THE SEVENTH ANNUAL

HON. MICHAEL KIRBY CONTRACT LAW MOOT

MELBOURNE, AUSTRALIA

JULY – SEPTEMBER 2017

THE MOOT PROBLEM

WITH CLARIFICATIONS AND CORRECTIONS

Organised by the College of Law and Justice,
Victoria University, Melbourne Australia

VICTORIA UNIVERSITY
MELBOURNE AUSTRALIA

IN THE AUSTRALIAN ARBITRATION CENTRE No. **MKM7** of **2017**

B E T W E E N

NIKOLA PTY LTD Claimant

and

EDISON LTD Respondent

INDEX TO TRIBUNAL BOOK

IN THE AUSTRALIAN ARBITRATION CENTRE No. **MKM7** of **2017**

B E T W E E N

NIKOLA PTY LTD Claimant

and

EDISON LTD Respondent

STATEMENT OF AGREED FACTS

1. Nikola Pty Ltd is an Australian company which manufactures and sells batteries and battery cooling systems.

2. Edison Ltd is an Australian company which manufactures and sells electric cars.

3. Edison's most recent model, the Model E, is a semi-submersible amphibious 'driverless' vehicle. It was launched in October 2016. Between launch and 5 September 2017, Edison sold 27,100 Model Es. 22,822 are on the road, and water, today.

4. Nikola entered into an agreement with Edison to supply components for the Model E. A dispute has now arisen as to the terms of, and the parties' liability under, the contract.

A. NIKOLA, EDISON AND THE MODEL E

5. In 2015, Nikola worked closely with Edison to develop batteries and battery chillers for use in the then-planned Model E.

6. The developed battery is a 115 kWh collection of 1,265 of Nikola's proprietary lithium ruthenium oxide cells. It provides substantial energy density (watts per kilogram) and speed of charge and discharge advantages over other offerings. However, it is comparatively more sensitive to operating temperature. If the battery is charged or discharged while it is at a temperature less than 8°C, dendrites start to grow in the liquid electrolyte inside each cell. The gravest effect of dendrites is the creation of short circuits, which may lead to fire and explosion. Dendrites also dramatically reduce the battery's cycle life, i.e. the number of times it can be discharged and recharged. If the battery is charged or discharged at more than 45°C, it is very inefficient and its cycle

life is reduced. The risks of negative effects increase as temperatures become more extreme.

7. The developed chiller is designed to keep the battery operating within the acceptable temperature range. It consists of an active part (a controller and pump) and a passive part (plates placed between the wafer-like layers of the battery's cells). The active part controls the flow of refrigerant through the plates as the battery operates and charges.

8. The chiller's controller takes readings from temperature sensors in the battery to determine how much refrigerant it needs to provide. When battery temperatures fall too low, the chiller stops pumping refrigerant and the battery generates warmth by discharging at a low voltage. This process is known as 'trickle discharging'.

9. The development and testing of the battery and chiller was carried out on the basis of an agreement that, at the completion of development and testing, Edison would either purchase the rights to use Nikola's designs or contract with Nikola for ongoing supply. At the end of the successful development and testing phase, the parties agreed in principle to the latter option.

10. Edison approved the design of the battery and chiller on 1 January 2016.

B. DRIVECHAIN

11. Edison conducts its supply chain using smart contracts administered by its proprietary software structure, 'Drivechain'. Drivechain automatically directs payments, supplies, repairs, recalls and continuous improvement by employing logic programming to interpret and respond to data reported by Model Es.

12. The expert witness statement of Dr Charlie Babbage [TB 9] describes Drivechain's programming. The parties agree with and accept Dr Babbage's description of the programming, though they dispute whether the programming reflects the terms of the contract between them.

13. In contrast with the traditional model for car purchases, purchasers of the Model E pay Edison small amounts on an ongoing basis. The amount they pay is determined by Drivechain based on their satisfaction with their Model E. Drivechain then directs

Edison to pay suppliers a portion of those amounts. The amount paid to the suppliers depends on the performance of the components they supplied.

C. Negotiation of the Contract

14. On 3 March 2016, Audrey Member, Nikola's General Manager Sales, met with Karlina Benz, Edison's Chief Procurement Officer, to discuss Drivechain and make arrangements for the smart contract that would define their commercial relationship. Their accounts of that meeting are set out in their respective affidavits [Member TB 13; Benz TB 24].

15. The parties agree that a contract was formed at the meeting of 3 March 2016 but, as noted, they do not agree on its terms.

16. On the same day as the meeting, Edison's programmers configured Drivechain to deal with supply by, and payments to, Nikola.

17. Nikola did not see or confirm Drivechain's code.

D. The Total Recall

18. Sales of the Model E exceeded expectations in the lead up to and after its launch. The Model E was lauded in the press and on social media for its ease of operation, safety, and versatility.

19. As sales of the Model E continued to build in the lead up to its launch, Nikola received and filled orders for batteries and chillers.

20. After the launch, once the first car had completed 5 recharge cycles, Drivechain began directing payments from Edison to Nikola. Payments generally reflected SLs between 87 and 100 and battery and chiller OCSLs between 85 and 100. The mean CSL for batteries was 94 and, for chillers, 93. The variance in CSLs in respect of both the chillers and batteries was considered within the expected tolerance. No faults were indicated or suspected.

