ethane covenants in section 5.15. No-one disagrees.

[292] What it does not say is that this connection mandates the severance of section 4.3. The Court concluded that:

It is an open question whether the invalidity of the covenants taints all of section 5 (the Ethane Pooling covenants), or only the particular section 5.15. It may be that the appropriate remedy is to sever as invalid the entire Ethane Pooling covenant, and possibly other provisions in the Operating and Services Agreement (such as the covenant to supply Ethane Services). The appropriate remedy in the circumstances was not fully argued on appeal, so the effect of the illegality of the covenants is referred back to the trial court for further consideration.

[293] NOVA had not cited any authority for the proposition that it is a principle of the law of severance that if the presence of one clause is the reason to include another clause, the follow-on clause must be removed as well. There are many examples of the interconnection of clauses in the OSA; Dow submits that there are at least 30. I agree that it is rarely the case that one clause in a sophisticated commercial contract is a simple trade for another, and there is no evidence that such was the case here.

[294] Such a principle would be contrary to both the law of severance and the instruction of the Court of Appeal that the “open question” is whether the invalidity of the covenants “taints all of section 5”. While the Court mused on what may be “an appropriate remedy”, it did not direct any specific result.

[295] Of course, the Court of Appeal suggested that NOVA’s preferences with respect to the illegal clause should prevail unless Dow can demonstrate some prejudice or unfairness.

However, the following analysis in sub-issue B establishes that Dow has established prejudice and unfairness, so that remedy is no longer “presumptive”.

[296] NOVA submits that the Court of Appeal’s admonition that “[s]everance should be done in a way that is consistent with the original intention of NOVA and Union Carbide, not by bootstrapping Dow’s current interests” means that Dow’s interests are irrelevant. The admonition, however, was in reference to Dow’s position on appeal that only section 5.15 be “blue-penciled” out of the agreement. The Court of Appeal also left open the issue of the appropriate remedy, which it noted was not fully argued on appeal.

[297] Clearly, the Court of Appeal recognized and directed that severance should not be done in a way that gives “one party” a windfall, or impose an unfair burden on the other. That would be “boot-strapping”.

3. Application of Severance Principles to NOVA’s Proposal

[298] The fundamental problem with NOVA’s proposed severance and process for dissolution of the Pool is that it would essentially change “the purport and substance of the original contract”. It ignores the expressed intentions of the parties in section 24.5 of the OSA and the expressed intentions of the parties with respect to the importance of the Pool as a key feature of the OSA and other project agreements in terms of the goals and intentions expressed by the parties. It ignores the principle that as much of the original agreement as possible should be preserved.

[299] NOVA’s proposal purports to eliminate almost 50 otherwise legal clauses of the agreement, not because they are tainted by illegality, but because they do not fit with the new agreement that NOVA wants to make. NOVA seeks to have this Court impose this new agreement on Dow without affording Dow the right of negotiation that was afforded to UCC under section 5.17, and to further prejudice Dow in negotiations over contractual gaps that both parties agree would exist.

[300] This is not the role of the Court in severance.

[301] NOVA’s position appears to be that, now that Dow has acquired ethane, the Court should restore the unenforceable, conditional right of termination of the Pool found in section 5.15 by granting NOVA a new, unconditional right to terminate the Pool, summarily and without any rights of negotiation. This would go far beyond the principles of severance. The Court of Appeal did grant NOVA a conditional right to call for termination of the Pool, but the condition imposed could not be met.

[302] I must agree with Dow that what NOVA is proposing is to have the Court *improperly start* its “severance” process by summarily terminating the Pool, *improperly continue* it by severing approximately 50 valid provisions of the OSA supposedly thereby rendered irrelevant, and then *improperly finish* it by creating and adding new provisions to try to fill the resulting gaps with a new commercial bargain that would still require further negotiations and the lengthy participation of a Receiver and its legal counsel.

[303] Performance by NOVA of its contractual duty to provide Ethane Services pursuant to section 4.3(c) is not illegal. It accords with the parties’ expectations at the time of contract and is fundamental to their commercial bargain. And, significantly, the OSA also provides no alternative. Maintaining section 4.3(c) of the OSA as part of the successful operation of E3 neither imposes an undue burden on NOVA nor confers an undue windfall on Dow.

[304] There is no evidence that retaining the Pool and the obligation to provide Ethane Services would cause harm to NOVA. It may be, as the Court of Appeal notes, an “onerous obligation”, but it is one that NOVA agreed to in the face of a possibility that the obligation would not terminate for the 80 years of the contract, and has operated under for the last 25 years with no apparent effect on profits. While the Court of Appeal noted that this conduct is not relevant to the intentions of UCC and NOVA at the time of execution of the agreement, it is a factor in determining whether NOVA has established that it would suffer hardship if the Pool continued as set out in the OSA and was not dissolved. These obligations were taken on by NOVA as part of the agreement as a whole, and include certain benefits to NOVA, as previously described. NOVA does not suggest the elimination of its management fee as part of the severance proposal.

[305] I find that NOVA’s proposed preference and process for dissolution of the Pool does not fall within the permitted parameters of severance.

[306] Both implicitly and explicitly, NOVA suggests that its version of dissolution of the Pool should be accepted by the Court because Dow is at fault for the illegality of the restriction on purchases of ethane in the Pool area.

[307] First, the illegality arose from the merger of the parent companies of Dow and UCC. It was not a merger that Dow or UCC themselves asked for. There was nothing illegal or improper about the merger of the parent companies, which led to the inevitable merger of the subsidiaries.

[308] Second, the notion of cause or fault is not a proper consideration in the severance analysis. As noted by Dow, the authorities cited by NOVA are not severance cases.

