WORKERS' COMPENSATION APPEALS BOARD

STATE OF CALIFORNIA

TORU KOBAYASHI, DECEASED, ***Applicant***

vs.

DNI SEAFOOD WHOLESALER AND SOMPO INTERNATIONAL INSURANCE COMPANY; administered by BROADSPIRE, ***Defendants***

Adjudication Number: ADJ12770540
San Francisco District Office

OPINION AND ORDER DENYING PETITION FOR RECONSIDERATION

We have considered the allegations of the Petition for Reconsideration, the contents of the Report and Opinion on Decision of the workers' compensation administrative law judge (WCJ) with respect thereto. Based on our review of the record, and for the reasons stated in the WCJ's Report and Opinion, which are both adopted and incorporated herein, we will deny reconsideration.

For the foregoing reasons,

IT IS ORDERED that the Petition for Reconsideration is **DENIED**.

WORKERS' COMPENSATION APPEALS BOARD

/s/ KATHERINE A. ZALEWSKI, CHAIR

I CONCUR,

/s/ CRAIG SNELLINGS, COMMISSIONER

/s/ JOSÉ H. RAZO, COMMISSIONER

DATED AND FILED AT SAN FRANCISCO, CALIFORNIA

December 17, 2021

SERVICE MADE ON THE ABOVE DATE ON THE PERSONS LISTED BELOW AT THEIR ADDRESSES SHOWN ON THE CURRENT OFFICIAL ADDRESS RECORD.

BARBARA KOBAYASHI
LAW OFFICES OF PETER M. GIMBEL
STANDER REUBENS THOMAS KINSEY

PAG/*pc*

I certify that I affixed the official seal of the Workers' Compensation Appeals Board to this original decision on this date. *abs*

REPORT AND RECOMMENDATION ON PETITION FOR RECONSIDERATION

Farai Alves, Workers' Compensation Judge, hereby submits her Report and Recommendation on the Petition for Reconsideration filed herein.

Introduction

On October 18, 2021, defendants through their counsel filed a Petition for Reconsideration of my Findings and Order issued on September 21, 2021. Defendants asserted in their petition that the order or award was made without or in excess of the Appeals Board's jurisdiction, and that my findings of fact are not supported by substantial evidence. Defendants argued that I erred by finding industrial causation, as they contend that the facts do not establish that the medical condition or injury was work related.

The Petition for Reconsideration was timely filed and was verified as required under Labor Code section 5902. To date, I am not aware of an answer having been filed on behalf of applicant.

The Facts

The injury alleged herein occurred on September 16, 2019 while the now deceased applicant was on a business trip to New Jersey. In New Jersey, applicant drove a rented vehicle to collect two boxes of frozen fish samples packaged with dry ice and proceeded to his hotel. After checking in and parking his car, applicant retrieved his luggage from the rental car and went to his room, having left the two boxes of fish samples in the vehicle. Around 8:00 p.m., applicant returned to the parking garage. Approximately 90 minutes later, at 9:30 p.m., applicant was found unresponsive in the driver's seat of his car by hotel guests who called for help and performed CPR until emergency responders arrived. Applicant was transported by ambulance to Holy Name Medical Center in Teaneck, New Jersey.

It was subsequently alleged that applicant had suffered a catastrophic hypoxic event on September 16, 2019 due to exposure to carbon dioxide while he was inside his rental car with boxes containing fish samples and dry ice. Applicant passed away on April 30, 2021, though a death claim was not at issue in the trial herein.

At trial, it was generally acknowledged that the dry ice in the boxes was converting over time from its solid form to gas in a process called sublimation, but the parties differed on their calculations of the rate of sublimation and the resulting estimated levels of carbon dioxide inside applicant's vehicle. As such, there was a dispute regarding whether applicant was exposed to harmful levels of carbon dioxide.

Applicant relied on the opinions of Dr. Noriega, the Panel Qualified Medical Examiner (hereinafter "QME"), who opined that applicant's injury was industrially caused as a result of exposure to carbon dioxide, having ruled out carbon monoxide poisoning and finding no evidence of causal links to other possible factors. Defendants denied the claim, asserting that the records show only a possibility that carbon dioxide from dry ice contributed to applicant's cardiac arrest, and arguing that this does not meet the "medically probable" standard. Defendants further relied on the opinions of industrial hygienist, Brian Daly, who testified that his company had attempted to recreate applicant's activities during the relevant timeframe on September 16, 2019, and opined that applicant would not have been exposed to harmful levels of carbon dioxide.

In my Opinion on Decision, I noted some variables in the reenactment by Mr. Daly's company, notably including the absence of a potential source of moisture, as there was no frozen fish in the boxes used for the reenactment. (Opinion on Decision dated September 21, 2021, pages 27, 33.) Mr. Daly also testified that if applicant opened different doors for different lengths of time compared to their experiment, the levels of carbon dioxide inside the vehicle would have been different. (*Id.* at pages 26-27.) Although Mr. Daly's testimony was credible, he could not be certain how much carbon dioxide was in the applicant's vehicle at the time of the incident on September 16, 2019. (*Id.* at pages 26-28, 33.)

I concluded that both Mr. Daly and Dr. Noriega had determined that applicant had been exposed to some unknown level of carbon dioxide. (Opinion on Decision dated September 21, 2021, page 33.) The panel QME, Dr. Noriega, based on information provided to him, had methodically excluded other potential causes that had been under consideration, and concluded that based on reasonable medical probability there was industrial causation based on carbon dioxide exposure. (*Id*. at pages 32-33.) As such, I was persuaded that at a minimum, carbon dioxide was a contributing cause of applicant's injury, consistent with *Maher v. Workers' Comp. Appeals Bd.* (1983) 33 Cal. 3d 729, 733-734. (Opinion on Decision dated September 21, 2021, page 34.) I therefore found that, based on the opinions of Dr. Noriega, applicant met his burden of proving by substantial evidence that the injury on September 16, 2019 arose out of and in the course of employment.

Additionally, I found that even if, as defendants alleged, there was no clear causal connection between applicant's exposure to carbon dioxide and his injury and eventual death, under the "commercial traveler" rule, and drawing from the "mysterious death" and "neutral risk" cases, the circumstances of applicant's injury entitled him to the benefit of a presumption or inference that the injurious exposure arose out of the employment, since it is undisputed that his employment brought him to the place where the injury or death occurred. (Opinion on Decision dated September 21, 2021, page 34.)

Discussion

A "causal connection between the employment and the injury … need not be the sole cause; it is sufficient if it is a contributory cause." (*Maher v. Workers' Comp. Appeals Bd.* (1983) 33 Cal. 3d 729, 733-734.) "All reasonable doubts as to whether an injury is compensable are to be resolved in favor of the employee. This is consistent with the mandate that the workers' compensation laws 'shall be liberally construed by the courts with the purpose of extending their benefits for the protection of persons injured in the course of their employment.'" (*Guerra v. Workers' Comp. Appeals Bd.* (2016) 81 Cal. Comp. Cases 324, 330-331. See also *Clemmens v. WCAB* (1968) 33 Cal. Comp. Cases 186; *California Comp. & Fire Co. v. Workmen's Comp. App. Bd.*, 68 Cal.2d 157,161.)

"When an employee is found dead under circumstances indicating that death took place within the time and space limits of the employment, in the absence of any evidence of what caused the death, most courts will indulge a presumption or inference that the death arose out of the employment. The theoretical justification is similar to that for unexplained falls and other neutral harms: The occurrence of the death within the course of employment at least indicates that the employment brought deceased within range of the harm, and the cause of harm, being unknown, is neutral and not personal." (*Clemmens v. WCAB* (1968) 33 Cal. Comp. Cases 186, 188. See also *Jetro Cash & Carry Holdings v. Workers' Compensation Appeals Bd.* (2008) 73 Cal. Comp. Cases 698 (writ denied).)

In defendants' Petition for Reconsideration, included in the "facts" section is a statement that the boxes containing fish samples and dry ice were sealed with tape. (Defendants' Petition for Reconsideration dated October 18, 2021, page 3, line 1.) However, Mr. John Garced testified at trial that he had no personal knowledge regarding whether the boxes in this case were taped up and that he could not see any tape or residue of tape in pictures of the boxes shown to him at trial. (Opinion on Decision dated September 21, 2021, page 22.) Additionally, a witness statement by Willy Rivera shed little light on this issue because he provided varying accounts of whether or not he was involved in packing applicant's order. (*Id.* at page 19.)