21. However, in June 2017, chiller and battery CSLs started dropping significantly. Between 1 and 3 June 2017, 6 Model Es reported chiller and battery CSLs below 75. Drivechain identified a fault in the chillers on the basis that:

a. flow meters inside the chillers indicated that refrigerant was continuing to flow despite the chiller's controller commanding its pump to stop pumping; and

b. battery temperature sensors recorded temperatures below the proper operating temperature range.

22. Because of the circumstances described in paragraph 21 above, batteries were over-chilled. Battery output voltage reduced, which negatively affected the Model E's performance, and battery cycle life was shortened.

23. By 15 June 2017, 421 Model Es reported chiller CSLs below 70 and battery CSLs below 75. The chiller OCSL dropped from its pre-November mean of 93 to 72. The battery OCSL dropped from its pre-November mean of 94 to 83.

24. Drivechain automatically placed orders for replacement chillers and batteries as each Model E reported CSLs below 75. As the chiller was identified as the cause of both the chiller and battery faults, replacement was directed to be at Nikola's cost. However, Drivechain could not identify the precise reason for the chillers' apparent failure to stop pumping refrigerant.

25. On 16 June 2017, Nikola pushed a software update to all chillers to address what its engineers thought may be the issue. The update did not rectify the fault. Between 16 June 2017 and 2 August 2017, 4,144 more Model Es reported chiller CSLs below 50 and battery CSLs below 70. Chiller and battery OCSLs continued to drop.

26. Simultaneously, Nikola's engineers were amending the design of the chiller to include a check (non-return) valve at the refrigerant intake. The valve would stop refrigerant intake altogether in circumstances of low temperature. With Edison's approval, Nikola altered its production line. All chillers produced after 22 June 2017 included the valve.

27. On 2 August 2017, the chiller OCSL dropped below 65. Drivechain initiated a total recall of all Model Es and directed that the balance of chillers (19,405 units) be replaced at Nikola's cost. As Drivechain determined that the risk was not significant, Model Es were directed to return to a service centre within 90 days.

28. Between 1 June 2017 and 5 September 2017, Nikola produced and shipped:

28.1. 3,987 replacement batteries, at a total cost to it of $37,399,016.88 ($9,380.24 per unit); and

28.2. 3,360 replacement chillers, at a total cost to it of $7,041,312.80 ($1,614.98 per unit).

29. Owing to the urgency of the recall, Nikola focused on providing batteries and chillers for replacement purposes. From 2 August 2017, no batteries or chillers were produced for use in new Model Es.

E. THE URGENT TOTAL RECALL

30. On 5 September 2017, a Model E reported an SL of zero and chiller and battery CSLs of zero. Drivechain dispatched a recovery vehicle to collect it. However, the recovery vehicle was unable to reach the Model E, which had failed while submerged 4 nautical miles off the southern coast of Western Australia. Its occupants, a young family, had been submerged under 6 metres of sea water while watching blue whales feeding on the nutrients brought to the area by the Bonney Upwelling, a seasonal upwelling of cold water from the ocean floor.

31. Upon the Model E's return to the service centre on 6 September 2017, deep diagnostics revealed that when it was submerged in the very cold water of the Upwelling, its air conditioning unit registered false ambient temperature readings. The air conditioner responded by pumping more refrigerant through the refrigerant loop. Although the chiller had stopped pumping, refrigerant continued to circulate through its plates. The combination of the particularly low temperature of the water and the circulation of refrigerant caused the batteries to lose voltage altogether. When current was applied in the service centre, the batteries caught fire. The Model E was destroyed.

32. The diagnostics were consistent with the remainder of the affected Model Es having similar, albeit less serious, issues when submerged in cold water. A review of the data revealed that affected Model Es had been used in submersible mode along the south coast of Australia shortly before reporting reduced chiller and battery CSLs.

33. The Model E fire, being deemed to have resulted from the common chiller fault, automatically triggered an urgent total recall. Model Es were directed to return to service centres within 10 days. Production of new Model Es was placed on hold.

34. On the basis of the deep diagnostics data, Drivechain identified the air conditioning unit as the cause of the chiller fault. It directed the air conditioning supplier to supply replacement air conditioning units at its cost. It did not direct orders for chillers, as the orders placed pursuant to the general recall remained outstanding (i.e. replacement chillers had already been ordered).

F. THE DISPUTE

35. On 7 September 2017, immediately upon receiving the report of the deep diagnostics on the failed Model E, and notice of the urgent total recall, Nikola wrote a letter to Edison [Affidavit of Ms Member, Exhibit AM-3: TB 21]. In that letter, Nikola protested that all issues regarding the chiller appeared to be due to a fault in the air conditioning unit. It asserted that the terms of the contract, as agreed by Ms Member and Ms Benz on 3 March 2016, were such that the air conditioning supplier should bear the costs of all replacement chillers and batteries ordered to date and should compensate Nikola for the reductions in chiller and battery CSLs caused by the fault. It stated that it intended to cease supply of replacement or new batteries or chillers until it received confirmation that Drivechain had been reprogrammed.

