CLOSING ADDRESS OF RAMESH L. MAHARAJ S.C. COUNSEL TO THE COMMISSION OF ENQUIRY ON 13TH JANUARY 2023

INTRODUCTION

1. Chairman Jerome Lynch KC and Commissioner Gregory Wilson, as Counsel to the Commission and on behalf of my Team, Mr. Ronnie Bissessar and Ms. Vijaya Maharaj, I wish to thank both of you for so expertly managing the Procedural and now this Evidentiary Hearing and for your helpful and instructive directions so that the public has complete access to all the evidence and documents which are before the Commission.

2. I would like to give special thanks to you Mr. Chairman for the leadership you have provided to this Commission in ensuring that the commitment you gave to the public that the Enquiry would be completed expeditiously, has been kept.

3. Members of the public therefore have been able to participate in the hearings before this Commission without actually being present at the hearing.

4. This Commission is historically significant because it is the first, as far as I am aware locally, that has uploaded all of the documents, correspondence, orders and directions online consistent with the Access To Justice Principle. Further, all of the proceedings have been broadcasted live on national TV, streamed and the public has, by their social media comments, followed the proceedings with great interest.

5. This is one of the most important public Commissions of Enquiry held in Trinidad and Tobago. The Cabinet of Trinidad and Tobago recognized that these facts demanded a public enquiry and wide sections of members of the public have participated in the hearings before the Commission and have followed the events at the Commission of Enquiry.

6. I am sure that the public is anxiously awaiting the Report of this Commission of Enquiry and that the Government would lay that Report in the Parliament of Trinidad and Tobago.

7. This Commission has advised that a Final Report is likely to be presented to the President by 30th April 2023. This suggests a 9-month gestation period from your appointment as Chairman which is, as far as I am aware, one of the quickest, if not the quickest turnaround in the history of the Commonwealth.

8. The Commission's work was greatly assisted by the Secretary Ms. Sarah Sinanan and the Commission's staff and on behalf of the Legal Team assisting the Commission, I wish to express our gratitude for her and her Team's support, diligence and enthusiasm.

9. The Commission's deliberations were also assisted by the various Counsel for parties given standing and others who attended on behalf of witnesses and the Legal Team is grateful for their respective contributions.

10. I also wish to thank the members of my legal team Mr. Ronnie Bissessar and Ms. Vijaya Maharaj for their complete devotion and assistance in performing my functions as Counsel to the Commission.

11. Finally, I also wish to thank the persons behind the scene who, through their individual initiative and diligence, have helped to prepare the venue and have taken us to this point where the Evidentiary Hearing is likely to be closed today.

Structure

12. Submissions have been made on how the contract and Permit to Work Procedure ought to be interpreted and whether the Permit to Work Procedure is part of the contractual obligations of the parties. I would first respond to those issues in order to show that the Permit to Work Procedure imposes contractual obligations on the parties.

13. I will then deal with the non-delegable common law duty of care owed by Paria to ensure that measures were put in place for the works to have been done safely having regard to the inherently dangerous nature of the works. These principles of law were recently applied by the High Court of Trinidad and Tobago in a reported judgment.

14. I will refer to the Works on 25th February 2022 to show that there were serious breaches of the Contract and the Permit to Work Procedure by LMCS and Paria.

15. Then I would deal with the LMCS' documents which include the Method Statements, Risk Assessments, Job Safety Analysis and Emergency Response Plan which were submitted to Paria and which Paria reviewed and accepted. Both Paria and LMCS did not identify that a Delta P Hazard could have occurred in the method of the execution of the works. Those documents were reviewed and accepted by Paria but Paria in its evidence before this Commission admitted that it did not have the competence and expertise to do so. It, however, did not appoint an Expert Client Representative to assist it in that review. It is clear that the failure of both Paria and LMCS to identify the risk of a Delta P event in the execution of the works was the root cause of the accident.

16. I will then deal with Line clearing - the underlying factor which led to this accident was the removal of the line contents of Sealine 36 both in terms of the quantity and the method used. This caused the gaseous void in the pipeline which created a latent Delta P hazard when the habitat was installed. The latent Delta P hazard was activated when the inflatable plug was removed which caused the sea water to flood the habitat, the vortex was created and the five divers were sucked into the pipeline.

17. I will then deal with the post accident response by Paria and LMCS. There was no emergency response plan in place because the emergency response plan which was submitted by LMCS to Paria and accepted by Paria as a suitable emergency response plan did not identify a Delta P hazard. Consequently, there was no emergency plan in place on 25th February 2022 when the latent Delta P hazard was activated and caused the accident. In the circumstances I will summarize the evidence of the efforts made by both LMCS and Paria to show what efforts were made by both of them to rescue the divers from the pipeline taking into account the timeline which they had in order to rescue the divers alive from the pipeline.

18. I will then address the evidence of the treatment of the relatives following this tragic accident.

19. I will then address the Commission on proposed recommendations.

PRINCIPLES OF LAW WHICH GOVERN THE ASSESSMENT OF THE EVIDENCE

20. Where a Tribunal has to determine questions of fact, when there are disputed facts, the Courts have held that in determining the credibility of witnesses, it is essential that the Court weigh their credibility against the important contemporaneous documents. In other words, the credibility of a witness must be put correctly into the scales with the important contemporaneous documents. See PC Appeal No. 36 of 1987 between **Horace Reid v Dowling Charles and Percival Bain** and PC No. 59 of 1985 between **Attorney General of Trinidad and Tobago and others v Samlal** at paragraph 6.

21. It is a well-established principle of law that where a party, without reason, fails to call a witness whom it might be expected that the party call, if that person's evidence would be favourable to him, it would be open to the Court to infer that that person's evidence if called would not have helped that party's case. The same principle applies to the failure of a party to produce documents which it might reasonably be expected for the party to produce (See HCA No. 434 of 2001 between **Shairoon Abdool v BNL Insurance Co. Ltd** and **St. Louis v Canada** (Supreme Court of Canada) (1896) 25 SCR 649.

22. Any inconsistency between a witnesses' evidence and an earlier statement given by the witness goes to the credibility of the witness; a Tribunal can regard the evidence of that witness as unreliable unless the witness gives a reasonable explanation for the inconsistency. (see **Phipson on Evidence**, 19th Edition at page 381, para12-40)

THE CONTRACT BETWEEN PARIA AND LMCS

23. In the light of the submissions made before this Commission it is important to examine the main terms of the contract entered into between Paria and LMCS for the contracted works which are the subject of this Enquiry.

Scope of Works

24. The Scope of Works developed by Paria for the contract works is at **CB 2, page 564.** It was prepared based on the Scope of Works which had been done for a 2020 project completed by LMCS at Berth 5. **(*Terrance Rampersadsingh, Transcript, 1st December 2022 at pages 7 and 8)*.**

25. Both the 2020 and the 2021 projects involved the change out of subsea piping. The main difference between the 2020 and 2021 projects was that the 2021 project involved additional works above the sea and, further, the leak in the subsea pipeline was about 5 or 10 feet deeper. **(*Terrance Rampersadsingh, Transcript, 1st December 2022 at page 9).***

26. In dealing with the Scope of Works for the 2020 project which is contended to be similar to these works, Paria employed a Project Engineer who developed the scope of works and oversaw the execution of the whole project **(Transcript, 1st December 2022 at page 9 lines 21-23and page 30, lines 2-4).**

27. The Scope of Works for this project at **CB 2 page 564** refers to an estimated volume of product between isolation points being 2,000 barrels. Paria's evidence is that this represented an estimate of the volume of the product in the sub -sea line between Berths 5 and 6 ***(See Hassan Mohammed, Transcript 24th November 2022 at page 11, line 13 and Terrance Rampersadsingh, Transcript 1st December 2022,at page 12, lines 15-17.)***

28. The evidence of Paria was that neither the Scope of Works nor the Method Statements required the underwater pipeline between Berths 5 and 6 to be completely drained:

References:

(a) Hassan Mohammed- his evidence was that whatever level the repair is to be carried out, there would be removal to below at least that level *(Transcript 24th November 2022 at page 12 , lines 17 to 19.)*

(b) Terrance Rampersadsingh- His understanding of the scope of works was that it required only enough line content to be removed from Berth 6 to install the line plugs just below the area to be repaired. (*Transcript, 1st December 2022 at pages 13, lines 18 – 19).*

(c)* Johnathan Ramdhan-his evidence was that once the elbows were removed then they would drain partially to the point under where they had to perform their maintenance works *(Transcript 6th December 2022 at page 135 lines 13 to 15).

