REPUBLIC OF TRINIDAD AND TOBAGO

IN THE HIGH COURT OF JUSTICE

Claim No**. CV2015-00344**

BETWEEN

HAROUN BAKSH

Claimant

AND

THE NATIONAL GAS COMPANY OF TRINIDAD AND TOBAGO LTD

Defendant

Before the Honourable Mr. Justice V. Kokaram

Date of Delivery: Friday 4th May, 2018

Appearances:

Mr. Michael Quamina instructed by Ms. Gitanjali Gopeesingh for the Claimant

Mr. Rishi P. A. Dass instructed by Mr. Nicholas Campbell and Mr. Adrian Byrne for the Defendant

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JUDGMENT

Introduction

1. The Claimant, Mr. Haroun Baksh, is suffering from a lung disease known as pulmonary fibrosis or Usual Interstitial Pneumonia (UIP)[1]. It is a severe form of respiratory illness. It has affected his life tremendously. He has given the majority of his years in commendable and loyal service, thirty three (33) years to be exact, to his employer, the Defendant, the National Gas Company of Trinidad and Tobago Ltd (NGC). His employment came to an end

[1] Among other ailments dealt with later in the judgment

prematurely because of this illness. In this claim for damages for negligence, he blames his employer NGC for contracting this illness.

2. There is no dispute that Mr. Baksh became ill suddenly when he was relocated to NGC's offices at Atlantic Plaza, Atlantic Avenue, Couva. He says that the onset of this disease was caused by the poor indoor air quality in the air-conditioned buildings maintained by NGC to which he was exposed in brief periods between December 2010 to 2014. NGC has denied that the indoor air quality caused this disease and points to his pre-existing conditions of polymyositis and gastro-oesophageal reflux disease (GERD) which may have caused his pulmonary fibrosis.

3. Air conditioned offices are commonplace in the modern work environment. At the Atlantic and Julin buildings of NGC located at Couva there was a centralized air conditioning system servicing several floors and office spaces. The very nature of automated circulation or recycling of air within confined or large spaces in an office carries certain risks to human health that can be caused by compromised air quality. There are in these systems for example various gases and chemicals known as Volatile Organic Compounds (VOCs) which can be unhealthy if uncontrolled. In this case, complaint is made of various agents in the air known as allergens and if not properly monitored and controlled, allergens such as aspergillus, penicillum and rhodotorula can cause respiratory illnesses. The quality of that indoor air must therefore be of paramount concern for both employee and employer. Good indoor air quality can lead to improved productivity at the workplace. On the other hand, poor indoor air quality will cause productivity to drop because of comfort problems, ill health leading to sickness and absenteeism. The importance of maintaining a healthy environment at the work place extends to proper indoor air quality where such air conditioning systems have been installed by the employer. In this case, the respiratory illness of Mr. Baksh was of such a severity that it deprived the employer of a valuable employee.

4. The main question to be determined at this trial is causation. Were there harmful allergens at the premises maintained by NGC and did it cause Mr. Baksh's illness? Accepting that there was a duty to provide proper indoor air quality free of allergens that may be harmful to the employee's health, has Mr. Baksh proven that the poor indoor air quality at Atlantic Plaza and

Julin Building caused his ill health or is his illness, as NGC contends, attributable to some other cause for which NGC is not responsible?

5. A long line of authority has examined this question of causation, its philosophical underpinnings and its relationship to corrective justice. Lord Reid simplifies the concept of causation in more practical terms: "The legal concept of causation is not based on logic or philosophy. It is based on the practical way in which the ordinary man's mind works in the everyday affairs of life."[2] Fundamentally, for a Defendant to be held responsible for a breach or a wrong there must be a causal connection between its actions and the harm suffered by the Claimant. Concepts such as "foreseeability", "but for" or "material contribution" tests, "double the risks", are just some ways in which the Court seek to modulate the question of causation against the facts presented to ensure ultimately that justice is done to both employer and employee. What is a Defendant employer to be held responsible for is often a value judgment affecting the Court's approach to the burden of proof and the treatment of the evidence. In some cases Courts have been willing to make the evidential leap to impose responsibility in hard cases. In other cases, Courts will simply wring their hands in the face of hard cases with the mechanistic application of the rules of causation. Indeed, Lady Hale expressed her pity to practitioners as well as academics "who have to make sense of our judgments in difficult cases"[3].

6. Honoré observed that to achieve corrective justice, which is one underpinning of tort, requires maintaining the right balance between the harm doer and the harm sufferer[4]. King CJ in **Birkholz v RJ Gilbertson Pty Ltd** (1985) 38 SASR 121 underscored the need to produce a just result to the parties involved in the application of the law of causation. I will also add that therapeutically, a Court must also ask the question, what lessons can be learnt from the incident to reform the Defendant's behaviour if it is proven to be wrong. In this case, the real issue of the creation and maintenance of a safe system and safe place of work for its employees goes beyond Mr. Baksh. Such a therapeutic question goes beyond the payment of damages as tort's limited measure of corrective justice and it would be remiss of this Court if it did not assist the

[2] **McGhee v National Coal Board** [1073] 1 WLR 1 at 5
[3] **Sienkiewicz v Grief (UK) Ltd** [2011] 2 WLR 523 paragraph 167
[4] Causal Uncertainty by Ernest J Weinrib Oxford J Legal Studies (2016) 36 (1): 135

parties towards the creation of a healthier work environment. I do this later in my postscript to this judgment.

7. The Defendant advocated that this was a multiple cause causality case. There were proposed two main causes of Mr. Baksh's illness; his exposure to allergens in the air-conditioned environment at the Atlantic Plaza and Julin building and his pre- disposition to the disease. There were at the trial two views by experts on the issue of causation. Dr. Victor Coombs, NGC's consultant with experience in occupational health confirms that pulmonary fibrosis was caused by fungi which existed in NGC's offices. Professor Terrence Seemungal conversely, an internal medicine specialist, proffered a more cautious view that there were other causes unrelated to Mr. Baksh's office environment which were inherent problems suffered by Mr. Baksh since the 1980's namely, polymyositis and later GERD. Professor Seemungal does admit that there is a link between fungal exposure and Mr. Baksh's illness but was not as enthusiastic as Dr. Coombs in identifying the allergens as the cause for the disease because of the limited evidence available to him. Diagnosing a clinical cause for a disease is important to determine the appropriate medical treatment. Where there may be uncertainty, clinically, about causes however does not remove the task from the Court to make its own assessment on causation.

8. Both gentlemen agree that there are underlying features of Mr. Baksh that make him pre-disposed to developing the disease, however, they differ on the sufficiency of the evidence of the existence of allergens sufficient to trigger the symptoms and disease suffered by Mr. Baksh. Professor Seemungal's difficulty was medical causation and a larger biopsy would have been able to assist him in arriving at a more definite scientific conclusion on the cause of Mr. Baksh's disease. To be fair to both experts, they have proffered to the Court their best opinion based on the available evidence. Dr. Coombs was closer to the event as it unfolded and treated several other employees for similar ailments. Professor Seemungal looking at the histological patterns some three (3) years after the fact does provide his compelling reasons for competing causes. Fundamentally and importantly, he does not rule out the contributing factor of poor indoor air quality as having a link to the disease.

9. Causation is a matter for this Court to determine on the assessment of the totality of the evidence assisted by these experts with the available science in determining whether there was

a breach of the duty to provide proper indoor air quality and whether that caused the disease suffered by Mr. Baksh. If there are multiple causes, where poor indoor air quality is but one, the question will be whether the poor indoor air quality materially contributed to the risk of incurring the disease.

10. In my view, Mr. Baksh presented as a healthy individual prior to his relocation to the Atlantic Plaza building. He had previously suffered from polymyositis in the 1980's but that had resolved. Atlantic Plaza had been subjected to an air quality assessment which showed that there were deficiencies in the indoor air quality and recommendations were made which, in the large part, were not implemented by NGC at the time Mr. Baksh had begun working there. The report had warned that persons who were immuno-compressed or who have received prolonged exposure to high yeast levels may be at risk.

11. Mr. Baksh together with other employees complained of several ailments after the relocation. About two weeks in his new environment he experienced coughing, cloudy vision on evenings, burning eyes, wheezing and sneezing which he never complained of before the relocation. Such a reaction based on limited exposure is supported by the scientific literature and not discounted by Professor Seemungal.

12. Dr. Coombs diagnosed him with hypersensitivity pneumonitis on 29th March, 2011. This naturally progressed to pulmonary fibrosis. From that time he was intermittently at work and on sick leave. There is no suggestion that his time away from work was anything but genuinely associated with his illness and with the work environment. There is no dispute that he was more comfortable outside of the office environment.

13. The Defendant has submitted that the Claimant has failed to properly particularize the cause of his illness in his pleadings and that a vague reference to poor indoor air quality is insufficient. As a matter of evidence, the Defendant contends, that the Claimant faces the evidential difficulty that there is no evidence of poor indoor air quality where his office was located or the existence of allergens at the time when he was present at the buildings. It also contends that there are multiple causes for the injury and the Claimant has not demonstrated that any poor indoor air quality has caused the disease. On the expert's evidence it argues forcefully that Professor Seemungal's evidence is to be preferred for his logical conclusion as compared to the partiality of Dr. Coombs to Mr. Baksh's cause.

14. For the reasons which I will deal with in this judgment, these arguments cannot be sustained. I am satisfied that but for the poor air quality in the offices at Atlantic Plaza, Mr. Baksh would not have developed this condition. It is possible that his condition of polymyositis and GERD compounded his situation. Both experts agree on this. However, it is difficult in the circumstances to dismiss, out of hand, the causative link between his illness and the allergens that existed in the office environment. There was a risk of injury of which NGC knew before Mr. Baksh was relocated to that office and NGC took no steps to prevent it. Its own occupational expert Dr. Coombs had advised them of the occupational hazard and the nexus with the ailments of Mr. Baksh. It commissioned an assessment of air quality in 2009 and did nothing to address the recommendations of the air quality experts which would have reduced the presence of allergens which are known exacerbators of respiratory illnesses such as hypersensitivity pneumonitis.

15. At the trial, rather than lead any evidence from Environment, Health, Safety and Security Department, it produced one witness in charge of "janitorial services" who had very little knowledge and could not give any assistance with regard to, the indoor air quality of the buildings. Far from Professor Seemungal discarding the views of Dr. Coombs, he was simply more cautious in his approach in connecting the dots of the histological findings and examined other possible causes without ruling out the causative link between exposures to allergens in the buildings to the ailments suffered by Mr. Baksh.

16. NGC breached its duty in maintaining proper indoor air quality at its Atlantic building and but for that breach Mr. Baksh would not have developed hypersensitivy pneumonits which progressed to UIP. In any event NGC created a known risk of developing a respiratory illness by introducing Mr. Baksh into that environment with harmful allergens. Having identified other possible causes of the ailments does not discount the fact that the existence of allergens have materially contributed to his disease. NGC would be liable to Mr. Baksh to pay damages in negligence which is set out later in this judgment.

17. In this judgment I will deal with the following issues:

    (a) Whether there was a duty on NGC to maintain a safe place of work:

        - Whether there is a duty to maintain air conditioned offices with acceptable indoor air quality free of allergens which can cause injury to employees;

(b) Whether NGC breached that duty in having poor indoor air quality at the Atlantic Plaza and Julin buildings at the time when Mr. Baksh was present;

- Did it take reasonable steps to avoid such exposure such that it amounted to a breach of duty;
- Did it take steps upon discovering the risk to health to correct or address it;

(c) Whether that breach was the cause of Mr. Baksh's illness;

- Whether the cause of the Claimant's illness was as a result of a pre-existing condition or the negligence of the Defendant in providing an unsafe workplace;
- Was there exposure at the relevant time to the offending substances;
- Was such exposure caused by the fault of NGC;

(d) If the Claimant's illness was as a result of an unsafe workplace and as a consequence the Defendant is negligent, what damages are payable to the Claimant?

18. On this issue of liability, a main feature of this case is the expert evidence and the scientific knowledge as to the possible causes of Mr. Baksh's disease. I will first, however, by way of background, set the stage by examining the traditional limbs of duty and breach before examining the difficult question of causation where a Defendant suggests multiple non-negligent causes of the disease. Resolution of this issue of causation lies in examining the applicable principles of causation in law, the expert evidence in its context and examining the evidence globally: the chronological events leading to the illness, the state of the buildings and its air conditioned (AC) Units, the indoor air quality reports and the evidence of the Defendant to demonstrate whether Mr. Baksh has satisfied the "but for" test or the "materially contributed" test of causation.

19. The starting point in analysing Mr. Baksh's claim is his pleadings and the manner in which the case has been framed by both parties on duty and breach.

The parameters of the dispute

20. The pleadings sets out the parameters of the dispute on the obligation to create a safe place of work and the discharge of that obligation by NGC. In his amended Statement of Case, Mr. Baksh contended that it was an implied term of his contract of employment and/or it was the

duty of NGC to provide a safe system of work. This can be summarised from the pleadings as including:

- Taking reasonable pre-cautions for the safety of the Claimant while he was performing his duties and taking reasonable measures to ensure that the place where he worked was safe;
- Not to expose the Claimant to a risk of damage or injury of which the Defendant knew or ought to have known;
- To ensure that the indoor air quality at the workplace was of a sufficient quality for human consumption;
- To ensure that there were no allergens in the indoor atmosphere at the workplace.

21. He relies on the following particulars of negligence on the part of NGC:

- Exposing the Claimant to a risk of damage and/or injury of which they knew or ought to have known;
- Failing to take appropriate measures in reducing and/or minimizing the effect that poor indoor air quality would have on the Claimant;
- Failing to set up and implement a safe system or provide a safe place of work for the Claimant;
- Exposed the Claimant to an unnecessary risk of injury;
- Failing to make a suitable and sufficient assessment of the risks created in using the offices at Atlantic Plaza and Julin Building;
- Failing to prevent the exposure of the Claimant to allergens; and
- Failing in all the circumstances to take reasonable care for the health, safety and well-being of the Claimant.

22. NGC in its defence contended that it took all reasonable steps to monitor and maintain a safe system of work and workplace for all its employees including Mr. Baksh. Specifically, it contended that it took all reasonable precautions to maintain the appropriate standard of indoor

air quality as a prudent employer. The extent of their obligations they alleged was merely to ensure that the standard of indoor air quality was within acceptable ranges to ensure a safe system of work.

23. The relevant precautions NGC contends were appropriate and foreseeable were:

    a) "NGC established and operated an Environmental Health and Safety Department (EHS) in an effort to, inter alia, ensure a safe system of work for its employees and to proactively monitor its systems of work and to respond quickly to complaints if any;

    b) Further to recommendations from the EHS, from in or around 2009 to 2014 the Caribbean Industrial Research Institute (CARIRI) conducted indoor air quality assessments at various premises including NGC's head office, Atlantic Plaza Offices, the Warehouse complex and the Julin Building;

    c) CARIRI at all times advised upon the parameters of the indoor air quality testing having regard to the nature of the premises and the work performed therein;

    d) CARIRI at no time suggested that any premises to which the Claimant was deployed was unsafe for employees and/or recommended that employees should be removed therefrom; Notwithstanding same, CARIRI from time to time made recommendations for improving air quality standards at NGC's various offices and for avoiding any future deterioration of same.

    e) NGC at all times took all reasonable steps to follow the recommendation of CARIRI with respect to improving, inter alia, indoor air quality standards generally and specifically at whatever locations to which the Claimant was deployed."

24. NGC further denied that it was negligent as an employer in that:

    a) "Any damage or injuries suffered by the Claimant (which are not admitted) were either not caused by any act or omission of the Defendant and/or were not caused by any acts of omissions of the Defendant which could foreseeably have caused damage or injury;

    b) The Defendant at all times took reasonable precautions to ensure a safe system of work;

c) The Defendant took reasonable measures to monitor work conditions and to adopt such measures as were appropriate in response to such monitoring."

25. It is clear from the parameters of the pleaded case that Mr. Baksh was contending that the poor air indoor quality in NGC buildings and in particular, the presence of allergens was the harm and danger which caused his illness or created the risk of damage and which created an unsafe working environment. His amended Statement of Case referred to Dr. Coombs' narratives which clearly identifies to NGC that the main issue taken by Mr. Baksh is with the pollutants or allergens in the air conditioned offices. Notably, NGC did not attempt in its pleadings to make any distinction between the office occupied by Mr. Baksh and the rest of the building nor did it take any issue with Mr. Baksh's pre-existing condition of polymyositis which was clearly stated in his medical report by Dr Coombs.

26. Mr. Baksh's claim, in essence, was that the allergens in the indoor air and poor air quality has caused his injury. The defence articulated by NGC was three fold: first that any illness suffered by Mr. Baksh was not foreseeable and not caused or exacerbated by the acts or omissions of NGC. Second, that it took all reasonable precautions to create a safe system of work by establishing an EHS and by retaining CARIRI. Third, that it implemented CARIRI's recommendation which had in any event not deemed any office as unsafe.

27. Understanding the nub of the case as fairly arising from the pleadings in this manner is important as the Defendant makes the curious submission that Mr. Baksh's pleadings are defective in failing to specify the nature of the danger and at the same time itself relies upon a defence that Mr. Baksh was pre-disposed to the illness which was not specifically pleaded by the Defendant. In the first instance, in my view, the pleadings of Mr. Baksh are not defective or vague as the amended Statement of Case makes his case on the indoor air quality issue quite clearly and in any event both experts that were retained examined a number of causes and treated with the matter openly, unfettered by specificity but comfortably dealing with the problem of allergens in the indoor air quality and its nexus to the disease. Second, while strictly speaking it is not open to NGC on the pleadings to now assert that Mr. Baksh's illness was caused by his previous disposition, the evidence sufficiently rebuts the presumption as is examined below on the discussion on causation. Equally, both experts dealt with this issue in their joint report and investigations.

28. In my view, this case has matured in its case management which would militate against the taking of such pleading points. I would strongly discourage such pleading points to be taken by parties if it serves no purpose to give effect to the overriding objective. In this case, both parties have spent considerable time and expense in retaining their respective experts to analyse, among other things, the causal effect of allergens on the respiratory illness of Mr. Baksh and the impact of any prior condition. Both parties are not prejudiced by meeting and dealing with these issues which fairly arise in the disclosed documentation in these proceedings and the open manner in which the experts collaborated on these issues. Rampersad J in **Chandler v National Flour Mills** H.C. 393/1998 examined the divergence of pleadings and the evidence in this way: that a claim ought not to fail by any divergence in the pleadings and the evidence if ultimately, the allegation that is being made at that trial on the facts that have emerged were made on the pleadings, would the conduct of the case been any different? In this case I think not. Both parties armed with their experts fully and comprehensively dealt with these issues and no one can be said to be taken by surprise.