36. In its letter in reply dated 8 September 2017 [Affidavit of Ms Benz, Exhibit KB-1: TB 26], Edison asserted that Drivechain reflected or otherwise constituted the contract and that its programming had accurately directed payments and attributed responsibility in accordance with the terms of the contract.

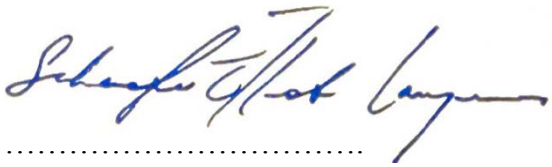
37. Since 2 August 2017, Edison has received orders for 3,120 Model Es. The sales contracts represent projected revenue of $577,200,000 ($185,000 per unit). Drivechain operates such that if 45 days elapse after the execution of the sales contract and there has not been confirmation that all components will be supplied within 60 days, it sends a notice to the purchaser. The notice informs the purchaser of its right to avoid the contract. Although all other components (including newly remodelled air conditioner units) were available, given Nikola's refusal to supply batteries and chillers, Drivechain began sending notices to purchasers from 16 September 2017. Between 16 September

2017 and 20 September 2017, 331 prospective purchasers were informed. 283 of the purchasers exercised their option to avoid their contracts with Edison. Given the bad press surrounding the 5 September 2017 failure, Edison anticipates that purchasers will continue to avoid their contracts with Edison, compounding the effect of sales figures already reduced 68% below the previous two quarters' figures.

.....

Ripley Kane

Lawyers for the Claimant



.....

Schaefer Elliot Lawyers

Lawyers for the Respondent

20 September 2017

IN THE AUSTRALIAN ARBITRATION CENTRE No. **MKM7** of **2017**

B E T W E E N

NIKOLA PTY LTD Claimant

and

EDISON LTD Respondent

ISSUES FOR DETERMINATION

The Tribunal is asked to urgently determine:

A. Whether Nikola is obliged to bear the cost of supplying replacement chillers and whether it is entitled to compensation for its costs of supplying same to date;

B. Whether Nikola is obliged to bear the cost of supplying replacement batteries and whether it is entitled to compensation for its costs of supplying same to date;

C. Whether Nikola is entitled to be paid the amounts it would have received but for the reductions in battery and chiller CSLs attributable to the air conditioner fault;

D. Whether Nikola was entitled to refuse to supply batteries and chillers after 6 September 2017; and

E. Whether Edison is entitled to compensation from Nikola for lost sales brought about by Nikola's refusal to supply chillers and batteries.

The parties agree that:

1) neither party will make any argument based on the *Competition and Consumer Act 2010* (Cth) (including the Australian Consumer Law);

2) neither party will rely on the conduct of the parties after 3 March 2016 as an aid in the construction of the 'smart contract', but the Tribunal may otherwise inform itself as it sees fit;

3) any argument as to quantum of compensation or damages will be determined in separate or subsequent proceedings.

STATEMENT OF DR CHARLIE BABBAGE

1. My name is Dr Charlie Babbage. I am a computer scientist with qualifications far too numerous to list. Amongst other things, I invented the computer programming language CARBOL. It is used worldwide by automotive manufacturers including Edison Ltd.

2. I was asked to review the CARBOL-based programming of the product 'Drivechain' and produce a report of how it operates in respect of the Edison Model E and, in particular, the batteries and chillers supplied by Nikola Pty Ltd.

3. At Drivechain's heart is a distributed ledger with entries created by reports from cars, service centres and sales centres. It uses logic programming to determine service and supply needs, manage orders and direct payments from one party to another. I am instructed that it is programmed by Edison's in-house programmers.

4. When a sales representative enters an order for a Model E, Drivechain immediately sends orders to suppliers for production of relevant components. Suppliers' production lines automatically report to Drivechain as to progress of component production.

Metrics (SLs, CSLs, OCSLs)

5. From the moment a Model E passes final checks, it begins to report to Drivechain at a maximum of 10 minute intervals as it drives, is recharged, tested or repaired. Its systems record and report qualitative and quantitative data about how each of its components is functioning.

6. Drivechain then aggregates the data reported by a Model E to produce a Component Service Level (CSL) for each of its components. The CSL, a number from 0 to 100, reflects the overall service quality of a component. I am instructed that if a component's CSL is 0, the component is unserviceable; if the CSL is 90, it is working perfectly; and if the CSL is above 90, it is exceeding required performance standards.

7. Drivechain weights the CSLs for every component in a Model E to produce a Satisfaction Level (SL) for the vehicle. In simple terms, if every one of the vehicle's components is working perfectly with CSLs of 90 or above, the driver's SL will be 100. If the vehicle is not working at all, the driver's SL will be 0.

8. Drivechain uses a weighted mean of the CSLs from all reporting Model Es to produce an Overall Component Service Level (OCSL) for each component. So, a component such as Nikola's battery has a different CSL in each Model E, but a single OCSL.

Payments

9. Every 1,000km of travel or 5 battery recharge cycles, whichever is arrived at first after the previous payment, marks the end of a 'payment period' and the start of the next. Drivechain automatically directs a payment from drivers to Edison in an amount proportionate to the lowest SL reported by their Model E during that payment period.