[309] As noted in *Stephen Waddams & Jacob Ziegel, “Notional Severance, Usurious Contracts, and Two Comments on the Supreme Court’s Decision in the New Solutions Case”*. 2005 42:2 Can Bus LJ 278, page 10 at 256.

111. I would hope that the references to a flexible remedy and a spectrum do not imply that a judge might select any interest rate between zero and 60% according to his or her view of the culpability of the lender and the appropriate punishment. This would be, in my opinion, to make the rights of the parties to a civil dispute depend too much on considerations more appropriate to the criminal law. I would suggest also that “order” or “disposition” might be a better word in this context than “remedy”. The court is not here granting a remedy to the borrower for the lender’s wrong; still less is it granting remedy to the lender for any wrong of the borrower’s. It is enforcing a contract, but, for reasons of public policy, not to its full extent, and the question in issue is, “To what extent does public policy prevent the enforcement of this contract?”:

See also *Forjay Management Ltd. v 625536 BC Ltd*, 2020 BCCA 70, para. 58.

[310] The Court’s role in severance is not to make a moral judgment or to punish one party or compensate the other.

4. Application of Severance to Dow’s Proposal

[311] Dow’s proposal with respect to severance is far less extensive than that of NOVA. Dow proposes severance of sections 5.1(a) and (e), 5.2 and 5.15. All of these provisions are clearly tainted by the illegality of 5.1(a), and are properly severable. NOVA submits that section 5.7 and 5.8 are no longer necessary, given the severance of section 5.1(a), and Dow has no objection.

I agree that severance of these sections logically follows the severance of section 5.1(a), as they would become superfluous.

[312] It appears that the parties do not agree that the elimination of section 5.1(a) would apply only to NOVA as Co-owner, and not Dow. A clear reading of the provision indicates that neither NOVA nor Dow are bound by section 5.1(a) once it is severed.

[313] While the severance of these sections eliminates the anti-competitive effect of section 5.1(a), it also relieves NOVA of its obligations under 5.1(e) and 5.2. It leaves an intelligible commercial contract, as evidenced by the fact that the parties have operated as if 5.1(a), (e) and 5.2 have been unenforceable for about 25 years.

B. What is the process that NOVA proposes to be followed to wind up and dissolve the Ethane Pool?

[314] NOVA has consistently submitted that consideration of the process to unwind the Pool is outside the scope of the remand and irrelevant to the application of the law of severance.

[315] This is a position that this Court has rejected: 2024 ABKB 98., specifically at paras 100-103, 113-114, 118:

The primary issue is, of course, the remedial effect of the illegality of the performance of the Ethane Pooling covenant. This issue is subject to the direction that, on the issue of severance the equities favour NOVA and its preference with respect to the now illegal clause should prevail unless Dow can demonstrate some prejudice or unfairness.

NOVA has expressed its preferences, which include the termination of the Pool, and the severance of its obligations to provide Ethane Services. It has proposed severance of many sections of the operating agreement.

I agree that other issues, or “sub-issues” as NOVA prefers to characterize them, arise from NOVA’s preferences.

[316] NOVA submits that this is a “commercial issue” that should be negotiated by the parties, but the history of this litigation belies the success of any such negotiation. This is an issue that this Court must consider in terms of determining whether it gives rise to any prejudice or unfairness to Dow or third parties.

[317] In order to determine whether NOVA’s preferred remedy would result in prejudice or unfairness to Dow it is necessary that this Court hear evidence of such prejudice or unfairness, evidence that was not led in the trial as there was no necessity for it to be led.

[318] NOVA’s preferred remedy involves considerable severance of the operating agreement. Severance requires a full contextual and factual analysis: *Transport North American Express Inc. v New Solutions*. 2004 SCC 7 at paras 6-7.

[319] The need to ensure a fair and non-prejudicial process for dissolution of the Pool, if that is the appropriate remedy need not involve this Court in negotiation over the actual division of the ethane commitments as long as the process of unwinding the Pool does not prejudice Dow nor result in unfairness. It is not possible for this Court to assess if an equitable division of the Pool contracts is feasible without knowing the terms of the process for its implementation.

[320] This does not, as NOVA submits, reverse the burden on Dow to show prejudice or unfairness.

C. What portions of the OSA should be severed or declared unenforceable, given that NOVA’s preferred remedy is the dissolution of the Pool and the termination of its obligation to provide Ethane Services, and will any such severance proposed by NOVA give rise to prejudice or unfairness to Dow or third parties?

[321] The first part of sub-issue B has been addressed. This section addresses whether the remedy proposed by NOVA gives rise to prejudice or unfairness to Dow. Given my conclusion, there is no need to address prejudice to third parties.

1. Receivership proposal

[322] NOVA proposes as part of the process for dissolution of the Pool that NOVA and Dow would “jointly consent” to the appointment of a Receiver, to whom the “Dow Interests” in the Pool contracts and inventory would be surrendered. During the “Ethane Commitment Wind-Down Period”, which would likely last for at least 15 years, the Receiver would manage the delivery of all ethane services to E3 for the “Dow Interests”, including the performance of all underlying payment and other contractual obligations.

[323] As noted previously, this proposal strays far beyond the law of severance. It is also, as Dow notes, wholly inconsistent with established norms about the circumstances in which such appointments are made.

[324] Neither party called expert evidence about receivership, but existing caselaw is instructive about its scope and use.