Defendants assert that Dr. Noriega concluded that applicant's condition resulted from either carbon dioxide or carbon monoxide exposure, and ignored Takotsubo cardiomyopathy completely. (Defendants' Petition for Reconsideration dated October 18, 2021, page 5, lines 7-10.) In fact, Dr. Noriega concluded that there was no evidence of carbon monoxide exposure and that applicant's condition resulted from carbon dioxide exposure. (Opinion on Decision dated September 21, 2021, pages 11-12.) Further, Dr. Noriega did address Takotsubo myopathy during his depositions on January 6, 2021 and April 20, 2021, concluding that he had found no evidence that Takotsubo

syndrome and unprovoked cardiac arrest independently caused applicant's injury. (*Id.* at pages 9, 12-13.)

Dr. Noriega, having been deposed twice and having issued three comprehensive reports, concluded that there was a causal connection between carbon dioxide exposure and applicant's condition, but that none could be established to other possible causes. (Opinion on Decision dated September 21, 2021, page 11.) As such, I was and remain persuaded that Dr. Noriega's opinions constitute substantial medical evidence, and that, consistent with *Maher v. Workers' Comp. Appeals Bd.* (1983) 33 Cal. 3d 729, Dr. Noriega established that carbon dioxide exposure was at least a contributing factor in applicant's injury.

Defendants also disagree with my reliance on the "neutral risk" and "mysterious death" case law, arguing that applicant failed to produce substantial evidence of industrial causation and stating, "Applicant's injury and death in the instant case is just such a case in which the cause of the injury is unknown." (Defendants' Petition for Reconsideration dated October 18, 2021, page 7, lines 27-28.) However, that is precisely the point. As stated in *Clemmens v. WCAB*, "The theoretical justification is similar to that for unexplained falls and other neutral harms: The occurrence of the death within the course of employment at least indicates that the employment brought deceased within range of the harm, and the cause of harm, being unknown, is neutral and not personal." (*Clemmens v. WCAB* (1968) 33 Cal. Comp. Cases 186, 188.) Moreover, the instant case is distinguishable from the cases cited by defendants in their petition, as applicant here did present substantial evidence of industrial causation in the panel QME opinions of Dr. Noriega. As such, it remains my opinion that the instant case falls within the types of circumstances addressed by the neutral risk and mysterious death cases.

Finally, it is undisputed that applicant was a commercial traveler at the time of his injury. In *Wiseman v. Industrial Acc. Com*., the employee's death was not directly caused by events of his employment, but his presence in a hotel room in which he died during his commercial travel led to a finding of industrial death as he occupied the hotel room "as a necessary incident of his employment". (*Wiseman v. Industrial Acc. Com.* (1956) 46 Cal. 2d 570, 573.) Similarly, in the instant case, applicant, a commercial traveler, suffered a medical emergency while inside a rental car in a New Jersey hotel parking garage as an incident of his employment. (*Ibid.*) Applicant's injury under these circumstances similarly warrants a finding of industrial causation.

Recommendation

For the foregoing reasons, I recommend that defendants' October 18, 2021 Petition for Reconsideration be denied.

DATE: October 26, 2021
Farai Alves
WORKERS' COMPENSATION ADMINISTRATIVE LAW JUDGE

Opinion on Decision

The matter came on for hearing on June 15, 2021 before Farai Alves, Workers' Compensation Judge.

Documentary, photographic, audio, and video evidence was received, testimony was taken, and the case was submitted for decision on the issue of injury arising out of and in the course of employment. Applicant alleged that he sustained an industrial injury to the head, brain, circulatory system, and chest on September 16, 2019 resulting from alleged carbon dioxide exposure during a business trip to New Jersey. Although applicant passed away on April 30, 2021 during the pendency of his claim, no death claim had been filed at the time of trial.

Both sides submitted points and authorities prior to trial. Additionally, post-trial briefs were submitted regarding whether defendants' witness, Brian Daly, qualified as an expert witness regarding the alleged industrial carbon dioxide exposure and whether his testimony at trial was admissible. Thereafter, the matter stood submitted on June 28, 2021.

Stipulated Facts

1. Toru Kobayashi, born [ ], while employed on September 16, 2019 as a senior relationship manager at Novato, California, by DNI Group LLC, insured for workers' compensation by Sompo International Insurance Company, claims to have sustained injury arising out of employment to the head, brain, circulatory system, and chest.
2. At the time of injury, the employee's earnings were $1,877.07 per week, warranting indemnity rates of $1,251.38 for temporary disability and $290.00 for permanent disability.
3. The employer has furnished no medical treatment.
4. No attorneys' fees have been paid and no attorneys' fee arrangements have been made.
5. Defendants denied the claim on December 10, 2019.
6. At the time of the alleged injury, the applicant was seated in the driver's seat with his foot on the brake, the engine on, the windows rolled up, the air conditioner on the coolest setting but not turned on, and with the fan at zero.

The Issues

As set forth in the parties' respective trial briefs, there is no dispute that applicant was in New Jersey for work at the time of the alleged injury on September 16, 2019. In their briefs, the parties presented the following similar timeline of events on the date of the alleged injury.

On September 16, 2019 applicant traveled from San Francisco, California to Teaneck, New Jersey on business. Once in New Jersey, he drove a rented 2019 Hyundai Tucson to Lineage Logistics (also referred to as Preferred Freezer Services), where he collected two boxes of frozen fish samples that were packaged with dry ice. From there applicant drove to The Hampton Inn (also referred to as Homewood Suites by Hilton), where he checked in with hotel clerk/shift manager, Joseph Haines, then returned to his car and drove up the parking garage to park on the level with an evaluator for room access. He retrieved his luggage from the rental car and went to his room, having left the two boxes of fish samples in his rental vehicle.

Around 8:00 p.m., applicant re-entered the elevator to the parking garage. Approximately 90 minutes later, at 9:30 p.m., applicant was found unresponsive in the driver's seat of his car by hotel guests, Mike and Connie Russell. As stipulated by the parties, applicant was found in the driver's seat with his foot on the brake, the engine on, the windows rolled up, the air conditioner on the coolest setting but not turned on, and with the fan at zero. Applicant was removed from his car, and laid on the ground, where CPR was administered until police and ambulance services arrived. CPR was continued until he was transported by ambulance to Holy Name Medical Center.

It is alleged that applicant suffered a catastrophic hypoxic event due to exposure to carbon dioxide while he was inside his rental car with boxes containing fish samples and dry ice. It is acknowledged by all that the dry ice in the boxes was converting over time from its solid form to gas in a process called sublimation. However, the parties differ on their calculations of the rate of sublimation and resulting estimated levels of carbon dioxide inside applicant's vehicle. Further, the evidence shows that exposure to carbon dioxide at certain concentrations can result in harm and even death. (Defendants' Exhibit F, Table B-1, "Acute Health Effects of High Concentrations of Carbon Dioxide.") However, there is a dispute regarding whether applicant was exposed to harmful levels of carbon dioxide.

Applicant relies on the opinions of Dr. Noriega, the Panel Qualified Medical Examiner, who opined that applicant's injury was industrially caused as a result of exposure to carbon dioxide during his business trip to New Jersey. (Applicant's Exhibit 2, Panel QME report of Dr. Noriega dated December 11, 2020; Applicant's Exhibit 3, Panel QME report of Dr. Noriega dated March 31, 2021; Joint Exhibit RR, Deposition of Dr. Noriega dated January 6, 2021; and Joint Exhibit SS Deposition of Dr. Noriega dated April 20, 2021.)

Defendants denied the claim on the grounds that records from Holy Name Medical Center indicated diagnoses of cardiac arrest with anoxic brain injury of unknown etiology, and that the records show only a possibility that carbon dioxide from dry ice contributed to cardiac arrest, which they assert fails to meet the "medically probable" standard. (Applicant's Exhibit 9, Letter from Broadspire regarding Notice of Denial dated December 10, 2019.) Defendants also argued in their trial brief that there is no evidence applicant suffered carbon dioxide exposure at levels that would have caused harm or that applicant's injury resulted from carbon dioxide exposure.

Defendants retained an industrial hygienist, Brian Daly, who attempted to recreate the conditions in applicant's vehicle from the time applicant collected the boxes of fish samples until he was found unresponsive in the car. Defendants called Mr. Daly to testify at trial as a proposed

expert witness. At the time of trial, applicant objected to Mr. Daly's testimony, arguing that he was not an expert in carbon dioxide exposure and that his testimony had no probative value.

Under *voir dire* examination, Mr. Daly testified that he is an industrial hygienist with BA and MA degrees in industrial hygiene and environmental and occupational health, which he obtained in 1978 and 1983 respectively. He testified that he has been practicing since 1980 and became certified by the Board of Industrial Hygiene in 1986. (Amended Minutes of Hearing and Summary of Evidence for the trial on June 15, 2021 at page 9, line 46 to page 10, line 3.)