10. The payment from a driver to Edison is then divided between component suppliers and Edison itself. Drivechain calculates the amount payable to a supplier using the OCSL and CSL for the component, together with the SL and a Nominal Payment Rate (NPR). An NPR is agreed between Edison and a supplier for each component.

11. Drivechain is programmed with NPRs:

    11.1. in respect of the batteries, of 87.1000; and

    11.2. in respect of the chillers, of 17.6681.

12. In respect of the batteries and chillers, Drivechain calculates payment in this way:

    12.1. Where the OCSL is equal to or greater than 45, Edison pays Nikola an amount calculated by the formula:

    NPR x 2(CSL/100) x 0.5(OCSL/100) x SL/100

    12.2. Where the OCSL is less than 45, no payment is made.

13. For example, for a particular Model E's payment period from 2 September 2016 to 26 September 2016, the lowest reported SL was 92. The lowest reported battery CSL was 94. At the time of the report on 26 September 2016, the battery OCSL was 96 and the NPR was 87.1000. Drivechain automatically directed a payment from Edison to Nikola of $72.31 in accordance with the formula:

87.1000 *(NPR)* **x 1.88** *(2xCSL/100)* **x 0.48** *(0.5xOCSL/100)* **x 0.92** *(SL/100)* **= $72.31**

Faults

14. Model Es are automatically serviced. They deliver themselves to service centres after travelling 20,000km or undergoing 100 recharge cycles since their last service.

15. If a component's CSL drops below 75, Drivechain identifies it as requiring replacement. Drivechain automatically places an order for a replacement component to be installed at the Model E's next scheduled service.

16. The cause of a fault is identified and reported either by the Model E itself, if it can identify the issue while 'on the road', or by diagnostics carried out at a service centre. In either case, the cause is determined based on data from the Model E's sensors.

17. In certain cases, cause is directly attributed to other components. For example:

    17.1. If the windscreen's opacity sensor reads below 76%, the integrated windscreen cleaning system is identified as the cause of the fault.

    17.2. If the battery's temperature sensors read below 9°C or above 43°C, the chiller is identified as the cause of the fault.

18. Cause may also be attributed to subcomponents. For example, if the rate of flow of refrigerant through the chiller's wafers is too low, the chiller's controller and pump are identified as the cause of the fault. In that case, Drivechain identifies the chiller as the faulty component and notifies Nikola that the controller and pump are responsible.

19. If a faulty component's ("first component") reduced CSL is caused by the first component itself or one of its subcomponents, the cost of replacing or repairing the first component is borne by its supplier. If the first component's reduced CSL is caused by a second component, the supplier of the second component bears the cost of replacing or repairing the first component in addition to any responsibility they may bear for replacing or repairing the second component.

Individual and total recalls

20. If the CSL of any component in a Model E drops to zero, the Model E is automatically recalled and a recovery vehicle is dispatched to collect it. Drivechain orders

replacement component/s in accordance with the programming as described above. On arrival at a service centre, the Model E is immediately subjected to deep diagnostics which assess the performance of every component from the tires up. I am instructed that diagnostics are carried out by the Model E itself and by autonomous machinery. The findings are reported to Edison and component suppliers.

21. If any component's OCSL drops below 65, Drivechain initiates a total recall of all Model Es on the road. Drivechain orders replacement components for all Model Es on the road and in production, in accordance with the programming as described above. The urgency of the recall (i.e. how quickly Model Es are required to return to service centres, and whether they are directed to drive or be collected by a recovery vehicle) depends on the magnitude of risk posed by the fault.

22. If diagnostics on any Model E indicate that a fault reported by more than 10% of reporting Model Es may lead to a substantial (>2%) risk of death or personal injury, Drivechain automatically initiates an urgent total recall and pauses production of new Model Es. Model Es are directed to return to a service centre, either autonomously or by recovery vehicle, within 10 days. Drivechain orders replacement components for all Model Es (on the road and in production) in accordance with the programming as described above.

23. Drivechain does not direct any payment in respect of administrative or other costs of a recall.

CHARLIE BABBAGE

Dr C Babbage
13 September 2017

IN THE AUSTRALIAN ARBITRATION CENTRE No. **MKM7** of **2017**

B E T W E E N

NIKOLA PTY LTD Claimant

and

EDISON LTD Respondent

AFFIDAVIT OF AUDREY MEMBER

Date of document: 17 September 2017
Filed on behalf of the Claimant

Ripley Kane Telephone: 08 9999 2111
Solicitors Reference: ELR:1702350
12 Nostromo Street Email: eripley@ripleykane.com.au
Perth 6000

I, AUDREY MEMBER of 197 Wellington Street Perth in the State of Western Australia, General Manager, solemnly and sincerely declare and affirm:

1. I am the General Manager Sales of Nikola Pty Ltd ("Nikola"), the claimant in this arbitration. I make this affidavit on the basis of my own knowledge and belief save where otherwise stated.

2. I am responsible for the administration of many of Nikola's supply contracts, including our contract with Edison Ltd ("Edison") for supply of batteries and chillers for its Model E. In early 2016, I was in correspondence with Ms Karlina Benz of Edison about the 'smart contract' that we planned to govern the relationship between Nikola and Edison on an ongoing basis.