29. (a) Paria's Addendum 1 to the Scope of Works at **Core Bundle 598**, Query 1 states, "*Who is responsible for pumping back from the berth to clear the lines with water*" and the response is "*the Contractor is responsible for the safe removal of hydrocarbon contents from the line and to ensure that the line is clear and dry*".

(b) Paria's evidence however was that this meant that only that part of the line where the works were to be carried out would be clear and dry.

References:

(a) Mr. Rampersadsingh stated that this was the jargon used as everyone is familiar with the steps. He stated that he understood this to mean that only the section of the pipeline where the works were going to be carried out must be clear and dry. (***Transcript, 1st December 2022 at page 15, lines 21- 25***);

(b) Mr. Hassan Mohammed stated that he understood that Paria was asking for the line to be clear and dry. He doesn't know if they meant up to a point where the repair is to be carried out safely. He stated it depends on the methodology to be used to repair the line. (***Transcript 24th November 2022 at page 1, lines 18 to 22;*** and

(c) Collin Piper- Mr. Collin Piper at Transcript ***14th December 2022at page 250 lines 1 to 6*** where he stated that it was his understanding that the pipeline would be clear and dry up to the point at which the contractor needs to insert the plug.

30. We shall demonstrate however when addressing the issue of line clearing later in our submissions, that the evidence of Paria's witnesses that the pipeline was not meant to be completely drained is inconsistent with the contemporaneous documentary evidence in respect of the line draining.

31. The Scope of Works also sets out the contractual responsibilities of the parties. The Contractor (LMCS) is required to provide competent supervision at all times during the execution of the job (***para 9.0 CB 2 at page 593).*** They are also required by Section 5.4 (***page 571***) to provide live video feed during the subsea works. At Sections 3.1.11 and 3.1.12 (***page 565),*** reference is also made to the provision of a video stream being provided top side during work activity for the Paria representative.

32. Paria's responsibilities are stated at Section 4, ***page 570 (CB 2)*** and include among other things:

(a) supplying all work permits/certificates (thereby recognising that Permits to Work are to be issued before works);

(b) monitoring contractor's performance and work standards, approving work to be done by the Contractor and carrying out quality assurance audits;

(c) providing slop barges to assist in the removal of line content; and

(d) providing personnel to oversee isolation/deisolation, depressurisation/pressurisation and draining/filling product from lines at Berths 5 and 6.

RESPONSE TO THE SUBMISSIONS OF PARIA AND KENSON

33. In response to their submission that there was no evidence that the Permit to Work Procedure was a contractual obligation under the contract, we submit as follows:

(a) **Firstly**, Section 2 of the Permit to Work Procedure ***(CB 1 page 26)***, under heading "Scope" states "this permit to work procedure applies to contractor, maintenance, civil, inspection and Turnaround related activities."

(b) **Secondly,** it is clear from Section 8 of the Scope of Works on ***page 593 (CB 2)*** that contractors and contracted personnel are required to follow the Permit to Work procedure and Standard Work Instructions at all times. There was therefore a contractual obligation that the Permit to Work procedure would apply to the contract.

(c) **Thirdly**, according to the evidence of Mr. Randy Archbald it is clear that the Permit to Work procedure did apply to this contract. At paragraph 11 of his witness statement [**WB 1316**], he stated that the Permit to Work procedure applies to contractor maintenance, civil inspection and Turnaround related activities and at paragraph 12 he stated that during the execution of the contract several Permits to Works were issued to LMCS by Paria.

(d) **Fourthly**, it is clear that the Permit to Work procedure sets out the roles and responsibilities of a Contractor Official at Section 5.6 on ***page 31 CB 1***. We address this next when dealing with the Permit to Work procedure in more detail.

(e) **Fiftly**, Paria had a common law non delegable duty of care and the Permit to Work system was therefore designed to ensure that that duty was carried out regardless of whether or not an independent contractor was retained. In these circumstances, both Paria and LMCS had a joint and concurrent duty of care to ensure that the works which were

inherently dangerous were carried out safely. We will also address this later in these submissions.

(f) **Sixthly**, this is not a civil case in which there are pleadings. It is an Enquiry governed by the Terms of Reference. If Kenson's position is that evidence ought to have been led to show that the Permit to Work Procedure is not incorporated as part of the contractual terms, it had a duty to lead that evidence or cause it to be led in relation to that issue.

PERMIT TO WORK PROCEDURE

34. Paria's has a Control of Work system which controls the works to be done and how they are to be done (this system includes the Permit to Work procedure) (***CB 1, page 24***).

35. According to Terrance Rampersadsingh the Control of Works system not only includes the Permit to Work procedure but everything from the Operations Department notifying the Maintenance Department of the need for the job to the signing of the contract. He stated that all of this is part of the Control of Work system meaning that if work is not supposed to be done, it isn't done (***Transcript, 1 December 2022 at pages 32 and 32***).

36. Mr. Randy Archbald in his witness statement at paragraphs 10 – 11 (**WSB 4, pages 1315-1316)** states:

(a) The Permit to Work procedure was developed to provide a formal documented process for controlling risks associated with certain work activities such as contractors and maintenance works;

(b) Without a Permit to Work being generated no work can be undertaken by a contractor; and

(c) The procedure intended to among other things:

i. Establish the requirements for identifying critical information on jobs such as the nature and extent of the work to be done, the exact location of the job, the

equipment to be used, the hazards involved and the precautions to be taken;

ii. Prevent incompatible work from taking place simultaneously;

iii. Clearly identifies who makes the application to do the job, who authorizes the job, who develops the necessary precautions and who gives approval for the work to commence;

iv. Ensure that work is not carried out unless there is proper authorization;

v. Clearly identifies high hazard work and the requirements/precautions to be followed; and

vi. Establish monitoring and auditing requirements for Permit jobs

37. The following is established in the Permit to Work procedure (***CB 1 page 28.paragraph 5.0)***:

(a) Wherever work is to the done within Paria, the Operations Department makes a request to the Technical and Maintenance Department for the specific work to be executed ;

(b) The Technical and Maintenance Department then plans the works in conjunction with the Operations Department ;

(c) Before the work can be started, all of the requirements of the Permit to Work procedure must be followed. This includes that work does not start until the Work Permit is properly issued and authorised, all persons on the job must receive a briefing from the appropriate supervision on the

works to be done and all persons on the job must understand the precautions to be taken before they start work.

38. Section 5 (including 5.1 to 5.6) deal with the roles and responsibilities of key personnel under Paria's Permit to Work procedure and they include the following:

(a) The **Applicant** is described in Section 5. 1 as the person who initiates the job by completing Section A of the Permit to Work. The Applicant must have the necessary competence to execute the job, or to supervise the execution of the job and the Applicant shall be knowledgeable of the hazards associated with the job and for the safety of the people who work on the job. The functions of the Applicant include among other things:

(i) to continually monitor the job to ensure that it is performed in a safe manner and within the conditions prescribed in the Work Permit, Certificates and JHA/Risk Assessment; and

(ii) to stop the work if there are changes in site conditions that increase the risk or if new hazards are identified and promptly notify the Site Authority of these changes.

(b) It has been submitted on behalf of Paria that since the Applicant was a Kenson employee, that Paria was not the Applicant to the Permit to Work. This submission is wrong for the following reasons:-

(i) The evidence shows that although the Kenson persons were employed with Kenson they worked at Paria, they had their offices at Paria, they took instructions and directions from Paria personnel and were subordinates of Paria's officials.

(ii) Marjadsingh admitted in cross-examination that he was representing Paria to ensure that there was compliance with the works being done by LMCS and had a duty to stop the works if the works were not being done in accordance with the work permit [Transcript 6th December 2022, **HM/p. 130/lines 12-17**];

(iii) Marjadsingh also admitted that he took instructions from Paria, he works at Paria and Paria tells him what to do and how to do it [Transcript 6th December 2022, **HM/p. 133/lines 12-19**];

(iv) Terrence Rampersadsingh, Paria's then Maintenance Planner stated that Mr. Marjadsingh was his subordinate, that he took instructions and directions from him and that even though he was employed by Kenson he worked at the Maintenance Department of Paria [**Transcript 1st December 2022, page. 28/lines 14-26];**

(v) Also, the submissions made on behalf of Kenson to the Commission in this Enquiry agreed with this position; and

(vi) In any event, any issue concerning the relationship between Kenson and Paria is an issue between them and not a matter for this Commission of Enquiry.

(c) A **Competent Person** is described in Section 5.2.