[325] In *Paragon Capital Corp. v Merchants & Traders Assurance Co.*, 2002 ABQB 430 at para 27, this Court enumerated the factors a court may consider in determining whether it is appropriate to appoint a receiver. Some of these factors are not relevant to this situation, as it is not the typical situation in which a receivership may be appropriate, but others are still relevant. They include:

- (a) The balance of convenience to the parties;
- (b) The principle that the appointment of a receiver is extraordinary relief which should be granted cautiously and sparingly;
- (c) The effect of the order upon the parties;
- (d) The conduct of the parties;
- (e) The length of time that a receiver may be in place; and
- (f) The cost to the parties.

[326] One of the most important of these factors is the principle that the appointment of receiver is extraordinary relief that should be granted cautiously and sparingly.

[327] Another important factor is the length of time a Receiver may be in place. The Court will not, in general, favor a receivership that will have an extended duration: R.C. I’Anson Banks, *Lindley & Banks on Partnership*, 21st ed (London: Thompson Reuters, 2022), p.3, at pgs. 947-948.

[328] This receivership would be of indefinite duration, but, as has been noted and is not disputed, that would likely be about 15 years.

[329] Given the conduct of the parties in this and other litigation, such a receivership would likely involve Court supervision, as is virtually always the case in receiverships. As the Court of Appeal said in *QC Data Petroleum Services Ltd. V International Datashare Corp.*, 2000 ABCA 55 at para 26, “[t]he Court will not order positive steps which would require constant supervision by the court. Ongoing supervision is something that courts only exceptionally undertake: *Thibodeau v Air Canada*, 2014 SCC 67 at para 126. One exception is the usual form of receivership involving insolvency or fraud or short-term receiverships pending ongoing litigation.

[330] Another factor unique to this case is the involvement of confidential information. The Receiver would be required “to ensure the integrity of any confidential or commercially sensitive information (including information that, due to its nature, would have anticompetitive effects if disclosed without proper safeguards)”, and to “ensure that any disclosure to Dow of information relating to the Ethane Commitments, is appropriate, and not anti-competitive”. As NOVA concedes, the Receiver would thus need ongoing legal advice (“including competition law”). Any time Dow or NOVA disagreed with the advice, not an unlikely scenario, an application would be needed, and a court would have to decide.

[331] In the Receiver’s period of management, disputes would inevitably arise. This is recognized in NOVA’s process statement, in that it provides for the resolution of disputes by a court, it also provides for the Receiver to make reports to the Court “from time to time as reasonably requested by the parties (or at such regular intervals as this court may direct)”.

[332] This could consume judicial resources for many years. “[S]upervision by the courts often means relitigation and the expenditures of judicial resources”: *Pro Swing Inc. v ELTA Golf Inc.*, 2006 SCC 52, para 24.

[333] It cannot be disputed that a long-term receivership would be costly, and disputes that involve the Court would likely involve third parties.

[334] As NOVA counsel pointed out “the counterparties to the Pool contracts were given notice of these proceedings because of this Pool issue, and they hired senior counsel, and they have participated in aspects of this proceeding”.

[335] Another consideration in the proposed appointment of a Receiver is the conduct of the parties. NOVA does not cite any known precedent for such an appointment on the application of a party adjudged in the same action to have committed multiple breaches of contract, conversion, gross negligence and willful misconduct. NOVA appears to suggest that a Receiver would be appropriate because the illegality of the ethane covenant was Dow’s fault. As noted previously, fault has no role in severance, and the parent companies of the Dow entities and UCC did nothing illegal in entering into the merger. The illegality of the covenant arises from public policy issues.

[336] NOVA proposes that the Receiver, as is generally the case, would be impartial and even-handed, owe fiduciary duties to all interested parties, and not be an agent for any of them. The proposal provides that the Receiver would be required to report regularly to the Co-owners, including NOVA, about its administration of the Dow interests. As noted by Dow, this arrangement would be one-sided: there is no suggestion that NOVA would now report to Dow

about its administration of NOVA's interests. NOVA could fully protect and advance its own interests in a normal commercial way, but the Receiver in its role as administrator of Dow interests, would be hobbled by his duties of impartiality.

[337] Dow submits, supported by the testimony of Mr. Broodo, that a receiver would lack the expertise of anything close to the usual team of professionals required and assembled by petrochemical producers to perform such a vital role on a real-time basis. In the usual course, a receiver would have resort to a debtor and its employees to provide critical information and guidance for its duties. However, as Mr. Broodo explained, the Receiver would be unable to rely on Dow's feedstock team, since under NOVA's proposal, the Receiver would not be allowed to provide Dow with critical information about the subjects for which it would need support. The Receiver could not rely on NOVA's team either: nothing in NOVA's proposal requires NOVA to provide any support, for pay or otherwise, and even if somehow NOVA could be forced to assist, it would have no incentive to prioritize Dow's interests over its own.

[338] None of this is a reflection on the proposed Receiver, who is a well-known and highly respected individual with extensive experience in receiverships. It is also undisputed that receivers are commonly appointed to manage the business of many kinds of businesses, without, however, the kind of issues that might be faced by a receiver in this unique situation.

[339] Dr. Shehadeh described the three distinct time periods contemplated by NOVA's proposed form of Pool dissolution. He noted that, of the three, only during the third time period after the Pool had been completely dissolved would the severance aspect of NOVA's proposal stand alone. In other words, the intervention of a Receiver would be necessary as long as the current Pool contracts are in force. This was the basis on which he made his comments about the prejudice to Dow that the intervention of a receiver would cause. Ms. Ardolino's evidence does not provide a contrary opinion.

[340] NOVA submits that, historically in this litigation, Dow maintained a claim for the appointment of a receiver who would play a broader role than what NOVA now suggests. This is a mischaracterization of Dow's claim.