3. On 3 March 2016, I met with Ms Benz at the Playford hotel in Adelaide. Now produced and shown to me and marked "**AM-1**" is a true copy of the agenda for that meeting.

4. I remember that we stuck quite faithfully to that agenda. Ms Benz said that what we spoke about at the meeting would go straight into the programming of Drivechain. It is hard to remember exactly what was said, but to the best of my recollection:

    4.1. Ms Benz described how Drivechain and smart contracting works in theory. I had previously read about it and spoken with Ms Benz about how Drivechain worked,

but it was still difficult to understand the specifics of it. I remember her saying words to the effect that Drivechain would administer our contract and put her and I out of a job.

4.2. Ms Benz went through how Drivechain would take the data from the cars and calculate a number of what she called 'metrics'. They are the SL, CSL and OCSL that are described in the statement of Dr Charlie Babbage dated 13 September 2017. Again, no matter how well these were explained to me, they were difficult to fully grasp. But I believe I had a basic understanding of their core concepts.

4.3. Ms Benz and I discussed how orders would be automatically placed by Drivechain for batteries and chillers and Nikola would receive them at our factory. I believe that around this time Ms Benz told me that Edison's operations work on a 12 month cycle so it was important to keep the supply chain operating reliably.

4.4. We had a bit of back and forth about the Nominal Payment Rates for the batteries. I was trying to get it increased to 86.5. When I mentioned that this was very important to us, Ms Benz offered to increase it to 87.1, so I accepted.

4.5. We noted that Drivechain would be programmed to account for specific circumstances which would be considered 'faults', including issues with the batteries and chillers and a circumstance in which a CSL dropped below 75. I had been informed before the meeting that the fault modes had been largely agreed in the course of research and development.

4.6. We then spoke about liability if there was a fault in one or more components.. I don't remember exactly what was said, but I remember talking about that sort of issue as a 'flow on failure' and saying words to the effect that if someone else's part was to damage ours, they should be responsible. My understanding was that we had agreed that the manufacturer of a faulty component that damaged another component or components would be the one who bore all of the repair or replacement costs.

4.7. We then discussed what would happen if we were liable for costs of replacing or repairing anything, in light of the unique payment structure under the contract.

Ms Benz told me that we would either be able to just 'let it go' and have the amount deducted from the money that would otherwise be sent to us by way of normal payments or arrange to pay Edison what Drivechain said we owed.

4.8. At the end of the meeting, Ms Benz said words to the effect that she would get the programming done and that we were lucky we didn't have to write up a formal written contract.

5. In preparing this affidavit I reviewed my file. I don't have notes of the meeting, but I do have an email I sent to the CEO of Nikola, Mr Pey Nhut, the day before the meeting. It is consistent with my belief that I was trying to make sure that liability was sheeted home to the right person in the exact case that has arisen in this dispute. Now produced and shown to me marked "**AM-2**" is a true copy of my email to Pey Nhut dated 2 March 2016.

6. It was particularly important for Nikola to ensure it was protected from flow on failure , given the very high cost of batteries as compared with most other components in the car, and the potential for any number of components to damage them.

7. I am informed and believe to be true that on 7 September 2017 Nikola received reports of deep diagnostics carried out on the Model E that failed while submerged off Western Australia on 5 September 2017. The reports revealed that all chiller and battery faults were caused by the Model E's air conditioner units. It was at this time that it became apparent that Drivechain was not administering the relationship between Nikola and Edison consistently with the terms of the contract that Ms Benz and I agreed on. I wrote to Edison that day. Now produced and shown to me and marked "**AM-3**" is a true copy of my letter to Edison dated 7 September 2017.

Affirmed by the said AUDREY)
MEMBER at Perth in the State of Western)
Australia this 17th day of September 2017)

Before me:

AMANDA RIPLEY-MCCLAREN
Australian Legal Practitioner
Ripley Kane Solicitors
12 Nostromo Street
Perth WA 6000

IN THE AUSTRALIAN ARBITRATION CENTRE No. **MKM7** of **2017**

B E T W E E N

NIKOLA PTY LTD Claimant

and

EDISON LTD Respondent

CERTIFICATE IDENTIFYING EXHIBIT

AM-1

Date of document: 17 September 2017
Filed on behalf of the Claimant

Ripley Kane Telephone: 08 9999 2111
Solicitors Reference: ELR:1702350
12 Nostromo Street Email: eripley@ripleykane.com.au
Perth 6000

This is the exhibit marked **AM-1** now produced and shown to Audrey Member at the time of affirming her affidavit on 17 September 2017.