(d) The **Site Authority** is described in Section 5.3. The roles and responsibilities of the Site Authority include the following:

(i) Ensures that a suitable and sufficient JHA has been prepared for the job;

(ii) Specifies on the permit any precautions to be taken during the work;

(iii) Periodically monitors ongoing work, either in person or through his team, to determine whether site conditions and precautions have been maintained; and

(iv) Suspends the job if unsafe conditions have developed or are likely to develop.

(e) The **Area Authority** is described in Section 5.4 of the Permit to Work procedure and its duties are stated therein.

(f) The **Senior Authority** is described in Section 5.5 of the Permit to Work procedure; and

(g) The **Contractor Official** is described in Section 5.6 of the Permit to Work procedure.

39. It is clear that the Permit to Work procedure is part of the contractual terms and obligations of the parties and binding on them.

40. The Permit to Work procedure is also consistent with Paria's obligations in the common law, having regard to the inherently dangerous nature of certain types of works undertaken at Paria's site.

Non -delegable duty in common law.

41. The general principle is that an employer (being Paria in this instance) is not generally liable for torts committed by his independent contractor (being LMCS in this instance). However that ordinary principle is displaced where the law imposes on the employer (Paria) a **non-delegable duty not merely to take care but to ensure that care is taken**. Lord Reed in **Armes v Nottinghamshire County Council** (2017) UKSC 60 defined non-delegable duties as follows:

> "**Non-delegable duties of care**
>
> [31] The expression 'non-delegable duties of care' is commonly used to refer to duties not merely to take personal care in performing a given function but to ensure that care is taken. The expression thus refers to a higher standard of care than the ordinary duty of care. Duties involving this higher standard of care are described as non-delegable because they cannot be discharged merely by the exercise of reasonable care in the selection of a third party to whom the function in question is delegated." (our emphasis)

42. Such a non-delegable duty arises where the employer (Paria) employs an independent contractor (LMCS) to execute inherently dangerous work from which, in the natural course of things, injurious consequences to others must be expected to arise unless measures are adopted to prevent such consequences.

43. In such circumstances, the employer (Paria) cannot relieve itself of its responsibility by proving that it had delegated the performance of this duty to the contractor (LMCS)

employed to do the work, however competent the contractor may be or even if the employer regards the Contractor as a Specialist Contractor. Where the work which the independent contractor is employed to do is of a character that is inherently dangerous unless done with proper precautions, the employer is responsible to anyone who sustains injury in consequence of the manner in which the work is done. (It is to be noted that under Section 5.1 of the Permit to Work Procedure, it is stated that the Applicant shall be responsible for the job and the safety of the person who work on the job –It is to be noted that -not only persons who are employed with Paria). See **Halsbury's Laws of England > Tort (Volume 97A (2021)) > 10. Tort and Employment > (2) Employer's Vicarious Liability > (vii) Non-delegable Duties > 381. Non-delegable duties in relation to hazardous activities** which states:

> "The first category of cases in which there are non-delegable duties is where the defendant employs an independent contractor to perform some function which is either inherently hazardous or liable to become so in the course of his work. These cases have often been concerned with the creation of hazards in a public place, generally in circumstances which apart from statutory authority would constitute a public nuisance. **An employer who employs an independent contractor to execute inherently dangerous work from which, in the natural course of things, injurious consequences to others must be expected to arise unless measures are adopted by which such consequences may be prevented, is bound to see that everything is done which is reasonably necessary to avoid those consequences.** He cannot, therefore, relieve himself of his responsibility in such a case by proving that he had delegated the performance of this duty to the contractor employed to do the work, or to some independent person, however competent the contractor or delegate may be**. In accordance with the same principle, where the work which the independent contractor is employed to do is of a character that is inherently dangerous to the public unless done with proper precautions, the employer is responsible to any member of the public who sustains injury in consequence of the manner in which the work is done.**

Performing operations on or near a highway by its very nature carries a risk of serious harm to highway-users, and there have been numerous cases where non-delegable duties of care have been identified in such situations. With regard to highways, a distinction must be drawn between the exercise of the public right to pass and repass, on the one hand, and the execution of work upon the highway, on the other. It has been said that the non-delegable duty in respect of inherently dangerous work arises only in respect of activities that are exceptionally dangerous whatever precautions are taken. The inquiry is into the intrinsic quality of the operation in question, disregarding circumstances that may have increased the danger on the facts of the individual case. In such cases it is a duty not merely to take care but to provide that care is taken so that if there is negligence on the part of the contractor, the duty on the employer is broken. However, this requirement for exceptional danger has been criticised in the Supreme Court."

44. Lord Sumption SCJ in **Woodland v Essex County Council** (2013) UKSC 66 gave a comprehensive analysis of non-delegable duties. He stated:

> "[5] The law of negligence is generally fault-based. Generally speaking, a defendant is personally liable only for doing negligently that which he does at all, or for omissions which are in reality a negligent way of doing that which he does at all. The law does not in the ordinary course impose personal (as opposed to vicarious) liability for what others do or fail to do. This is because, as Cory J observed, delivering the judgment of the majority in the Supreme Court of Canada in Lewis v British Columbia [1997] 3 SCR 1145 at para 17, a common law duty of care "does not usually demand compliance with a specific obligation. It is only when an act is undertaken by a party that a general duty arises to perform the act with reasonable care". **The expression "non-delegable duty" has become the conventional way of describing those cases in which the ordinary principle is displaced and the duty extends beyond being careful, to procuring the careful performance of work delegated to others**."

45. It was however open to Paria to seek an indemnity from LMCS. In **Dalton v Henry Angus & Co** (1881) 6 All Cas 740, Lord Blackburn, who delivered the principal speech,

regarded the interposition of an independent contractor as irrelevant, because of the nature of the duty. He put the point in this way:

> "Ever since [Quarman v Burnett (1840) 6 M & W 499, (1840) 151 ER 509] it has been considered settled law that one employing another is not liable for his collateral negligence unless the relation of master and servant existed between them. So that a person employing a contractor to do work is not liable for the negligence of that contractor or his servants. On the other hand, a person causing something to be done, the doing of which casts on him a duty, cannot escape from the responsibility attaching on him of seeing that duty performed by delegating it to a contractor. **He may bargain with the contractor that he shall perform the duty and stipulate for an indemnity from him if it is not performed, but he cannot thereby relieve himself from liability to those injured by the failure to perform it**: [Hole v Sittingbourne & Sheerness Rly Co (1861) 6 H & N 488, (1861) 158 ER 201; Pickard v Smith (1861) 10 CBNS 470, (1861) 142 ER 535; Tarry v Ashton (1876) 1 QBD 314, [1874–80] All ER Rep 738]."

These cases were all referred to in the local High Court Case CV2015-03381 between Ray Cheddie and Anor v National Infrastructure Development Company Ltd at paragraphs 100-107.

46. It is submitted that on the evidence, it is clear that the scope of works which Paria contracted LMCS to do was inherently dangerous and would have resulted in injurious consequences unless appropriate measures were taken to avoid a differential pressure hazard. Based on the above mentioned governing principles of law, it is clear that Paria in the circumstances had a common law duty of care to ensure that those precautions were taken. Having regard to the extent of the duty of care imposed on an employer (Paria) who employs an independent contractor (LMCS) to do inherently dangerous works, the employer (Paria) has a duty to employ competent experts to ensure it discharges that duty.

WORKS ON 25th FEBRUARY 2022.

47. LMCS contends that the removal of the plugs formed part of the work plan for 25th February 2022 and relied on the Method Statement attached to the Permit to Work whilst Paria contends that it was not part of the work plan on that day and relies on the fact that the Permit to Work (**page 1074 CB 3)** does not list the removal of the plugs as a task to be done and stipulates that the migration barrier was to be used.

Johnathan Ramdhan

48. Johnathan Ramdhan was the Site Authority pursuant to the Permit to Work procedure and the person who issued the Permit to Work.

49. Mr. Ramdhan in his witness statement stated that he was not trained nor did he possess the expertise to assess the suitability or sufficiency of the JHA/JSA even though this is one of the duties of the Site Authority. ***(para 36 (1) (a) on page 1475 Vol 4 WSB).***

50. Mr. Ramdhan had a duty as Site Authority to "**periodically monitor ongoing work, either in person or through his team to determine whether site conditions and precautions were being maintained**." He also had the duty to suspend the job if conditions were unsafe. Ramdhan in cross examination confirmed that he has no qualifications or experience in subsea work [**Transcript Day 5/p. 125/lines 24-27**]

51. He fulfilled this responsibility by posting Mr. Kirt Scott at Berth 6 on February 25 2022. In cross examination by the Commission Counsel, Mr. Ramdhan stated that Mr. Kirt Scott was posted at the site to periodically monitor to determine whether the site conditions and precautions to ensure operational safety were being maintained. He stated that the migration barrier was a precaution but there was no way to monitor the barrier because in order to monitor it you would have to dive and go into the chamber. (***pages 156 to 159 of Transcript 6th December 2022 (pages 961- 964 of Bundle of Transcripts***).