[341] NOVA's proposal included the provision that renewal rights under existing Pool contracts are not to be exercised by NOVA, and, as Dow notes, presumably not by the Receiver on Dow's behalf. Since NOVA's proposal contemplates that the Receiver would not be permitted to disclose to Dow even when a contract is scheduled to expire, only NOVA would know about re-contracting opportunities. As Mr. Broodo explained, this is an advantage to NOVA and prejudices Dow, which would have a "beneficial ownership" in the contract.

[342] In closing submissions, NOVA proposes that "a group of individuals operating under certain protocols and prior to regulatory approval or consummation of a deal who assemble, review and analyze sensitive, competitive and other confidential data", which it defines as a "clean team", "would serve as a solution to the question of information sharing relating to Dow's supply of its own ethane to E3, which could be implemented in tandem with a receivership or on a stand-alone basis".

[343] NOVA gives "clean teams" used in merger and acquisition transactions between competitors as an example, although it fails to mention that this involves "clean teams" on both sides. I accept Mr. Broodo's evidence about the implausibility of the creation and maintenance of such a team.

[344] NOVA in its closing brief makes the odd submission that “[t]he appointment of a receiver is not strictly necessary to dissolve the Pool. The scope of any receiver’s powers may be massaged to reflect Dow’s preferences and business interests”. However, what incentive would NOVA have to renegotiate its proposal if it has already been determined by this Court that the receivership proposal does not create prejudice or unfairness to Dow?

[345] As Dow notes, the reason why the receivership proposal causes prejudice and unfairness to Dow can be summarized: [w]hile NOVA would continue to manage its own interests with the highly experienced in-house team of professionals that has managed the Pool for both Co-owners for more than 20 years, the “Dow Interests” in the Pool would be put in the possession of, and would be managed by, a “Receiver” with no known experience in the ethylene industry or background with the agreements NOVA contends it should manage and administer. The Dow employees involved in ethane acquisition and management would be blocked from accessing important information about Dow’s own interests.

[346] Both Mr. Broodo and Ms. Ardolino confirmed that NOVA’s proposed insertion of a Receiver to conduct the management of Dow’s share of the Pool contracts would be unprecedented. There is no statutory basis for the appointment. NOVA would continue to manage its feedstock portfolio itself, while Dow’s management of its feedstock portfolio would be split in two.

[347] I find that the receivership aspect of NOVA’s dissolution of the Pool proposal would cause prejudice and unfairness to Dow.

2. Contractual Gaps and Strategic Conduct

[348] Both Dow experts testified about the contractual gaps that arise from NOVA’s proposed process of dissolution of the Pool.

[349] Mr. Broodo identified a number of new operational procedures and requirements that would need to be negotiated, and then added to the OSA *ex post* if the Pool structure were to be replaced by a new structure under which each Co-owner would be permitted to bring ethane to E3 and would be responsible for doing so. He calls these “omissions of critical activities”. Dr. Shehadeh testified that NOVA’s proposed “removal of ethane services requires new language in the OSA to address the fuel gas need”, “there will be other things that need to be measured and accounted for and managed that are currently included in Ethane Services because of the Pool, but would need new accounting in the absence of the Pool. Among the items to be negotiated would be cost management, cost reporting, cost accounting, and operational accounting.

[350] Mr. Broodo explained that to monitor and verify the quantity and quality of what would now be two independent supply volumes, a number of new custody meters would be needed that likely do not currently exist. Dr. Shehadeh also noted that given “what happens within the fence line in terms of commingling...in the absence of the Pool... additional monitoring would be required”. Meters, and other arrangements to permit technical and financial verification by Dow and NOVA of the “behind the fence” receipt at E3 and handling of their respective volumes of ethane are simply the sorts of protections that any reasonable commercial party [REDACTED], would expect in its contractual relationships.

[351] Ms. Ardolino confirmed that, [REDACTED]

█ Ms. Ardolino knows of no procedures that have been developed by NOVA to address how this would change in the case of a potential assignment of part of the Pool contract rights to Dow. She knows of no discussion or communications by NOVA with the Pool suppliers about how that might work in terms of setting up new accounting arrangements if a partial assignment were ever made, or whether the suppliers would agree.

[352] NOVA submits that all of these new facilities, procedures and contractual protections could be negotiated at some later date but, as Dr. Shehadeh explained, given NOVA's superior bargaining position as Operator, any new terms the parties might negotiate to replace the accounting procedures "would be expected to favour NOVA's position given that [Dow's] investment in E3 is sunk, it can't take that capital and use it someplace else".

[353] Mr. Broodo testified that, even if NOVA agreed to participate in such negotiations, it would "hold all the cards" because, as the Operator of E3, it could implement its own protocols and procedures to fill the gaps and refuse to accept anything less favourable to itself. As he made clear, this circumstance is not an accusation that NOVA would engage in more wilful misconduct: the truth is simply that, by using these gaps to maximize its own profits at the expense of Dow, NOVA would be doing what any commercial counterparty would do.

[354] If NOVA's proposed dissolution process, including the gaps and omissions, which NOVA does not dispute exist, was found by this Court not to result in prejudice and unfairness, there would be little incentive for NOVA to bargain on the gaps other than in a way to maximize its own profits at the expense of Dow.

[355] As Dr. Shehadeh testified, contract incompleteness increases opportunities and incentives for strategic behaviour. Dr. Shehadeh's opinion was that, through elimination of the Pool and Ethane Services and increasing contractual incompleteness, NOVA's proposal would increase the ability and incentive for NOVA to engage in strategic behaviour to its benefit and Dow's detriment, through what economists call "hold-up" and "rent-seeking". As he explained, the lack of specificity and transparency of post-severance operational mechanics would provide new and greater opportunities for strategic behaviour by NOVA, the resolution of which, even if possible, would "favour NOVA's interests at the expense of Dow's."