Before me:

AMANDA RIPLEY-MCCLAREN
Australian Legal Practitioner
Ripley Kane Solicitors
12 Nostromo Street
Perth WA 6000

Exhibit "AM-1"

Agenda for meeting 3 March 2016

Am-1

E D I S O N

A G E N D A

DATE: 3 March 2016

LOCATION: Boardroom, The Playford, Adelaide

ATTENDEES: Karlina Benz (Edison), Audrey Member (Nikola)

APOLOGIES:

---

1. Intro to Drivechain – defining our relationship

Smart contracting using distributed ledger
What Drivechain says is final so humans don't have to worry
Metrics: SLs, CSLs, OCSLs

2. When things go right

Sales order placed > order for components sent to Nikola, Nikola fulfils
Formula for payment: NPR x 2 CSL% x 0.5 OCSL% x SL%
Payment every 1000km/5 recharge cycles
NPR (to discuss):
Chillers – *17.6681*
Batteries – *85.6*

3. If things go wrong

Fault modes (per R&D workshops)

Chiller:

- refrigerant not pumped when battery temps too high
- refrigerant when battery temps too low
- battery temperature sensors record temperatures <9 deg or >43 deg

Battery:

- cycle life < 50% expected at any time before 200,000km/600 cycles
- inconsistent output voltage across cells
- inconsistent input voltage across cells

Replacement costs – liability (to discuss)
Liability for faults in other components

If responsible for costs, automatically deducted from payments; can pay upfront

4. Next steps

KB get programming started
AM?

IN THE AUSTRALIAN ARBITRATION CENTRE No. **MKM7** of **2017**

B E T W E E N

NIKOLA PTY LTD Claimant

and

EDISON LTD Respondent

CERTIFICATE IDENTIFYING EXHIBIT

AM-2

Date of document: 17 September 2017
Filed on behalf of the Claimant

Ripley Kane Telephone: 08 9999 2111
Solicitors Reference: ELR:1702350
12 Nostromo Street Email: eripley@ripleykane.com.au
Perth 6000

This is the exhibit marked **AM-2** now produced and shown to Audrey Member at the time of affirming her affidavit on 17 September 2017.

Before me:

AMANDA RIPLEY-MCCLAREN
Australian Legal Practitioner
Ripley Kane Solicitors
12 Nostromo Street
Perth WA 6000

Exhibit "AM-2"

Email from A Member to P Nhut dated 2 March 2016

Am-2

From: Audrey Member [mailto:a.member@nikolabattery.com]

Sent: Wednesday, 2 March 2016 5:41 PM

To: Pey Nhut

Subject: Edison Project

Attached files: 160303 Agenda.pdf

Dear Pey,

Arrived in sunny Adelaide. Hope all's well at home.

I write in advance of my meeting with Karlina Benz, Edison's Chief Procurement Officer, tomorrow morning. I attach the agenda for our meeting. Ms Benz drafted the agenda based on conversations I have had with her, as you and I discussed yesterday.

Save a couple of matters, we appear to be agreed on terms that will see us provide Edison with batteries and chillers for its new Model E vehicles. As I said yesterday, I wasn't sure what to think when they first proposed we enter into this 'smart contract.' However, after discussing the proposal at length I now understand that a software program known as 'Drivechain' will largely determine our rights and responsibilities under the agreement. Edison explained that for this reason it will not be necessary to reduce the agreement to writing. As you know, I have legal and Board approval for this.

In the most basic of terms I believe Drivechain will work as follows:

a. Edison's customers will make a series of ongoing payments based on the performance of their Model E;
b. through a profit sharing arrangement we will receive a portion of the ongoing payments;
c. the amount of our portion will depend upon Drivechain's assessment of our batteries' and chillers' performance.

The couple of matters that I and Ms Benz will mostly be dealing with tomorrow are:

1. Nominal Payment Rates

The 'Nominal Payment Rates' will (along with the batteries and chillers performance) determine how much we get paid. Edison proposes 17.6681 (oddly specific) for chillers and 85.6 for batteries. The number for chillers is OK, but I would like to get batteries up a bit – to say 86.5 – because our risk exposure is larger there. I'm cautious to ensure we protect ourselves in that regard as much as we can.

2. Liability for faulty components

As we discussed, I am a little uneasy about relying on a computer to tells us who bears responsibility if something goes wrong in another component such that one of ours is damaged.

You will note I kept the agenda somewhat open in respect of this point, so I have a chance to make it clear that in those circumstances the manufacturer of the faulty component should be liable for damage it causes.

And it obviously goes without saying that if Drivechain discovered a fault in a component, Edison would act to immediately remedy that fault to avoid a loss of profits to itself and its other manufacturers.

Ms Benz tells me, at every opportunity, that the Drivechain arrangement is about ensuring a sharing of risk. I understand that Edison stands to lose profit if the components of its manufacturers underperformed.

Considering our batteries ad chillers are of the highest quality, I expect that this agreement to be quite lucrative.

I look forward to reporting back tomorrow with good news!

Kind regards,
Audrey

NIKOLA

Audrey Member l GM Sales (Batteries)

p +61892390129 l m +61424240111

Nikola Pty Ltd l *Our power*

IN THE AUSTRALIAN ARBITRATION CENTRE No. **MKM7** of **2017**

B E T W E E N

NIKOLA PTY LTD Claimant

and

EDISON LTD Respondent

CERTIFICATE IDENTIFYING EXHIBIT

AM-3

Date of document: 17 September 2017
Filed on behalf of the Claimant

Ripley Kane
Solicitors
12 Nostromo Street
Perth 6000

Telephone: 08 9999 2111
Reference: ELR:1702350
Email: eripley@ripleykane.com.au

This is the exhibit marked **AM-3** now produced and shown to Audrey Member at the time of affirming her affidavit on 17 September 2017.