52. It is clear however from the evidence of Kirt Scott that he saw topside live footage of when the mechanical plug was being removed, but did not have the knowledge or

experience to identify that this was part of the migration barrier which was stated by Mr. Ramdhan on the Permit to Work as a precaution which was to be used.

53. At **Day 5/page 228/lines 19-25** (6 December 2022) Mr. Ramdhan's evidence was as follows:

> Q: Did you see them, um on screen, well you saw the pipe they were working on?
>
> A: Yes
>
> Q: Taking out something from the pipe?
>
> A: Yes.
>
> Q: What you saw they were taking out?
>
> A: First I saw, they were working, moving some bolts from on the blank. Right, and um during another time, um, another period because every time I pass I would take a look. I saw personnel operating a chain block and turning something.
>
> Q: And turning something. I See. I wonder if the witness can see the mechanical plug on the screen? I want to show you on the screen something and you will tell me if you recognize it, okay
>
> A: Yes
>
> Q: Was it something like that you saw them working on?
>
> A: Something like that I saw take out of the pipe.

54. The mechanical plug was removed before lunch on the 25th February 2022 (Christopher Boodram at paragraph 28, page 1572 of WSB 4) and according to Christopher Boodram it involved the use of a spanner to remove 22 bolts and took over 30 minutes to remove (***22nd November 2022, page 10 at lines 3 to 17, page 62 (lines- 26-27) and page 64 line 11)***

55. It is clear therefore if Mr. Kirt Scott had the necessary competence and experience to monitor the works on behalf of Mr. Ramdhan as Site Authority, he would have been able to stop the works when the mechanical plug was being removed.

Houston Marjadsingh

56. Houston Marjadsingh was the Applicant on the Permit to Work. He was a Kenson employee working for Paria at Paria and he admitted in cross-examination that he was representing Paria.

57. Mr. Marjadsingh's evidence was that he did not have any specialist knowledge about the job LMCS was doing. He filled out Section A of the Permit to Work based on information which he was given by Mr. Rampersadsingh. He stated that his function was to ensure that the form was completed and any documents to be attached were attached. (***See his witness statement pages 3049 to 3054 Supplemental Core Bundle)***

58. In cross examination (Transcript 7th December 2022), Mr. Marjadsingh's evidence included that:

    (a) He had no experience in subsea maintenance works (page 126, lines 26-27);

    (b) He first arrived at Berth 6 at about 2.00 p.m. on. 25 February 2022 (page 128, lines 24);

    (c) He did not monitor in the morning period as the first time he arrived was at 2.00 p.m. (page 135, lines 12-13); and

    (d) He was not present at the toolbox meeting at Berth 6 and signed the toolbox form when he arrived at Berth 6 (page 141, lines 10-26).

59. It is clear therefore that Mr. Marjadsingh did not have necessary experience or competence to supervise the execution of the job by LMCS as required by Paria's Permit to Work Procedure at para 5.1. (*page 28 CB1*).

60. He also failed in his duty as stated in the Permit to Work procedure at pages 28 and 29 to ensure that pre-start meeting was conducted with the crew to discuss the job and to ensure that all personnel read and understood the JHA and Assessment. Mr. Boodram's evidence was that the work plan was discussed at the toolbox meeting and that it included the removal of the plugs. If this is correct, had Mr. Marjadsingh been present at the toolbox meeting, he would have been able to assert Paria's position which is that the removal of the plugs was not part of the workplan and that the plugs were required to be in place during the execution of the works.

61. Further, he also failed in his duty to continually or periodically monitor the works. In fact, he did not monitor the works at all. He only arrived on the site at 2.00 p.m. The mechanical plug had been removed prior to lunchtime. [**Day 6/p. 132/lines 3-13**]. 5.1 of the Permit to Work procedure states that the Applicant which, in this case, was Paria, must have the necessary competence to execute the job or to supervise the execution of the job. It shall be knowledgeable of the hazards associated with the job and the necessary control for these hazards. It shall be responsible for the job and the safety of people who work on the job. It also required Paria to continually monitor the job to ensure that it is performed in a safe manner as prescribed in the Permit to Work, JHA risk assessments and to stop the work if there are changes in site conditions that increase the risk and if new hazards are identified.

LMCS' DOCUMENTS

62. It is undisputed that the Method Statements, Risk Assessments, Job Hazard Analysis and Emergency Response Plan for these works which were submitted to Paria, were reviewed and accepted by Paria and Paria acted upon these documents.

References:

(a) Method Statement dated 6th May 2021 at CB 2, page 654.

(b) Risk Assessments, at CB 2, pages 841- 848.

(c) Emergency Response Plan at CB 2, page 877.

(d) Method Statement 108 – Phase I line clearing (CB 3, page 1028)

(e) JHA for Phase I air blowing (CB 3, page 1030).

(f) Method Statement 115- Phase II line clearing (CB 3, page 1041).

(g) JHA for Phase II line clearing (CB 3, page 1044).

(h) Method Statement 116- to install subsea flange on Flange at 30-inch pipeline, Sealine 36, at Berth No. 6 (CB 3, page 1048); and

(i) JHA – to install subsea slip on Flange (CB 3, page 1062).

63. It is not disputed that a potential Delta P hazard was not identified in any of the documents submitted by LMCS to Paria and which were accepted by Paria.

64. (a) The LMCS' documents were reviewed and accepted by Paria's Multi- Departmental team comprising personnel from HSE, Maintenance and Operations Departments. Paria's evidence is that the purpose of the review was to ensure that LMCS understood what it was contracted to do, that it had identified the safety risks associated with the job and that it had developed a plan to manage those risks

(b) Further Paria's evidence is that because the works which were to be executed by LMCS were highly specialised in nature and were not of a kind which Paria had the competence or experience to execute, Paria necessarily relied on the specialist expertise of contractors such as LMCS to identify the relevant safety risks (***Witness Statement of Paul Yearwood, WSB Vol 4, page 1301 paragraphs 6-8***).

(c) Notwithstanding that Paria admitted that it did not have the competence or experience to execute the works, it held itself out as competent to review and accept the LMCS documents. Paria therefore did not conduct a genuine review of the LMCS documents and Paria on its own admission, relied exclusively on the specialist expertise of LMCS to identify the safety risks; and

(d) Paria did not take the steps to have a client representative/engineer expert to advise it in reviewing the LMCS documents before acceptance. Paria was in breach of the Permit to Work Rules and also in breach of the principles of the common law referred to above.

65. The above evidence must be considered in the context of the evidence of the Expert Mr. Zaid Khan of In-Corr Tech Ltd ***at page 1394 para 2.***1 (Suppl Core Bundle) of the Final Report, that the root cause of this accident was the failure by both Paria and LMCS to recognise that a latent hazardous differential pressure condition, Delta P would have been created by the methodology used in the execution of the works with particular reference to the removal of fuel oil from Sealine 36. He further stated that if this hazard was recognised, then simple mitigation steps and/or changes in methodology could have been instituted to eliminate this hazard.

66. It is our submission that the failure by LMCS and Paria to identify a Delta P hazard had a ripple effect throughout this project. As a result:

(a) the Risk Assessment and Job Hazard Analysis did not identify control measures to reduce the risk of such a hazard occurring and as a result no control measures were in place;

(b) There was no adequate Emergency Response Plan to the accident when it occurred as a result of a Delta P event; and

(c) LMCS and Paria employees who relied on the assessments of LMCS and Paria, were unaware of the risks and the control measures for those risks.

67. There was therefore a breach of duty of care by both Paria and LMCS.

LINE CLEARING

68. We all know according to the Final In-Corr Tech Ltd Report at paragraph 3.1.1 that:

> **"The removal of the contents with respect to the quantity and method, in line #SL36 between #5 and #6 Berths was the underlying factor that led to this accident.** The removal created a gaseous void in the riser and sea line, setting up

a latent differential pressure condition between the habitat and a gaseous void in the sea line, when the mechanical seal and inflatable plug were installed and the habitat pressurised**."**

69. The line clearing process began on 18th January 2022 and was completed around 3rd February 2022 (***WSB Vol 4, para 9, page 1470, Jonathan Ramdhan***).