[356] Dr. Shehadeh rejected the suggestion that opportunities for hold-up or rent-seeking behaviour by NOVA under the proposal were theoretical, offering real world examples. As he discussed in both his report and testimony, NOVA's proven ethane purity conduct at trial "would be an example of rent seeking". By preferentially supplying ethane with a higher CO₂ content to E3, NOVA could reduce its costs and increase its profits by avoiding the cost of investing in incremental amine removal capacity at E1, its wholly-owned facility, while increasing Dow's costs. In the case of that conduct, Dr. Shehadeh noted, there were, ultimately, contractual provisions – notably those related to the Pool – that were eventually invoked to address such conduct, but the conduct occurred despite this.

[357] This reality that NOVA could engage in actions to lower its costs and to increase Dow's costs where its proposal would provide opportunities to do so is not, Dr. Shehadeh pointed out, a result of NOVA being a "bad economic actor" or in NOVA breaching the contract. NOVA would be acting in its own "economic interests under a new contractual structure that creates new opportunities to engage in profit-maximizing behaviour".

[358] It was argued that all contracts are incomplete, and that UCC would have faced the same situation had it participated in a Pool dissolution under section 5.17. However, the NOVA proposed process does not contemplate a section 5.17 dissolution with its inherent protections. In section 5.17, UCC/ Dow had contractually assured visibility into the Pool arrangements and strategy. Under section 5.17, UCC and NOVA would be entitled to “an equitable division of such Ethane commitments ...in a manner to be mutually agreed by the Parties, failing which the Parties will refer the matter to arbitration.” The obligation to negotiate an equitable division of ethane commitments would presumably include the element of good faith. However, the NOVA proposal seeks to impose material terms on Dow through a court order approving its severance proposal and process, without the option of negotiation. This is prejudice and unfairness to Dow.

3. Threshold Prejudice – Lack of Visibility

[359] By sections 5.1 (e) and 5.2 of the OSA, Dow is expressly entitled to virtually full visibility into the composition of the Pool and into the E3 Operator’s Pool strategy. These sections were never complied with by NOVA, and have now been severed as tainted by illegality. These are important rights that Dow has now lost, although they were certainly part the reasonable expectations of UCC at the time of negotiation of the contract.

[360] As a threshold matter of process, this denial of contract rights results in prejudice and unfairness, both in terms of Pool dissolution and thereafter in the management of the resulting Dow interests during the Ethane Commitment Wind-Down Period, just as severance of section 5.1(a) may prejudice NOVA.

[361] As a practical matter, this renders an equitable dissolution of the Pool impossible, since UCC/Dow personnel would not have access to the terms of the Pool contracts so that they could participate meaningfully and knowledgeably in such a dissolution through a division of full contracts. NOVA’s answer to this obvious prejudice and unfairness is to propose the blind assignment to Dow of a fractional interest in every Pool contract.

[362] In 2024 ABKB 98 at paras 115-117, this Court recognized the issue:

NOVA also submits that the issue of prejudice or unfairness concerns the reasonable expectations of Union Carbide at the time of negotiation of the operating agreement. While this may be so, it ignores the inconvenient fact that, at the time of negotiation of the operating agreement, Union Carbide knew that it would be entitled to synopses of the ethane contracts in the Pool, together with the other information set out in section 5.1 (e), and disclosed as a result of participation in the feedstock subcommittee as described in Section 5.2.

As Dow notes, if the Pool was to be dissolved, Union Carbide would have had a clear picture of what was in the Pool, what an equitable division of it might look like and how its business might be impacted. For Dow to be in the same position as Union Carbide with respect to reasonable expectations, it would reasonably expect [to] have the same information in the event of the dissolution of the Pool.

It is true that Section 5.17 provides that an equitable division of ethane commitments shall be made in a manner to be mutually agreed by the parties, failing which the matter shall be referred to arbitration, but this step follows Union Carbide’s right to make informed choices at the time of dissolution.

[363] NOVA submits that this cannot be considered prejudice because it is a result of Dow's decision to acquire Union Carbide. Again, NOVA attempts to attribute fault to Dow for entering a merger that the parent companies of Dow and UCC were entitled at law to do.

[364] Nor does the confidentiality order of March 1, 2024 resolve the issue, as it permits access to the information only to a select group of experts and a retired employee, under conditions, and will not result in Dow obtaining this information for other than the narrow hearing purpose.

4. Fractional Assignment and Feedstock Fraction

[365] NOVA proposes the assignment to Dow of a fractional interest in every Pool contract, given the obvious difficulties in attempting an equitable distribution of contracts with Dow having no visibility into them. [REDACTED]

What this means is unclear [REDACTED]

[366] Dow submits that the practical likelihood that a fractional assignment of all Pool contracts could be achieved is remote. [REDACTED]

This is different from what section 5.17 seemed to envisage—the assignment of contracts in full. [REDACTED]

[367] I accept Mr. Broodo's testimony that any Pool contract counterparty is likely to be reluctant to accept a new arrangement that would give two purchasers contractual rights that it had contracted to give only to one. Mr. Broodo noted that such a counterparty would consider itself disadvantaged in a number of ways, including in respect of invoicing disputes, financial and technical audits, forecast and nominations, volume discounts, and termination and renewal issues.

[368] This would be less of a difficulty if the proposed assignment would be of the entire contract as envisaged by section 5.17, since the counterparty would still only be dealing with one purchaser.

[369] Mr. Broodo confirmed that in his 41 years of experience he had never seen a "fractional assignment" of contracts. Ms. Ardolino confirmed that [REDACTED]

[REDACTED]; and to her knowledge, "NOVA has never delegated or outsourced its feedstock acquisition and management functions to a third party".