Mr. Daly testified that he spent his entire professional carrier evaluating exposures, including workplace CO2 exposures pursuant to Cal OSHA and other pertinent regulations, and has been involved in and personally performed thousands of surveys, evaluating exposures to worker breathing zones. He also stated that he has testified as an expert more than 70 times, though never as an expert in carbon dioxide exposure. He has no published materials and his last training in academia was in 1983, though he has trained other industrial hygienists on exposures including carbon dioxide exposures. He testified that he does not believe any certification regarding carbon dioxide is available from OSHA, the State of California, or any state that he is aware of. (Amended Minutes of Hearing and Summary of Evidence for the trial on June 15, 2021 at page 10, lines 5-14; and page 12, line 7 to page 13, line 4.)

I ruled that Mr. Daly was an expert in industrial hygiene and allowed his testimony. At the conclusion of Mr. Daly's testimony, applicant's counsel renewed his objection, and a ruling on same was deferred, pending post-trial submission of points and authorities by both sides.

Ruling on Evidentiary Dispute

Evidence Code Section 720 provides:

> (a) A person is qualified to testify as an expert if he has special knowledge, skill, experience, training, or education sufficient to qualify him as an expert on the subject to which his testimony relates. Against the objection of a party, such special knowledge, skill, experience, training, or education must be shown before the witness may testify as an expert.
> (b) A witness' special knowledge, skill, experience, training, or education may be shown by any otherwise admissible evidence, including his own testimony.

Pursuant to Evidence Code Section 720(a), "a person qualifies as an expert if he or she has special knowledge, skill, experience, training, or education, which may be shown by any otherwise admissible evidence, including the person's own testimony." (*Oak River Insurance Co. v. Workers' Comp. Appeals Bd.* (Torrez) (2013) 79 Cal. Comp. Cases 85, 88.) "For one to be competent to testify as an expert he must have acquired such special knowledge of the subject matter about which he is to testify, either by study or by practical experience, that he can give the trier of fact assistance and guidance in solving a problem for which his own good judgment and average knowledge is adequate." (*People v. Smith* (1967) 253 Cal. App. 2d 711, 718.)

"Where the witness discloses special knowledge of the subject on which he undertakes to give his opinion as an expert, the question of the degree of his knowledge goes to the weight of his testimony rather than to its admissibility." (*Id.*)

In the instant case, I am persuaded that Brian Daly qualified as an expert witness in industrial hygiene, encompassing carbon dioxide exposure. Per *People v. Smith*, based on Mr. Daly's testimony, I am convinced that he was competent to testify regarding the issue of carbon dioxide exposure, based on his years of practical experience, which included evaluating carbon dioxide exposure and providing training on carbon dioxide exposure. (*People v. Smith* (1967) 253 Cal. App. 2d 711, 718.)

With respect to applicant's objection to Brian Daly's testimony regarding the experiment his firm conducted and his conclusions, this goes to the weight of the evidence, rather than its admissibility per *People v. Smith* (1967) 253 Cal. App. 2d 711. Accordingly, applicant's objection to Brian Daly as an expert witness is overruled, and applicant's motion to strike his testimony is denied.

Medical Evidence

Dr. Tariqshah Syed at Holy Name Medical Center issued a report dated September 17, 2019, and reported that the applicant, then 54 years old, was brought into the emergency department after a cardiac arrest for which he had resuscitation as he was without a pulse when the ambulance arrived. Applicant's pulse was restored and he was intubated and transported. He was noted to have no prior cardiac history and a drug screen was negative. Most of the medical history was reportedly provided by the applicant's wife, Barbara Kobayashi. No relevant family or social history was noted. (Defendants' Exhibit B, Excerpt of Subpoenaed Records from Holy Name Medical Center dated September 17, 2019, Bates pages 127 - 130.)

An echocardiogram was conducted at Holy Name Medical Center on September 18, 2019. The interpretation summary indicated that the left ventricular ejection fraction was severely decreased, and there was severe global hypokinesis of the left ventricle. The right ventricular systolic function was mildly reduced. Per the report, the findings were consistent with Takotsubo cardiomyopathy. (Defendants' Exhibit B, Excerpt of Subpoenaed Records from Holy Name Medical Center dated September 18, 2019, Bates page 111.)

A follow up echocardiogram was conducted on October 2, 2019. The report indicates that the ejection fraction had significantly improved, compared to the previous study. The left ventricular ejection fraction was normal, as was the left ventricular wall motion. (Defendants' Exhibit B, Excerpt of Subpoenaed Records from Holy Name Medical Center dated October 2, 2019, Bates page 114.)

Dr. Robert Noriega issued a panel QME report in internal medicine dated April 18, 2020, which was based on review of records only as the applicant was on life-support and not available for evaluation. Dr. Noriega discussed his review of extensive records including medical reports from applicant's hospitalization, witness statements, video footage, photographs, etc. He also discussed his own research regarding carbon dioxide and carbon monoxide exposure, and medical

literature reviewed. (Applicant's Exhibit 1, Panel QME report of Dr. Noriega dated April 18, 2020, pages 1 and 7 - 40.)

Dr. Noriega reported that when carbon dioxide gas builds up in enclosed spaces, it displaces oxygen, and in sufficient concentrations, can result in convulsions, coma, loss of consciousness and death. He opined that applicant's cardiac arrest and/or his anoxic brain injury resulted from carbon dioxide (CO2) exposure, carbon monoxide (CO) exposure, or cardiac arrest (stress-induced or due to underlying causes). Dr. Noriega concluded that there was limited evidence that industrial factors contributed to the cardiac arrest and anoxic brain injury, but noted that there had been no investigation for the source of unsafe exposures. Absent additional information, Dr. Noriega felt that the evidence was circumstantial and multiple scenarios were possible, and reserved his opinion on causation. (Applicant's Exhibit 1, Panel QME report of Dr. Noriega dated April 18, 2020, pages 44-49.)

Dr. Noriega issued a supplemental Panel QME report dated December 11, 2020. He reported that he had listened to audio witness statements by hotel clerk, Joseph Haines, and by witnesses, Mike and Connie Russell, and reviewed an investigation summary report of same. He detailed his review of additional documents, including various articles and studies on health effects of carbon dioxide exposure, the passenger volume of a Hyundai Tucson, and sublimation rates of dry ice. The doctor reported that he reviewed applicant's attorney's hypothetical calculations regarding the sublimation rate of dry ice compared to the interior volume of applicant's car. (Applicant's Exhibit 2, Panel QME report of Dr. Noriega dated December 11, 2020, pages 1-6.)

Dr. Noriega concluded that applicant was exposed to carbon dioxide due to dry ice sublimating (converting from solid to gas), and also carbon monoxide, having spent time in a running car in an enclosed garage. He felt this was supported by the witness statements and also pointed to the lack of information suggesting any alternative plausible cause of injury. (Applicant's Exhibit 2, Panel QME report of Dr. Noriega dated December 11, 2020, pages 8-9.)

Dr. Noriega was deposed on January 6, 2021 and testified that he had found sufficient evidence for industrial causation. (Joint Exhibit RR, Deposition of Dr. Noriega dated January 6, 2021, page 6 at lines 13-17.) He also testified that his opinion was based on his experience and the information available to him at the time based on reasonable medical probability, and that if provided with new information, he would give it consideration. (Id. at page 79, lines 1-6; page 91, lines 21-23; page 97, lines 10-24; page 98, lines 4-6; and page 104, lines 4-7.)

Dr. Noriega testified that he examined the record very closely looking for information that would point to the cause or contributing factors to the cause of injury, including the diagnosis of Takotsubo cardiomyopathy. (Joint Exhibit RR, Deposition of Dr. Noriega dated January 6, 2021, at page 16, line 20 to page 17, line 9.) He testified that the initial echocardiogram showed an ejection fraction of less than 15%, while a repeat echocardiogram showed a normal ejection fraction of 55%-60%. (Id. at page 17, lines 10-23.) He testified that this could mean that other factors, such as psychiatric or emotional factors came into play, or it could indicate a hypoxic episode. (Id. at page 18, lines 6-15 and page 94, line 23 – page 95, line3.) He further testified that the Takotsubo cardiomyopathy had a hypoxic association, and that a hypoxic condition could have been caused by cardiac arrest. (Id. at page 80, lines 1-11 and page 93, lines 18-24.)

Dr. Noriega also testified there was oxygen deprivation, with carbon dioxide, carbon monoxide, and other considerations all being variables. (Joint Exhibit RR, Deposition of Dr. Noriega dated January 6, 2021, at page 81, lines 4-12.) He stated that he did not believe a scientific measurement of the carbon dioxide at the time at the scene could be obtained. (Id. at page 82, lines 11-13.) He stated that while he did not recall seeing a test result showing the concentration of carbon dioxide in the blood, applicant was being provided oxygen by the time he arrived at the hospital. (Id. at page 82, lines 15-25.)