70. According to Johnathan Ramdhan (Paria's Operations Team Supervisor), LMCS undertook to conduct the line draining in accordance with Paria's Work Instruction effective 5 January 2022 (**see paragraph 9 on page 1470 WSB Vol 4**). The Paria Work Instruction is at **CB 3, page 1033.** This is a step by step instruction for the clearing of Sealine 36 between Berths 5 and 6 developed by Paria's Operation's Department. It was revised by Paria's Visham Harrichan, approved by Paria's Jason Beckles and authorised by Paria's Collin Piper.

71. Mr. Ramdhan stated that the purpose of the document was to oversee the draining process **(*Transcript 6th December 2022 page 131, lines 10-12*)** and that the Operations Department of Paria had control over the process (***page 131, lines 12-15***). It is to be noted that there are also Method Statements produced by LMCS for both Phases I and II **(CB 2 at pages 1028 and 1041).** On page 1038 (**CB 2**), it is stated on the Work Instruction that the Operator at Paria was to be assigned for monitoring and emergency response. Mr. Ramdhan in cross-examination also confirmed that Paria officials were witnessing, present and overseeing the draining process (**Transcript 6th December 2022**, **page 132, lines 7-12**).

72. Also, Section 8 of the Scope of Works (**page 593 CB 2**) required the contractor (LMCS) to follow not only the Permit to Work Procedure but also Standard Work Instructions. Therefore, LMCS would have had a contractual obligation to follow Paria's Work Instruction for the line clearing.

73. This Work Instruction was emailed by Paria Maintenance Planner Mr. Terrance Rampersadsingh to LMCS on 10 January 2022. **(Witness Statement Bundle (Volume 2)**

at page 917. This Work Instruction was attached to the email sent by Mr. Rampersadsingh.

74. The Scope of Works at paragraph 4.5 at **CB 2 at page 570**, provides that Paria's responsibility included providing ***personnel to oversee isolation/de-isolation, depressurization/pressurization and draining/filing product from lines at Berth #5 and Berth #6.*** Mr. Terrance Rampersadsingh of Paria who had the responsibility of overseeing the execution of the Project stated that this meant that Operations would have identified all of the points that need to be isolated, line up the clamps and the valves for the product to go in. He further stated that the contractor would be responsible for draining the product to the required height and the Maintenance Department would provide all the permits and all mechanical support that is required and that the process would be overseen by Paria through its Operations Department (**Transcript, 1st December 2022 at page 14, lines 10 -25).**

75. It was the evidence of both LMCS and Paria that the intention was never to drain the entire underwater pipeline between Berths 5 and 6 but rather to remove only sufficient content to achieve a 30 feet ullage at Berth 6 to install the plugs in order for the works to be carried out.

76. Mr. Kazim Ali Snr in his supplemental witness statement at paragraphs 31 and 32 (***Supp WSB 2860)*** described Phase I and Phase II line clearing process by way of air blowing.

77. This was a change from the original Method Statement which proposed the use of an air pump for the line clearing exercise. The use of the air pump would have involved introducing an air pump at an open riser at Berth No. 6. However, this method was changed to air blowing after LMCS was awarded the contract following discussions at a kick off meeting around June 2021 where LMCS and Paria looked at the job in more detail.

78. Mr. Kazim Ali Snr stated that they decided that the use of an air pump was not practical because they would have had to remove the flange from the top of the riser in order to get the pump in and this risked water entering the riser and was possibly an environmental

hazard concern. Further, the top of the riser would have had to be open for a prolonged period of time if an air pump was used and if water entered, this would have caused the oil in the riser to rise and escape from the riser into the sea causing pollution **(*See Kazim Al Snr at pages 2859 and 2860 of Supp WSB*).**

79. It is to be noted however that the evidence of Paria with respect to its understanding that the line clearing exercise was only to achieve a sufficient ullage to install the plugs is inconsistent with the plain language of the following contemporaneous documents:

i. The Scope of Works **at page 564 CB 3, para 3.1.5** where it is stated:

"*properly coordinated works with Paria Operations, Maintenance and HSE personnel to perform the following activities including but not limited to; isolation/deisolation, depressurization/pressurization and* ***draining****/filling product from line SL 36 at Berth 6 and Berth 5.*

ii. The Addendum I at **page 598** where it is stated that query 1- The Contractor is responsible for the safe removal of hydrocarbon contents from the line to ensure that the **line is clear and dry**.

iii. The Paria Work Instruction (**CB 3 at page 1033**) which refers to the scope being **"Clearing** of No. 36 SL Section between Berth #5 and Berth #6."

iv. The Permit to Work No. 9320 (**CB 3 at page 1074**) which states in Section B, - **Line Drained.**

v. Paria's Daily Work Reports (**CB 2 at pages 995-1014**) which are referred to below. Those documents record that Paria was aware that more than 1,252 barrels of oil were received in its tank farm and also in slop barges. This as we shall demonstrate, is more consistent with the entire line being drained than an intention to partially drain to achieve a 30 feet ullage. The Daily Work Reports show that Paria wanted the line to be drained and it participated in the draining process as it was monitoring the draining of the line.

vi. In order for the line draining process at Paria's compound to be done, Paria's resources and facilities including its workers were used in that process and it is clear from the Daily Work Reports that Paria kept a record of the draining of the oil.

The quantity of line content removed during the air blowing process was 1,252 bbls

Total content of topside piping

80. The evidence showed that Mr. Kazim Ali Snr. believed that 300 bbls had to be removed from the topside piping to drain the topside piping. With respect to the underwater piping, Mr. Ali Snr's evidence was that 60 bbls had to be removed to achieve a 30 feet ullage in the riser at Berth 6 (**see Mr. Ali's evidence at page 38, Transcript 5 December 2022 lines 1-2**).

81. Based on that evidence, therefore, no more than 360 bbls ought to have been removed during the entire line clearing exercise, that is 60 bbls from the underwater riser at Berth 6 and 300 bbls from the topside piping.

Daily Work Reports

82. (a)However, Paria produced contemporaneous Daily Work Reports (***CB 2 pages 995 – 1041)*** created by its Maintenance Technicians showing that 916 bbls were removed during Phase I and 336 bbls were removed during Phase 2. This is a total of 1,252 bbls.

(b) Those Daily Work Reports according to the evidence of Terrance Rampersadsingh were emailed to him on a daily basis. They were copied to Mr. Manmohan Balkaran, Assistant Planner and, where required, Operations (***Transcript 1st December 2022 at page 68, lines 22-27).***

OSHA Letter

83. I now refer to letter dated 20th July 2022 to OSHA from Paria signed by Mushtaq Mohammed (**pages 2905 -2908 Electronic Bundle of Submissions**). At page 2906, OSHA asked the question (Question 4) what was the volume of hydrocarbon removed

from sealine 36 between Berths 5 and 6 prior to the installation of the subsea slip on flange as per Method Statement?

Response:

"Given the configuration of the system, it was impossible to segregate and measure the displaced system."(our emphasis)

84. Question 5 was- what was the volume of hydrocarbon removed from sealine 36 between Berths 5 and 6 after the accident.

Response:

"The volume of hydrocarbon removed is estimated at 125 bbls. The quantity is based on the estimated spilled hydrocarbons (6 bbls and the recorded volumes of hydrocarbons recovered in the sea manatee 119.8 bbls)." (our emphasis)

In-Corr Tech Ltd's Report on Quantity of Oil drained

85. Mr. Zaid Khan of In Corr Tech Ltd in his letter dated 6th January 2022 (***Suppl Core Bundle 1536D)***, stated that out of the 916 bbls removed, during Phase 1 he estimated that approximately 200 bbls were drained from the top side piping (this is based on his personal knowledge of the capacity of the top side piping) and therefore that 777 bbls were removed from the underwater sealine during Phase I. In Phase II, he states that at least 336 bbls were removed from the underwater sealine.

86. Therefore, in his opinion, a total of 1,052 of the 2,000 bbls would have been removed from the underwater line. These figures do not take into account where air blowing occurred on occasions and the quantities of fuel oil removed were not recorded.

The quantity of the oil being removed was not taken into consideration.

87. The evidence shows that even though Paria had available to it, the daily records of the fuel oil being removed, those figures did not form part of any consideration by LMCS or

Paria to ensure that only the target amount was removed from the riser at Berth 6 to achieve a 30-foot ullage.