[370] Dow submits that [REDACTED], it would still suffer prejudice.

[371] Under NOVA's proposal, all contractual renewal rights would be forfeited. This would obviously prejudice Dow, which would not even become aware of the existence of such rights, or their relative value in the existing market. NOVA's proposal does not even give the Receiver the right to renew on Dow's behalf.

[372] Even if it did, Dow would have the minority right in each contract, making it difficult, if not impossible, for a Receiver to exercise renewal rights.

[373] Another example of prejudice and unfairness to Dow is the potential operating cost pass-through disadvantage that would result for Dow under NOVA's fractional assignment proposal. If NOVA were to decline its much larger share of a contractual volume, then the operating costs burden on Dow would be far greater than NOVA would bear if Dow declined its much smaller share. And, as both Mr. Broodo and Dr. Shehadeh explained, since gas processing plants must operate at a minimum level of capacity, a supplier would in fact be physically unable to meet its contractual obligation to Dow if NOVA decided to turn back its full share. NOVA could thus determine whether Dow could receive supply, even under Pool contracts purportedly partially assigned to Dow.

[374] NOVA responds that contracts from the dissolved Pool could be equitably divided between NOVA and Dow in various ways, including by on-sell (NOVA retaining its contractual relationships with ethane suppliers but selling Dow's fractional share of ethane from the dissolved Pool to Dow at the average Pool price) or by assigning or partially assigning Pool contracts to Dow—through a receiver if required to protect Dow and ensure compliance with competition law.

[375] However, if this Court finds that NOVA's process proposal does not cause prejudice or unfairness to Dow, what incentive would NOVA have to renegotiate its terms?

[376] Another issue arises from NOVA's proposal to use Feedstock Fractions as Dow's fractional interest in the existing Pool contracts.

[377] As noted in the Trial Reasons, from the time of startup of operations at E3, NOVA has refused to update the Ethylene Nameplate to take into account E3's actual, expanded capacity: 2028 ABQB 481, paras 663-672.

[378] Under its "ethane allocation" scheme, in order to give Dow less E3 ethylene and itself more, NOVA delivered to Dow only its E3 Feedstock Fraction "share" of Joffre ethane according to E3's understated design nameplate capacity of 2.81 BPY.

[379] NOVA's use of a too-low Dow Feedstock Fraction meant more ethylene for NOVA, but it also meant a lower recovery of Pool ethane fixed costs. So, as this Court noted, in November 2017, NOVA unilaterally decided to stop using E3's design nameplate capacity to calculate Dow's share of those costs (2023 ABKB 156 para 196). NOVA did not finally admit that E3's productive capability had been much more than 2.81 BPY for many years, and it did not initiate a process under Article 5 of the OSA to restate E3's Ethylene Nameplate Capacity. This Court's first trial decision was still under reserve so, as the Court of Appeal later observed about NOVA's post-trial conduct generally, "making such a change of approach would effectively have detonated the underpinnings of its defence". Instead, NOVA invented a new concept that it called "E3 Ethylene Capability", which it unilaterally set at [REDACTED] BPY, and then unilaterally began using it in the Feedstock Cost Statements to calculate what it continued to call the parties' Feedstock Fractions.

[380] Seemingly, NOVA proposes to divide the existing Pool contracts either according to NOVA's own unilateral restatement of the parties' Feedstock Fractions seven years ago, or according to some new, unknown Feedstock Fractions that NOVA has yet to communicate. In the draft order that it tendered on July 8, 2021, NOVA defined what it called the "Dow FF Share" as [REDACTED] but the definition has been removed from its April 10, 2024 proposal.

[381] This proposal by NOVA might or might not correspond with Dow's section 5.17 entitlement to an "equitable division". As Mr. Broodo testified:

...they might or might not correspond accurately with the proportion of the currently contracted Pool ethane volumes reasonably necessary to enable Dow to realize its Ethylene Production Proportion of a properly optimized E3. A too-low Feedstock Fraction would not, as NOVA contends, "effect an equitable division of the contracts that currently comprise the Pool"; it would leave Dow short. On its face, it would be prejudicial and unfair.

5. Loss of efficiencies

[382] Dr. Shehadeh testified at great length about the loss of efficiencies and costs that would ensue if the Pool was dissolved, particularly in accordance with NOVA's proposed process. I agree that, given that UCC and NOVA had anticipated the dissolution of the Pool at the time of formation of the contracts, additional costs and reduced efficiency were anticipated as a possible consequence. I have therefore not taken these factors into account as an element of prejudice or, unfairness.

[383] However, there is prejudice and unfairness in the additional costs that Dow may incur arising from Dow's inability to access information with respect to the details of the existing contracts in the Pool, the costs of a Receiver and the costs arising from the intervention of a Receiver in terms of Dow's ability to ensure that it delivers adequate ethane to the Pool to support its nominations.

[384] NOVA submits that Dow has presented evidence only with respect to "Dow's current business interests". This is incorrect, as both Mr. Broodo and Dr. Shehadeh made clear.

[385] In summary, I find that Dow has met its burden and established that NOVA's presumptive remedy would cause prejudice and unfairness to Dow in a number of respects. Thus, NOVA's presumptive remedy is inappropriate.

[386] I agree with Dow that, on the limited information before it, the Court of Appeal cannot possibly have anticipated the "preferences" that NOVA now proposes as a "presumptive remedy" in this second remand—a form of Pool dissolution that would (a) deprive Dow of its contractually assured visibility into the Pool contracts, (b) deprive Dow of the contractual protections of section 5.17, (c) inject a Receiver, to whose appointment Dow would supposedly consent and who would be in place for at least 15 years, and (d) require the invention of new contractual terms, apparently through further negotiations in which NOVA would hold all the cards.