Following the deposition, both sides wrote to Dr. Noriega requesting supplemental reports. Defendants wrote to Dr. Noriega on January 11, 2021, and provided records from the Teaneck New Jersey Police Department, including photographs of the parking garage where applicant was found in his car. Defendants stated their disagreement with calculations regarding the concentration of carbon dioxide inside applicant's vehicle, and asked Dr. Noriega to do his own calculations. Defendants presented their calculations regarding the carbon dioxide concentration in applicant's vehicle, and asked Dr. Noriega to address whether, in the absence of carbon dioxide, he could identify a cause of applicant's heart problem. (Defendants' Exhibit A, Correspondence from Stander, Reubens, Thomas, Kinsey to Dr. Robert Noriega dated January 11, 2021.)

Applicant wrote to Dr. Noriega on January 21, 2021, disagreeing with the suggestion that Dr. Noriega had relied on applicant's calculations as well as that he had stated a need for additional information. Applicant wrote that the carbon dioxide test by fire department was conducted after the boxes of fish and dry ice (and thus the alleged source of carbon dioxide) had been removed, and that all of the dry ice appeared to have sublimated in less than 24 hours. Applicant further disagreed with defendant's calculations and inquired about whether applicant was predisposed to Takotsubo cardiomyopathy as well as about other theoretical causes. (Applicant's Exhibit 10, Correspondence from The Law Offices of Peter M. Gimbel to Dr. Robert Noriega dated January 21, 2021.)

Dr. Noriega issued a supplemental report dated March 31, 2021 in response to the correspondence from both parties. He reported that further literature regarding sublimation rates of dry ice, health effects of high concentrations of carbon dioxide, and a field study of air change and flow rate in automobiles, along with a witness statement from John Garced, were submitted for his review. (Applicant's Exhibit 3, Panel QME report of Dr. Noriega dated March 31, 2021, pages 1-5.)

Based on the new information he had received, Dr. Noriega determined that there was no evidence to substantiate exposure to carbon monoxide while applicant was inside the vehicle. He thus focused on the evidence of carbon dioxide exposure, reviewing hypothetical calculations by both sides regarding the sublimation rate of dry ice in an enclosed vehicle. The doctor reported that he performed his own calculations and provided a low estimate and a high estimate, relying on a publication by the Federal Aviation Administration (FAA), as he found no authoritative sources on transportation of dry ice in passenger vehicles. Dr. Noriega calculated that on the low end, the estimated carbon dioxide concentration per hour would be approximately 0.9% for 6 pounds of dry ice, from which he extrapolated that a 2.7% carbon dioxide concentration would have accumulated after 3 hours. On the high end, he calculated carbon dioxide concentration per hour at 21% for 10 pounds of dry ice, which he stated would be an overwhelmingly injurious

exposure capable of causing unconsciousness. (Applicant's Exhibit 3, Panel QME report of Dr. Noriega dated March 31, 2021, pages 6-12.)

Dr. Noriega remained of the opinion that evidence of applicant being in an enclosed vehicle with two boxes containing dry ice, meant it would be difficult to conclude that applicant's exposure to carbon dioxide had no contribution to the cause of injury. He stated that all other causes were possible, but that based on the available information, a causal connection could not be made to the other possible causes. Dr. Noriega stated, "Even if a spontaneous cardiovascular event was a possible cause of the claimant's injury other than CO2 exposure, the existence of this reasonable CO2 exposure inference does not negate the reasonableness of this inference that is drawn from the evidence submitted to date." (Applicant's Exhibit 3, Panel QME report of Dr. Noriega dated March 31, 2021, page 14.)

Dr. Noriega was deposed a second time on April 20, 2021. He testified that his calculations regarding the concentration of carbon dioxide in applicant's vehicle were estimates as there is no factual data. (Joint Exhibit SS Deposition of Dr. Noriega dated April 20, 2021, page 6 at lines 12-19.) He testified that he performed 2 calculations using different air exchange estimates. (Id. at page 9, lines 1-17.) He also testified that if a door was opened, this would allow an exchange of gases in that confined space. (Id. at page 10, line 10 - page 11, line 5.)

Dr. Noriega testified that based on the information he now had, he no longer believed carbon monoxide played any part in applicant's injury. (Joint Exhibit SS Deposition of Dr. Noriega dated April 20, 2021, page 12, lines 17-19 and page 13, lines 5-13.) However, he confirmed his opinion that there had been exposure to carbon dioxide, which was capable of causing harm. (Id. at page 13, line 24 to page 14, line 11.) The doctor testified that a low concentration of carbon dioxide has little if any toxicological effect, while a concentration greater than 5% may cause an increase of carbon dioxide in the bloodstream and an increase in parasympathetic nerve activity. He further stated that concentrations above 10% may impact the neurological system, and concentrations above 30% may cause a more rapid symptom response. (Id. at page 15, lines 16 – page 15, line 2.)

Dr. Noriega testified that if the injury did not result from carbon dioxide exposure, other possibilities were carbon monoxide, for which there was no compelling information, a sudden cardiac event, and a sudden emotional response resulting in cardiac response. (Joint Exhibit SS Deposition of Dr. Noriega dated April 20, 2021, page 22, lines 3-25.) He also testified that Takotsubo cardiomyopathy is not an uncommon event following cardiac injuries to the left ventricle, and that he had never diagnosed anyone with Takotsubo syndrome, though he had dealt with the condition. (Id. at page 23, line 21 – page 24, line 14; page 25, lines 4-11.) He stated that he had found no evidence that Takotsubo syndrome and unprovoked cardiac arrest independently caused applicant's injury, and that he could not rule out carbon dioxide playing a part in applicant's condition. (Joint Exhibit SS Deposition of Dr. Noriega dated April 20, 2021, page 46, line 21 to page 47, line 18.)

The doctor testified that nothing further was needed in order to finalize his opinion, but in order to clarify the cause of injury, reproducibility testing may be undertaken using the same car

and conditions to determine if the data would support the suppositions concerning the cause of injury. (Id. at page 38, line 24 to page 39, line 19.)

Teaneck Police Department Records

The Teaneck New Jersey Police Department issued a Medical Emergency Incident Report dated September 16, 2021 prepared by Officer Wesley Drinker. The report stated that contact was made with witnesses Michael Russell, James Wachowiak, and Joseph Haines in the parking garage at Hampton Inn by Hilton. When the police arrived on the scene, the applicant was lying on the garage floor foaming at the mouth. An automated external defibrillator (AED) indicated that a shock should not be administered and CPR was performed until an ambulance arrived, and continued until applicant was transported to Holy Name Medical Center. (Defendants' Exhibit C, Teaneck New Jersey Police Department Records and Applicant's Exhibit 6, Subpoenaed Records of Teaneck Police Department, dated 9/16/2019 - 9/21/2019.)

According to the witnesses, applicant was found sitting in the front driver seat of a gray Hyundai Tucson, foaming at the mouth and with his eyes closed. One of the witnesses notified the hotel front desk, and police and paramedics were called. Applicant was removed from the car and CPR was performed until emergency responders arrived. (Defendants' Exhibit C, Teaneck New Jersey Police Department Records and Applicant's Exhibit 6, Subpoenaed Records of Teaneck Police Department, dated 9/16/2019 - 9/21/2019.)

The report by Officer Drinker also states that the car was inspected, and two boxes filled with sushi and dry ice were found in the trunk. The boxes were removed and left with the hotel staff. The shift manager at the hotel, Joseph Haines, gave a statement that applicant checked in that day at about 8:00 p.m., then returned to his car in order to park it in the parking garage. He next saw the applicant when he was contacted by a hotel guest who reported that the applicant needed medical attention. (Defendants' Exhibit C, Teaneck New Jersey Police Department Records and Applicant's Exhibit 6, Subpoenaed Records of Teaneck Police Department, dated 9/16/2019 - 9/21/2019.)

Detective Young Kim of the Bergen County Bureau of Criminal Investigations took photographs of the scene and the boxes of sushi and dry ice. Detective Young's crime scene investigation report dated September 21, 2019 indicates that on September 17, 2019, Detective Young took digital pictures of the scene, which were included in the parties' exhibits. The photographs consisted of 37 black and white thumbnail pictures of the parking garage, the exterior and interior of applicant's rental car, and pictures of the 2 boxes removed from applicant's car. Also attached are larger pictures showing applicant and his vehicle at Lineage Logistics, the exterior of the hotel, the elevators, the parking garage, several angles of applicant's rental vehicle, and the boxes removed from applicant's car. (Defendants' Exhibit C, Teaneck New Jersey Police Department Records and Applicant's Exhibit 6, Subpoenaed Records of Teaneck Police Department, dated 9/16/2019 - 9/21/2019.)

The records included a supplemental investigation report dated January 29, 2020 prepared by Detective Thomas Melvin. Detective Melvin contacted Holy Name Hospital on September 17, 2019, and was advised that applicant was in intensive care, unresponsive and in critical condition.