88. LMCS did not measure the quantity of fuel oil which was removed but was measuring the ullage (***Transcript 5th December 2022, at page 38, lines 1-2***).

89. It would appear that Paria also depended on the measuring of the ullage rather than considering the actual quantity of fuel oil which existed and what had been removed:

References:

(a) Johnathan Ramdhan (**Transcript 6th December 2022 at page 133, lines 11-14**) stated that he couldn't say the quantity which was removed. He stated that operations was overseeing the draining process by the contractor, LMCS and that LMCS was doing their "ullaging" to determine if the right amount of oil was removed.

(b) Visham Harrichan (Paria's then Operations Team Lead (Ag) (**Transcript 7th December 2022 at page 68, lines 14-16**) stated that he was of the impression that the ullage was actually giving the "amount in the line".

(c) Collin Piper (Operations Team Lead) (Transcript 14th December 2022 at **page 25 ,** at lines 21-22) stated that the "dip on the line" is the measurement that the contractor was going to.

90. Visham Harrichan also stated in cross examination that he could not say how much oil was drained or even how much had to be drained. ***(Transcript 7th December 2022at page 67-72).***

91. In fact, Mr. Harrichan was surprised by the actual amount of line content which was drained. ***See Transcript of 7 December 2022at page 75 lines 15- 20 and at page 76 lines 8-12***:

> "Q: So having become aware of that now, would you not agree that the unlimited draining of the line, the underwater line, between berth 5 and 6, should have been closely monitored if it had to be drained.

A: **Yes, and I thought it was closely monitored.**

…

Q: By whom?

A: **The Contractor and Maintenance Department."**

92. However, Mr. Terrance Rampersadsingh of Paria's Maintenance Department (who was in charge of overseeing the execution of the project) stated that he never worked out how many feet of content in the riser was equivalent to in terms of barrels. ***(Transcript 14th December 2022, page 54, lines 4 – 24).***

93. Mr. Collin Piper, Terminal Operations Manager, agreed that he had the overall responsibility of ensuring that the Paria Instruction procedure was established by reviewing and approving the work instruction and ensuring that the Offshore Team Lead understood the requirements of the work instruction ***(Transcript 14 December 2022, page 253 lines 3-8).***

94. Mr. Piper agreed that the Paria Work Instruction was a step-by-step process which was sequential for the line clearing process (***page 4, Transcript 15 December 2022, lines 3-6.***) However, notwithstanding the evidence of Johnathan Ramdhan that the line clearing was undertaken by LMCS pursuant to the Paria Work Instruction, Mr. Piper stated that the Work Instruction did not go to LMCS and is solely an internal instruction for Paria's Operators.

95. However, this is inconsistent with not only Mr. Ramdhan's evidence but also with the contemporaneous documentary evidence of the email (***the Witness Statement Bundle (Volume 2) at page 917)*** from Mr. Terrance Rampersadsingh copied to Mr. Manmohan Balkaran and sent to LMCS dated 10 January 2022. In that email, Mr. Rampersadsingh attaches the Paria Work Instruction and states:

> "Please see attached signed draining procedure, let us meet tomorrow at 10 a.m. to discuss draining schedules. I want to start as early as possible this week,

bearing in mind the Crude Ship Loading is on the 14th. I will discuss with Ops now to firm up on any other issues." (our emphasis)

96. According to Section 5.3 of the Permit to Work Procedure, Paria as the Site Authority was directly responsible for the site/facility and is responsible for ensuring that conditions required for the safe conduct of the job are maintained. Paria pursuant to this duty and also in monitoring the works, should have been able to identify from its records, that more fuel oil than was required was being drained from the line. LMCS also ought to have known that more fuel oil than was required was being drained from the line.

Measuring the ullage did not detect the gaseous void.

97. The expert evidence of Mr. Zaid Khan (of In-Corr Tech Ltd) was that had the removal of the line contents to 35ft below sea level in the riser been undertaken, no gaseous void would have been formed on installation of the plugs (**page 1397 of Supp CB (first para)**).

98. Further, at paragraph 3.1.3 on page 1397, he stated that the method of air blowing from Berth 5 to 6, would have resulted in the removal of way in excess of the optimum quantity of oil from the line, thus creating a significant continuous gaseous void between Berths 5 and 6.

99. His evidence given in cross examination on 10th January 2022 also established that:

(a) The method of removal of line content would have given the impression that a target of a 30 feet ullage was attained in the riser when a dip measurement was taken, but this would not detect the gaseous void in the horizontal part of the line;

(b) He also stated that the pipeline sloped at 0.2 degrees. Berth 6 is 4 feet lower than the Berth 5 end and Berth 6 is deeper than Berth 5. The line is sloped and the initial stages of blowing would have resulted in a lot more liquid flowing out from the line than if it was level. He stated that the riser at Berth 5 would be emptied first as pumping was done from Berth 5.

(c) He also stated that during Phase I air blowing that a point would have been reached when more air than fuel would have been seen coming from the control valves at Berth 6 and onshore where the flow was being monitored and measured. This would have been an indication that a lot of the line content had been removed.

(d) He explained that when the compressor was shut down at Berth 5 at the end of Phase I, air will be locked in, and that pressurised air would have supported a column of liquid in Berth 6. Therefore, whoever took the dip measurement at Berth 6 would have wrongly thought there was still liquid to be taken out to achieve a 30 feet ullage.

(e) In Phase II, the pipe was pressurised internally and a dip hose used to remove the line contents at Berth 6. However, even when the ullage was achieved, it was a false ullage giving the belief that the line was still flooded because nobody looked in Berth 5 to see what was happening.

(f) When the carber test at Berth 5 was done on 25th February 2022, the pressure was released and it created a vacuum on Berth 6 under the plug and it accelerated and made the system more dangerous. That was a dangerous vacuum which could have dislodged the plug if it was not holding.

(g) He concluded that if the line was filled on both sides to the elbow, the incident would not have occurred and there would have been no conditions to establish a flow for a vortex to form.

(h) He also stated that whether it was 300 bbls removed or over 1,052 bbls removed, there would have still been a latent delta P hazard. When he did his report, he did not know the extent of the contents removed from the line. He went by the Method Statements supplied by LMCS which states 300 barrels would be removed. If 300 bbls were removed, there would have been a gap of 7 or 8 inches of air space along the top of the line, if more was removed, the gaseous void became larger. He stated that 300 bbls was way too much to be removed.

(i) He referred to LMCS' original plan which was to drain the topside piping, take off the elbow and to remove fluid out from Berth 6 by way of an air pump at Berth 6.

However, he doesn't know why there was a change. This would have been a safer method of removal.

100. The Expert's conclusions therefore were that had only enough line content been removed to create a 35 ft ullage then a Delta P event would not have occurred sucking the men into the pipe.

101. Further, he concluded that the method utilised of air blowing resulted in more than the target quantity of line content being removed which gave a false impression when a dip measurement was taken at Berth 6 that the line was full of content.

102. If Paria and LMCS had identified a Delta P hazard in the documents submitted by LMCS to Paria for review, this Delta P event would not have occurred because measures would have been taken to mitigate the risk of a Delta P event.

EMERGENCY RESPONSE OF PARIA AND LMCS

103. In examining the evidence of the rescue efforts made by Paria and LMCS after the accident occurred when the five (5) LMCS divers were sucked into the 30 inch pipeline, it is important to consider that evidence in the context that LMCS' Emergency Response Plan, Risk Assessments and Job Hazard Analysis were reviewed and accepted by Paria because Paria considered them satisfactory and that they captured and properly identified all credible scenarios, potential risks and hazards. Paria took the position that LMCS adequately specified mitigating control and emergency response measures (**See Michael Wei WB 1285 at para 75 and Randy Archbald WB 1318 at paras 18 and 19**).

104. It is also not in dispute that both Paria and LMCS did not identify in those documents the risk of a Delta P event.

105. In-Corr Tech Ltd in its Report at paragraph 2.4 [**CB 1395**] stated that LMCS' Job Safety Analysis, Method Statements, Risk Assessments, Toolbox Meetings, Paria's Permit to Work 9320 and its Bid Evaluation of LMCS' Proposal all failed to identify this potential differential pressure, Delta P differential pressure hazard.

106. The failure of both Paria and LMCS to identify a Delta P hazard caused the accident in which the five divers were sucked into the pipeline. Paria and LMCS were therefore jointly responsible for the accident and were therefore jointly responsible to make efforts to rescue the divers.

107. Paria was the Site Authority [**CB Vol 1 p. 30 at para 5.3 line 1**] and it was directly responsible for the site at Berth 6.