29. The same, however, cannot be said of the submission by the Defendant that the Claimant has not proven that he was in the office where the samples of mould and allergens were found. This has taken even me by surprise as I saw no inclination in any document or report to suggest that the Defendant was making any case of a "spatial difference". The Claimant's case was that the building had poor indoor air quality. The building housed several offices with a centralised air conditioned system. It was not made clear by the Defendant in its defence that the Claimant was not located in any office which did not have these allergens or that it mattered at all that the specific office in which he was located would make NGC adopt a hands off approach to liability. If that was so, I would have directed the experts' minds to this issue.

A safe place of work- The story of Mr. Haroun Baksh

30. Most of Mr. Baksh's evidence of his employment and his illness was not contradicted in cross examination and are largely not in dispute. Mr. Baksh commenced his employment with NGC in or around April 16th 1984 on its offshore platform. After one year of working with NGC, he became ill and was diagnosed with polymyositis which is a muscle degenerative disease. He was prescribed prednisolone, a steroid treatment which he used for a period of six (6) to eight (8) months. He was also hospitalized for four (4) days so that a biopsy and electro-testing could

be carried out. Since that episode there were no complaints of illness by Mr. Baksh of any respiratory ailments for over thirty (30) years until he worked at the Atlantic and Julin buildings in 2010.

31. By that time in 2010 he had worked his way up from Contracts and Rights of Way supervisor to the position of Assistant Manager, Pipeline Integrity. His performance was continuously praised as outstanding.

32. In February, 2010 he was assigned by NGC's executive team to begin the initial set up of the Asset Integrity Management Project frame work (AIM) as project manager. He remained in this position until he was terminated.

33. From December 2010 to April 2011 he was relocated to NGC's offices at Atlantic Plaza Point Lisas Industrial Estate, Atlantic Drive, Couva to work on the AIM project. Prior to his relocation he never suffered any respiratory ailments.

34. About two weeks after his relocation to Atlantic Plaza he became ill. He began to experience coughing, cloudy vision in the evening, burning eyes, wheezing and sneezing. He received treatment from several of the company's medical personnel.

35. He first visited Dr. Romany Gunness and was placed on repeated periods of sick leave almost every other week. He continued working at Atlantic Plaza but underwent a number of tests on his chest, stomach and heart on the recommendation of Dr. Gunness. He also underwent CT scans, blood analysis and angiograms. Medications were prescribed to him. Dr. Gunness recommended further evaluation to determine if he has developed adult onset asthma, an occupational allergen exposure or whether it was a GERD related bronchospasm.

36. On 21st March, 2011, sterile units were brought into Atlantic Plaza to clean the air. On 21st March 2011, an internal company bulletin called "ECHO" was issued and advised as follows:

*"**Atlantic Plaza gets Steril-Zone Units***

As many of us are aware, there has been some contention over the air quality in Atlantic Plaza, so much so that some staff members have been 'repatriated' to Head Office. While trying to come up with a permanent solution that would satisfy both staff and

management, EHS, General Services and Artic Aire Staff installed 16 Steril-Z one Units last week at NGC's Atlantic Plaza Offices…"

37. Mr. Baksh was not "repatriated" and remained at Atlantic Plaza. On 28th March 2011, he was referred to Dr. Victor Coombs, NGC's Occupational Consultant after the Human Resources Manager reviewed his report from Dr. Gunness.

38. On 29th March, 2011, Dr. Coombs concluded that his "clinical picture was in keeping with hypersensitivity pneumonitis and possibly Occupational Asthma or WEA Workplace Exacerbated Asthma." Dr. Coombs recommended that he should avoid the Atlantic Plaza building and return to Head Office.

39. In May 2011, Mr. Baksh and other members of staff were relocated to the Julin Building, Couva but his symptoms continued. There is no evidence as to the reason for this relocation to Julin building save for the complaints of the poor air quality at Atlantic Plaza.

40. On 6th May 2011 he was examined again by Dr. Coombs who noted that "CT Scan #3507 seen confirmed mild bilateral fibrosis right>>left which is the natural progression of Hypersensitivity Pneumonitis" and "It is my opinion that this condition was caused by exposure to allergens in the atmosphere at Atlantic Plaza." Mr. Baksh also learnt from Dr. Coombs that he was also seeing fifteen (15) NGC employees from Atlantic Plaza with skin and upper airway complaints. On the said 6th May 2011, Dr. Coombs advised NGC that all leave taken by Mr. Baksh as a result of his assessment should be designated as occupational illness leave.

41. Mr. Baksh contends that his symptoms were exacerbated when he was in the work environment. His eyes would water, he had problems breathing, his sinuses would be blocked and it would later disrupt his sleep. He was prescribed steroid inhalers and antibiotics as necessary from Dr. Gunness. His symptoms and his ailments are not in dispute.

42. He contends that his symptoms got progressively worse at the Julin building. From his own observation he noted that the air conditioning units at the Julin building emitted bad smells and when the technicians opened the units he saw mould there. He further contends that he would feel better when he stayed away from the building.

43. On 17th January 2013 he had another CT scan done and a report was prepared by Dr. Gunness on 13th March 2013. Dr. Gunness was not called as a witness but his medical records forms part of the medical history examined eventually by both experts in this case. As part of the factual background Dr Guness reports:

> "*The above patient first presented to my practice on the 10th of November, 2008. At that evaluation, he was noted to be diabetic, hypersensitive and dyslipdaemic for several years. He is a non-smoker. Medications were adjusted and lifestyle intervention discussed and follow up was scheduled.*
>
> *He showed remarkable improvement on follow up with his HBA1C reducing from 7.9% to 6.7% by March 27th 2009. Additionally his blood pressure control had improved and his LDL cholesterol had reduced from 192mg/dl to 99mg/dl.*
>
> *He was stable until 31/1/2011 when he presented with a one month history of cough. There was no history of fever, myalgia, arthralgia or joint stiffness and swelling. He noted that his cough was worse in his work environment and also mentioned that there were changes at his workplace that may have affected air quality. He was afebrile and the cough was productive of scant white sputum with intermittent wheezing. At that time his physical examination revealed fine bibasal crepitations on both lung bases. Additionally he had a history of chronic dyspepsia. It was therefore agreed that he would be referred for a high resolution CT scan of his chest as well as upper GI endoscopy.*
>
> *The endoscopy revealed Grade A oesophagitis and antral gastritis and appropriate therapy was strated by his gastroenterologist.*
>
> *The CT scan of his chest shown interstitial lung disease with bibasal fibrosis. There were no features to suggest sarcoidosis as well as no appearance, no pleaural plaques or effusions.*
>
> *His symptoms continue to fluctuate and in January 2013 he had a repeat CT chest to evaluate disease progression. The disease remains confined to the lower lung zones. Additionally he had a CT of his sinuses which shows a pansinusitis.*

Currently he is using an inhaled brocchodilator/steroid combination as well as an inhaled steroid to alleviate symptoms alongside his gastritis therapy and his diabetes, hypertension and dyslipidaemic medications. ….”

44. Mr. Baksh at that time had substantially completed the major obligation in the AIMS project schedule and he submitted the final report to the NGC president dated October 2013. Approval was given to him to work from home in February 2014 to avoid feeling sick and during that time he delivered presentations to interest groups in NGC and externally to the Ministry of Energy and Energy Affairs. He visited the offices only intermittently.

45. He had written to the President of NGC requesting an early exit based on his medical condition which was denied. He made several efforts to meet with NGC’s President and Vice President Human Resource (VPHR) for an amicable exit arrangement but was unsuccessful. He was verbally informed by the President at the time that he should consider taking advantage of the new VSEP package that was being offered to employees over the age of fifty five (55) who wanted to exit the company. This disappointed him since he felt as though no consideration was being given to his medical predicament.

46. He continued to see Dr. Gunness and Dr. Coombs as his conditioned worsened and as a result of severe chest pains he was referred to Dr. Candis Gomez for lung function testing on 6th June 2013. Dr. Gomez diagnosed him with interstitial lung disease.

47. On 4th July 2013, he visited Dr. Henry at Westshore Medical to investigate his severe chest pains. He was put through a complete stress test prior to the procedure but was forced to discontinue the test due to fatigue and problems associated with his lungs. An angiogram was performed on him and it revealed that his heart function was normal.

48. On 6th August 2013, Dr. Coombs wrote to NGC and provided a Permanent Partial Disability (PPD) Assessment on his condition and recommended a 25% PPD but advised that the condition could be progressive. He contends that at that time his condition was worsening and he felt terrible for most of the day, every day.

49. On 22nd August, 2013, Dr. Coombs wrote to the VPHR NGC indicating that Mr. Baksh had a flare up of his respiratory condition while he was at the Julin building. Dr. Coombs stated that “I saw photographs of the AC units which appeared to have fungi and moulds… I strongly

recommend that he avoids that building…. He can work at HQ or from home in the meanwhile."

50. Mr. Baksh thereafter advised the President and VPHR of the Doctor's recommendations for him to have upper respiratory surgery and to have the surgery done in Miami, United State of America.

51. On 13th November, 2013 he was evaluated for pulmonary function by Dr. Robert Jackson of the University of Miami Miller School Medicine Allergy and Immunological Clinic in Miami. Dr. Jackson in an undated letter to Dr. Coombs reported that at the time of the evaluation, Mr. Baksh "*had a history of pulmonary fibrosis, the etiology of which has not been determined. Symptoms of shortness of breath and cough were worsened in his workplace… I recommend that he avoid exposure to dust, irritants and allergens at the workplace. These have the potential to worsen his underlying pulmonary fibrosis regardless of the etiology*."

52. He was thereafter referred to Dr. Viviana M. Temino, Assistant Professor of Medicine at the Division of Pulmonary, Allergy, Critical Care and Sleep Medicine University of Miami Miller School of Medicine who by report dated 13th December, 2013 noted "*there is a clear association with exposures in his industrial work environment and exacerbation of his symptoms, potentially causing progression of disease…. It is my opinion that avoidance of this work environment would have a positive impact on Mr. Baksh's overall health."*

53. He had sinus surgery on 17th December 2013 by Dr. Roy Casiano, Professor and Vice Chairman and President Elect: American Rhinologic Society, Director: Rhinology and Endoscopic Skull Base Program Department of Otolaryngology, Head and Neck Surgery University of Miami, Miller School of Medicine. By report dated 30th April, 2014, Dr. Casiano stated:

> "*Haroun. A Baksh is a patient of mine who suffers from severe chronic rhinosinusitis with polyps. He just recently underwent endoscopic transnasal removal of polyps, and sinus surgery to improve the ventilation and drainage of his sinuses and permit long-term topical medical management, to control his inflammatory disease. This surgery was medical necessary due to his non responsiveness to aggressive maximal medical therapy alone.*

Going forwards, part of his overall treatment also will include allergy care and avoidance of known environmental allergens, which can trigger his inflammatory response, and associated sinonasal complications, resulting in the need for further surgery as well as worsening of his asthma. In the future, he will continue to need endoscopic surveillance for the presence of recurrent polyp disease, management with topical medical treatment to stablelize the membranes of the nose and sinuses, and allergy management for his hyperactivity as well as control of any laryngopharyngeal reflux disease….."

54. Up until April 2014 he either worked from home or was on sick leave. However, he was informed by NGC that he should not return to the workplace while working from home since attending the office periodically for work purposes conflicted with the approval to work from home.

55. His chest pains continued and on 29th April, 2014 he was reviewed by Dr. Chandra Sinanan Mahabir who by medical report dated 20th May, 2014 stated:

"*Pulmonary wise, Mr. Baksh was previously well till January 2011 when he developed a chronic cough, associated with mucoid sputum and intermittent wheezing. His symptoms started and were worsened at his job place. He has since been assessed by various physicians and further investigated for his lung condition…… The patient's lung condition can only worsen/ further deteriorate on continue exposure to dust, organic irritants and allergens which seem to be particularly prevalent at his work place."*

56. On 13th May 2014, a lung biopsy was performed by Dr. Penco at Medical Associates which confirmed that he had interstitial lung disease.

57. On 5th June 2014, Dr. Coombs wrote a report to NGC stating that Mr. Baksh "*had developed Chronic Rhinitis, Chronic Rhinosinusitis, Nasal Polyp and Pulmonary Fibrosis. He met the Hill criteria for high probability, in a causality matrix for work place exposure causing and/or exacerbating his condition."*

58. On 23rd June, 2014, Dr. Gunness provided an updated report on her consultations with Mr. Baksh and set out her list of medical illnesses along with recommendations for treatment as follows:

    a) Continued use of daily intranasal steroid spray;

b) Continued use of inhaled steroid/bronchodilator inhaler;

c) Avoidance of environmental triggers including relocating during dry season;

d) Nasal washes;

e) Endoscopic surveillance;

f) Lung Function testing with spirometry;

g) Repeat CT scans.

59. Mr. Baksh contends that all of his medical expenses for the foreign surgical intervention were carried out with funds he accumulated from the cancellation of his life insurance policies, his private savings with his wife and support monies from his family members.

60. He stated that he was forced to avoid contaminated atmospheres where dust, smoke and allergens are present due to his hypersensitive reaction and difficulty in breathing. He contends that he is denied the opportunity to enjoy his family life due to the restricted nature of his life style and his deteriorating respiratory condition.

61. By letter dated 21st March, 2014 his appointment as AIMS project manager was brought to an end, effective 1st April, 2014. As of 1st January 2015, NGC stopped paying him his monthly salary of $51,615.00. Because of his illness he was away from NGC offices for extensive period of time on extended sick leave between July 2013 to 2014. He eventually went on extend sick leave on 5th May 2014 and was medically boarded effective 1st December 2016. He did not work during that period of time. He is now past his official retirement date of 28th February, 2017.

A safe place of work-The duty of NGC

62. Health and safety issues are now common areas of engagement between the employer and employee in modern offices. The Occupational Safety and Health Act Chapter 88:08 sets out a series of health and safety issues which employers are required to observe. At common law, NGC owes a duty to its employees to take reasonable care for its safety and to provide a safe place of work. Lord Wright in **Wilsons and Clyde Coal Company Ltd v English** [1938] AC 57 observed:

"I think the whole course of authority consistently recognizes a duty which rests on the employer and which is personal to the employer, to take reasonable care for the safety of his workmen, whether the employer be an individual, a firm, or a company, and whether or not the employer takes any share in the conduct of the operations."

63. The employer of course does not indemnify the employee from harm. Its duty extends only to the reasonable steps and precautions that an ordinary prudent employer would take in the circumstances. Swanwick J in **Stokes v Guest, Keen and Nettleford [**1968] 1 WLR 1776 put the duty in this way at 1783:

"..the overall test is still the conduct of the reasonable and prudent employer, taking positive thought for the safety of his workers in the light of what he knows or ought to know…….He must weigh up the risk in terms of the likelihood of injury occurring and the potential consequences if he does; and he must balance against this the probably effectiveness of the precautions that can be taken to meet it and the expense and inconvenience they involve."

64. The duty to provide a safe place of work includes not merely to warn against unusual dangers known to the employer but also to make the place of employment as safe as the exercise of reasonable care and skill would permit. A place of employment can become temporarily unsafe and the employer's duty is to protect the employee from those temporal dangers. The test to be applied is again the reasonable prudent employer and whether it would have caused or permitted the existence of that state of affairs of which complaint is made. See Charlesworth and Percy on Negligence 13th ed Para 11-26 and **Keith Malchan v Republic Bank Limited** CV2007-04482.

Indoor air quality- the duty of NGC

65. The NGC offices are housed to the East and West of the first floor at Atlantic Plaza. Project Finance, Financial Reporting and Gas Marketing are to the East and Information Services, Internal Audit and Commercial Unit and Business Development was to the West. There was a food court in the lower floor. A centralized air conditioned system supplied conditioned air to the office areas. The air handler unit at the ground floor is housed with the unit serving the

western offices of NGC so that air from both areas mix and is recirculated. A fresh air grille in the corridor outside the air handler room introduces outdoor air into the system[5].

66. At an earlier stage in these proceedings, I had struck out certain aspects of the evidence of Mr. Baksh and his witness Ms. Claire Gomez Miller, the Manager Internal Audit/ Chief Audit Executive for NGC[6] so that the case remained focused on the pleaded case of Mr. Baksh of poor indoor air quality and in particular, allergens. What is clear from Ms. Gomez-Miller is that since August 2005 the internal audit department in the Atlantic Plaza was complaining to management of indoor air quality concerns. All the NGC offices in Atlantic Plaza shared the same centralized air conditioning system. In November 2010 CARIRI had conducted microbiological testing of NGC offices in Atlantic Plaza. She observed that the air condition vents were dirty and that the internal audit offices were not fully treated and yeast spores were unusually high as determined in their report. Mr. Baksh himself had observe mould and dust in the air condition units.

67. Upon learning that all NGC offices within Atlantic Plaza shared the same centralized Air Conditioning System, they began to make oral and written requests to have NGC install separate air conditioning systems for NGC offices separate from the Atlantic Plaza system. However, up to her retirement in 2014, the air conditioning system in Atlantic Plaza remained centralized.

68. She stated that in 2010 CARIRI was retained by NGC to test NGC's Offices located within Atlantic Plaza. She was provided with a copy of CARIRI's written draft report in November, 2010 which reported that "Stachybotrys Chartaum" was detected within that Internal Audit area. A recommendation was made for the sanitizing of the Internal Audit area and the Internal Audit Department was relocated to another area within Atlantic Plaza but its personnel visited NGC's Occupational Medical Specialist with varying complaints.

69. She contends that in November, 2010, CARIRI conducted microbiological testing of NGC offices in Atlantic Plaza and in her presence, CARIRI swabbed the vents in three (3) areas including Internal Audit and took Air Samples of three (3) other areas. She stated that the AC unit vents remained dirty, the evacuated Internal Audit Officers were not fully treated, the AC

[5] CARIRI report 11th January 2010
[6] From the year 2000 until her retirement on 1st September 2014

system was still shared by all offices within Atlantic Plaza and the yeast spores were abnormally high. She further stated that recommendations were made by CARIRI to install dehumidifiers, improve housekeeping/maintenance and conduct Air Quality Tests at least annually.

70. In February, 2011, the Internal Audit Department remained relocated elsewhere within Atlantic Plaza because its offices were not treated.