The report further documented statements obtained on September 17, 2019 from Matthew Konrad, the assistant general manager at the hotel. Mr. Konrad reported that there were cameras in the garage but none in the area where applicant's vehicle was parked. Statements were also obtained from witnesses, James Wachowiak, Christopher Hall, Michael Russell, and Connie Russell. (Defendants' Exhibit C, Teaneck New Jersey Police Department Records.)

The supplemental investigation report also indicates that on September 17, 2021 at approximately 4:00 p.m., a carbon monoxide test was conducted on the applicant's vehicle. The vehicle had not been moved. The report states that the garage is semi open, and the outer walls of the garage allow outside air into the garage. The vehicle appeared to have no mechanical problems. The report noted that the air circulating button was on, the fan knob was at zero, and the air conditioning knob was in the coolest position but not on. At approximately 4:50 p.m., after the vehicle had been running continuously for 30 minutes, a detector was placed inside the vehicle. Although the report stated a carbon monoxide test was to be conducted, it states that a "CO2" detector was placed in the car and detected no "CO2" inside the vehicle. (Defendants' Exhibit C, Teaneck New Jersey Police Department Records, pages 15 - 16.)

Detective Melvin also reported that the boxes removed from applicant's vehicle were located in a hallway of parking level 1, and were inspected on September 17, 2021. No dry ice was inside the boxes, but frozen fish was located beneath plastic bubble wrap. The salmon was discarded and the boxes photographed. The applicant's hotel room was also inspected. Additionally, video footage provided by Hampton Inn and Suites was showed applicant in the parking garage and at the elevators. (Defendants' Exhibit C, Teaneck New Jersey Police Department Records, pages 16, 18.)

The report also states that on September 18, 2019, the detectives met with the applicant's wife and the president of DNI Group, Devan Nielsen at the hospital. Mr. Nielsen stated that applicant was employed by DNI Group and was scheduled to meet with DNI customers in the New York City area for business. Applicant was to pick up samples at Preferred Freezer Services in Newark, New Jersey prior to meeting with customers. The detectives later tried to get access to the applicant's phone, but his wife reported she had attempted unsuccessfully to guess applicant's password, resulting in the phone being locked. (Defendants' Exhibit C, Teaneck New Jersey Police Department Records, pages 16, 19.)

The detectives met with John Garced at Preferred Freezer Service on September 18, 2019 and William Nelson Rivera on September 19, 2019. They received confirmation that applicant had picked up 2 sample boxes of salmon on September 16, 2019. Mr. Rivera stated that he placed salmon in each insulated box, covered the salmon with bubble wrap, and then added 2 scoops of dry ice to each box. The report stated that the footage showed applicant arriving in the parking lot at 5:21 p.m., applicant in the drivers' room at 5:32 p.m., then Mr. Rivera assisting applicant with loading 2 boxes into his vehicle at 6:33 p.m., and applicant driving out of the parking lot at 6:38 p.m. (Defendants' Exhibit C, Teaneck New Jersey Police Department Records, page 17.)

Mona Moslem, a paramedic with Holy Name Hospital was interviewed and reported that applicant's carbon dioxide levels were high when his pulse was restored. During cardiac arrest, applicant's carbon dioxide level was reported to be 44 meq/l (milliequivalent units per liter of

blood). When his pulse returned, his carbon dioxide level rose to 99 meq/l. (Defendants' Exhibit C, Teaneck New Jersey Police Department Records, page 20.)

Five video clips were also included in these records. The first video is 35 seconds long, and shows a dark colored SUV stopped at what appears to be the entrance of a parking garage. The date and time stamp displayed are 09/16/2019 at 19:15. The car is seen maneuvering to get closer to a scanner at the entrance, and the driver reaches out of the vehicle with his left arm, appearing to scan an access key. The car then drives though the entrance and out of view. (Applicant's Exhibit 7, Subpoenaed records from Teaneck Police Department consisting of videos of the hotel and parking garage.)

The next video is 15 seconds long and has a date stamp of 09/16/2019. At 19:15 hours, a dark SUV comes into view. The driver appears to be wearing a yellow shirt, but is not otherwise clearly visible as the vehicle enters the garage. (Applicant's Exhibit 7, Subpoenaed records from Teaneck Police Department consisting of videos of the hotel and parking garage.)

The next footage indicates it was filmed from inside "Hampton Elevator 2" and is 45 seconds long. The applicant, wearing a yellow shirt, blue shorts, and sandals, is seen entering the elevator at level P3, pulling what appears to be a dolly with a cooler box and a black bag on top of it, and with a smaller bag slung over his shoulder. The date and time stamp displayed as he enters the elevator are 09/16/2019 at 19:25. He is seen pushing a button on the elevator, and exiting at Floor 7 with his luggage headed to the left once the elevator doors open. (Applicant's Exhibit 7, Subpoenaed records from Teaneck Police Department consisting of videos of the hotel and parking garage.)

The next footage is 33 seconds long, and has a date and time stamp of 09/16/2019 at 19:58 as applicant enters "Hampton Elevator 1" at floor 7 wearing the same clothes as before and with only his shoulder bag. He is seen pushing a button and the elevator stops at P3. The video appears to jump as applicant walks out of the elevator. (Applicant's Exhibit 7, Subpoenaed records from Teaneck Police Department consisting of videos of the hotel and parking garage.)

The last footage submitted is 32 seconds long, and is also from "Hampton Elevator 1" and appears to be the same footage in which applicant is seen entering at Floor 7 with no luggage but his shoulder bag and exiting at P3. This footage still appears to skip as applicant exists the elevator. (Applicant's Exhibit 7, Subpoenaed records from Teaneck Police Department consisting of videos of the hotel and parking garage.)

The detectives concluded their investigation did not reveal the cause of applicant's medical episode. They were unable to obtain his medical records from Holy Name Medical Center, and proceeded to close their case. (Defendants' Exhibit C, Teaneck New Jersey Police Department Records, page 20.)

Other Investigative Reports and Witness Statements

Applicant submitted a summary of the recorded statement of Joseph Haines dated April 23, 2020. (Applicant's Exhibit 4, Summary of Recorded Statement of Joseph Haines dated April

23, 2020.) The actual audio recording of this interview was submitted as Applicant's Exhibit 5, and the written summary appears to be a faithful transcription of same.

A written report of the statements of John Garced and Willy Rivera was also submitted by applicant. The 10-page combined report of the statements of John Garced and Willy Rivera is undated, the author is not identified, and the pages are not numbered. (Applicant's Exhibit 8, Statements of John Garced and Willy Rivera prepared for the Law Offices of Daniel K. Lee, P.C.) Defendants submitted an investigation report by Apex Investigation of a witness statement by John Garced. (Defendants' Exhibit G, Investigation Report dated November 4, 2019.) John Garced appeared and testified at trial. As such, a description of his statement in investigative reports submitted by both sides, which was substantially similar to his testimony at trial, is not warranted.

Willy Rivera stated that he was unable to recall the date that applicant picked up his order, and seemed unclear on who prepared the order, initially stating that he packed or participated in packing the items into at least one of the boxes, then stating that other employees did so. He stated that the order specified that it was to be packed with dry ice, and that the items were placed inside an assembled box lined with Styrofoam, wrapped in bubble wrap, dry ice was added, and the flaps of the cardboard box were closed and taped. He assisted the applicant with bringing the box down, as the applicant appeared to struggle with it. He believed the applicant placed the first box in the vehicle and he (Mr. Rivera) placed the second box in the vehicle. (Applicant's Exhibit 8, Statement of Willy Rivera.)

Mr. Rivera stated that once the boxes were in the applicant's car, both men went back inside for the applicant to sign paperwork, and he did not see the applicant again after that. He heard afterwards that the applicant was in hospital, and he and Mr. Garced were interviewed by detectives about what occurred the day applicant picked up his order. (Applicant's Exhibit 8, Statement of Willy Rivera.)

Defendants' investigation report by Apex Investigation also included pictures of varying quality showing unassembled boxes, assembled boxes (with and without Styrofoam), and boxes of fish fillets. Additionally, there was a picture of the outside of Preferred Freezer Services and a picture of what appears to be a docking area with trucks visible. Next is a picture of the applicant standing in what appears to be a lobby area, in front a window with a sign that says, "Shipping." The next picture shows a parking lot and a man in standing by the open trunk of a dark vehicle. The final picture is of a dark colored SUV that appears to be driving away from the docking area. (Defendants' Exhibit G, Investigation Report dated November 4, 2019.)