108. The Expert in his Report stated that the best time for the rescue was immediately following Boodram's emergence from the pipeline at about 5:30 p.m. and maintained that a rescue was possible. He explained that the risk of a secondary Delta P event was minimal because the system had stabilized and something would have had to trigger a Delta P event [**CB 1534 at 4.9.5**]:-

> *"Prior to Mr. Christopher Boodram's rescue, the entire system stabilised and equalised itself at both ends of SL 36 and this allowed Mr. Boodram to negotiate the pipe without any disruptions, as the system was static. <u>This condition was the best opportunity to attempt a rescue...</u>"* (emphasis added)

109. Mr. Zaid Khan in his evidence maintained that position in cross-examination and explained why the rescue was possible immediately after Boodram's emergence from the pipeline and why a secondary Delta P event would not be triggered by rescue divers. His expert evidence was not challenged

110. In fact, Mr. Piper and the IMT's evidence is that after the accident occurred at 2:45 p.m., conditions in the pipeline were static. At paragraph 120 of his witness statement **[WB 1367]**, Piper stated that *the conditions on either side of that inflatable plug appeared to have stabilised after the occurrence of the event*.

111. The evidence disclosed that LMCS devised three (3) rescue plans, but none were implemented by Paria because Paria from 6:25 p.m. on Friday 25th February 2022 prohibited diving into the pipeline for the LMCS divers to attempt a rescue. The evidence has disclosed that Paria did not have any consultation with the LMCS divers to review and assess their plans to rescue the divers from the pipeline.

PARIA ADMITTED THAT IT DID NOT HAVE THE EXPERTISE AND COMPETENCE TO REVIEW THE DOCUMENTS TO ASSESS THEM INCLUDING THE EMERGENCY RESPONSE PLAN

112. Paria admitted that it did not have the requisite expertise to review the Emergency Response Plan submitted by LMCS at the bid stage of the contract. Michael Wei in cross-examination said that Paria did not have the competent diving personnel to assist with planning and executing the job [**MW/Day 3/p. 171, lines 9-23 and p. 241, lines 19-23**].

113. Paria did not retain an Expert Client Representative to advise it in reviewing the Emergency Response Plan submitted by LMCS at the bid stage. Paria did not consult with the LMCS divers in relation to their three (3) rescue plans nor did they instruct any of the experts they brought in on 25th February 2022 to discuss the LMCS rescue plans.

RESCUE EFFORTS BY LMCS

114. LMCS had three (3) rescue plans:-

(i) the first was just after the accident and it involved Andrew Farah entering the pipeline with scuba; [**para 26 of Farah's witness statement; WB 446, Vol 1**]. He could not do it because Paria did not approve it; [**para 30 of Andrew Farah's witness statement; WB 446 Vol 1**];

(ii) the second plan was when Conan Beddoe arrived at Berth 6 at about 5:45 p.m. The plan was first for Conan to enter the habitat to make an assessment using a rope while Farrah and another person would be tending that rope from the barge. If Conan assessed that he could do a rescue, he would then go back in the habitat with Michael Kurban and Ronald Ramoutar. He (Conan) would then enter the pipeline using a rope and Michael Kurban and Ronald Ramoutar would be tending him into the pipeline. Conan would go in with scuba equipment feet first and share his air with any of the men he encountered and bring them out of the pipeline

[see para 14 of Conan Beddoe's witness statement WB 1244 and AF/Day 7/p. 107/lines 10-19];

(iii) the third plan was the second plan which was revised when Conan's brother Conrad Beddoe arrived with commercial equipment at 6:30 p.m. Conan supported by other experienced divers could enter the pipeline with commercial diving equipment [**para 40 of Farah's witness statement; WB 448 Vol. 1**]. The plan was for Conan to go in feet first and someone would tend the hose. The umbilical was 300 feet long. His intention was to go as far as the umbilical would allow. If Conan came into contact with one of the men, the plan was that he would bring him out via the pnemo (an additional half inch hose connected to the umbilical). The men would use the connection to breathe and Conan would hold them and bring them back up and the others in the habitat would assist to take him out. The diver who Conan rescued would be down by his feet so he would come out first and then the diver would then be pulled out. The plan was that if Conan encountered any obstructions, he would take them out one at a time. He would do this as many times as he could [s**ee para 21 of Conan Beddoe's witness statement WB 1244** and **AF/Day 7/p. 107/lines 10-19**].

115. Catherine Balkissoon was informed by the LMCS divers that they wanted to execute the rescue plans on more than one occasion and she was also informed that there was commercial air equipment available.

PARIA RECOGNIZED THE URGENCY OF A RESCUE BUT THE IMT DID NOT CREATE A TIMELINE

116. The evidence disclosed that Piper first heard of the accident at 3:10 p.m. [**WB 1348, para 13**] and Paria commenced sea searches at 3:10 p.m. [**WB 1351, para 28**]; the divers were reported missing at about 2:45 p.m. [**WB 1348, para 14 – Piper**].

117. Piper admitted that as Incident Commander it was his responsibility *to respond urgently to the emergency* [**WB 1345, para 7 lines 1-2**].

118. Piper admitted, when probed in cross-examination that, at 5:36 p.m. he heard that Boodram had emerged from the pipeline [**CP/Day 9/p. 211/lines 7-8**] and at [**CP/Day 9/p. 210 lines 27 to p. 211 lines 2**]:-

> *"…when [he] found out that Mr. Boodram emerged from the pipeline <u>that it was very important for [him] and the IMT to take urgent steps to see whether [he] could have saved human lives</u>".* (our emphasis)

119. Piper also said at paragraph 47 of his witness statement [**WB 1355**] that *in his mind this was an urgent and critical situation.* Catherine Balkissoon agreed that *time was of the essence* [**CP/Day 9/p. 48/lines 6-7**] for a rescue.

120. Michael Wei in cross-examination considered that the men might be alive some 13-14 hours after Boodram emerged and in his personal timeline (not the IMT's), there was no real prospect of the men still being alive after 7:00 a.m. on Saturday [**MW/3/p. 99/lines 4-27**].

121. Piper on being questioned suggested that the timeline for a rescue was 3-5 hours after Boodram emerged. He said that the IMT understood *that we had to work quickly* [**CP/Day 10/p. 32/lines 22-27; p. 33/lines 1-4**] but that no attempts were made to calculate the outer limits of the breathable air available to the divers. He said that the IMT had *limited information at that time* [**CP/Day 10/p. 33/lines 5-26**].

122. Later, Piper said that he was working with an outer limit of 5 hours which *may be midnight at the outside* [**CP/Day 10/p. 36/lines 11-16**] and agreed with the Chairman that *a timeline informs you about how to approach any potential rescue* [**CP/Day 10/p. 37/lines 1-5**].

123. Similarly, Mushtaq Mohammed said that Paria/the IMT did not establish a specific timeline for rescue but were thinking within the first 6-12 hours for available rescue [**MM/Day 11/p. 59/lines 9-23**]; see also **p. 180/lines 18-27 and 1-8**.

124. Piper's *midnight* timeline must be contrasted with Michael Wei's *7:00 a.m. on Saturday*, Mushtaq Mohammed's *6-12 hours*, Randy Archbald's *24 hours or 2:30 p.m.* on Saturday and Balkissoon's *time was of the essence* [**CP/day 9/p. 48/lines 6-7**]. All of Paria's witnesses agreed, however, that there were diminishing returns, so the longer the delay, the greater the likelihood that the divers will not be alive.

125. It follows, therefore, that notwithstanding Paria's evidence that it recognized the *urgency* of a rescue [**Piper at para 7 of his witness statement; WB 1345**] and for the IMT to take *urgent steps* to see whether lives could have been saved [**CP/Day 9/ p. 210/lines 27 to p. 211/line 2**], the evidence discloses that Paria's IMT failed to act urgently and decisively in that:-

(a) it continued to search the open waters until 5:30 p.m. on Friday even though Piper admitted that he considered the possibility of the men being in the pipeline since 3:20 p.m. when Kazim Ali Snr. told him that the plug was being removed [**CP/Day 10/p. 17/lines 7-27; p. 18/lines 1-22**];

(b) Paria knew since between 3:20 p.m. and 3:30 p.m. that LMCS' divers were prepared to go into the pipeline to do a rescue;

(c) Paria did not take steps to urgently speak to Boodram about the conditions of the pipeline even though Boodram was conscious and alert when he emerged at 5:30 p.m.; Piper agreed that Boodram was *not overly injured* [**CP/Day 9/p. 220 lines 20-25]**.