71. In March 2011, she was informed by Vice President Corporate Services Maria Thorne and by Head Administration Jackie Burgess that both Internal Audit and the Information Services Department area were being sanitized and Steril-Zone Units (air purifiers) would be installed within those offices. She was also informed that the Steril-Zone Units would be installed within all other NGC Offices in Atlantic Plaza.

72. In mid-March 2011 she was informed by those same officers that all the works were completed including sanitizing the offices, cleaning of vents and replacement of ceiling tiles. She was also informed by those officers that Steril-Zone Units (air purifiers) were installed within all NGC officers located within Atlantic Plaza.

73. In April, 2011, Internal Audit returned to its offices. She was told by Head Administration Jackie Burgess as well as her staff that in response to her report of April 2012, NGC had the cleaners sanitize in the Internal Audit Offices and the air purifiers serviced.

74. Dr. Coombs in several letters complained that he was treating several employees who complained of the poor indoor air quality at the offices.

75. It is reasonably clear that there were problems with the indoor air quality at the Atlantic Plaza offices prior to Mr. Baksh entering them. This is borne out by the air quality reports of CARIRI. While the CARIRI report of the Julin building did not reveal any significant air quality issues, a comparison with that report and that of Atlantic Plaza reveals the relative poor quality of the indoor air at Atlantic Plaza.

Internal Air Quality reports- Early Alerts/Alarms-a foreseeable risk

76. The Defendant criticizes the Claimant for not specifically making reference to the indoor air quality reports to plead its case of the deficiencies of indoor air quality. The Defendant was content to rely on them to demonstrate that it had discharged its duty to keep the premises safe.

It is true, as submitted by the Defendant, that there are no expert reports or indoor air quality report which deals with the Atlantic Plaza office while Mr. Baksh was located there. However, there are the first-hand accounts of Mr. Baksh, Ms. Gomez-Miller and Dr. Coombs which raise the reasonable inference of the presence of allergens in the building when Mr. Baksh was located there as suggested in the CARIRI reports.

77. The indoor air quality report of the Atlantic Plaza building based on an inspection on 24th November 2009, confirms rather than detracts from the Claimant's case of poor indoor air quality and the presence of harmful allergens. It confirmed that occupants of internal audit office were complaining of sneezing, skin allergies and cold temperatures.

78. The findings of the report and its recommendations are material to this case and I set it out below:

> "The air-conditioning and ventilation systems inspection revealed that the fibreglass lining in the air handler units is deteriorating and should be replaced with a suitable alternative, such as rubbertex. The fibreglass insulation on the roof of the air handler room serving the western end of the floor should be properly sealed to prevent loose fibreglass from coming into contact with the air stream.
>
> Additionally, it is recommended that the air handler unit serving the western NGC offices be isolated from the unit serving the ground floor. This will prevent the mixing of air from the two arears thus preventing odours from the food court or any other indoor air contaminant that may be present on the ground floor from entering the offices.
>
> Consideration observed on the chill water pipes in the air handler room west should be avoided.
>
> A charcoal air filter should be placed on the fresh air grille in the air handler room west to prevent the entrance of dust, and any other potential indoor air containment. Outdoor air should be introduced into the air handler room serving the eastern end of the floor and a suitable filter installed on the fresh air grille. Additionally, dampers can be installed on the fresh grilles to control the volume of outdoor air entering the system.
>
> The return air ducting in the air handler room serving the eastern NGC offices should be completely enclosed to prevent air from surrounding ceiling plenum from being drawn into

the units. This will prevent unconditioned air that is at a higher temperature than return air from entering the units and hence increase the efficiency of the units. Additionally, the entrance of dust and other indoor air contaminants will be prevented.

Discharge water from the drainpipe in the adjacent room should not be allowed to enter into the air handler room. This may facilitate the growth of microorganisms as well as the introduction of other indoor air contaminants such as odours that can be drawn into the system and may result in indoor air quality complaints.

The ceiling plenum in the room adjacent to the air handler room east should be closed off to prevent dust and other indoor air contaminants from entering the unit. Discard items and other materials should not be stored in close proximity to the air handler room to prevent the possible entrance of dust and other indoor air quality contaminants into the air handler units.

The average relative humidity levels recorded in the areas monitored were all over 60%. Due of the complaints of mould growth in certain areas of the floor, average levels of relative humidity should be decreased to reduce moisture levels that can facilitate microbial growth. This can be achieved by increasing the efficiency of the air-conditioning system, and/or as a temporary measure, installing dehumidifiers or a desiccant system to assist the air handler units in reducing humidity levels.

Recommendations presented for the client's consideration are:

Immediate

(i) Install dehumidifiers to assist in reducing humidity levels.
(ii) Remove all materials being stored in the room adjacent to the air handler room serving the eastern end of the floor and clean room to remove all dust.
(iii) Remove all water-stained ceiling tiles in the room adjacent to the air handler room east. Repair leak that is currently, resulting in the water-stained ceiling tiles. Ensure that the ceiling is completely sealed to prevent the entrance of air from this area into the ceiling plenum.
(iv) Stop drain water from entering the air handler room east.

(v) Fumigate the Internal Audit and Commercial Unit, and Business Development areas. Ensure that all surfaces are cleaned with 10% bleach solution. Conduct duct-cleaning exercise.

Short term

(i) Introduce filtered outdoor air into the air handler room east. Ensure that a damper is installed on the fresh air intake to control the entrance of outdoor air.

(ii) Install a charcoal filter on the fresh air grille introducing outdoor air to the west of the floor.

(iii) Ensure that the air-conditioning system is functioning efficiently to reduce humidity levels in order to prevent microbial amplification. This can be achieved by a combination of methods such as positively pressurizing the building to prevent the entrance of unconditioned outdoor air, increasing the tonnage of the air handler units and/or ensuring that the units and the chill water system are functioning properly. The number of methods to increase the efficiency of the air-conditioning system is beyond the scope of this report and should be undertaken by consulting a qualified air-conditioning specialist.

Long term

(i) Conduct a Phase III repeat monitoring to determine effectiveness of the implementation of the above recommendations.

(ii) Service the units once every three (3) months and conduct duct cleaning when necessary.

Administrative

CARIRI is willing to render its services to the client in undertaking a Phase II of the project which entails the development of an indoor air quality management system for the entire building, which will include reviewing and amending current practices and establishing new procedures to:

- Properly maintain ventilation equipment.

- Maintain communications with occupants so that information regarding complaints about the indoor environment will be reported in a timely manner.
- Educate staff, occupants and contractors about their responsibilities in relation to indoor air quality.
- Identify aspects of planned projects that will affect indoor air quality and manage projects so that good air quality is maintained.
- Conduct repeat monitoring after changes are implemented and a complete assessment bi-annually.
- CARIRI also has the expertise to provide services in auditing the successful implementation and changes as well as conducting repeat monitoring after all changes have been implemented."

79. While average temperature levels of VOCs and particle matter were within normal limits, there were elevated levels of allergens such as aspergillus in the commercial and internal audit areas. These offices were situated at the West side of the Atlantic Plaza. It is the major cause of both sinusitis and invasive aspergillosis in those who are immune compromised. Penicillin has the allergenic potential to cause Type 1 hay fever and asthma and Type 2 hypersensitivity reactions. It is noted that Mr. Baksh was allergic to penicillin as noted in his medical history in Dr. Coombs' report.

80. The swab samples showed some recovery of yeast of which Rhodotorula is a subset of yeast. The report warned that these microbial samples would not affect normal healthy individuals, however, for immuno-compressed people who have received prolonged exposure to high yeast levels, health effect may be of some concern.[7]

[7] Paragraph 4.3 of the 2010 CARIRI Report

"... Generally indoor spore levels should not be >500 Counts/m^3. However, the Commercial and Internal Auditing areas have elevated levels of *Aspergillus/Penicillim.* This grouping of fungi is very common in indoor areas, as both species are able to grow or remain viable on a wide range of substrates.

Aspergillus is the second most common opportunistic pathogen and several species produce harmful toxins. It is implicated as the major cause of both sinusitis and invasive aspergillosis (the lung disease caused by *Aspergillus)* in those who are immuno-compromised. *Penicillium* has the allergic potential to cause Type 1 (hay fever and asthma) and Type II (hypersensitivity) reactions. Like *Aspergillus,* many species of *Penicillium* produce harmful toxins.

81. The second air quality report of CARIRI was a draft report closer in time to when he entered the Atlantic Plaza. There is no final report nor any signed report by CARIRI in relation to this examination and the draft suggests that the report was done in response to complaints made of poor indoor air quality. Notably there is no further final report by CARIRI commissioned by NGC of the indoor air quality at Atlantic after the 2009 sampling even though (a) Mr. Baksh and NGC's occupational consultant complained of the poor air quality in that building in early 2011 and (b) the AIM project team was relocated to the Julin building.

82. A third report on indoor air quality was produced in March 2013 and the assessment was conducted in August 2012 of the Julin building. At that time Mr. Baksh would have been located at the Julin building and he had only submitted numerous medical leave forms in July 2013. There is no evidence at the Julin building in this CARIRI report of any unusual spore or mould growth or allergens that would be of any cause or damage to health.

83. The only trigger, therefore, based on these reports that can cause Mr. Baksh's injury could only have been found in the Atlantic Plaza. Although there is no report of the air quality at the time when he was located there, the most recent report demonstrated the existence of mould and allergens and coupled with the lack of implementation of the recommendations made in the 2010 report as admitted by Ms. Jennie Alleyne it is more probable that the problem or rhodotorula and penicillin as allergens would have been in existence.

84. Under cross examination the Defendant's witness, Ms. Jennie Alleyne candidly admitted that she did not know of most of CARIRI's immediate, short term or long term recommendations were ever implemented nor could she say whether the contracted works were conducted effectively it at all. If the works were conducted then why would CARIRI still find bacterial growth and dust on examination in September 2009? CARIRI suggested for instance air duct

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It should be noted that the maximum level of relative humidity recorded in all areas monitored exceeded the ASHRAE recommended values. High levels of relative humidity can result in condensation on windows, perimeter wall or other cool surfaces. If the resultant moisture is allowed to collect within the building, it can facilitate microbial growth as detected on the material swabbed. Hence it is recommended that relative humidity levels be reduced to prevent microbial growth. Analysis of the swab samples collected recovered Yeast sp., of which *Rhodotorula sp* is a subset of *Yeast* which thrive under dusty, damp and humid conditions. A high occupation density, human and dust-raising activities elevate yeast counts. These may not affect normal healthy individuals, however for immuno-compressed people or those who have received prolonged exposure to high levels of yeast, health effects may be of some concern."

cleaning every three months but this was not implemented. It recommended modifications to the AC system to reduce micro bacterial growth and humidity which would lead to the build-up of allergens. This was not implemented. CARIRI volunteered its services to implement a Phase II of the exercise to ensure proper monitoring of indoor air quality which was neither implemented nor pursued by NGC.

85. What was alarming is that NGC did not proffer any evidence from its Environmental, Health, Safety and Security Department as to the state of the AC system or the implementation of any of the recommendations of CARIRI or the reasons why the CARIRI report was commissioned. The full weight of **Wisniewski (A Minor) v Central Manchester Health Authority** [1998] EWCA Civ 596 would apply as the Court is left bereft of such critical data to assess the prudent and reasonable steps that ought to have been taken by NGC to address the issue of indoor air quality in the Atlantic Plaza building in light of the alarms and risks known and revealed to it in this report.

86. NGC failed to take reasonable steps to maintain proper indoor air quality. However, is it sufficient to draw a nexus to the disease suffered by the Claimant? This is the core issue of Mr. Baksh's claim; was he exposed to any significant allergens which was likely to cause his disease?

Causation- The Test

87. As a form of corrective justice, causation is the device used to link the actions or omissions of the wrongdoer to the injury of the wronged. Any value judgment or modulation of the test of causation which minimizes the link may result in an injustice to either party. The broad test of balance of probabilities as Lord Hoffman observed in **Sienkiewicz v Grief (UK) Ltd** [2011] 2 WLR 523 simply means that in some cases a Defendant will be held liable for damage for which he did not in fact cause. In other cases the Defendant escapes liability notwithstanding that he caused the damage but because the Claimant is unable to discharge the burden of proving causation. This underpins the traditional "but for" test. The Claimant must show that "but" for the Defendant's tortious conduct he would not have suffered damage. The Claimant must establish the "causal path" to the Defendant.

88. The recent Privy Council decision of **Petroleum Company of Trinidad and Tobago v Ryan and another** [2017] UKPC 30 restated that the burden is on the Claimants to prove that it was

more likely than not that the wrongful conduct of the Respondent caused the disease. The Court would usually ask whether but for the wrongful conduct would the damage complained of have occurred.

89. As the learned authors in Charlesworth on Negligence noted at paragraph 6-04 the "but for" rule is generally the starting point in establishing that causal path between negligent conduct and the damage suffered.

> "The Claimant seeks to show that but for the Defendant's negligence the injury complained of would not have arisen. If he succeeds, there is no additional requirement to show that the Defendant's negligence was the only, or the single or even chronologically the last cause of injury. This threshold "but for" test is based on the presence or absence of one particular type of causal connection: whether the wrongful conduct was a necessary condition of the occurrence of the harm or loss. The test does not distinguish between legally relevant and other causes, yet it is not its function to do this. It identifies whether the conduct in question was a cause. At this stage we do not need to concern ourselves with all the other factors which combined to produce the total environment in which the damage could happen."

90. The law of causation is therefore flexible to recognize the justice of the case to both victim and alleged wrongdoer.

91. Sarah Green in her text **Causation in Negligence** in very simple terms simplified the basic causal principles in this manner:

- A Defendant will only be liable where she has on the balance of probabilities, made a difference to the Claimant's normal course of events.
- A Defendant will only be liable for that difference which on the balance of probabilities she can be determined to have made to the Claimant's course of events.
- A Defendant is entitled to take her victim as she finds her at the time of her breach of duty.

92. However, in certain special cases involving, for example, multiple concurrent causes of harm or the creation of a risk of harm or successive acts causing the same harm, a Court may decide that such conduct was the cause even though the Claimant cannot show that he would not have

suffered the harm but for that conduct. Indeed the trilogy of **McGhee v National Coal Board** [1973] 1 WLR 1, **Bonnington Castings Ltd v Wardlaw** [1956] AC 613 and **Fairchild v Glenhaven Funeral Services Ltd** [2002] UKHL 22 has demonstrated cases where the "but for" test has been departed from on grounds of pure pragmatism and simple logic modulating the test to make the link between the wrong and the injury.

93. **Charlesworth on Negligence** has a useful commentary on the effect of these cases in paragraphs 6-44, 6-45 and 6-46:

"6-44: A distinction between multiple possible causal agencies (*Wilsher*) and multiple possible defendants (*Fairchild*) arguably ought to be supported on the ground that a claimant must at least show that his or her injury has been caused or contributed to as a result of a tort as opposed to some other non-tortious agency. However, applying this approach in *Sienkiewicz* and *Willmore* would mean that the claims would have to fail, for in both cases the probabilities were that the mesothelioma was caused by general environment exposure to asbestos. It is not at all clear why these claims ought to succeed whereas claims involving similar uncertainties in other contexts have to fail. In *Amaca Pty Ltd v Ellis,* a decision of the High Court of Australia, the plaintiff died of lung cancer after having been exposed to asbestos by his employers and also after having been a heavy smoker, and the question was which of these was the cause of the cancer. Epidemiological studies established that the probability of the plaintiff developing cancer if exposed to asbestos was much lower than the probability of him developing cancer from smoking as he did, and on that basis it was held that it was more probable than not that it was smoking rather than exposure to asbestos. So the claim failed. *Amaca* thus applied ordinary principles and required that there be proof of cause on the balance of probabilities.

6-45**: Continuing role for a "doubles the risk" test? -** It may be that *Sienkiewicz* and *Wilmore* determined only that a "doubles the risk" test could not be applied to the process by which a single carcinogenic agent (asbestos) caused mesothelioma. It did not decide that such a test could never be used, although, as noted, there was concern about over reliance on epidemiological evidence alone. The *Phurmacite Workers Group Litigation* concerned claims by persons alleged to have developed various forms of cancer as a result of exposure to dust and/or fumes in the course of working with phurmacite. In many of the

cases the individuals had been smokers and thereby exposed to some of the same carcinogens as in their work. The Claimants contended for a test asking whether occupational exposure to carcinogens made a material contribution to the development of an individual Claimant's cancer based ultimately on the principle in *Bonnington;* the Defendants maintained that the doubling of risk test had to be satisfied before a claim could succeed. The court decided it would be inappropriate to apply a material cause test based on Bonnington where the evidence showed, not that asbestos and cigarette smoke had combined cumulatively to *cause* cancer, but that asbestos and cigarette smoke had combined cumulatively to *increase the risk* of cancer. The obvious alternative was the doubling of risk test. On that basis, a causative link with lung cancer was established in two cases but not in a third. The unsuccessful claimant had shown a material increase in risk of development of lung cancer, but less than a doubling of risk. This decision demonstrates that the "doubles the risk" test may still have value in some circumstances.

6-46: **A global approach?-** The decision of the Supreme Court of Canada in *Clements v Clements* may be thought to lead to a more satisfactory result than in *Sienkiwiewicz.* McLauchlin C.J. noted that the "risk" cases typically involved a number of tortfeasors where all were at fault and one or more that in fact caused the plaintiff's injury. The plaintiff would not have been injured "but for" their negligence, viewed globally. However, because each could point the finger at the others, it was impossible for the plaintiff to show on the balance of probabilities that any one of them in fact caused the injury. In these circumstances, permitting the plaintiff to succeed on a material-contribution-to-risk basis met underlying goals of the law of negligence. Compensation for injury was achieved. Fairness was satisfied: the plaintiff had suffered a loss due to negligence, so it was fair to turn to tort law for compensation. Deterrence also was furthered as potential tortfeasors would know that they could not escape liability by blaming others. And the result was consistent with corrective justice: the deficit in the relationship between the plaintiff and the defendants viewed as a group that would exist if the plaintiff were denied recovery was corrected. Notably, in so deciding McLachlin C.J. pointed out that no Canadian decision compelled a result similar to that in the *Sienkiewicz* case."

94. The effect of these decisions are far from certain or clear. On the one hand they come to the aid of a Claimant to bridge evidential gaps and on the other unfairly punishes Defendants in the uncertainty that surrounds the causes of harm. It is that level of uncertainty or temptation to reach for the **McGhee** and **Bonnington** escape route that was the background to the appeal in **Ryan**. **Ryan** demonstrates that in our Courts we are grappling with this difficult question of causation and the appropriateness of relaxing the rules to make the link of causation.