Before me:

AMANDA RIPLEY-MCCLAREN
Australian Legal Practitioner
Ripley Kane Solicitors
12 Nostromo Street
Perth WA 6000

Exhibit "AM-3"

Letter from Nikola to Edison dated 7 September 2017

Am-3

NIKOLA

7 September 2017

Ms K Benz
Edison Ltd
PO Box 1
ADELAIDE 5000 by email: kb@e.car

Dear Ms Benz,

We today received the report of deep diagnostics on the failed Model E and notice of the urgent total recall issued by Drivechain.

It now appears that all issues regarding the chiller are attributable to a fault in the air conditioning unit. In accordance with the terms of the contract as agreed by Ms Member and Ms Benz on 3 March 2016, the air conditioning supplier should bear the costs of all replacement chillers and batteries ordered to date (including those already supplied by Nikola), together with compensating Nikola for reductions in chiller and battery CSLs caused by the fault.

We further note that indications from CSLs are that the cycle lives of batteries in 5,928 Model Es – vehicles in relation to which no orders for replacement batteries have been placed, despite the fault caused by the air conditioning unit – have been significantly reduced by being over-chilled. Their CSLs have decreased to the low 80s. This had effects on future payments due to Nikola.

However, on checking our Drivechain statement of orders today, it appears that, in addition to the replacement chillers and batteries Nikola has already supplied in response to the air conditioning fault, Drivechain continues to require Nikola to supply 20,620 chillers and 588 replacement batteries at its cost.

While Nikola wants to keep the contract on foot and uphold the parties' agreement, the activities of the renegade 'smart contract' clearly conflict with that agreement. Given the very substantial cost involved and now being wrongly attributed to Nikola, all supply of batteries and chillers has been put on hold.

We will resume supply on confirmation that Drivechain is operating in accordance with the contract between the parties.

Yours sincerely,

A MEMBER

IN THE AUSTRALIAN ARBITRATION CENTRE No. **MKM7** of **2017**

B E T W E E N

NIKOLA PTY LTD Claimant

and

EDISON LTD Respondent

AFFIDAVIT OF KARLINA BENZ

Date of document	18 September 2017	
Filed on behalf of the **Claimant**		
Schaefer Elliot Lawyers	Telephone:	08 8200 8200
187 Angas Street	Reference:	AS:BC:221038944
Adelaide SA 5000	Email:	adschaefer@selaw.com

I, Karlina Benz of Level 92, 100 King William Street, Adelaide in the State of South Australia, Chief Procurement Officer, make oath and say as follows:

1. I am the Chief Procurement Officer of Edison Ltd, the respondent in this arbitration. I am authorised to make this affidavit on its behalf.

2. In the course of discharging my responsibility to manage Edison's contract with Nikola Pty Ltd for the supply of batteries and battery coolers for use in the Model E, I met with Ms Audrey Member on 3 March 2016. The purpose of the meeting was to set the parameters for the programming of Drivechain, which was intended to be the contract between the parties.

3. I have read the statement of Dr Charlie Babbage dated 13 September 2016. The way it describes the programming of Drivechain is consistent with my memory of what I spoke about with Ms Member at our meeting of 3 March 2016.

4. I specifically remember talking to Ms Member about how Drivechain would share risk across Edison and all component suppliers. I explained its profit and liability sharing arrangements and explained how they distributed the risks of the Model E's integrated systems failing in some way across all of us. I believe Ms Member indicated that she understood this concept.

5. Risk sharing, by making profits contingent on high CSLs, was important to us because there were additional costs to Edison that neither customers nor supplier contribute towards. Those costs include reputational costs, costs associated with recalls, press, and, most importantly, costs of repair and overheads associated with service centres.

6. I also recall talking to Ms Member about the importance of the reliable and predictable operation of our supply chain, particularly in the circumstances of ongoing rather than single upfront payments for Model Es and its components. I said words to the effect that as Edison operates on a 12-month cycle it is important that we receive notice of any changes to supply with enough warning to allow us to make arrangements to absorb any shortfall.

7. On or about 7 September 2017 I received a letter from Ms Member in which she is critical of the operation of Drivechain and advises that Nikola will place all battery and chiller orders on hold. In response, I sent an email dated 8 September 2017 in which I explained that Nikola's refusal was in neither of our best interests, and requested that it resume supply of its components in accordance with the contract. Now produced and shown to me and marked "**KB-1**" is a true copy of the email dated 8 September 2017.

SWORN by KARLINA BENZ at)
Adelaide in the State of South Australia)
this 18th day of September 2017)

Before me:

ALAN SCHAEFER
BARRISTER AND SOLICITOR OF THE
SUPREME COURT OF SOUTH AUSTRALIA
187 ANGAS STREET ADELAIDE SA 5000

IN THE AUSTRALIAN ARBITRATION CENTRE No. **MKM7** of **2017**

B E T W E E N

NIKOLA PTY LTD Claimant

and

EDISON LTD Respondent

EXHIBIT NOTE

KB-1

Date of document	18 September 2017	
Filed on behalf of the **Claimant**		
Schaefer Elliot Lawyers	Telephone:	08 8200 8200
187 Angas Street	Reference:	AS:BC:221038944
Adelaide SA 5000	Email:	adschaefer@selaw.com

This is the exhibit marked **KB-1** now produced and shown to Karlina Benz at the time of swearing her affidavit on 18 September 2017.