Audio Statement of Joseph Haines

Applicant submitted a 9 minute and 13 second long audio recording of a telephone interview of Joseph Haines on April 22, 2020 by Mike Spencer of Spencer Legal Investigations, Inc. The interviewee stated his name was Joseph Haines and he gave consent for the interview to be recorded. He was a front desk manager at the Hilton and recalled the incident in September 2019, where the police were called. An elderly guest came to the front desk in a panic and reported that someone was in his car foaming at the mouth. He accompanied the guest to the parking garage and found a gentleman fading out, foaming at the mouth, and unresponsive sitting in the driver's

seat of the vehicle. The wife of the guest who had summoned him had opened the door of the car and was trying to get a response from the occupant. (Applicant's Exhibit 5, Audio recording of Joseph Haines' interview by Mike Spencer of Spencer Legal Investigations, Inc. dated April 22, 2020.)

Mr. Haines stated he did not believe the applicant's engine was running. The couple who discovered the applicant were the only other people present. He believes they had been there 5 to 10 minutes when they called him. He did not look inside the vehicle until the police came. He did not recall whether the heat or air conditioning was on in the vehicle. He did not remember smelling anything. (Applicant's Exhibit 5, Audio recording of Joseph Haines' interview by Mike Spencer of Spencer Legal Investigations, Inc. dated April 22, 2020.)

He recalled another man coming to the scene to try to assist. At that point, the man's breathing completely stopped, so they took him out of the car, placed him on the ground, and one of the men started performing CPR. It was about 5 to 7 more minutes before the police came. (Applicant's Exhibit 5, Audio recording of Joseph Haines' interview by Mike Spencer of Spencer Legal Investigations, Inc. dated April 22, 2020.)

He recalled the man who was found in his car. He had checked him in and they had made small talk. He seemed positive, talkative, and peppy. He had not yet parked his vehicle as guests need to check in first to get a key to gain access to the garage. After he checked in, he left to go and park his car. 30 minutes to an hour, maybe more, had gone by between when he checked the applicant in and he was called to the medical emergency. He remembered the man saying he was from California, but did not know if he was there on business. (Applicant's Exhibit 5, Audio recording of Joseph Haines' interview by Mike Spencer of Spencer Legal Investigations, Inc. dated April 22, 2020.)

Other than the police officers and detectives from the Teaneck Police Department, no one else had interviewed him about the events of that night. He was not sure what was done with the contents of the vehicle. He believes the police took them. Once the man was taken away on a stretcher, and that was the last he heard of him. (Applicant's Exhibit 5, Audio recording of Joseph Haines' interview by Mike Spencer of Spencer Legal Investigations, Inc. dated April 22, 2020.)

Testimony of John Garced

John Garced testified at trial that he was working for Lineage Logistics in September 2019. He did not come into contact with Mr. Kobayashi, but he did receive email contact regarding his order. For packaging, they use boxes layered with Styrofoam, which they would assemble and place the Styrofoam in slots inside the boxes. He stated he is familiar with the standard procedure. They typically place two scoops of dry ice on the bottom, then bubble wrap, then the product, followed by more bubble wrap, and two more scoops of dry ice. The product is protected by bubble wrap. Each scoop of dry ice weighs about 1 pound. A layer of Styrofoam goes on top of the dry ice, which is then covered with box flaps and sealed. The product stays frozen for 24 hours for every 5 pounds of dry ice. He estimated that the time would have been a little shorter for 4 pounds of dry ice. (Amended Minutes of Hearing and Summary of Evidence for the trial on June 15, 2021 at page 7, lines 9-29.)

Mr. Garced had no personal knowledge as to whether these particular boxes were taped up and stated he only knows what he can see on video. When shown Applicant's Exhibit 6, pictures from Teaneck PD records (pages 50 - 53), Mr. Garced testified he could see discoloration on the boxes but could not tell if the discoloration was due to a shadow, crease, or scuff marks. He was unable to tell if there was moisture. He could not see any tape or residue of tape. (Amended Minutes of Hearing and Summary of Evidence for the trial on June 15, 2021 at page 7, line 33 – page 8, line 11.)

Mr. Garced stated the packaging includes protection from the dry ice, and that the product coming into contact with the dry ice would not have caused it to melt because the product was frozen. He did not know what sublimation was, and stated he believes dry ice melts if it is left too long. He testified that small boxes get one scoop of dry ice, medium boxes get two scoops, and large boxes get three to four scoops. Applicant received large boxes. He believes there were four scoops of dry ice, and that each scoop is pretty accurately 1 pound. (Amended Minutes of Hearing and Summary of Evidence for the trial on June 15, 2021 at page 8, lines 16-28.)

He saw video footage of the applicant coming in wearing sandals. Applicant was not allowed to enter because he was wearing sandals, and he was directed to an outside area, where the employee brought the two boxes to him. He was unable to tell from the video whether the boxes were sealed. (Amended Minutes of Hearing and Summary of Evidence for the trial on June 15, 2021 at page 8, lines 32-39.)

Testimony of Brian Daly

Brian Daly testified that he was asked to determine exposure potentials for the applicant at varying times. He recreated the event. He rented an SUV and purchased boxes matching those he had seen in photos and pelletized dry ice. He did a worst-case reenactment, because the boxes were not sealed. He looked up the air temperature in Elizabeth, New Jersey, on that day, which was 72 to 74 degrees, compared to 76 to 78 degrees in Southern California when the reenactment was done. The outside temperature was the only factor they could not control. The warmer temperature would allow the dry ice to sublime more quickly. Frozen carbon dioxide sublimes from solid to gas; it does not go to a liquid under room temperature and pressure. (Amended Minutes of Hearing and Summary of Evidence for the trial on June 15, 2021 at page 13, line 39 to page 14, line 22.)

They placed 5 pounds of dry ice in one box and 4 pounds in the other. Nothing was placed in the boxes other than the dry ice. The inside of their box would have been warmer than Mr. Kobayashi's box was. In the test, the evaporation was faster because there was no frozen fish in the box. They used an SUV with the same volume as the 2019 Hyundai the applicant was driving. They recorded carbon dioxide levels using a monitor in the back and one wedged in the seat headrest and recorded data over time. (Amended Minutes of Hearing and Summary of Evidence for the trial on June 15, 2021 at page 14, lines 24-35.)

They tried to duplicate the data to match the activities of Mr. Kobayashi. They took note of the weight, cargo volume, and air changes per hour. They used an air exchange rate of 0.002-

0.004, whereas average is 0.8-0.9. (Amended Minutes of Hearing and Summary of Evidence for the trial on June 15, 2021 at page 14, lines 38-47.)

The distance and length of travel and how many times the door was opened are relevant factors. When a door is opened, even once and even momentarily, the carbon dioxide level plummets and goes back to atmosphere within minutes. In the reenactment, they drove the precise time that applicant drove, then parked in front of an office building, left the car, got back in the car minutes later, and drove it to a parking garage with open ventilation, similar to where applicant was parked. They opened and closed the doors as often as they could ascertain Mr. Kobayashi had, allowing for time to remove luggage as he did. They had the windows closed the entire time and no A/C on, to avoid diluting indoor concentration in the cabin of the vehicle. (Amended Minutes of Hearing and Summary of Evidence for the trial on June 15, 2021 at page 15, lines 1-23.)

With 9 pounds of dry ice over 33 minutes, the carbon dioxide in the cab climbed to 1.88%. With 8 pounds, the carbon dioxide level rose to 1.67%, and with 6 pounds it went to 1.25%. When the door was briefly opened to get out, the measurements using 9 pounds of dry ice went down to 1.68%; for 8 pounds it went to 1.49%; and with 6 pounds it went to 1.11%. When the car door was opened for 20 seconds, to allow time to remove luggage, with 9 pounds of dry ice, the measured carbon dioxide was 0.35%. With 8 pounds it was down to 0.31%, and using 6 pounds it was 0.23%. After 44 minutes (the length of time between when applicant parked his car and the time he returned to his car), which was 86 minutes from the time the journey started, with 9 pounds of dry ice, the carbon dioxide level was 2.5%. With 8 pounds it was 2.3%, and with 6 pounds it was 1.7%. An hour and a half later, with 9 pounds of dry ice, it was 5%; at 8 pounds it was 4.5%; and at 6 pounds it was 3.4%. (Amended Minutes of Hearing and Summary of Evidence for the trial on June 15, 2021 at page 15, lines 25-45.)

For his calculations, he relied on guidance from NIOSH, OSHA, CDC, the American Industrial Hygiene Association (AIHA), and the American Conference of Governmental Industrial Hygienists, which have determined carbon dioxide levels in the range of 4% to 10% to be harmful. He disagreed with calculations based on a sublimation rate that was too high because it relied on the FAA rate. Also, the number used to estimate the cab size was lower than the actual size, and the air flow was lower than the low end of a parked vehicle. All of this would increase the concentration. (Amended Minutes of Hearing and Summary of Evidence for the trial on June 15, 2021 at page 15, line 47 to page 16, line 27.)