Causation – Petroleum Company of Trinidad and Tobago v Ryan and another

95. In **Ryan**, the Respondents lived forty five (45) feet away from a well owned and formerly operated by the Appellant. They were diagnosed with pulmonary fibrosis and restrictive airways in 2006 which they contend was caused by the emissions of hydrocarbon gases from the well. In the High Court the claim was dismissed. The Court of Appeal allowed the appeal. The Appellants appealed to the Privy Council who allowed the appeal. The Privy Council found that there was no support of the Court of Appeal's statement that the expert's evidence (Professor Seemungal) was materially discredited in cross examination and also that the other expert's evidence (Dr. Coombs) should be discounted simply based on the literature. The Board also found that the Court of Appeal had proceeded on the erroneous premise that the gaseous emanations from the well and its environs had, at least, been a contributing cause to the Respondents' injury. That premise was simply not supported by the evidence and the **McGhee**, **Bonnington** and **Fairchild** line of cases provided no assistance to the Claimant as the factual basis to draw any link was simply absent.

96. For the Law Lords faced with the factual background in **Ryan** and the expert evidence, the inescapable conclusion was that there was no significant proof of any causative link between the injury and the emanation of gases. Interestingly, in that case both Dr. Coombs and Professor Seemungal were the experts for the Company who both established that there was no causative factor between hydrocarbons and pulmonary fibrosis. Similarly the experts for Ryan drew no causative link. The problem for all the medical experts was not the diagnosis but the lack of any evidence "in their combined experience or in the literature, of a causative link between hydrocarbon emissions associated with an oil well and the Claimants' respective conditions."

97. It is tempting to speculate whether the value judgment on whether the burden to establish a causal path in **Ryan** may have been different if it was an employer and employee relationship

or if there were multiple causes of which gasses was one. The Law Lords confirmed the **Bonnington** modulation. However, the need to bridge evidential gaps could not arise if there was no casual path established between gaseous emission, guilty or innocent and that injury. In such a scenario, there was no risk caused to **Ryan** by the gases and no need to reach to any principle or policy to bridge the evidential gap. To that extent **Ryan** is uncontroversial the Law Lords did not discount the availability to the Court to make value judgments of the type found in **McGhee**, **Bonnington** and **Fairchild** and discussed in **Sienkiewicz v Grief (UK) Ltd** [2011] 2 WLR 523 which may modulate the "but for" test provided there is a substratum of fact to lay down a causal path.

Causation – Value Judgments

98. Lord Bingham in **Fairchild** conducted a searching analysis of the law of causation to deal with difficult cases of causation where the "but for" test can yield unjust results. Referring to Mason CJ in **March v E & MH Stramare Pty Ltd** (1991) 171 CLR 506 at 508 the lesson of experience demonstrated that the "that the test, applied as an exclusive criterion of causation, yields unacceptable results and that the results which it yields must be tempered by the making of value judgments and the infusion of policy considerations."

99. He observed that Lord Hoffman discouraged a mechanical approach to the issue of causation. **Lord Hoffman** explained the question of the relationship between breach and damage in these terms[8]:

> **"**The first point to emphasise is that common sense answers to questions of causation will differ according to the purpose for which the question is asked. Questions of causation often arise for the purpose of attributing responsibility to someone, for example, so as to blame him for something which has happened or to make him guilty of an offence or liable in damages. In such cases, the answer will depend upon the rule by which responsibility is being attributed**.**"

100. The real question is what is the harm for which the Defendant under consideration should be held responsible. Lord Nicholls also observed that in some circumstances a lesser degree of causal connection may suffice for example where damage flows from one or other of two

[8] **Empress Car Company v National Rivers Authority** [1998] 1 All ER 481

alternative causes. The balancing exercise between holding one liable when in fact he caused no injury with the innocent Claimant not receiving compensation even though he was injured by the Defendant involves a value judgment:

> "The extent to which the law requires a defendant to assume responsibility for loss following upon his wrongful conduct always involves a value judgment. The law habitually *limits* the extent of the damage for which a defendant is held responsible, even when the damage passes the threshold 'but for' test. The converse is also true. On occasions the threshold 'but for' test of causal connection may be over-exclusionary. Where justice so requires, the threshold itself may be lowered. In this way the scope of a defendant's liability may be *extended*. The circumstances where this is appropriate will be exceptional, because of the adverse consequences which the lowering of the threshold will have for a defendant. He will be held responsible for a loss the plaintiff might have suffered even if the defendant had not been involved at all. To impose liability on a defendant in such circumstances normally runs counter to ordinary perceptions of responsibility. Normally this is unacceptable. But there are circumstances, of which the two hunters' case is an example, where this unattractiveness is outweighed by leaving the plaintiff without a remedy."[9]

101. The mesothelioma line of cases easily provided the Court with that difficult case in causation to allow for the relaxing of the "but for" test. **Sienkiewicz** examined the test of causation in response to the causation difficulties presented by those special cases.

102. It is not suggested here that there was special or unique features of the disease suffered by Mr. Baksh to allow for any departure from the "but for" test. However, as a matter of principle, the "but for" test is the starting point and so long as the evidence exists to cut the causal path, where it is suggested that there are multiple causes for the injury, one may modulate the path to eventually reach the Defendant.

Causation –Occupational Diseases

103. **Bonnington, McGhee** and **Fairchild** were cases which explored the development of occupational illness and the need in some cases to examine the modulation of the causal path with the "increased risk" to which the employee has been exposed by his employer. In

[9] **Fairchild v Glenhaven Funeral Services Ltd** [2002] UKHL 22, paragraph 40

Bonnington Mr. Wardlaw contracted pneumoconiosis after inhaling silica dust to which he was constantly exposed in the course of his employment. There was "guilty" and "not guilty" dust and the employer admitted that the disease arose in the course of his employment and in breach of its duty. The question was did the breach cause the injury? Where the course of the disease was the dust from both sources the real question was whether the dust from the "guilty" source materially contributed to the disease.

104. In **McGhee** the question arose whether the employer's failure to provide showers to wash off the harmful dust caused the employee's injury. Taking Lord Reid's pragmatic approach "From a broad and practical viewpoint I can see no substantial difference between saying that what the defender did materially increased the risk of injury to the pursuer and saying that what the defender did made a material contribution to his injury".[10]

105. Importantly, in these cases whether the Claimant succeed in the face of multiple causes full damages was awarded even though the pathway of causation was more than de minimis in increasing the risk of injury.

106. In this jurisdiction four cases were brought to the Courts attention: **Keith Malchan v Republic Bank Limited** CV2007-04482, **Berkeley v Guardian Life Holdings Limited** CV2008-01945, **Ryan** and **Chandler**. In these cases the Courts have applied the "but for" test as a shorthand expression of establishing a causal link between the negligence and his injuries. The necessary causal link can be made if, as a matter of evidence, it can be inferred that the Defendant's negligence materially contributed to the injuries, that is, it was a cause that was more than de minimis.

107. In **Sienkiewicz** the Supreme Court confirmed that in establishing causation one need do no more than establish a more than de minis contribution to the risk of injury and the idea suggested in some epidemiological studies of "double the risk" was inappropriate. As Lady Hale explained:

[10] **McGhee v National Coal Board** [1973] 1 WLR 1 at 5

"Risk is a forward looking concept--what are the chances that I will get a particular disease in the future? Causation usually looks backwards--what is the probable cause of the disease which I now have?"[11]

108. These cases were reviewed recently in **Williams v The Bermuda Hospitals Board** [2016] UKPC 4. As in **Ryan** there was no need to reach for a material contribution to risk test as the Claimant was able to make the evidential basis to say that the offensive act was a contributory factor where in **Ryan** they could not. Reviewing **Bonnington** and **McGhee** the Law Lords said:

"40. A claim will fail if the most that can be said is that the claimant's injury is likely to have been caused by one or more of a number of disparate factors, one of which was attributable to a wrongful act or omission of the defendant: *Wilsher v Essex Area Health Authority* [1988] AC 1074. In such a case the claimant will not have shown as a matter of probability that the factor attributable to the defendant caused the injury, or was one of two or more factors which operated cumulatively to cause it. In *Wilsher* the injury was a condition known as retrolental fibroplasia or RLF, to which premature babies are vulnerable. The condition may be caused by various factors, one of which is an oversupply of oxygen. The claimant was born prematurely and as a result of clinical negligence he was given too much oxygen. He developed RLF, but it was held by the House of Lords that it was not enough to show that the defendant's negligence added to the list of risk factors to which he was exposed. The fact that the administration of excess oxygen was negligent did not warrant an inference that it was a more likely cause of the RLF than the various other known possible causes. The House of Lords distinguished the case from *Bonnington* in which the injury was caused by a single known process (the inhalation of dust).

41. In the present case the judge found that injury to the heart and lungs was caused by a single known agent, sepsis from the ruptured appendix. The sepsis developed incrementally over a period of approximately six hours, progressively causing myocardial ischaemia. (The greater the accumulation of sepsis, the greater the oxygen requirement.) The sepsis was not divided into separate components causing separate damage to the heart and lungs.

[11] **Sienkiewicz v Grief (UK) Ltd** [2011] 2 WLR 523 paragraph 170

Its development and effect on the heart and lungs was a single continuous process, during which the sufficiency of the supply of oxygen to the heart steadily reduced."[12]

109. The Defendant also relied on the important case of **Wilsher v Essex Area Health Authority** [1988] AC 1074. In my view, it is a safe proposition in law to insist on a duty of care by an employer to ensure that when he establishes his offices in such a way to create an artificial environment of air controlled by air condition units and vents, he must ensure that the quality of air is fit for purpose. If the employer is aware that there are defects in the venting or air condition system or that there are poor indoor air quality and takes no steps to deal with it, it is in breach of that duty and exposes his employee to a risk to their health. If in doing so, it creates a risk that an employee who is predisposed to becoming injured by exposure to allergens in the poor air environment created by the employer it must accept responsibility for his victim. If there are multiple causes "innocent" and "wrongful" the Court must as the trier of fact seek to determine the outcome by the overall probabilities. It is not an exact science. But the assistance of the scientists are equally important.

110. In these cases of occupation illnesses the expert knowledge of occupational physicians and specialists are material in assisting the Court in establishing a causal link. In this case Dr. Coombs was prepared to make the link between injury and the allergens in the Atlantic Plaza building. Professor Seemungal, although not agreeing with Dr. Coombs in making that causal connection, simply did not have the pathological tools to assist the Court clinically to discredit the views of Dr. Coombs.

111. Before analysing their evidence a number of principles must be accepted:

- These experts were Court appointed Part 33[13] experts who discharged their responsibility to the Court impartially and gave their evidence primarily to assist the Court as the ultimate trier of the issue of causation.
- The experts' opinions do not remove the Court's task of drawing the casual link from an analysis of all the available evidence.

[12] **Williams v The Bermuda Hospitals Board** [2016] UKPC 4, paragraphs 40 and 41
[13] Part 33 of the Civil Proceeding Rules 1998 as amended (CPR)

- Jamadar JA reminds us in **Kelsick v Kuruvilla and others** Civil Appeal No P277 that the trial Judge remains the arbiter of fact and the role of the expert is to assist the Court in that exercise and not usurp it. To say that a scientific opinion of cause is inconclusive does not immediately eliminate the legal question of causation from the Judge's determination.
- Scientific theories and conclusions are open to be tested for their logical analysis and basis.
- It would be rare, however, to reject a medical expert's view reasonably held as being unreasonable.

Causation -Experts evidence: Dr Coombs vs Professor Seemungal

112. It is useful at this point to focus directly on the medical testimony on the issue of causation and then deal with the other available evidence which may either tip the scale either for or against the Claimant on whether there was poor indoor air quality at NGC's buildings and whether it did cause the disease of UIP/pulmonary fibrosis. The Defendant's main submission on this aspect of causation is that this is a case of multiple causes where loss occasioned to Mr. Baksh is as a result of a number of discrete causes and he has failed to demonstrate that the "negligent cause" caused his loss to the exclusion of the other causes.

113. The experts, Dr. Victor Coombs and Professor Terrence Seemungal provided their respective expert reports and also a joint report. It was agreed between the parties that for the purpose of cross examination that both experts would be cross examined separately and thereafter the Court will engage in an exercise of "hot-tubbing" where Dr. Coombs and Professor Seemungal would be questioned together by the Court on specific issues. Counsel for both sides were then given the opportunity to further question the experts based on the answers given to the Court's questions. During the "hot tub" it was clear that both men respected each other's opinion and there was a collegiate atmosphere in the manner in which they both helpfully dealt with the issues. They both refer to each other in their regular practice. There was no hint of any superiority complex between both of them. A discussion on hot tubbing is dealt with later in this judgment.

Dr. Victor Coombs

114. Dr. Coombs obtained a Bachelor of Medicine, Bachelor of Surgery from the University of West Indies in 1978. His curriculum vitae is quite extensive. He is NGC's occupational specialist and has been treating the employees of NGC for various ailments. He has an extensive background in training, lecturing and consulting in the field of occupational health and safety. Importantly, his evidence not only was of his expert opinion but his first-hand account of observations at the Atlantic Plaza building when he was treating Mr. Baksh and other employees for similar ailments at the same time. Mr. Baksh's symptoms were the worse of those he had treated at that time.

115. In preparing his report he used CT Scans, Blood test results, X-rays, Spirometry and CARIRI's IAQ reports 2010 and 2013[14] among other references. In his report, he stated that Indoor Air Quality concerns were raised by workers in Atlantic Plaza since July 2005 and again in 2009/2010. Some of these concerns included "dizziness, stuffiness, itchy eyes, itchy skin, sinus problems, sneezing, watery eyes, sore throat, coughing, humid conditions, high temperatures and suspect mould growth in certain areas."

116. In his report, he also listed some of the findings of the CARIRI (IAQ) monitoring one of which was "The high levels of fungal spores in the ISD Storeroom and meeting room (next to Financial Accounting) can be attributed to the elevated counts of Aspergillus/Penicillium detected." He also quoted para 5 and 6 which stated:

> "Para 5. "Penicillium oxalicum may cause Hypersensitivity Pneumonits and allergic alveolitis in susceptible individuals……
>
> Para 6: "Aspergillus/Penicillium is often found growing indoors such as on water damaged plywood, wall paper, carpet and chipboard. Aspergillosis affect the respiratory system. Symptoms may be fever, cough or breathlessness and it usually affect individuals with weakened immune systems……."

[14] During the course of the trial it was revealed the 2013 report referred to in the report was not in reference to the Julin building but to the Atlantic building but wasn't to requested nor disclosed in the proceedings.

117. He also stated the finding of CARIRI for the indoor spore levels in 2010 where it was indicated that the commercial and Internal Audit areas had elevated levels of Aspergillus/Penicillium.

118. His conclusions on the CARIRI IAQ reports of 2010 and 2013 were that they documented the following:

a) That the (HVAC) Heating Ventilation Air Conditions System was faulty both in design and operations.

b) That there were frequent break downs in the AC System.

c) The temperatures were abnormal in some areas.

d) That relative humidity was abnormal in some area.

e) That fungal spores were elevated in some areas.

f) That swabs grew fungus in some areas.

g) That the microbiological organisms found were documented in the Literature to cause (I) Rhinitis, (II) Sinusitis (III) Hypersensitivity Pneumonitis (IV) Asthma (V) Aspergillosis (VI) Allergens which can cause eyes, nose, skin and lung allergies.

h) That even when some intervention took place in 2010 the 2013 evaluation still showed similar though less severe abnormalities.

119. His conclusions on causality were that:

- There were multiple workers with skin upper respiratory tract and lower respiratory tract symptoms of varying degrees of severity. This conclusion has not been contradicted by the Defendant;

- Regardless of the effort to mitigate the hazards in 2010-2013 there were still problems with the HVAC system, temperature, relative humidity and presence of microbiological organisms. This is a reasonable inference to be drawn from the assessment of the CARIRI reports of the Atlantic building and Ms. Alleyne's cross examination on the failure to implement the main recommendations of the CARIRI report;

- CARIRI's IAQ report documented organisms which can cause Rhinitis, Sinusitis and Hypersensitivity Pneumonitis. This is a clear conclusion of the report.
- The premises were evacuated by management on more than one occasion. There was relocation of staff confirmed by Mr. Baksh and Ms. Claire Gomez-Miller from the Atlantic Building.
- Mr. Baksh has Rhinitis/Sinusitis and Hypersensitivity Pneumonitis the latter leading to pulmonary fibrosis.
- Hills criteria for assessing causality (1) Strength of Association (ii) Consistency of Evidence (iii) Specificity (iv) Temporal Relationship (v) Dose-Response Relationship (vi) Biological Plausibility (vii) Coherence (viii) Experimentation and (ix) Analogy have been met.

120. He stated that it was therefore reasonable to conclude that the exposure to allergens and microbiological organisms in Mr. Baksh's workplace either caused or aggravated his upper and lower respiratory systems.

Professor Terrence Seemungal

121. Professor Seemungal is a specialist in Chest and Internal Medicine and a Medical Director of Respiratory Care (Trinidad and Tobago) Ltd. His curriculum vitae is equally impressive. He prepared an expert report dated 7th June 2016 and a supplemental expert report dated 4th July 2017.

122. In his report, Professor Seemungal was asked to provide a medical opinion on the advice given to Mr. Baksh by his doctors and his opinion and reasons as to whether such advice can be supported and if it can be supported, to what extent. He stated that Mr. Baksh's doctors postulated that he had the following concurrent illnesses:

(i) Polymyositis

(ii) Interstitial Lung Disease

(iii) GERD (Gastro-oesophageal reflux disease)

(iv) Occupational Asthma which was not a claim that was mentioned in the medical opinions of Mr. Baksh's doctors but which was sent to Professor Seemungal.

(v) Nasal Polyps

(vi) Diabetes Mellitus

(vii) Hypertension.

123. Professor Seemungal referencing the National Institutes of Health (of the USA)/ National Institute of Neurological Disorders and Stroke (NINDS) stated that polymyositis is one of a group of muscle diseases known as the inflammatory myopathies which are characterized by chronic muscle inflammation accompanied by muscle weakness. He further indicated that people with polymyositis may experience arthritis, shortness of breath, difficulty in swallowing and speaking and rhythm disorders of the heart. In cases where shortness of breath develop in polymyositis it is most commonly due to a disease referred to as interstitial lung disease (ILD). He stated that ILD is also called lung fibrosis, pulmonary fibrosis, fibrotic lung disease and diffuse parenchymal lung disease (DPLD).