[387] NOVA submits that Dow asks this Court to sever the OSA in a way that would leave only Dow with a right to terminate the Pool.

[388] This bears further analysis. Section 5.15 opened the way to a possible termination if UCC became a third competitor in the Alberta market. This would have occurred only if UCC had changed its strategy to become such a third party competitor. If it did not, it appears that NOVA was content with the possibility that it would have to manage and supply the Pool for the 80 year term of the contract. The only other way that this would change is pursuant to section 5.16 of the OSA. This provision addresses a possible termination of the Pool but for entirely different reasons and entirely different circumstances.

[389] On its face, section 5.16 applies to both parties. However, in reality, section 5.16 addresses what would happen if NOVA chose to make a fundamental change to its business at the Joffre site. For it to arise, NOVA would have to either shutter its other two plants and reduce its take at E3 to such an extent that UCC/Dow then accounted for more than 50% of the total ethane, or it would have to essentially withdraw from the ethylene business altogether and turn itself into a contract manufacturer for third parties, so the tolled ethane for the third parties represented a third of the total ethane processed. So, before UCC/Dow had a right to terminate its participation in the Pool, NOVA would have to choose to make a fundamental change in its business, a change entirely in its control.

[390] This is a similar “counter-equilibration” clause to section 5.15.

D. When should any findings of severance or declarations of unenforceability be made effective?

[391] As Dow points out, the provision of the OSA ultimately found to be unenforceable, section 5.15, was never sought to be enforced by NOVA until after this action began NOVA’s first notice of objection under section 5.15 was issued on March 28, 2007. Dow could not have breached section 5.15 which has now been ruled illegal, until (a) it acquired ethane, (b) NOVA gave written notice, and (c) Dow did not provide NOVA with the full particulars of the acquisition contract.

[392] No one has suffered a criminal conviction, or has paid a fine, on account of contractual provisions now found to be illegal and uncompetitive. As a result, whether these provisions might be severable now or retroactively is of no consequence.

[393] However, in the event that I am incorrect, and other provisions of the OSA are severed, these other provisions of the OSA that NOVA seeks to sever are not, and never were illegal, and this is no basis for finding them severed retroactively.

[394] It is apparent, with respect to that issue, that NOVA seeks to vacate its liability in damages to Dow for failing to optimize E3 production.

[395] As Dow notes, if NOVA could persuade this Court to make severance effective as of February 6, 2001 – severance not just of the illegal section 5.15 but also of its legal Ethane Services obligations – then somehow its liability to Dow in damages would vanish, notwithstanding that the Court of Appeal expressly affirmed such liability at the same time it remanded to this Court the task of recalculating those damages. This submission is not consistent with law or fact.

[396] Therefore, severance as directed by this decision is effective as of the date of this decision.

E. May this court’s finding at trial that NOVA breached its optimization obligation pursuant to, inter alia, Section 4.3(b) and 4.4(a) be “varied”?

[397] In COA 1, NOVA challenged the following findings, rulings and directions of this Court:

- (a) NOVA’s contractual obligation to maximize ethylene production at E3;
- (b) the inapplicability of the exclusion of liability clauses to limit Dow’s damages;
- (c) the currency conversion of Dow’s damages other than monthly;

- (d) the award of prejudgment interest; and
- (e) the dismissal of NOVA's counterclaim, based on Dow's alleged breach of the ethane covenants.: 2021 ABCA 153, para 24, citing 2020 ABCA 320, para 20.

[398] Ground (a) was NOVA's primary ground of appeal. The Court of Appeal rejected it, confirming this Court's finding of NOVA's optimization obligation. The Court confirmed NOVA's optimization obligation a second time in COA 2 at paras 24 (a), 61, 102. The Court of Appeal accepted ground (b) in part, affirming Dow's entitlement to optimization damages and directing this Court to recalculate them. It accepted grounds (c) and (d) in part, adjusting the currency conversion and interest for the damages to which Dow was again confirmed to be entitled. It rejected ground (e), affirming the dismissal of the counterclaim.

[399] This Court's reliance on the Ethane Services obligation in determining damages was never appealed.

[400] It is important to note that the cause of NOVA's failure to optimize was not a failure to acquire ethane, or a more general failure to provide Ethane Services. Instead, NOVA conducted E3's operations according to its own commercial plans and priorities, including by running furnaces at less than full rates, conducting repair and maintenance in a leisurely fashion, and reducing production to reflect NOVA's commercial imperatives:

In a scenario in which there was always enough ethane to fill E3 to capacity, optimizing product production is not complex, and, as Dow submits, means producing as much product as possible at E3. It is clear that NOVA instead conducted operations to optimize NOVA's profit from the Joffre Site as a whole: Trial Reasons at para 638.

...

Therefore, I am satisfied from the evidence that NOVA ran E3, not to optimize production of Product, but to optimize NOVA's profit and to optimize the entire Joffre Site. The JPPT's objective was optimization, not of E3, but of NOVA's profit from the three Joffre plants as a whole: Trial Reasons at para 694.

I find from the evidence that NOVA, to the extent that it acted as Operator, engaged in a deliberate and continuing course of conduct to favour the interests of NOVA as Co-owner, both with respect to imposing ethane allocation and failing to operate E3 with the objective of optimizing production. This conduct both breached the terms of the OSA and constituted a failure to act in accordance with the terms of that agreement, in other words, with Wilful Misconduct.: Trial Reasons at para 1084.

[401] The Court of Appeal expressly affirmed this Court's findings of breach, and it expressly directed this Court to quantify Dow's resulting damages.