In the applicant's case, after coming back from his room 44 minutes later, the carbon dioxide level would have been 2.3%. This would not have been a harmful level. An individual can sustain 2.0% for several hours and 3% for one hour, before symptoms, including headaches and chest tightness. Mr. Kobayashi was exposed to carbon dioxide for 33 minutes when he drove to the hotel. By the end of that journey, the level would have climbed to 1.8%. At 8:00 p.m. when he reentered the car, something happened close at that moment to incapacitate him such that he remained in the car for an hour and a half while the levels increased. (Amended Minutes of Hearing and Summary of Evidence for the trial on June 15, 2021 at page 16, line 40 to page 17, line 4.)

Under cross examination, Mr. Daly testified that he is familiar with the scientific process of repeating a reenactment to verify the results. He believes his data was believable. He has not

been published. He performed an industrial hygiene survey to evaluate exposures, not a study. He would not publish a single survey, because it is not a study. (Amended Minutes of Hearing and Summary of Evidence for the trial on June 15, 2021 at page 17, line 44 to page 18, line 5.)

The incident occurred in Teaneck, New Jersey, 20 miles from Elizabeth, New Jersey, whose weather he verified. His associates acquired similar boxes to the ones that the photographs showed, which were their best estimate of the essential size and dimensions of the boxes. They used Styrofoam inserts and lids. It was either 3/4 or 5/8 of an inch. He did not know the thickness of the Styrofoam in the boxes used by Mr. Kobayashi. He did not know where the pelletized dry ice was obtained. He personally did not buy it, weigh it, or place it in the boxes. It was weighed first and placed into the boxes at the time it was purchased. (Amended Minutes of Hearing and Summary of Evidence for the trial on June 15, 2021 at page 18, lines 7-28.)

The monitors were rented and were calibrated by the rental office, which he did not witness. There is written verification in the form of a calibration record. It is normal that equipment is calibrated before use, and he has no reason to believe this was not done in this case. He did not observe or participate in any part of the experiment. (Amended Minutes of Hearing and Summary of Evidence for the trial on June 15, 2021 at page 18, lines 34-41.)

The monitors did not exactly show the same readings due to air coming into the car. The measurements were very close. He does not recall what type of car was used in the experiment. It was a 2021 car with an estimated passenger volume of 135 pounds. They allowed 20 seconds for removal of luggage. They placed it in the tailgate. Opening the tailgate would allow the most possible air exchange to occur. He does not know where Mr. Kobayashi placed his luggage. If it was in the front passenger seat, it would have been a quicker opening and closing with less air exchange in that case. The level would not have dropped from 1.25% to 0.31% as in their test. He does not know the exact percentage of carbon dioxide in the car at the time of Mr. Kobayashi's incident. (Amended Minutes of Hearing and Summary of Evidence for the trial on June 15, 2021 at page 18, line 43 to page 19, line 23.)

He saw signs of distortion and moisture on the boxes shown in the photographs. If placed in water, dry ice vaporizes or sublimes, which is carbon dioxide gas being released. Coming into contact with moisture can accelerate the sublimation process. There was no frozen fish in their reenactment, which is undoubtedly where the liquid came from in these boxes. Their experiment did not account for liquid coming into contact with dry ice. He does not believe this is relevant, as he knows the fish was still frozen when police were on the scene, and, also, bubble wrap separated the fish from the dry ice. (Amended Minutes of Hearing and Summary of Evidence for the trial on June 15, 2021 at page 19, lines 28-40.)

He did not examine the fish, vehicle, or weather-stripping inside the vehicle specifically in Mr. Kobayashi's case. He did not measure the humidity levels in their experiment, nor know the humidity level in Mr. Kobayashi's case in New Jersey. He does not think this was relevant due to the Styrofoam coating. They did not test with fish inside the box. With frozen materials, the air temperature would drop, slowing sublimation. (Amended Minutes of Hearing and Summary of Evidence for the trial on June 15, 2021 at page 20, lines 4-13.)

He does not know the exact level of carbon dioxide when applicant was sitting in the car for 30, 60, or 90 minutes, but it would not have been 20%. Levels could have been marginally higher or lower, but would be essentially as per the data he has provided. (Amended Minutes of Hearing and Summary of Evidence for the trial on June 15, 2021 at page 20, lines 15-19.)

Based on his education, training, and research, he knows how to reconstruct a scene. He has done calculations his entire career, and knows his numbers are reasonably accurate. Their survey shows the carbon dioxide was higher than if the two boxes of dry ice had not been present. He cannot tell what the effect was on Mr. Kobayashi. He does not believe the carbon dioxide was at a 4% to 5% level for the entire 90 minutes; it was at the end of the time when he was found. (Amended Minutes of Hearing and Summary of Evidence for the trial on June 15, 2021 at page 20, lines 21-31.)

If there had been dry ice in the boxes the next day, the fish would have been frozen. Since the dry ice was gone, the fish would be expected to be thawed, and liquid would be expected to have accumulated in the boxes. Over the 1.5 hours the carbon dioxide level went up from 2.3% to 4.5%. (Amended Minutes of Hearing and Summary of Evidence for the trial on June 15, 2021 at page 21, lines 1-7.)

Literature on Dry Ice Sublimation and Carbon Dioxide Exposure

Defendants submitted a study titled The Sublimation Rate of Dry Ice Packaged in Commonly Used Quantities by the Air Cargo Industry. The article discusses the prevalence of dry ice in shipping cargo such as seafood, and states, “Dry ice is designated as a miscellaneous hazardous material because it sublimates into gaseous carbon dioxide (CO2) at aircraft environment temperatures, and high concentrations of CO2 in the aircraft can cause aircrew incapacitation.” It further states, “Dry ice sublimation may be dangerous in confined spaces where there is an absence of ventilation or low ventilation rates.” The authors state that CO2 poisoning causes signs and symptoms similar to oxygen deprivation, and sets forth levels of CO2 concentration and the physiological effects of each. At 0.3% CO2 concentration, there is normal respiration. At 0.5% concentration, there is slight increase in respiration. At 2%, 3%, and 5% respectively, respiration is increased 50%, 100%, and 300%. At 12-15%, the result is unconsciousness. (Defendants’ Exhibit D, Study by Douglas C. Caldwell, Russell J. Lewis, Robert M. Shaffstall, and Robert D. Johnson entitled "The Sublimation Rate of Dry Ice Packaged in Commonly Used Quantities by the Air Cargo Industry," dated August 2006.)

An excerpt from a book titled Technical Assessment of Dry Ice Limits on Aircraft was submitted into evidence. It described the results of tests to calculate sublimation rates under a variety of conditions. For packages consisting of insulated shipping cartons containing dry ice pellets shipped by FedEx next-day service, there was depletion of the dry ice over the course of 100 hours. It is also noted that depletion could not be tested during the 24 hours of shipping. (Defendants’ Exhibit E, "Experimental Measurements of Dry Ice Sublimation Rates," excerpt from Technical Assessment of Dry Ice Limits on Aircraft, Chapter 8, dated 2013.)

Defendants also submitted a table titled “Acute Health Effects of High Concentrations of Carbon Dioxide.” The table shows the effects of carbon dioxide exposure in varying

concentrations and for specified lengths of time. At 2% concentration, after several hours the effects would be headache and dyspnea upon mild exertion. At 3% concentration, the effects after 1 hour would be mild headache, sweating, and dyspnea at rest. At 4-5% concentration, the effects within a few minutes would be headache, dizziness, increased blood pressure, and uncomfortable dyspnea. At 6% concentration, between 1 minute and several hours, the effects would range from hearing and visual disturbances to headache, dyspnea, and tremors. At 7-10% concentration, from a few minutes to 1 hour, the effects would range from near unconsciousness and unconsciousness to headache, increased heartrate, shortness of breath, dizziness, sweating, and rapid breathing. At concentrations greater than 10% and up to 30%, within 1 minute to several minutes, the range of effects would be dizziness, drowsiness, severe muscle twitching, unconsciousness, convulsions, coma, and death. (Defendants' Exhibit F, Table B-1, "Acute Health Effects of High Concentrations of Carbon Dioxide." Source and date not provided.)

The Law

California Labor Code Section 3600(a) states under subsections (1), (2), and (3), in relevant part:

> Liability for the compensation provided by this division … shall, without regard to negligence, exist against an employer for any injury sustained by his or her employees arising out of and in the course of the employment and for the death of any employee if the injury proximately causes death, in those cases where the following conditions of compensation concur:
>
> (1) Where, at the time of the injury, both the employer and the employee are subject to the compensation provisions of this division.
> (2) Where, at the time of the injury, the employee is performing service growing out of and incidental to his or her employment and is acting within the course of his or her employment.
> (3) Where the injury is proximately caused by the employment, either with or without negligence.