124. He indicated that Mr. Baksh had a transbronchial lung biopsy in 2014 but that "does not always yield the most efficacious sample for ILD diagnosis" because "the lung architecture in ILD is mostly inhomogeneous and so a large sample is required and this is best obtained by surgical (open lung) biopsy." He stated that Mr. Baksh's CT chest findings in 2013-2014 showed:

(i) Honeycombing that was subpleural

(ii) Traction Bronchiectasis

(iii) Interstitial thickening.

125. He further stated that in Mr. Baksh's first CT Scan which was done shortly after his symptoms began there was no mention of ground glass shadowing but there is traction bronchiectasis indicative of fibrosis. The lesions were all confined to the lower lobes. This is said was compatible with NSIP (non-specific Interstitial Pneumonia) and UIP (Usual Interstitial Pneumonia) but the radiologist did not mention if there was any ground glass shadowing or early consolidation and therefore no evidence in that early report of hypersensitivity pneumonitis (HP).

126. He stated that HP may be acute, subacute or chronic and if Mr. Baksh had hypersensitivity it would be in chronic form since he appears to have a chronic form of pulmonary fibrosis.

127. He indicated that if Mr. Baksh had an underlying ILD due to his polymyositis this could have been worsened by exposure to pathogens/environmental agents but this was an unlikely event since there was no finding supportive of hypersensitivity pneumonitis on biopsy.

128. In relation to GERD, he stated that GERD is highly prevalent in patients with idiopathic pulmonary fibrosis (IPF). In his opinion the presence of GERD in Mr. Baksh could have caused the ILD, could have worsened a previous ILD and will adversely affect the course of his ILD.

129. He provided his final opinion as follows:

(i) Mr. Baksh had GERD and

(ii) Mr. Baksh had a history of polymyositis (PM) and

(iii) Mr. Baksh had ILD which on a balance is of a usual interstitial pneumonia (UIP) pattern and

(iv) His polymyositis is a risk factor for ILD and

(v) Micro aspiration associated with GERD could have caused his ILD or worsened it and

(vi) Both GERD and PM will adversely influence the course of his ILD and

(vii) Mr. Baksh's lung function has been stable between 2014 and 2015.

130. On the question of whether the workplace exposure may have influenced onset and cause of Mr. Baksh's ILD, Professor Seemungal stated that there was no evidence on biopsy of a hypersensitivity pneumonitis but the biopsy sample is too small and he could not, on the basis of what was shown to him, be certain of this conclusion.

131. He stated that on a balance, Mr. Baksh's ILD is likely to have been caused by his prior PM or GERD but his conclusions are limited by the biopsy. Critically in this report Professor Seemungal cannot eliminate hypersensitivity pneumonitis as a cause of Mr. Baksh's fibrosis. The biopsy was not a proper sample for him to conduct such an analysis. Far from discrediting Dr. Coombs theory that hypersensitivity pneumonitis caused the fibrosis Professor Seemungal is inconclusive on this issue.

<u>Supplemental Report of Professor Seemungal dated 4th July 2017</u>

132. In this report, Professor Seemungal was provided with the CARIRI reports of 11th January 2010 and 7th March 2013 and asked whether the matters contained in those reports would have an effect on his views in his export report dated 7th June, 2017. He stated his final opinion as follows:

(i) "If Mr. Baksh had no known exposure or fungi or any other irritant then my conclusion as stated in my Final Report dated 7th June 2016 remain unchanged.

(ii) If Mr. Baksh had exposure to fungi especially aspergillus at the Atlantic Plaza office of NGC then on balance:

a) Aspergillus or other fungus could have contributed in some way to the evolution of his fibrotic lung disease but

b) There is no biopsy or radiologic finding to support the hypothesis that such fungi caused a hypersensitivity pneumonitis."

133. Again Professor Seemungal's conclusions based on the limited biopsy sample does not discredit Dr. Coombs conclusion that the allergen of aspergillus or fungi led to his fibrosis. He was unable to state with certainty whether it did based on the biopsy.

Joint Report of Dr. Coombs and Professor Seemungal dated 10th November 2017

134. In preparation of the joint report, Professor Seemungal and Dr. Coombs met on 23rd October 2017. Their agreement and disagreement were recorded as follows.

135. They both agreed:

- That though pulmonary fibrosis is a generic term they would use it in this case interchangeably with UIP.
- Professor Seemungal stated that there is no evidence of active inflammation in the biopsy which Dr. Coombs agreed with but said that it is because the condition is now chronic.
- On h/o polymyositis. Dr. Coombs agreed that while polymyositis was a possibility he felt that there was no confirmation and the fact that he had no problems for twenty six years suggested he could have had another condition called Toxic Myositis which is a relatively acute condition. Professor Seemungal stated that the patient himself gave the

history of polymyositis and this was also in Dr. Coombs report that was sent to Professor Seemungal by the Court.

- That Mr. Baksh has GERD.
- That Mr. Baksh is unlikely to have occupational asthma
- That the CARIRI Air Quality Study at Atlantic Plaza report dated 11th January 2009 showed that:
    - Overall indoor microbial growth was less than outdoor microbial growth.
    - That indoor spore levels of aspergillus and penicillium were elevated.
    - Swab samples grew yeast including Rhodotorula species.
- That the CARIRI air quality study at Julin Building reported on 7th March 2013 which was conducted in 2012 showed that:
    - No indoor air quality problem due to fungal contamination: "The overall spore concentrations for all indoor areas assessed are considered to be low and do not signify an indoor air problem due to fungal contamination.
    - Mr. Baksh worked at Atlantic Plaza from December 2009 to April 2010.
- With regards to the causation of pulmonary fibrosis of Mr. Baksh that polymyositis is a risk factor for pulmonary fibrosis, that GERD can contribute to pulmonary fibrosis and that fungi can cause pulmonary fibrosis.
- That the biopsy showed no evidence of hypersensitivity pneumonia and that the specimen was small and that a larger specimen may have given more information to either support or reject the hypothesis of hypersensitivity pneumonia.

136. They both disagreed that:

- With regards to implications of the study for period of exposure, Professor Seemungal was of the view that if Mr. Baksh had an exposure in 2011 with no further exposure, they may see burnt out disease in 2014 but if he had recent exposure due to causative agent he should have had biopsy signs of hypersensitivity pneumonia. He indicated that the biopsy report would appear to negate the presence of continuous exposure at the

Julin Building. Dr. Coombs was of the view that there were exposures to fungi known to cause HP and that this could have continued in Julin Building. However, the two samples taken at Julin Building was inadequate to be truly representative of exposures in the Julin Building.

- In relation to the causation of pulmonary fibrosis:
    - Dr. Coombs was of the view that the presence of aspergillus and Rhodotorula at Atlantic Plaza and elsewhere as shown in the CARIRI report is sufficient to have caused hypersensitivity pneumonia which led to pulmonary fibrosis. His position was the presence of aspergillus and rhodotorula either caused or aggravated/worsen Mr. Baksh's pulmonary fibrosis. He also felt that because the biopsy sample was small it cannot be relied on to document the presence of HP and that HP could have burn out and presented at pulmonary fibrosis by the time the biopsy was done.
    - Professor Seemungal pointed out that there was no evidence of Hypersensitivity pneumonitis in the lung biopsy report of 2014 and that other factors could have also contributed to the occurrence of Mr. Baksh's pulmonary fibrosis. He stated that in a patient who already has fibrotic lung disease fungal exposure can worsen the fibrosis but noted that Mr. Baksh worked at Atlantic Plaza for only 4-5 months between December 2010 to April 2011. He gave three reasons why he thought Mr. Baksh was unlikely to have ever had hypersensitivity pneumonitis which are:
        - The CT scan of 15th April 2011 which was performed shortly after the alleged exposure started in December 2010 showed no shadowing in the lower lobes and traction bronchiectasis noted in the peripheral right base with the latter not being an early feature of hypersensitivity pneumonia. Early features are ground glass opacities, air trapping and centrilobular ground glass opacities. Fibrosis is a later development when traction bronchiectasis may be seen. To show traction bronchiectasis as early as four (4) months after the alleged exposure just does not fit. It is far more likely that Mr. Baksh had ongoing fibrosis from some antecedent cause

for some time before this. Traction bronchiectasis is usually a feature of chronic disease not acute disease.

- ❖ Further hypersensitivity pneumonia tends to develop in the mid and upper zones of the lung unlike in this case where shadowing was confined to the lower lobes on the initial scan. It is only in November 2013 that shadowing appeared in the upper lobe which is better explained by evolving fibrosis which started in the lower lobes.
- ❖ The biopsy sample showed no evidence of hypersensitivity pneumonia.

- Dr. Coombs felt that GERD was not weighted enough to be a significant factor in Mr. Baksh's pulmonary fibrosis and he pointed out further that fibrosis may cause GERD. Professor Seemungal pointed out that GERD is well known to be associated with pulmonary fibrosis and agreed that it could be a cause or exacerbator. However, in any event, he stated that GERD was confirmed as early as February 2011 which indicates that it was present for sometime before this and since Mr. Baksh was alleged to have been exposed only from December 2010, it is unlikely that any ensuing fibrosis could have evolved to a severe enough extent to have caused GERD in February 2011. It was more likely that GERD predated the alleged exposure of December 2011.
- Professor Seemungal pointed out that fungi as a cause of fibrosis was not the issue. The issue is whether in this case Mr. Baksh had fungal exposure enough to cause hypersensitivity pneumonia in the absence of radiologic and histologic support. Dr. Coombs was of the view that there was significant exposure at Atlantic Plaza and that Mr. Baksh had hypersensitivity pneumonia which had evolved into pulmonary fibrosis by the time of the biopsy.

137. It was stated that Dr. Coombs used the Hill criteria for causality which is:

(i) Strength of association

(ii) Consistency of the evidence

(iii) Specificity

(iv) Temporal Relationship

(v) Dose Response

(vi) Biological Plausibility

(vii) Coherence

(viii) Experimentation

(ix) Analogy

138. It was Dr. Coombs opinion that "Hill Criteria" was satisfied and in Occupational and Environmental Medicine once Hill Criteria is satisfied it either caused or contributed to the disease.

139. There were certain information which Professor Seemungal was unaware of and could not comment on. These were:

- Dr. Coombs stated that there was a pet shop on the ground floor of the Atlantic Plaza Building where birds were kept and that birds may also contribute to pulmonary fibrosis. Professor Seemungal stated that this was the first he was hearing of that information since Mr. Baksh did not mention it and there were no documents shown to him to state that. In my analysis I have not attached any weight to this as it was not part of the case of the Claimant.

- Professor Seemungal was unaware that NGC transferred workers from the East End of Atlantic Plaza to the West end and that some entire units were transferred to Head Office as a result of Health complaints since same was not shown to him in the Court documents sent to him.

Cross examination of Dr. Coombs

140. In his cross examination, Dr. Coombs admitted that it was only in the joint report with Professor Seemungal that he considered the Julin building since his previous reports of 29th March 2016 dealt with Atlantic Plaza building. He stated that both he and Professor Seemungal agreed that the exposures could have caused hypersensitivity pneumonitis leading to pulmonary fibrosis but that the biopsy specimen was too small to be conclusive as to the existence of pulmonary fibrosis.

141. He agreed that Professor Seemungal thought it was unlikely that Mr. Baksh had enough fungal exposure to cause hypersensitivity pneumonia. He clarified that they both agreed that polymyositis is a risk factor for ILD. GERD may contribute to his ILD or worsen it and fungal exposures can cause hypersensitivity pneumonia.

142. He was of the opinion that Professor Seemungal was done a disservice in that he was asked to prepare his first report without the CARIRI reports.

Cross examination of Professor Seemungal

143. In his cross examination, when questioned about Mr. Baksh's use of corticosteroids which is the "mainstay treatment for PM/DM-ILLD", for the rest of his life Professor Seemungal stated not for ILD. He stated that inhaled steroids are used for air way diseases. He further stated that patients with ILD may have a cough and most physicians treating them believe they have developed an airway type disease even though ILD is in the lung parenchyma and as such they are given inhaled corticosteroids.

144. He agreed that it was not in dispute that Mr. Baksh has a sinusitis problem and he agreed that Mr. Baksh can use nasal washes in relation to that. When questioned if it is likely that Mr. Baksh would require some form of oxygen therapy in the future he said it was a 50/50 probability that he might.

145. He did not see the need to make any seasonal difference with persons suffering with ILD and saw no need for relocation in the dry season.

146. He confirmed that the lung biopsy showed no evidence of HP. He indicated that the initial CT Scan which was done shortly after the exposure did not show what a person would expect for HP and coupled with that the biopsy did not show anything that he would expect for HP.

147. When questioned on the reliability of CT Scans he admitted that the CT scan is not the most reliable source to determine or identify what type of ILD although some patterns are more common in some ILDs than in another. There is a special CT scan that can be of assistance but the most reliable test would be from a sufficient biopsy.

148. After seeing the CARIRI air quality reports he was satisfied that there was a temporal sequence. He saw that the reports referred to aspergillus, spores at the Atlantic plaza. He

stated: *"So that is when the possibility of a temporal sequence suggested itself to me. Hence I would have expected the mid zone and upper zone shadowing in the first CT scan".* However he needed a proper biopsy to be sure.

149. When questioned if in his research he has come across any instance of polymyositis leading to ILD that occurred twenty six (26) years after the fact he stated that most of the studies are five year studies.

150. He stated that if he was told that other persons at the location were suffering from respiratory problems, then the only question he would ask is how many of them have hypersensitivity pneumonitis because the mechanism by which fungal antigens or other antigens in general cause that inflammation is not the same as it would on skin and elsewhere.

Hot-Tubbing

151. Hot tubbing is a useful form of taking evidence for experts. The expert's role is to assist the Court and to render independent and impartial advice on the areas of science which are in issue. Experts are no longer the "hired guns" of the parties and they are not to act as advocates for the cause of their client. Part 33 of the Civil Proceeding Rules 1998 as amended (CPR) makes this pellucid. For this reason, there is no reason why under the CPR, expert evidence is to be given by an expert in the absence of the other in the court room. Indeed, in most cases, the exercise to take expert evidence where there are different views should be a collegiate one and they too should assist the Court to give effect to the overriding objective. In several jurisdictions in the Commonwealth there is a growing practice of "hot tubbing" of putting the experts together in the "hot tub" to take their evidence concurrently[15]. I had made reference to hot tubbing in an earlier judgment **B v Her Worship Marcia Ayers-Caesar and The Attorney General of Trinidad and Tobago** CV2015-02799.

[15] Sir Rupert Jackson in his report, Review of Civil Litigation Costs: Preliminary Report (May 2009), ch 57, [4.17] noted:

> "The practice has been developed in Australia of hearing evidence concurrently from the experts in any particular discipline. This practice is known colloquially as "hot tub". The practice began in the Competition Tribunal and was subsequently adopted in the Supreme Court of New South Wales."

152. Sir Rupert Jackson in his report, Review of Civil Litigation Costs: Preliminary Report (May 2009), ch 57, [4.17] commented on the process of hot-tubbing:

> "The experts meet pre-trial in order to identify where they agree and where they disagree. At trial, experts in the same discipline are sworn in at the same time and the judge chairs a discussion between the experts. The pre-trial document recording the matters upon which the experts disagree serves as the agenda. Counsel join in the discussion. They can put questions to the experts, as and when permitted by the judge. In addition the experts can put questions to each other. This procedure has spread from Sydney to other courts and is, apparently, quite widely used across a range of courts and states in Australia. The New South Wales judges tell me that the procedure is effective. It saves both time and costs. It gives back to experts their proper role of helping the court to resolve disputes. Also it does away with the "one on one" gladiatorial combat between cross-examining counsel and each expert. Two practitioners in New South Wales have confirmed to me that the procedure is effective, saving both time and costs. One practitioner commented that the procedure works well in areas where there are no issues of credit and the experts know and respect each other. The other practitioner said that time is saved, because instead of counsel turning round to take whispered instructions during cross-examination, he puts his questions to the experts in the "hot tub". Both/all experts can then deal with the particular point. The procedure does not enable experts to "get away with" flawed evidence."

153. In **Halsbury's Laws of England** Volume 12 (2015) it was stated at paragraph 9:20:

> "At any stage in the proceedings the court may direct that some or all of the experts from like disciplines give their evidence at trial concurrently (this is known as '**hot-tubbing**'). The following procedure then applies.
>
> The court may direct that the parties agree an agenda for the taking of **concurrent evidence,** based upon the areas of disagreement identified in the experts' joint statements.
>
> At the appropriate time the relevant experts will each take the oath or affirm. Unless the court orders otherwise, the experts will then address the items on the agenda in the following manner. In relation to each issue on the agenda, and subject to the judge's discretion to modify the procedure:

(1) the judge may initiate the discussion by asking the experts, in turn, for their views and, once an expert has expressed a view, the judge may ask questions about it;

(2) after the process set out in head (1) above has been completed for all the experts, the parties' representatives may ask questions of them; and

(3) after the process set out in head (2) above has been completed, the judge may summarise the experts' different positions on the issue and ask them to confirm or correct that summary."

154. In **Blackstone's Civil Practice 2016** it was stated at paragraph 54.39 that concurrent evidence can be made at any time although it us usually at the first case management conference:

"Under this procedure, instead of going into the witness box at the trial on their own and being examined in chief, cross examined and re-examined like other witnesses, the experts in a discipline will all give evidence together from the witness box of witness table."

155. It was further explained:

"At the trial, when the time comes for the experts to give their evidence, each of their relevant experts will take the oath or affirm. Typically, unless the court orders otherwise, the judge will initiate the discussion by asking the experts, in turn, for their views on the items on the agenda. Once an expert has expressed a view the judge may ask questions about it. At one or more appropriate stages when questioning a particular expert, the judge may invite the other experts to comment or to ask that expert's own questions of the first expert. The parties' representatives may then question the experts. While such questioning may be designed to test the correctness of an expert's view or seek clarification of it, it should not cover ground which has been fully explored already. In general, a full cross-examination is neither necessary nor appropriate. After questioning by counsel, the judge may summarise the expert's different positions on the issue and ask them to confirm or correct that summary."

156. In **Harrison v Shepherd Homes Ltd** [2011] EWHC 1811 (TCC), Ramsey J remarked at paragraph 26:

"After cross-examination of the engineering experts, with the agreement of the parties, there was a process of concurrent evidence, colloquially known as 'hot tubbing', so as to deal effectively with the ten individual properties. This highlighted the extent of agreement between the experts and also showed the limited differences in approach on which I have had to make a decision."