Before me:

ALAN SCHAEFER
BARRISTER AND SOLICITOR OF THE SUPREME COURT OF SOUTH AUSTRALIA
187 ANGAS STREET ADELAIDE SA 5000

Exhibit "KB-1"

Letter from Edison to Nikola dated 8 September 2017

KB-1

E D I S O N

L E T T E R

TO: ms a member
nikola pty ltd
by email: a.member@nikolabattery.com

DATE: 8 september 2017

RE: **model e batteries and chillers**

Dear Ms Member,

We refer to your letter dated 7 September 2017.

Drivechain is the contract between the parties. Drivechain accurately directed payments and attributed responsibility in the circumstances. As its operation is fully automated, I do not accept that it has failed to operate correctly.

As we discussed in our meeting of 3 March 2016, Drivechain is programmed so that Edison and its suppliers share risks associated with poor performance or malfunctions of the Model E and its components. Reliability, performance and component integration are incentivised through this profit sharing arrangement.

This is risk sharing in operation.

Your threat to cease supply will be self-destructive, as it would serve not only to risk Nikola's entitlement to payments from Drivechain but also jeopardise the 2,870 new sales contracts which, if component supply is not guaranteed before 16 September 2017, may be cancelled by purchasers.

Nikola is free to replace the 5,928 Model E batteries at its cost.

We seek your immediate confirmation that you will resume supply in accordance with your contractual obligations.

Yours sincerely,

Karlina Benz
Chief Procurement Officer

TB-27

CLARIFICATIONS

The parties provided the following clarifications by agreement.

1. **How were Edison's programmers informed of the outcome of the 3 March 2016 meeting?**

   Ms Benz showed them the agenda (exhibit AM-1 to Ms Member's affidavit). As the arrangements as to liability were identical to Edison's other supply contracts, the only matters the programmers needed to input were the supplier and component-specific details (fault modes, bank account details, etc.).

2. **Was Nikola given the opportunity to see and confirm Drivechain code?**

   Yes. It did not.

3. **Where is a Model E's refrigerant loop located and what components does it interact with?**

   The refrigerant loop runs between the air conditioning unit at the front of the car and the battery chiller at the rear of the car. It is a loop of piping containing refrigerant which is used in the process of direct expansion cooling in both of those components. The movement of refrigerant is influenced by the chiller pump and the air conditioning unit's operation. The movement of refrigerant through the air conditioning unit itself does not affect cabin temperature in the absence of movement of air, which the air conditioning unit controls separately. However, the movement of refrigerant through the battery chiller will automatically cool the batteries.

4. **Does Drivechain consider the chillers and batteries separate components or sub-components?**

   The chiller and battery are separate components.

5. **Can Drivechain be reprogrammed?**

   Yes.

6. **How did Nikola receive orders and directions from Drivechain?**

   It has terminals at its factory that automatically receive and process orders. Nikola can manually intervene in how those orders are processed at its end, but it cannot interact with Drivechain's programming or operation directly. Drivechain automatically directs payments from and to bank accounts.

7. **What are Ms Member's and Ms Benz's day to day roles, given the operation of Drivechain?**

Both parties have interests with other suppliers and customers, which Ms Benz and Ms Member work with. In circumstances of a 'smart contract' like Drivechain they do not participate in day-to-day contract administration.

8. **What is meant by Ms Member's reference to a '12-month cycle' at TB-14 paragraph 4.3?**

   Edison plans supply and sales up to 12 months ahead.

9. **Was the Model E involved in the 5 September 2017 incident operating out of normal operating parameters (i.e. contrary to Edison's instructions to drivers)?**

   No. As a semi-submersible, the Model E can be submerged in up to 6 metres of sea water for up to 3 hours at a time. The Model E will automatically prevent operation outside of normal operating parameters.

10. **Did the Model E involved in the 5 September 2017 incident have a new or old chiller installed?**

    It had an 'old' chiller.

11. **What happened to the family in that Model E?**

    They were OK in the end. The youngest child has commenced a course of psychological treatment to address his new-found deep fear of whales.

12. **What is the difference between 'deep diagnostics' and on-road diagnostics?**

    Deep diagnostics involve the use of more sophisticated sensors to assess flow of electricity and fluids in a manner that cannot be done while the Model E is moving.

13. **If Nikola had not refused supply post 6 September 2017, could it have met its supply obligations?**

    Yes.

14. **What law applies to the contract?**

    The law of Australia.

15. **Do the parties intend to make claims based in tort, estoppel or other areas of law?**

    The parties may raise arguments in estoppel, but otherwise argument will be limited to the law of contract in respect of the Issues for Determination.

CORRECTIONS

The below corrections have been made to the documents above. The documents above are authoritative.

TB-6 – paragraph 34, clarification "(i.e. replacement chillers had already been ordered)" added.
TB-6 – paragraph 36, date corrected from 9 September 2017 to 8 September 2017
TB-11 – paragraph 15, end of first sentence, word 'faulty' replaced with 'requiring replacement'
TB-17 – Copy agenda corrected to remove word 'pumped' at item 3, dot point 2