[402] NOVA has made repeated attempts to re-litigate its liability. In rejecting one of these attempts, the Court of Appeal stated at 2021 ABCA 153 at para 41:

Finality, and the various doctrines which make it effective, are "not merely... technical rule[s]" but rather, "g[o] to the heart of a system of civil justice that strives for the truth of the matter [and] recognizes that perfection is an unattainable goal and finality is a practical necessity" ... *A fortiori*, where the

finality concerns arise in relation to a deeply negotiated and extensively litigated Agreement in rich detail and involving sophisticated corporations with their own interests firmly in mind, the further comment of LeBel and Abella JJ at para 73 has resonance: “Litigation must come to an end, in the interests of the litigants themselves, the justice system and of our society”.

[403] The Court of Appeal rejected NOVA’s challenge of this Court’s findings with respect to NOVA’s obligation to optimize ethylene production at E3 pursuant to sections 4.3 and 4.4(a). The Court affirmed Dow’s entitlement to optimization damages and directed this Court to recalculate them. These provisions were never illegal or unenforceable.

[404] NOVA submits that the Court of Appeal has issued a “presumptive judgment that the Pool be terminated”. This is clearly incorrect.

[405] Oddly, in its severance proposal, NOVA does not propose that its sections 4.3(b) and 4.4 (a) obligations would be affected, but now it explicitly seeks to have the Court set aside its appellate- approved liability to Dow in damages for breaching those covenants. So even if its section 4.3(c) Ethane Services obligations were to be severed, NOVA’s liability and Dow’s damages would be unaffected, since they resulted from NOVA’s breaches of a different contractual duty of Dow, pursuant to different provisions of the OSA. Even if there could be some retroactive “corrective” effect of severance yet to be implemented, the optimization provisions would not be severed.

[406] In somewhat tortured arguments, NOVA submits that Dow “cannot retain any damages based on NOVA’s failure to optimize its performance of an ethane supply obligation”, that “NOVA cannot owe damages for having failed to optimize its performance of a severed contractual duty to supply pooled ethane to E3 on Dow’s behalf”, and that it cannot “owe damages for having not optimized its supply of pooled ethane to E3 on Dow’s behalf if its obligation to supply ethane on Dow’s behalf is severed from the OSA”.

[407] What NOVA had a duty to optimize and what it failed to optimize, was ethylene production, not ethane supply.

[408] I agree with Dow that what NOVA now asks this Court to do is to pretend (a) that the Pool has not existed since 2001, (b) that Dow, rather than NOVA, had throughout had an imaginary obligation to supply ethane for itself to E3, and (c) that Dow would have refused or have been unable to supply such ethane if it had been given the opportunity.

[409] There is no basis to vary this Court’s finding that NOVA breached its optimization obligation, as confirmed by the Court of Appeal.

F. If so, may the Court’s award of optimization and co-production damages and related interest awards be vacated as a result?

[410] Given my decision on sub-issue D, this issue is relevant only if I am incorrect.

[411] NOVA submits that this Court’s awards of optimization and other damages must be set aside “as a component of the ‘remedial effect of the illegality’”. NOVA then incorrectly asserts that NOVA’s covenant to supply pooled ethane to E3 was severed and became unenforceable when (and because) Dow merged with Union Carbide over NOVA’s objection on February 6, 2001.

[412] NOVA finally argues that the award of optimization damages must be set aside as “a remedial effect of the severance”.

[413] The basis of NOVA’s submissions is that this Court was tasked with varying or setting aside damage awards “as a remedial effect of the severance resulting from the illegality effect of performance of the ethane purchase restrictions”. This was never suggested by the Court of Appeal.

[414] This remand is to determine “the effect of the illegality and to perform severance accordingly. NOVA is incorrect in its position that NOVA’s covenant to supply pooled ethane to E3 was “severed and became unenforceable” at the date of the UCC/ Dow merger.

[415] NOVA offers no authority to “vary”, or “vacate”, or “set aside”, or “undo”, or “correct” *res judicata* findings of breach of contract, of rulings of consequent liability, and of resulting awards of damages.

G. If so, should Dow be required to repay any amounts previously paid by NOVA, with or without interest?

[416] Certainly, there is authority for the repayment, with interest, of money paid under a judgment if the judgment is reversed on appeal. That is not the situation here. It is therefore unnecessary to consider Mr. Williams’ opinion.

VI. Conclusion

[417] In conclusion, I find that the remedial effect of the performance of the Ethane Pooling covenant is the severance of sections 5.1 (a) and (e), 5.2, 5.7, 5.8 and 5.15 of the OSA.

[418] Dow has established on a balance of probabilities that NOVA’s preferences with respect to the now illegal clause would cause prejudice and unfairness to Dow, so that remedy is no longer presumptive.

[419] The findings with respect to severance are to be effective as of the date of this decision.

[420] The answers to the last three sub-issues posed by NOVA are in the negative.

[421] I remind the parties of the Court of Appeal’s comment in COA 1 at para 167:

E3 is obviously a valuable asset for both parties. Now that Dow has assumed the position of Union Carbide, some aspects of the original arrangement are impractical. Since the parties will want to work together in the future to their mutual advantage, a consensual resolution of the outstanding issues respecting ethane supply would be preferable to one imposed by the Court.

[422] NOVA’s favoured remedy of dissolving the Pool is not a remedy that the Court can grant in the circumstance. It may still be possible to resolve issues with respect to the OSA by negotiations between the parties who can negotiate from equal bargaining positions.

[423] Costs of this application will be dealt with in the omnibus costs decision argued previously.

Dated at the City of Calgary, Alberta this 28th day of July, 2025.

B.E. Romaine
J.C.K.B.A.

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Appendix A has been omitted from the public version of these Reasons