157. In **Local Authority v A and others** [2011] EWHC 590 (Fam) Ryder J noted at paragraphs 22 and 23:

"[22] The three experts commissioned to analyse the key issues were heard in oral evidence by the court. Not for the first time this court was very greatly assisted by hearing their evidence concurrently. A device unfortunately and colloquially known as "hot tubbing" was used with the agreement of all parties. This process has been tested in America and Australia but not in this jurisdiction. Out of the experts' reports and discussions the court derived an agenda of topics which were relevant to the key issues and to which counsel were asked to contribute. The witnesses were sworn together and the court asked each witness the same questions under each topic, taking a topic at a time. The experts were encouraged to add or explain their own or another's evidence so that a healthy discussion ensued, chaired by the court. Each advocate is permitted to examine or cross examine and where appropriate re-examine each witness after the court has elicited evidence on a topic.

[23] The resulting coherence of evidence and attention to the key issues rather than adversarial point scoring is marked. The evidence of experts who might have been expected to fill two days of court time was completed within four hours."

158. In **Streetmap.EU Ltd v Google Inc** [2016] EWHC 253 (Ch) Roth J commented on paragraph 47:

"47. Each side called one economic expert and the court used a so-called "hot-tub" for the joint presentation and scrutiny of those experts' oral evidence. I believe that is the first time this has been done in a competition case in the UK, and it led to a constructive exchange which considerably shortened the time taken by the economic evidence at trial. However, I should mention that this process involves considerable preparation by the court and effectively requires (as in the present case) a transcript since the judge is unable to

keep a proper note while leading the questioning. The two expert economists were Mr. Craig Lonie for Streetmap and Mr. Patrick Smith for Google. Each is a partner in a leading economic consultancy and has frequently been involved in giving economic evidence in competition cases. Both have undoubted expertise in this field, but I found that each displayed a tendency to become an advocate for the party by which he was instructed. Much of their respective reports was concerned with presenting various different measurements of searches for online maps or online mapping websites, and analysing the results. The fundamental economic issues in the present case are not particularly complex, and on those the hot-tub process led to a significant measure of agreement that was helpful, although the two experts remained very divided on their interpretation of some of the data they presented."

159. In **Review of Civil Litigation Costs: Final Review (Dec 2009),** Sir Rupert Jackson reinforced his views in support of concurrent evidence, recommending: "the procedure developed in Australia, known as "concurrent evidence" should be piloted in cases where all parties consent. If the results of the pilot are positive, consideration should be given to amending CPR Part 35 to provide for use of that procedure in appropriate cases". (See page 469, Chapter 38 (80)).

160. This was the first time that I had used the hot tub and I encourage its use in similar cases where there are multiple experts on a specific area of expertise.

In the Hot-Tub- The Court's Questions

161. I placed these experts in the hot tub for two reasons: to assist me with certain terms and medical procedures with which I was unfamiliar so as to obtain for the record their explanation in more lay man friendly terms. Second and more importantly, pointed questions were posed on the development of the disease of pulmonary fibrosis and the reasons attributed by them for the causes and why they eliminated certain causes. I sought to obtain consensus from them on the answers and to give them the opportunity to explain their difference where it existed. I should have provided to them and their counsel an agenda of the issues and questions to be asked beforehand but time did not permit it. I have recorded the material answers to my questions below and have included as an appendix to this judgment the entire exchange.

162. **What is the difference or the relationship between UIP and pulmonary fibrosis?** Professor Seemungal explained that "*Pulmonary fibrosis is used loosely to mean the same thing as ILD. UIP is a particular histologic pattern that you get……So UIP is a subset of ILD"*

163. **Both of you agree that the condition that Mr. Baksh manifested is pulmonary fibrosis.** Both agreed on this.

164. **To assist the Court in understanding the importance or lack of importance that Mr. Baksh is also suffering from HP because both experts agree that he is suffering from a lung condition.** Professor Seemungal explained that *"UIP that has a cause in which case you look for other histologic characteristics. That makes you think it is HP has different- a different treatment entirely different from UIP which is of a known cause. So for example- which we call idiopathic pulmonary fibrosis in the clinical sense. So if you have a causation that is hypersensitivity pneumonitis you would expect that you would treat them and the lung function would improve. And you would treat with oral steroids. The same drug that you would use for polymyositis actually. And for a few months and then you would go on I mention immune modulators. Other immune modulators of the lung function would improve. In idiopathic pulmonary fibrosis which is UIP where there is no cause the lung function remain the same or get worse with time."*

165. Dr. Coombs agreed with Professor Seemungal in terms of the specifics and the histological patterns. However his opinion was that HP could have presented initially and then burnt out so that by the time biopsy was done there was no evidence of HP. There was only evidence of pulmonary fibrosis. *"However, Professor Seemungal felt that there were elements that were missing from his point of view in concluding that HP was present."*

166. **Those elements that were missing according to Professor Seemungal goes back to the radiological pattern that he picked up on the CT Scan?** They both confirmed that it was the biopsy pattern which was inconclusive: "A *larger biopsy would have given us greater accuracy."*

167. **What type of biopsy is needed to properly detect HP?** Video Assisted Thoracoscopy. Basically they put a telescope into your lungs into the side of your lungs and they take biopsy. Or an open lung biopsy where they actually cut the chest wall and it allows a larger sample of the lung to be looked at in the microscope.

168. **What did Dr. Coombs mean when he mentioned "burnt out"?**

If there is an acute exposure and you develop HP you can get it within days weeks. It can resolve or it can progress. At the point in time when the actual biopsy was done it was burnt out meaning it was no longer acute. So the source cells at the histological level that you would find then would be absent. Professor Seemungal was of the view that if there was subsequent exposure, he would have expected florid hypersensitivity pneumonitis on the biopsy and he could not say the Mr. Baksh had a brief exposure which exacerbated already existing pulmonary fibrosis.

169. **Is Professor Seemungal saying that with chronic HP their conditions are masked as an HP but really it is another ILD?** Professor Seemungal explained:

"Simply put, at the end stages of the disease where no longer have exposure but it is just burnt out it can look like UIP."

Professor Seemungal would have preferred to see more shadowing in the CT scan.

170. **How would the experts account for an evolving fibrosis beginning in the lower lobe in 2011 and appearing in the upper lobe in November 2013?**

Professor Seemungal stated that any form of fibrosis affecting one lobe in the lung can spread to other lobes in the lung but where it starts is of importance. Dr. Coombs agreed.

171. **Would exposure to fungi worsen the condition of fibrosis regardless of the level of exposure?** Professor Seemungal was not able to say. *"But I can tell you I provided a case report in my supplemental report which I showed there were exposure proven exposure to three fungi. Rhodotorula, aspergillus and I think pennicilium. But the researchers concluded the cause of rhodotorula. What I am saying, the existence of the risk factor does not necessarily prove that you have disease due to the risk factor. We come up with this all the time in lung medicine."*

172. Dr Coombs used the Hill criteria and referred to an analogy using Professor Seemungal's analogy of the thirty four (34) year old lady who was exposed to the rhodotorula who had HP as a contributory factor informing the conclusion that it was either caused or exacerbated.

173. **What is the difference between the Hills criteria and the Lacasse model?**

"The Lacasse model is a model that allows you to predict on the basis of clinical suspicion the probability of hypersensitivity pneumonitis. The model exists where you have not done biopsy and scans. The gold standard was the biopsy. The researchers clearly said that."

174. **Should the Hills criteria be used as the criteria to determine causation?** Both experts had competing views as demonstrated:

> ***"**DR. COOMBS: Yes you can. The hills criteria is based on a combination of factors. There are about 9 different sub headings that you look for. So for example if I may refer to my notes. Strength of association. In other words how strong is the association between A and B? The literature showed a strong association between organic allergens and fungi exposure and pulmonary fibrosis. So we have evidence from the published literature some of which Professor provided that there is that association between exposure to these allergens fungi and to the pulmonary fibrosis. Consistency of evidence. There is no dispute that Mr. Baksh has pulmonary fibrosis so that that has been proven by several doctors. Specificity, there is a specific association between exposure to for example bird droppings and animal proteins and pulmonary fibrosis. So that is when you look at specificity. In terms of temporal relationship which is the other heading you are exposed and something after exposure you get an illness. And there were definite documents of exposure at Atlantic Plaza and subsequent illness. In terms of those response, again, depending on the dosage of exposure, the effects may be more severe. We agree that we are not sure how much the dosage was. But that is one of the factors we look at. The next heading was biological plausibility and we both agree that it is biologically plausible that A could cause B. And coherence again we agreed that he has a chronic lung disease of pulmonary fibrosis. In terms of experimentation, again research papers were provided some of which put more weight on one possible cause to the other. And then analogy is the final heading and then I used Professor Seemungal's analogy with the 34 year old female. So when you go through- Hills criteria basically says that if you look at these 9 factors that can contribute to causality and if many of them are satisfied then you would conclude that it is a sort of epidemiological conclusion that A caused or aggravated B.*
>
> *PROF. SEEMUNGAL: I mean Dr. Coombs know I respect his views greatly. I have referred to him on occasion. But I beg to differ on this one. To me applying the Hills criteria*

is not bringing any new information. We have already established that fungi can cause pulmonary fibrosis and it is hypersensitivity pneumonitis. That particular type that it causes. We have established that there is no evidence of that on the information that we have so far with regard to the biopsy. So the Hill criteria don't allow us to distinguish between different causes. So for example I mention Gerd. It could be a risk factor or it could be an exacerbating factor of pulmonary fibrosis. And where the pattern looks more like if we accept and I recognise from the questioning of Mr. Quamina that polymyositis is somewhat in doubt, I will leave that to the Court to determine whether it is or not, but if we take it out of the equation then you have a 50 odd year old man who presents with worsening shortness of breath, who has shadowing in the lower lobes and a biopsy shows you IP that's idiopathic pulmonary fibrosis. So we have different diagnostic explanation of the same phenomena. And the Hill criteria in my view don't allow us to distinguish the importance. We have to just balance those on the basis of the evidence we have.

DR. COOMBS: Well again and just a comment, the Hills criteria is used in occupational and environmental medicine to form an opinion on causality. However in clinical medicine which is the expertise of Professor Seemungal and I highly respect him in that area, diagnostic tools are what are use. So x ray, a CT scan, a biopsy and those things. The ingredients for a clinician to make a diagnosis. But in field where you may have multiple exposures, where you may have in some situations you don't even know if there is an exposure but someone is ill and you are trying understand, you are trying to dissect which is before you to form an opinion. Is this a personal illness or is this an occupational illness. Is this something that he had spontaneously or is it something that was caused by an external factor and that is where the Hills criteria"

175. Professor Seemungal stated that he has used the Hills Criteria before but he would not use it in this case.

176. **Can a patient suffer from a mixture of obstructive and restrictive lung disease?** Professor Seemungal and Dr. Coombs agreed:

"PROF. SEEMUNGAL: Yes. So- Obstructive- if you had honeycombing or if you have what he had trachto bronchiectasis. Bronchiectasis is a cause of obstruction so when we say obstruction we mean the air does not come out of your lungs as rapidly as it should.

And some gets left back in. That what makes us speak about obstruction. So when we said he had obstruction his FUV1 in the report that I gave which is the amount of air you blow out in the first second compared to the total amount where you blow is less than 70%. And restriction is where the total amount of air you blow out is low which was his case."

177. Subsequent to these questions, Counsel for both parties were given the opportunity to question the expert witnesses based on the questions posed by the Court. Counsel for the Defendant queried that in so far as Mr. Baksh is complaining of continued exposure to allergens at the time would it have been burnt out? Dr. Coombs stated that if Mr. Baksh was being exposed to the same allergens at Julin Building, they would have expected to see more evidence or some evidence of HP. However, because the biopsy did not show evidence of that, the conclusion was that it is unlikely he had continued to have that exposure at the Julin building.

178. From the evidence of the experts the following conclusions can be drawn:

- That Mr. Baksh is suffering from UIP or pulmonary fibrosis.
- His UIP is chronic.
- That hypersensitivity pneumonia can develop/progress into UIP.
- Exposure to allergens of any duration may cause hypersensitivity pneumonia.
- The CT scans were not conclusive for HP, the radiological patterns were not consistent where it started in the lower lobes. While Professor Seemungal would attribute the fibrosis as ongoing before the onset of illness the fact is there was no reported illness of Mr. Baksh until he entered the Atlantic Plaza building.
- The gold standard to make the clinical diagnosis of cause is a proper biopsy. It is the more reliable test to determine the cause of Mr. Baksh's illness. However, at the time that the biopsy was conducted, because of the progressive nature of the pulmonary fibrosis the HP would have burnt out and become chronic.
- The absence of HP in the biopsy sample is not inconsistent with having developed HP from exposure to allergens.
- Mr. Baksh was exposed to allergens in the Atlantic Plaza building for a limited period of time.

- The literature suggests that even a limited exposure to allergens can in certain immune- compressed persons result in HP and pulmonary fibrosis.
- There is no evidence that the pre-condition of polymyositis played any or any significant part in the onset of the HP and pulmonary fibrosis. On average, persons can recover from polymyositis in two years. Mr. Baksh did not have any issue with that condition for over twenty six (26) years.
- Professor Seemungal postulates that the exposure to allergens may have exacerbated an existing pulmonary fibrosis. Whereas at best he has not admitted that the allergen was the cause, he has accepted that it has materially contributed to Mr. Baksh's illness.
- Save for lifestyle disease such as diabetes or hypertension, Mr. Baksh was a fit man before he entered the Atlantic Plaza building. He became ill after a few weeks of exposure to indoor air which both experts accepted that allergens can have an exacerbating or causal impact on his health.
- The Hills criteria utilised by Dr. Coombs has not been discredited by Professor Seemungal. Professor Seemungal was reluctant to use it as there was available evidence which had to be balanced whether the Hills criteria was used or not.

Cause and breach by NGC

179. In light of this scientific evidence the Court would not be making a quantum leap to infer causation, it simply is connecting the dots. The scientific evidence demonstrates a reasoned conclusion by Dr. Coombs and an inconclusive view by Professor Seemungal not due to any deficiency in expertise but the scientific data available. With all the available evidence to this Court, there is sufficient for Mr. Baksh to cut the causal path towards NGC and satisfy the "but for" test.

180. Mr. Baksh was a healthy man in 2011. There was no complaint of any fibrosis of the lungs before entering the Atlantic Plaza building. His polymyositis was not a factor in his health regimen where he was receiving treatment for diabetes and hypertension.[16] Indoor air quality

[16] Paragraph 47 of the Witness statement of Haroun Baksh filed 14th August 2017

tests at the Atlantic Plaza building and oral reports by workers demonstrated that there was a poor indoor air quality problem and specifically the presence of allergens and fungi which the experts were prepared to say can cause hypersensitivity pneumonitis (HP). The biopsies do not eliminate HP as having developed because of the exposure to allergens. The exposure to the fungi and allergens identified by the experts are sufficient to develop HP. NGC was aware of the indoor air quality report for the Atlantic Plaza and the risk of danger to the health of workers. There were sufficient triggers and alarms before Mr. Baksh went to that building. They turned a blind eye of minimising the risk and in my view they unreasonably did so to the detriment of Mr Baksh.

181. The only witness who testified on this issue of the steps taken by NGC was Ms. Jennie Alleyne the Supervisor Facilities Management at NGC. Her responsibilities include assigning work to be carried out and supervising work carried out by Maintenance Assistants and Janitorial Coordinators employed by NGC at its various locations.

182. She contends that in or about 2009 NGC contracted the Caribbean Research Institute (CARIRI) to conduct indoor air quality assessments at several of NGC's onshore and offshore sites including offices occupied by NGC at Atlantic Plaza and at Julin Building.

183. In January 2010, she was provided a copy of CARIRI's Final Report on indoor air quality assessment at the Atlantic Plaza offices dated 11th January, 2010 by Ms. Antonia Lucky who was the head of NGC's Environment, Health, Safety and Security Department with a request for her to implement the recommendations in the report.

184. She contends that the following measures were taken by NGC at the Atlantic Plaza Offices during January 2010 to April 2011 pursuant to the recommendations:

a) Caribbean Airduct Cleaning Services Co. Ltd was contracted by NGC to carry out a thorough cleaning, decontaminating, deodorizing and sanitizing of the air ventilation system at the Atlantic Plaza offices which was carried out on 6th and 13th March, 2010.

b) Air Technology Ltd. was contracted by NGC to carry out preventative maintenance on 6 Austin Air Purifiers Systems at the Atlantic Plaza offices every 3 months for a period of 1 year which maintenance included, inter alia, the cleaning, vacuuming and replacement of filters.

c) Century 21 Janitorial Services and Company Limited was contracted by NGC to vacuum clean and sanitize the ceiling loft area at the Atlantic Plaza offices which was carried out on 15th March, 2010.

d) Caribbean Airduct Cleaning Services Co. Ltd was contracted by NGC to clean, decontaminate, deodorize and remove bacteria and mould from the air ventilation system at the Atlantic Plaza offices which work was completed on 1st September 2010.

e) Century 21 Janitorial Services and Company Limited was contracted by NGC to clean the walls in four areas and in the filing room at the Atlantic Plaza offices which was carried out on 24th March, 2011.

f) Century 21 Janitorial Services and Company Limited was contracted by NGC to steam clean and sanitize walls at the Atlantic Plaza offices which was carried out on 16th April, 2011.

185. She further contends NGC contracted Century 21 Janitorial Services and Company Limited to provide janitorial services at all NGC locations including Atlantic Plaza officer for two years commencing from 1st June 2009.

186. On March 2013, Ms. Lucky provided her with a copy of CARIRI's final report dated 7th March 2013 on indoor air quality assessment at the Julin Building offices but she states that prior to receiving that report, the following measures were taken by NGC at the Julin Building offices:

a) Century Janitorial Services and Company was contract by NGC to shampoo chairs located in the training centre at the Julin Building offices which work was carried out on 30th September, 2011.

b) Caribbean Airduct Cleaning Services Co. Ltd was contracted by NGC to carry out a thorough cleansing, decontaminating, deodorising and removal of bacteria and mould from the air ventilation system at the Julin Building offices and to clean the airducts and ceiling loft thereat which work was completed on 16th November, 2012.