"It has long been settled that for an injury to "arise out of the employment" it must "occur by reason of a condition or incident of the employment. That is, the employment and the injury must be linked in some causal fashion. However, if we look for a causal connection between the employment and the injury, such connection need not be the sole cause; it is sufficient if it is a contributory cause." (*Maher v. Workers' Comp. Appeals Bd.* (1983) 33 Cal. 3d 729, 733-734 (citations omitted).) "The applicant for workers' compensation benefits has the burden of establishing the reasonable probability of industrial causation. The applicable standard of proof is 'proof by a preponderance of the evidence.'" (*Latourette v. Workers' Comp. Appeals Bd.,* (1998) 17 Cal. 4th 644; *McAllister v. Workmen's Comp. App. Bd.* (1968) 69 Cal. 2d 408, 413; Lab. Code, § 3202.5.)

In *Wiseman*, the employee was a commercial traveler, whose death was found to have arisen out of employment after he died following a fire in his hotel room. The Supreme Court of California held that the employee occupied his hotel room "as a necessary incident of his

employment" even though at the time, he was in the company of a woman and the fire resulted from "careless smoking" by one or both of them. (*Wiseman v. Industrial Acc. Com*. (1956) 46 Cal. 2d 570, 573.)

Under the "neutral risk" doctrine, when an employee has died under unexplained circumstances at the workplace, there is a presumption that the death was work-related. (*Jetro Cash & Carry Holdings v. Workers' Compensation Appeals Bd*. (2008) 73 Cal. Comp. Cases 698, 700 (writ denied).) "When an employee is found dead under circumstances indicating that death took place within the time and space limits of the employment, in the absence of any evidence of what caused the death, most courts will indulge a presumption or inference that the death arose out of the employment. The theoretical justification is similar to that for unexplained falls and other neutral harms: The occurrence of the death within the course of employment at least indicates that the employment brought deceased within range of the harm, and the cause of harm, being unknown, is neutral and not personal." (*Clemmens v. WCAB* (1968) 33 Cal. Comp. Cases 186, 188.)

In *Clemmens*, an employee was found lying near an electrical console device he had been inspecting. There was conflicting evidence regarding whether his death was caused by diabetes or by electrocution. The Court of Appeal held that where no inference arose either way regarding the cause of death, all reasonable doubts are to be resolved in favor of the applicant in determining whether there was any causal connection between the employment and the death. (*Clemmens v. WCAB* (1968) 33 Cal. Comp. Cases 186.)

"All reasonable doubts as to whether an injury is compensable are to be resolved in favor of the employee. This is consistent with the mandate that the workers' compensation laws 'shall be liberally construed by the courts with the purpose of extending their benefits for the protection of persons injured in the course of their employment.'" (*Guerra v. Workers' Comp. Appeals Bd.* (2016) 81 Cal. Comp. Cases 324, 330-331. See also *Clemmens v. WCAB* (1968) 33 Cal. Comp. Cases 186; *California Comp. & Fire Co. v. Workmen's Comp. App. Bd.*, 68 Cal.2d 157,161.)

In *Jetro Cash & Carry Holdings*, an employee was found shot to death in his employer's locker room, and the police report indicated he had been murdered. The widow and dependent children were entitled to death benefits as the identity and motivation of the perpetrators was unclear, and the case fit under the neutral risk doctrine due to death under mysterious circumstances or resulting from a criminal act at the workplace. (*Jetro Cash & Carry Holdings v. Workers' Compensation Appeals Bd.* (2008) 73 Cal. Comp. Cases 698 (writ denied).)

Analysis

In the instant case, there is no dispute that the employee's injury occurred in the course of his employment. Not only was this stated in both sides' trial briefs, it was also confirmed by the president of the employee's company to the Teaneck New Jersey Police Department. (Defendants' Trial Brief dated June 13, 2021, page 2 at line 10; Applicant's Trial Brief dated June 15, 2021, page 1 at lines 19-23; Defendants' Exhibit C, Teaneck New Jersey Police Department Records, pages 16, 19.) Applicant was a commercial traveler, acting within the course of his employment

during the entire trip to New Jersey per *Latourette v. Workers' Comp. Appeals Bd.* (1998) 17 Cal. 4th 644. Thus, the applicant's injury arose in the course of his employment by DNI Group, LLC.

The question then is whether applicant's injury arose out of his employment. The panel QME, Dr. Noriega, was convinced it did. Having taken into account the circumstantial nature of the evidence and the fact that no causal connection could be established for other possible causes, Dr. Noriega concluded that based on reasonable medical probability there is industrial causation based on carbon dioxide exposure from the two boxes containing dry ice in the applicant's closed car. (Applicant's Exhibit 3, Panel QME report of Dr. Noriega dated March 31, 2021, pages 14-15; Joint Exhibit SS Deposition of Dr. Noriega dated April 20, 2021, page 35, lines 13-16; page 46, line 21 to page 47, line 18; Joint Exhibit RR, Deposition of Dr. Noriega dated January 6, 2021, page 97, lines 10-24.)

Defendants' expert witness, Brian Daly, testified credibly regarding the results of a reenactment, in which the levels of carbon dioxide present in the vehicle did not appear to reach ranges that would be harmful to most people according to scientific literature submitted herein. However, Mr. Daly also testified that there were some variables in his reenactment, which may have affected the outcome of the experiment. These included absence of frozen fish in the reenactment, which notwithstanding the bubble wrap barrier, may have affected the temperature and moisture that was present. Additionally, unknown weather and humidity in Teaneck, New Jersey, may have been factors, though Mr. Daly took into account temperatures in nearby Elizabeth, New Jersey. (Amended Minutes of Hearing and Summary of Evidence for the trial on June 15, 2021, pages 18-21.)

Notwithstanding the calculations prepared by the parties and the experts herein, it is clear that the actual level of carbon dioxide in applicant's vehicle at the time of alleged injury is unknown, as acknowledged by both Dr. Noriega and Mr. Daly. (Joint Exhibit SS Deposition of Dr. Noriega dated April 20, 2021, page 6 at lines 12-19; Amended Minutes of Hearing and Summary of Evidence for the trial on June 15, 2021 at page 20, lines 15-19.) What is clear from the evidence is that applicant was exposed to some level, albeit unknown, of carbon dioxide while inside his rental vehicle during the course of his work trip to New Jersey. (Amended Minutes of Hearing and Summary of Evidence for the trial on June 15, 2021 at page 16, line 40 to page 17, line 4; Joint Exhibit SS Deposition of Dr. Noriega dated April 20, 2021, pages 13-14.) Additionally, based on the statement provided by paramedic Mona Moslem to the Teaneck Police Department, applicant's carbon dioxide levels were high when his pulse was restored at the scene of the injury. (Defendants' Exhibit C, Teaneck New Jersey Police Department Records, page 20.)

Based on the presence of carbon dioxide in applicant's vehicle, and the absence of substantial evidence of a causal link to other factors, I am persuaded that carbon dioxide exposure was, at a minimum, a contributing cause of applicant's injury. As stated in *Maher v. Workers' Comp. Appeals Bd.* (1983) 33 Cal. 3d 729, 733-734, when looking for a causal connection between the employment and the injury, the connection need only be a contributory cause, and does not have to be the sole cause.

Moreover, even if the evidence here was insufficient to establish a causal connection between applicant's employment and his injury and eventual death, under the "commercial

traveler" rule, and drawing from the "mysterious death" and "neutral risk" cases, where the injury occurs in the course of employment, it arises out of the employment unless the connection is so remote from the employment that it is not an incident of it, and the applicant is entitled to the benefit of a presumption or inference that the injurious exposure arose out of the employment, since it is undisputed that his employment brought him to the place where the injury or death occurred. (*Wiseman v. Industrial Acc. Com*. (1956) 46 Cal. 2d 570, 573; *Clemmens v. WCAB* (1968) 33 Cal. Comp. Cases 186; *Jetro Cash & Carry Holdings v. Workers' Compensation Appeals Bd.* (2008) 73 Cal. Comp. Cases 698 (writ denied).)

Thus, after having carefully considered all the evidence and the applicable law, including the thorough and well-reasoned opinions of Dr. Noriega that there is evidence of a causal connection between the exposure to carbon dioxide and the industrial injury, and considering the absence of evidence of preexisting or otherwise nonindustrial factors causing or contributing to Mr. Kobayashi's injury, I conclude that applicant has met his burden by substantial evidence of proving that the injury on September 16, 2019 arose out of and in the course of employment, resulting in cardiac arrest, brain injury, and injury to the circulatory system and chest. Moreover, even absent that causal connection, because applicant's employment brought him to the place where the injury occurred, applicant is entitled to a presumption that the injury arose from his employment.

All other issues are reserved.

DATE: September 21, 2021
Farai Alves
WORKERS' COMPENSATION ADMINISTRATIVE LAW JUDGE