187. She contends that during March 2013 to April 2014, the following measures were taken by NGC further to the recommendation in CARIRI's final report dated 7th March, 2013:

a) Caribbean Airduct Cleaning Services Co. Ltd was contracted by NGC to carry out a thorough cleansing, decontaminating, deodorising and removal of bacteria and mould from the air ventilation system at the Julin Building officers and to clean the airducts and ceiling loft thereat which work was completed on 20th July, 2013.

b) Caribbean Airduct Cleaning Services Co. Ltd was contracted by NGC to carry out a thorough cleansing, decontaminating, deodorizing and removal of bacteria and mould from the air ventilation system at the Julin Building offices and to clean the airducts and ceiling loft thereat which work was completed on 15th December 2013.

c) Caribbean Airduct Cleaning Services Co. Ltd was contracted by NGC to carry out a thorough cleansing, decontaminating, deodorising and removal of bacteria and mould from the air ventilation system at the Julin Building office and to clean the ceiling loft thereat which work was completed on 14th June 2014.

188. In cross examination, it became clear that she was not very helpful to the Court in dealing with the issue of poor indoor air quality. She stated that she only became aware of persons having concerns about the air quality at the Atlantic Plaza building when she was informed that CARIRI will be doing testing in the building. She admitted that she did not supervise the works conducted so she cannot attest to the work that was done other than what was documented. She also could not assist the Court in relation to the recommendations which were set out in CARIRI's Final Report of 2010.

189. She also admitted that she did not speak to the question of relative humidity and temperatures being maintained. When questioned why she specially identified the shampooing of chairs in the training centre of the Julin building she stated that she would not be able to answer to that. She initially could not answer definitively if she was aware that several people were complaining about the air quality but she eventually stated she was aware. When questioned if she was aware in March 2011 whether persons were moved from Atlantic Plaza back to head office because of contention over the air quality she responded "No not during that time." She was of no assistance in providing any information on whether NGC followed or implemented the majority of CARIRI's recommendations to deal with poor indoor air quality.

Conclusion on Liability

190. But for the allergens of pennicilium, aspergillus and rhodotorula existing in the Atlantic Plaza building Mr. Baksh would not have experienced the symptoms which he did and develop the severe lung disease with which he is now afflicted. At the very least, if his pre-condition of polymyositis and GERD are to be take into account the existence of the allergens in the poor indoor air of the Atlantic Plaza building considerably increased the risk beyond de minimis of injury of acquiring his respiratory illness. NGC was aware of these risks. Its own occupational physician repeatedly advised them about this risk and the developing fibrosis. It has not been demonstrated that it took the steps which a reasonable and prudent employer ought to have taken to treat with the poor indoor air quality and must be held responsible for the damage suffered by Mr. Baksh.

191. I now turn to the assessment of damages. I begin with the caveat of Kangaloo JA in **Munroe Thomas v. Malachi Ford and ors** Civ App 25 of 2007 that an assessment of damages is not a road to riches:

> "the assessment of damages for a personal injuries claim should be a straightforward arithmetical exercise. The guidelines which inform a court's decision in this regard are well known; the point of departure invariably being the seminal Court of Appeal case of **Cornilliac v. St Louis** (1964) 7 W.I.R. 491. However this area of law has generated a vast array of litigation because far too often sight is lost of two fundamental principles: first, that a personal injury claim must never be viewed as a road to riches and secondly, that a claimant is entitled to fair, not perfect compensation".

Damages

192. The aim of an award of damages is to compensate Mr. Baksh for the loss sustained and to place him as far as money can do so in the position he would have been if those injuries had not been sustained. While in personal injury cases the main remedy of the tort is damages, I have pointed out in several judgments the limited therapeutic value of awards of damages in certain cases for example in defamation or in the award of exemplary damages. In this personal injury case compensation is useful for Mr. Baksh having regard to the alteration of his lifestyle and the medical expenses incurred. But the fact is no amount of compensation will replace Mr. Baksh's lungs or return his lost years of service at NGC, employment which both he and the company had placed a value beyond monetary terms. There may be lessons to be learnt from

this case for the employer in its future operations which may in itself have an invaluable vindicatory effect for the victim. In this way, the Court seeks to add therapeutically to the lives of disputants in the resolution of their dispute.

193. While I shall proceed to award damages in favour of Mr. Baksh along the traditional lines of **Cornilliac v. St Louis** (1964) 7 W.I.R. 491 I will end by making some general observations to be taken into account by NGC as part of the learning experience in these areas of employer liability. It is entirely obiter and non-binding and contained in the postscript to this judgment.

General Damages

194. In my assessment of the pain, suffering and loss of amenities, the Court is guided by the traditional principles of examining the nature and extent of the injuries sustained, the nature and gravity of the resulting disability, the pain and suffering endured, the loss of amenities, the extent to which his pecuniary prospects have been affected. See **Cornilliac v St Louis**. As noted above the majority of Mr Baksh's evidence was not in dispute. On the issue of the extent of the injuries suffered and the resulting loss his evidence has largely been untested.

The nature and extent of the injuries sustained

195. Based on the medical reports tendered, Mr. Baksh presents with the following injuries: Interstitial lung disease/Pulmonary Fibrosis; Chronic Rhinosinusitis; Chronic Rhinitis; Nasal Polyp. His immediate symptoms suffered was coughing, cloudy vision burning eyes, wheezing and sneezing.

The nature and the gravity of the resulting physical disability

196. Mr. Baksh underwent a battery of tests and several surgeries to improve the ventilation and draining of his sinuses. The Claimant has a permanent partial disability of 25% which could be progressive. As a result of the injury he has lost his job.

Pain and Suffering and Loss of Amenities

197. Mr. Baksh is suffering from a constant cough, blocked sinuses, chest pains, cloudy vision, burning and watering eyes, wheezing and sneezing, shortness of breath and chronic sinus. He is unable to sleep properly, is easily exhausted during routine physical activity and is unable to perform everyday tasks and interact in the normal way with his family. He is also required

to use daily intranasal steroid spray and continued use of inhaled steroid/bronchodilator inhaler. He has to avoid atmospheres were dust, smoke and allergens are present. He was required to have increased dosages in his diabetes and hypertension medications because of his diminished mobility and has suffered the side effects of same such a weight gain, stomach pains with acid reflux, chest pains and cramps, loss of appetite and dehydration.

198. Mr. Baksh recognized that his illness was impacting him negatively because he was becoming easily exhausted during routine physical activity. He experienced major difficulty and discomfort breathing and while climbing stairs particularly during his stints in the field on offshore platforms and along the pipeline system. He was unable to walk or run for more than five (5) minutes without becoming exhausted and could not continue the exercise regime which he started and continued since 2008 to control his diabetes. He could not lift his first granddaughter (who was around thirty five pounds) and carry her for more than a couple of feet without feeling completely exhausted. He experienced many sleepless nights and tiring days and had to take sleeping tablet in order to get relief. The dosage of his diabetes medication was increased and his heart medication had to be changed.

Loss of amenities

199. There is no question that Mr. Baksh's life and opportunities to enjoy the simple things of life one takes for granted has been diminished. The impact on his family, personal and social life are evident as he has remained withdrawn.

200. There are few comparable cases locally that deal with such internal injuries and in particular lung infections. **Keith Malchan v Republic Bank Limited** CV2007-04482 and **Daisley v Yara Trinidad Limited** CV2012-01440 and **Chandler v National Four Mills** were of particular relevance.

201. In **Keith Malchan** the Claimant was exposed to fumes and other chemicals that were being used in renovating the building he was working in. The smell made him nauseous, his sinuses became stuff and he experienced headaches and he eventually developed Sjogren's syndrome in which he suffered from dryness of mouth and eyes, knee pains and swelling of the salivary glands. The Claimant contended that due to his illness he was unable to fully care for himself and was unable to return to his current employment or any employment of comparable stature. He was unable to move around without assistance and was likely to be on medication for the

foreseeable future. He was awarded $400,000.00 for pain and suffering and loss of amenities in 2014.

202. In **Daisley,** the Claimant was employed as a laboratory assistant in the Defendant's company was exposed to excessive harmful noxious chemicals and fumes including sulphur trioxide, arsenic and asbestos. He eventually suffered from cancer. He also suffered from loss of taste; chronic dryness of eyes mouth and ears; nasal bleeding; damage and/or destruction of Salivary Gland; inability and/or difficulty to perform activities requiring any reasonable physical effort; weakness and severe weight loss from difficulty in swallowing food; loss of sex drive due to prostate cancer; excess mucus production, and rotting and/or loss of teeth and oral pain. He was awarded the sum of $1,000,000.00 in general damages.

203. In **Flanious Chandler v National Flour Mills** H.C.A 393 of 1998 the Claimant suffered irritation of bronchial tubes, dry cough, breathlessness and teams on both side of the chest, deteriorating lung function and chronic bronchitis. He was awarded the sum of $125,000.00 for the injury sustained in April 2009.

204. There are also other comparable awards:

- In **Williams v Vosper Thornycroft Ltd** Unreported 26th May, 2006, a man, aged 85, with symptoms including three years with lung cancer and unrelated prostate cancer with reduced life expectancy was awarded £55,000.00 (£58,783.51 at March 2009 which is TT $494,489.03)
- In **Snell v Newalls Insulation** All England Official Transcripts 10th June 1998, the plaintiff was awarded £30,000.00 (TT$40,000.00) in general damages for asbestos induced lung cancer which exposed him to 80% respiratory disability and his life expectancy at trial was less than one year.
- In **Badger v The Ministry of Defence Times** Law Reports 30 December 2005, where the claimant, a widow, brought a claim that the Ministry negligently exposed her husband to asbestos dust and fibres, which induced his lung cancer causing him to die. An award of £42,500.00 was agreed but was reduced by the court by 20% since the husband smoked cigarettes, resulting in an award of £34,000.00 (TT $490,000.00 updated to today's value).

- In **Jones and Others (Davies) v Secretary of State for Energy and Climate Change** and another [2012] EWHC 3647 (Q.B.), where the claimant worked at a Coal plant and developed lung cancer which caused his death. His award was reduced by 12% due to the fact that he smoked, resulting in an award of £35,000.00 (approximately TT $400,000 updated to today's value)

205. In the **Judicial Studies Board Guidelines for the Assessment of General Damages in Personal Injury Cases Tenth Edition** where it was commented that "the level of the appropriate award for lung disease necessarily and often principally reflects the prognosis for what is frequently a worsening condition and/or the risk of the development of secondary sequelae." Lung cancer (typically in an older person) causing severe pain and impairment both of function and quality of life, the sum of £51,500.00 is recommended (approximately TT$433,219.88).

206. The Claimant submitted that even though the ailments suffered by Mr. Baksh may not be as deadly as those in **Daisley,** Mr. Baksh also suffers from equal amounts of discomfort for a prolonged period of time and his life expectancy is threatened. The Claimant submits that Mr. Baksh should be awarded the sum of $750,000.00 in general damages. The Defendant submitted that the Claimant should be awarded $125,000.00 to $300,000.00 in general damages.

207. In my view a suitable range for the type of injury sustained by Mr. Baksh would be $300,000.00 to $600,000.00.

208. The Claimant will be awarded the sum of $450,000.00 in general damages. It is a serious injury. Respiratory illnesses such as these do have a serious impact on one's lifestyle as demonstrated by the evidence. His permanent partial disability is 25%. He is not unemployable. His continuing disability is not in dispute. He has lost out on social events and his family life has been impacted. He is not to the extreme end of the spectrum as in **Daisley** and is more comparable to **Malchan**.

Special Damages

209. Special damages must be specifically pleaded and "strictly proved." In **Grant v Motilal Moonan Ltd and Rampersad** [1988] 43 WIR 372 it was stated "a party claiming damages

must prove its case and to justify an award of these damages he must satisfy the Court both as to the fact of damage and its amount."

Loss of earnings

210. The Claimant earned $51,615.00 per month. He also earned an acting allowance of $4,417.00 pursuant to his appointment as the AIMS Project Manager. This appointment was brought to an end on 1st April, 2014 and he stopped receiving his acting allowance of $4,417.00. The Claimant contends that there was no explanation by NGC why Mr. Baksh's appointment was brought to an end despite the Claimant stating that it could only be as a consequence of his illness.

211. Further, the Claimant contends that Mr. Baksh's entire salary was stopped as a result of him being ill and he received no salary from 1st January 2015.

212. The Claimant therefore claims the following sums:

(i) Loss of allowance and then equivalent increase in salary from 1st April 2014-28th February 2017-35 x 4417.00= $154,595.00

(ii) Loss of salary from 1st January 2015 to 28th February 2017 – 26 x 51,615.00= $1,341,990.00

(iii) He was subsequently by letter dated 25th June 2012 that there was a proposal to increase his insurance coverage under the group life plan from $1,277,000.00 to $2,018,000.00 and that he would have to undergo a medical examination which he underwent. However, by letter dated 6th December 2012, he was informed that his excess insurance coverage was declined due to medical findings which he surmised was due to his respiratory problems which came up during the examination.

213. The Defendant submitted that the Claimant's contract was brought to an end by effluxion of time and that the documentary evidence makes it clear that each appointment was for a specific period of time. They contend that if the Court finds that the Claimant's reversion to the Assistant Manager of Pipeline Integrity was invalid then the Claimant would be entitled to reasonable notice of three months at best. If the Court determined that the reversion was valid but that the Claimant was unable to work because of the illness caused by NGC, the Defendant

submitted that the Claimant would be entitled to a loss of earning of $671,484.20 which they calculated as:

Net Monthly Pay	**Multiplied by Period (1st January 2015 to 30th November 2016)**	**Subtotal**	**Less 25% discount for the contingencies of life**	**Total past of earnings**
$38,926.62	23 months	$895,312.26	$223,828.07	$671,484.20

214. In my view Mr. Baksh is entitled to his loss of earnings. But for the illness he would not have lost his job nor would his acting appointment have ended prematurely. I accept that on 21st March 2014 he would have been on the regular appointment as the AIMS project manager. He would therefore be entitled to his acting allowance for the remainder of the period of his acting appointment. There is no letter of appointment beyond 2012. I recognise that these appointments are in the discretion of the employer and in this case his final period was unspecified. Having continued in that position from 2010 for a period of four years he would have been entitled to at least two months notice to terminate his acting appointment.

215. Acting appointment $4417.00 x 2= $8,834.00

216. In so far as his substantive appointment was concerned, he was close to retirement. He ceased receiving his monthly salary as at 1st January 2015 and I accept the Defendant's submission of twenty three (23) months (to the date of his retirement 28th February 2017) as a suitable period to calculate the remaining of his wages. He would be awarded the total sum $679,834.00 for loss of earnings.

Expenditure on Medication, accommodation, ground transportation, air travel and per diem

217. The Claimant has claimed the following:

- Medical expenses inclusive of hospital bills, doctor's bills and services in the sum of $57,353.78USD;
- Air travel in the sum of $5175.92USD;
- Accommodation $6477.46USD;
- Ground transportation $396.83USD; and
- Per diem $75.00 per day for 46 days $21,804.00

218. The Defendant submitted that the Claimant has not provided a detailed schedule of expenditure. The Defendant contends that the Claimant has not indicated whether the accommodation, ground transportation, air travel and per diem relate to doctor visits and medical tests abroad and further, he has not provided a detailed breakdown of his expenditure in relation to medication. Therefore, the Claimant should not be entitled to any award of damages under these heads.

219. The Claimant will not be awarded any damages for air travel, accommodation, ground transportation and per diem as he has not demonstrated why foreign treatment was necessary and why local treatment would not have been sufficient. In McGregor on Damages 17th Edition it is stated that at paragraph 7-014:

> "The extent of the damage resulting from a wrongful act, whether tort or breach of contract, can often be considerably lessened by well-advised action on the part of the person wronged. In such circumstances the law required him to take all reasonable steps to mitigate the loss consequent on the Defendant's wrong and refused to allow him damages in respect of any part of the loss which is due to his neglect to take such steps."

220. The question of mitigation of damages is a question of fact[17] and the onus is on the Defendant to show that the Claimant ought reasonably to have taken certain mitigating steps.[18]

221. In this case, the Claimant admitted under cross examination that SAGICOR had approved payments of his upper respiratory surgery at local rates and that the surgery was available

[17] **Payzu v Saunders** [1919] 2 KB 581 CA.
[18] **McGregor on Damages 17th Edition paragraph 7-019**

locally. He also admitted that he elected not to make a claim to SAGICOR in respect of his upper respiratory surgery.

222. In these circumstances, the Claimant is not entitled to damages for the cost of the surgeries conducted abroad. However recognising that he would have had to undergo these surgeries to alleviate his symptoms which is not in contest I would award a discounted award for medical expenses of one third (1/3) of his medical expenses in the global sum of $80,000.00.

Loss of Insurance Coverage

223. The Claimant claimed that he has suffered a loss of $741,000.00 in respect of a proposed increase to his life insurance coverage under NGC's group health plan with CLICO. I agree with the Defendant that the Claimant has not proven that any loss in respect of insurance coverage can be attributed to NGC. There was no evidence that CLICO refused to increase his insurance coverage because of his respiratory illness. The Claimant also admitted under cross examination that by letter dated 6th December, 2012 NGC encouraged him to obtain details of his medical examination which he failed to do.

224. The Claimant would not be awarded damages for loss of insurance coverage.

Future Medical Expenses

225. The Claimant has claimed the following:

- Yearly lung function testing, CT Scans and blood testing-

  approx. $20,000.00
- Yearly Endoscopic Surveillance-

  approx. $140,707.89
- Medication (yearly)-

  approx. $25,000.00
- Relocation during dry seasons (yearly)- (not pursued)
- Oxygen (one) time- approx. $22,500.00

  (yearly)- approx. $12,000.00

226. The Claimant submitted that for future medical expenses the approximate annual sum is $549,292.89 which would be the multiplicand. The Claimant suggested that a multiplier of 16 would be appropriate which would give a figure of $549,292.89 x 16 = $8,788,686.24 for future medical expenses.

227. No award should be made for Ogastro (for GERD), Metformin and Diamicron (for diabetes), Hyzaar (hypertension) since there are unrelated to the injuries caused by the NGC. No evidence was led for the cost of nasal washed and that oxygen therapy should not be allowed since Professor Seemungal stated that there is only a 50/50 chance that the Claimant will require oxygen therapy. No sum should be awarded for yearly relocation since the Claimant has provided no evidence that it is necessary. Professor Seemungal also indicated that relocation was unnecessary for seasonal changes.

228. The Defendant admits that the Claimant would require yearly lung function testing and regular follow ups with respiratory illness. Professor Seemungal indicated that CT Scans would be avoided due to high radiation exposure and also that blood testing would not be routinely required.

229. In light of these restrictions on the evidence I agree with the Defendant that the Claimant should be awarded a lump sum of $100,000.00 for future medical care.

230. For these reasons damages are assessed as follows:

- General Damages: - $450,000.00
- Special Damages:- $679,834.00 (Loss of Earnings) + $80,000.00 (Medication) + $100,000.00 (Future medical care) = $859,834.00
- Interest at the rate of 3% per annum on general damages from the January 2011 to the date of judgment ($94,500.00) and 1.5% per annum on the special damages on the sum of $759,834.00 (less the future medical care) from January 2015 to date of judgment ($34,192.53).

231. The Defendant shall pay to the Claimant the sum of $1,438,526.53 as damages for negligence inclusive of interest at the rate of 3% per annum on general damages from January 2011 to the date of judgment and 1.5% per annum on the special damages (less future medical

care) from January 2015 to the date of judgment. Prescribed costs is awarded in the sum of $130,926.33.

232. There will be a stay of execution of the order of twenty one (21) days from the date hereof.

A postscript to the parties

233. NGC is a valuable employer and Mr. Baksh has added value to the company on his final project with them. There was a letter of commendation for his thirty three (33) years of service with the company and he received a plaque on his retirement. It is unfortunate that Mr. Baksh was unable to enjoy the latter part of his long employment with the company. It is unfortunate that NGC lost so many hours through illness. I am aware that the parties were engaged in discussions to resolve this matter without success. I use that attempt at resolution as the springboard for the therapeutic approach in this postscript to ensure that both sides may benefit from this experience.

234. In dealing with indoor air quality it is important that in air conditioned offices with centralised systems that the system is constantly monitored. CARIRI in its reports underscored the wisdom of such regular monitoring and the risks that are associated with centralised air conditioned units.

235. Importantly, once experts are retained to oversee the monitoring and reporting on such systems, their recommendations should be implemented unless there are good reasons not to do so.

236. Indoor air quality policies should be adopted and implemented together with the identification of the appropriate staff member or committee to ensure the comfort and safety of employees.

237. No issue of Occupation Safety and Health Administration (OSHA) compliance arose in this case though mentioned in the Defendant's submission. However, OSHA policies will provide a useful template for the obligations of employers in dealing with indoor air quality.

238. Steps should be taken in dealing with complaints of respiratory problems of accommodating off site working relationships as far as reasonably possible. Modern technology can facilitate it. There is a social value to continued employment for the employee as there is a value added to the production of the Company in making such arrangements work.

239. If the Company disagrees with its own specialists on the cause of certain occupational illnesses it should fairly state the reasons why the advice is not being accepted. A joint approach should be adopted to determine causation while humanely dealing with the dislocated employee as expeditiously as possible having regard to the Company's own concerns of productivity and profitability.

240. These observations may no doubt have already engaged NGC but it fairly arises from the material presented before me and I trust that it is received with the good intentions with which it has been imparted.

Vasheist Kokaram
Judge

APPENDIX

TRANSCRIPT OF THE HOT TUBBING SESSION

COURT: Gentlemen as experts in this case your main and primary duty is to assist me in trying to understand the medical aspects of this case. And one of the issues concerns causation, another issue concerns the state of the health of the Claimant and both of you, I want to commend you for the assistance you've already given me in your reports individually and also getting together. I know you're very busy, getting together and doing that joint statement, it's very, very helpful. We know that there are some differences between you and that's okay. What we just want to do is to understand where both of you are and hopefully we can, in this little discussion, come away with some more areas of agreement. And that's the purpose of this joint exercise. Is that all right? Yes?

Alright and again I know that both sides would have respectively retained you all but you all have your professional expertise and integrity so I rely on that to respond to questions as frankly as possible. So I will ask a question and then I'll open it up to Mr. Quamina and Mr. Dass to also ask questions based on that same theme. So it's almost like a panel discussion, you've made a presentation to some students and we are all-in fact, think of me as a 13 year old asking some very dumb questions all right? And if you can give me your answers in as very plain and simple language that you may explain to your child if you have children? Alright.

So first question I just want to grasp- When you all did your joint statement the picture you had of Mr. Baksh's lung would have been obtained from various tests. So I just wanted to identify what you all were looking at. So I got an endoscopy that was done in 2011. What is an endoscopy?

DR. COOMBS: An endoscopy is a procedure where you put a tube into a cavity. So for example where you put a tube into the stomach that's endoscopy where you are looking into the stomach which is a cavity. If you want to look to the back of the nose you can use endoscopy to look into the back of the nose by putting a smaller tube. So you can do endoscopy into the nose or an endoscopy into the stomach.

PROF. SEEMUNGAL: Or the lungs.

COURT: In April 2011 he –there was CT chest scan. In May 2011 there another CT chest scan. In January 2013 he had a high resolution CT chest scan. June 2013 a lung

function report. November 2013 a CT chest scan. In May 2014 a lung function report and sometime in 2014 the transbrochial lung biopsy. Those would have been the main tests. Can you tell me the difference between the CT chest scan and a high resolution CT scan? What's the difference between those two scans?

PROF. SEEMUNGAL: The high resolution scan takes more cuts of the lungs so it would see the same pathology but it would give more definition.

COURT: So both of you agree, can I say the radiological patterns of the lung when those CT Scans were done. Both of you agree on what manifested. But both of you differed on the interpretation of what they say. I will come to that in a second. You agree on what it presents but in terms of interpreting it-

PROF. SEEMUNGAL: In terms of etiology. I think we disagree on terms of etiology but we know what it represents. Lung fibrosis or ILD.

COURT: Alright. Tell me then the difference or the relationship, because we have been using these terms interchangeably. ILD which I suppose is the generic term. UIP and pulmonary fibrosis.

PROF. SEEMUNGAL: Pulmonary fibrosis is used loosely to mean the same thing as ILD. UIP is a particular histologic pattern that you get. I give the table with the 7 or 8 different types in which they are mainly fibroblastic focai almost alone without anything else apart from a few non-specific inflammatory cells. And there are other characteristics that make you make that diagnosis. So UIP is a subset of ILD.

COURT: And Pulmonary fibrosis is the same- you use that and UIP interchangeably.

PROF. SEEMUNGAL: So Dr. Coombs felt more comfortable using that term interchangeably with UIP so we agreed for that meeting that is how we would think about it and talk about it.

COURT: And both of you agree that the condition that Mr. Baksh manifest is pulmonary fibrosis.

PROF. SEEMUNGAL: We agree on that. Or ILD. Yes. The generic term

COURT: So help me to understand the importance or the lack of importance of drawing a conclusion that he is also suffering from HP. Because both of you agree that he is suffering from a lung disease.

PROF. SEEMUNGAL: Ok so UIP that has a cause in which case you look for other histologic characteristics which I have mentioned. That makes you think it is HP has different- a different treatment entirely different from UIP which is of a known cause. So for example- which we call idiopathic pulmonary fibrosis in the clinical sense. So if you have a causation that is hypersensitivity pneumonitis you would expect that you would treat them and the lung function would improve. And you would treat with oral steroids. The same drug that you would use for polymyositis actually. And for a few months and then you would go on I mention immune modulators. Other immune modulators of the lung function would improve. In idiopathic pulmonary fibrosis which is UIP where there is no cause the lung function remain the same or get worse with time.

DR. COOMBS: I agree with Professor Seemungal in terms of the specifics and the histological patterns ok. My opinion was that HP could have presented initially and then burnt out so that by the time biopsy was done there was no evidence of HP. There was only evidence of pulmonary fibrosis. However, Professor Seemungal felt that there were elements that were missing from his point of view in concluding that HP was present.

COURT: And those elements that were missing according to Professor Seemungal goes back to the radiological pattern that he picked up on the CT scan?

DR. COOMBS: Well more so the biopsy pattern.

COURT: Well both of you agree the biopsy is inconclusive.

DR. COOMBS: Right.

COURT: Wouldn't you agree Professor Seemungal?

PROF. SEEMUNGAL: It is conclusive for UIP. Idiopathic pulmonary fibrosis. If you want to go there. But to say that- and no evidence on the biopsy of hypersensitivity pneumonitis. All I am saying is, a larger biopsy would have given us greater accuracy.

COURT: Ok so what type of biopsy is needed to properly detect HP?

PROF. SEEMUNGAL: Nowadays it is called VATS. Video Assisted Thoracoscopy. And we have experts here that do it. Basically they put a telescope into your lungs into the side of your lungs. And they take biopsy. Or an open lung biopsy where they actually cut the chest wall and it allows a larger sample of the lung to be looked at in the microscope. But I have to- as I pointed out to Mr. Quamina. There is some difference in the literature because Spagnolo as I pointed out here said that they would be happy with a transbronchial biopsy. But I always tend to go for a larger sample- not just for hypersensitivity pneumonitis, any form of pulmonary fibrosis.

COURT: Coming back to Dr. Coombs point about burnt out because I saw that mentioned about- For HP there would be different types of HP. Chronic, acute and sub-subacute. So when you say burnt out. What does that mean? Chronic?

DR. COOMBS: So if you have an acute exposure and you develop HP you can get it within days weeks. It can resolve or it can progress and so what I was saying is that at the point in time when the actual biopsy was done it was burnt out meaning it was no longer acute. So the source cells at the histological level that you would find then would be absent.

COURT: You agree Professor?

PROF. SEEMUNGAL: That depends on when you had the exposure. So I had felt maybe a brief exposure at the Atlantic Plaza Building. With no exposure-If there was exposure afterward I would expect florid hypersensitivity pneumonitis on the biopsy. So what I'm saying I can't say he didn't have a brief exposure which exacerbated already existing pulmonary fibrosis.

DR. COOMBS: And again my conclusion is similar in that I concluded that the exposure either exacerbated or caused. One could not be very definitive.

COURT: Finally on this point, maybe in the literature you provided Mr. Seemungal. You are saying with this type of HP I think chronic HP or something you need mask- their conditions are masked as an HP but really it is another ILD. Am I getting it right? Or is it the other way around?

PROF. SEEMUNGAL: Ok I can see where you are getting at Sir. In the end stages of the disease, where it is burnt out as Dr. Coombs said, where no longer have exposure but it is just burnt out it can look like UIP. My problem with that is and Mr. Quamina did point this out, I would have expected earlier in the –inaudible- if it was just due to hypersensitivity pneumonitis that I would have seen more shadowing in the lungs than what I saw in the 2011 scan.

COURT: Alright let's talk about that. How would you account for an evolving fibrosis beginning in the lower lobe in 2011 and appearing in upper lobe in November 2013?

PROF. SEEMUNGAL: Yes I saw that any form of fibrosis affecting one lobe in the lung can spread to other lobes in the lung but where it starts is of importance.

COURT: Dr. Coombs?

DR. COOMBS: Yes I agree with that.

COURT: You agree with that. Alright. And I suppose you would have answered- Would the exposure to fungi worsen the condition of fibrosis regardless of the level of exposure.

PROF. SEEMUNGAL: That is a good question. The answer to that is I don't know. But I can tell you I provided a case report in my supplemental report which I showed there were exposure proven exposure to three fungi. Rhodotorula, aspergillus and I think pennicilium. But the researchers concluded the cause of rhodotorula. What I am saying, the existence of the risk factor does not necessarily prove that you have disease due to the risk factor. We come up with this all the time in lung medicine.

COURT: Dr. Coombs.

DR. COOMBS: And using the Hill criteria again this is what we refer to as analogy. So I used Professor Seemungal's analogy of the 34 year old lady who was exposed to the rhodotorula who had HP. As a contributory factor informing the conclusion that it was either caused or exacerbated.

COURT: Ok so on that Hills Criteria. What is the difference between the hills criteria and the lacost. Is it the lacost? Am I pronouncing it right. The lacost model. Lacasse?

DR. COOMBS: The lacasse. I think Professor Seemungal in his communication he said he would not use it. But he referred to it.

PROF. SEEMUNGAL: No I explained- The lacasse model is entirely different. That is a model that allows you to predict on the basis of clinical suspicion the probability of hypersensitivity pneumonitis. What I pointed out the model exists where you have not done biopsy and scans. If you look at the gold standard. The gold standard was the biopsy. The researchers clearly said that. And here we had a biopsy and we had a scan.

COURT: The Hills criteria. Should I used that in my judgment? As the criteria to determine causation.

DR. COOMBS: Yes you can. The hills criteria is based on a combination of factors. There are about 9 different sub headings that you look for. So for example if I may refer to my notes. Strength of association. In other words how strong is the association between A and B? The literature showed a strong association between organic allergens and fungi exposure and pulmonary fibrosis. So we have evidence from the published literature some of which Professor provided that there is that association between exposure to these allergens fungi and to the pulmonary fibrosis. Consistency of evidence. There is no dispute that Mr. Baksh has pulmonary fibrosis so that that has been proven by several doctors. Specificity, there is a specific association between exposure to for example bird droppings and animal proteins and pulmonary fibrosis. So that is when you look at specificity. In terms of temporal relationship which is the other heading you are exposed and something after exposure you get an illness. And there were definite documents of exposure at Atlantic Plaza and subsequent illness. In terms of those response, again, depending on the dosage of exposure, the effects may be more severe. We agree that we are not sure how much the dosage was. But that is one of the factors we look at. The next heading was biological

plausibility and we both agree that it is biologically plausible that A could cause B. And coherence again we agreed that he has a chronic lung disease of pulmonary fibrosis. In terms of experimentation, again research papers were provided some of which put more weight on one possible cause to the other. And then analogy is the final heading and then I used Professor Seemungal's analogy with the 34 year old female. So when you go through- Hills criteria basically says that if you look at these 9 factors that can contribute to causality and if many of them are satisfied then you would conclude that it is a sort of epidemiological conclusion that A caused or aggravated B.

COURT: Professor what is your take on the Hills criteria?

PROF. SEEMUNGAL: I mean Dr. Coombs know I respect his views greatly. I have referred to him on occasion. But I beg to differ on this one. To me applying the Hills criteria is not bringing any new information. We have already established that fungi can cause pulmonary fibrosis and it is hypersensitivity pneumonitis. That particular type that it causes. We have established that there is no evidence of that on the information that we have so far with regard to the biopsy. So the Hill criteria don't allow us to distinguish between different causes. So for example I mention GERD. It could be a risk factor or it could be an exacerbating factor of pulmonary fibrosis. And where the pattern looks more like if we accept and I recognise from the questioning of Mr. Quamina that polymyositis is somewhat in doubt, I will leave that to the Court to determine whether it is or not, but if we take it out of the equation then you have a 50 odd year old man who presents with worsening shortness of breath, who has shadowing in the lower lobes and a biopsy shows you IP that's idiopathic pulmonary fibrosis. So we have different diagnostic explanation of the same phenomena. And the Hill criteria in my view don't allow us to distinguish the importance. We have to just balance those on the basis of the evidence we have.

DR. COOMBS: Well again and just a comment, the Hills criteria is used in occupational and environmental medicine to form an opinion on causality. However in clinical medicine which is the expertise of Professor Seemungal and I highly respect him in that area, diagnostic tools are what are use. So x ray, a CT scan, a biopsy and those things. The ingredients for a clinician to make a diagnosis. But in field where you may have multiple exposures, where you may have in some situations you don't even know if there is an exposure but someone is ill and you are trying understand, you are trying to dissect which is before you to form an opinion. Is this a personal illness or is this an occupational illness. Is this something that he had spontaneously or is it something that was caused by an external factor and that is where the Hills criteria—

COURT: I understand. So maybe the difference between both of you may be in terms of adopting a more clinical approach to the analysis than taking a sort of round view of different types of evidence to form a conclusion. Maybe that might be the difference between both of you.

PROF. SEEMUNGAL: I have used the hill criteria before but I would not have used it in this case.

COURT: I think that should be it for me. Just what is occupational asthma? You guys wrote that off as one of the conditions that he might have been suffering from. That no longer is the case.

PROF. SEEMUNGAL: No.

DR. COOMBS: No the criteria was no satisfied for occupational asthma.

COURT: Two last questions. Honeycombing. I take it honeycombing means the image on your CT scan looks like a honey comb.

PROF. SEEMUNGAL: Yes yes.

COURT: Alright and can a patient suffer from a mixture of obstructive and restrictive lung disease.

PROF. SEEMUNGAL: Yes. So- Obstructive- if you had honeycombing or if you have what he had trachto bronchiectasis. Bronchiectasis is a cause of obstruction so when we say obstruction we mean the air does not come out of your lungs as rapidly as it should. And some gets left back in. That what makes us speak about obstruction. So when we said he had obstruction his FUV1 in the report that I gave which is the amount of air you blow out in the first second compared to the total amount where you blow is less than 70%. And restriction is where the total amount of air you blow out is low which was his case.

DR. COOMBS: Yes I agree with that.

COURT: Alright gentleman. Mr. Quamina. Mr. Dass the floor is open.

MR. DASS: I just have one question. In the context of –in the context of the burnt out diagnosis, what I understood is you were saying that the biopsy could have shown a disease that had been burnt out and there is a disagreement between you on that. And I just wondered whether the fact that when the biopsy was done he had gone to the Julin building and Mr. Baksh's evidence was that he was suffering from the same discomfort when he went to the Julin building when the time the biopsy was done. And I wondered how that impacts on the conclusion that it might have been burnt out HP or whether it impacts at all.

PROF. SEEMUNGAL: Well it might not be fair for me to answer because I already said it didn't influence my opinion initially when it was occurring in Atlantic Plaza so. Because the mechanism for hypersensitivity pneumonitis and for the sinus and mucous disease is different.

DR. COOMBS: Ok. So because the biopsy specimen was small and could not be relied on to be conclusive as far as HP was concerned therein lied the conclusion that it could have been burnt out. Ok. So that was basically my opinion as to why you didn't see any evidence of it on the biopsy.

MR. DASS: I am not sure if I got my question across. What I was asking was in so far as Mr. Baksh is complaining of continued exposure to allergens at the time would it have been burnt out. Or was it consistent with a diagnosis of it being burnt out. That's the question.

DR. COOMBS: Oh I see. Well if we go back to what professor said, if he was being exposed to the same allergens at Julin Building you would expected to see more evidence or some evidence of HP. But I got that from what you wrote. However, because the biopsy didn't show evidence of that, the conclusion was that it is unlikely he had continued to have that exposure at the Julin building.

PROF SEEMUNGAL: The aspergillus spores.

COURT: Gentlemen that's it?

MR. QUAMINA: Yes My Lord.

COURT: Alright. Doctor and Professor, thank you very much for your help. You can shake hands and be off your respective offices. Alright. Thank you.