(d) Piper in questioning said that Shane Ramkissoon visited Boodram in the hospital [**CP/Day 10/95/lines 11-21**] and admitted that he did not know what Ramkissoon had asked Boodram, in particular, whether he had asked Boodram about the conditions in the pipe [**CP/Day 10/95-96/lines 26-27;1-10**]. The IMT Notes also do not show that the IMT through Ramkissoon asked Boodram about the conditions in the pipeline [**Suppl CB (IMT) 1573 and 1574**]. The IMT Notes at p. 1573 records that at 8:35 p.m. Ramkissoon was dispatched to the hospital by Piper and at 8:53 p.m.

records that Boodram was in a stable condition, but is silent as to the conditions of the pipeline.

(e) Boodram in his evidence when he was rescued **[CB/Day 2/47/lines 6-16]** said *that everybody was a set of headless chickens* and at [**CB/Day 2/p. 207 lines 23-27 and 208 lines 1-7**] made it clear that he was prepared to tell Paria or LMCS as soon as he was rescued, about the condition of the pipeline:-

"Q. Okay. Mr. Boodram, I want to ask you a very important question. If when you were rescued either Paria or LMCS wanted to find out from you the condition in the pipe in order to effect a rescue, would—were, were you in a position to tell them what the condition of the pipeline was …?

A. … when I now come out de pipe my mind and everything was focused and tune een to everything to save dem fellas. If they had debriefed me there and then, they would a geh everything they coulda get from me.

Q. Including the condition in the pipe?

A. Everything ah coulda tell them." (our emphasis)

(f) After Boodram emerged from the pipeline and stated *Fyzie is just behind him*, Michael Kurban shortly thereafter dived into the pipeline in order to rescue his father. He dived down the vertical and dived about 10 feet down into the horizontal of the pipeline. He had to return because he wanted a longer umbilical and he was prevented thereafter from going back into the pipeline.

(g) Piper knew since about 7:15 p.m. on Friday that there were competent LMCS divers willing to go into the pipeline to do a rescue [**CP/Day 9/ p. 211/lines 9-23]** but stopped diving at 6:25 p.m. and notified the Coast

Guard to stop diving at about 7:00 p.m. and refused to change the instructions;

(h) Paria did not act urgently to obtain information from the diving companies when they arrived and, instead, they were told to await further instructions;

(i) Paria continued to await a *rescue* from the Coast Guard (up until 1:00 a.m. on Saturday) even though the IMT knew since around 8:00 p.m. that the Coast Guard was not equipped for, nor did they have training and competence to dive into the pipeline;

(j) Piper's explanation for stopping diving into the pipe at 6:25 p.m. was that he had to assess the conditions in the pipe. He said that he did not want to act instinctively or emotionally [**CP/Day 9/p. 214/lines 7-15**]; and

(k) The IMT had a duty to explore all possible ways to rescue the men in upholding its first principle of the ICS which was to safeguard human lives and to act to uphold that principle of Paria's *Safety First* system [**para 20 of CP's witness statement; WB 1349; CB 107A-G**].

126. Wei's description of the performance of the IMT after much consideration as being *Excellent* was not supported by the evidence.

127. If Paria wanted to get information about the conditions of the pipeline to decide whether to authorise a rescue from within the pipeline, Paria could have gotten that information from Boodram and from Michael Kurban. Further, the IMT's handwritten Note contained an entry at 2:02 a.m. on Saturday 26th February 2022 stating *no signs of oil* [**Suppl CB (IMT) 1541**].

128. Further, all of the commercial equipment needed for the rescue dive were available to LMCS' divers by 7:14 p.m. on Friday [**Alvin Seetaram's witness statement at para 10; WB 396].** Seetaram's evidence to the Commission is that LMCS had all the necessary equipment for a rescue when *Waterworld* arrived at 7:14 p.m.

129. Catherine Balkissoon at para 16 of her witness statement **[WB 1330**] said that between 6:00 p.m. and 6:30 p.m., Andrew Farah (LMCS' Dive Supervisor) told her that LMCS' divers and their diving equipment (scuba tanks) were coming from Carenage and they wanted an escort. This means that a dive plan was being formulated. Balkissoon also said that she communicated LMCS' diving plans to the IMT.

130. Balkissoon agreed that she was not merely a conduit for the IMT and at paragraph 9 of her witness statement [**WB 1329**] she said she had to provide onsite logistical and technical assistance and support to the search and rescue efforts.

131. Balkissoon was asked whether Andrew Farah had spoken to her about a rescue plan that LMCS had devised to go into the pipeline and Balkissoon responded saying that Farah told her that LMCS had divers and commercial equipment and were willing to do a dive and rescue. Balkissoon said that she spoke to Collin Piper about it and Piper's response was to stand down [**CB/Day 9/p. 65-66/lines 18-27 and lines 1-6]**.

132. Balkissoon in questioning, said that Farah asked her more than once about a rescue and that her response was the same [**CB/Day 9/p/. 66/lines 7-27**].

133. Both Catherine Balkissoon [**CB/Day9/p. 23/lines 6-15]** and Mushtaq Mohammed [**MM/Day 11/p. 64-65 lines 26-27 and lines 1-12**] stated in their cross-examination that it was not possible to have an emergency plan to rescue someone after a Delta P event. This cannot be correct.

134. Balkissoon said [**CB/Vol. 4/1742-1743**] that the IMT did not have a written plan to deal with Delta P so that when the IMT met on 25th February 2022, it was now devising a plan.

135. Mushtaq and Balkissoon's views are important because it means (particularly with Balkissoon) that they were unlikely to be convinced about effecting a rescue of the divers from within the pipeline.

136. Balkissoon admitted in cross examination [**CB/Vol. 4/p. 1753; lines 10-19**] that she saw people diving and she considered *that it was her role to assist the IMT… to try to see*

whether there would be willing divers to effect a rescue. She said she *passed that information* to Piper around 7:00 p.m.

PIPER KNEW SINCE ABOUT 7:15 P.M. THAT THERE WERE COMPETENT LMCS DIVERS WILLING TO GO INTO THE PIPELINE AND THAT THERE WAS COMMERCIAL EQUIPMENT AVAILABLE FOR A RESCUE

137. Piper said that at some time during Friday evening he knew that *LMCS had equipment, commercial air supply equipment…experienced divers and had divers willing to go into the pipeline and [yet] took the position that it was not safe for them to go into the pipeline* [**CP/Day 9/p. 212/lines 12-16**].

138. In Paria's timeline it is recorded at 6:55 p.m. that *Divers diving equipment arrived on site* [**Suppl. CB (IMT); p. 1573**].

139. Piper said that even earlier, at 6:25 p.m., that it was not safe for divers to go into the pipeline after Visham Harrichan told him that LMCS' divers were diving into the pipeline [**CP/Day 9/p. 212/lines 17-27**].

140. Alvin Seeteram in his evidence confirmed that Subsea Global Solutions Limited had on board the *Waterworld* all the commercial diving equipment and lighting that was necessary for a rescue and that the Coast Guard had inspected his equipment; he said that *Waterworld had super lights, band masks, that is helmets, diving umbilicals, have high pressure, low pressure back up, air supply, umbilicals length of 375 feet and 200 feet* [**AS/Day 8 p. 11 lines 11-25**].

141. Seeteram also confirmed to the Chairman that while SGS' divers were not available to dive because they had used up their maximum dive time in previous dives, that all the equipment was available for the divers to use for the rescue.

142. Seeteram said that he was told that Ronald Ramoutar had available divers who could have used the equipment to dive into the pipeline and this was from about 7:15 p.m. on Friday evening [**AS/Day 8 p. 16, lines 1-14**]. He also said that the Coast Guard was impressed with SGS' equipment and confirmed to the Chairman that *there was nothing*

more that [Paria] could have wanted or desired in order to effect the rescue, over and above what [he] already had [**AS/Day 8 p. 17, lines 4-9**].

143. Paria's instructions that no one was to be allowed to dive in the pipeline continued.

PARIA REQUESTED ASSISTANCE BUT WHEN THE DIVING COMPANIES ARRIVED THEY WERE TOLD TO AWAIT FURTHER INSTRUCTIONS

Mitchell's

144. Mitchell's was contacted on **Friday at 5:05 p.m.** by Rolph Seales and at 5:23 p.m. received confirmation that Mitchell's would be able to provide its services [**paras 7, 8 of Rolph Seales' witness statement; SWB 3132**].

145. The Mitchell's Team arrived at around **8:40 p.m.** with surface air supply equipment and were told to remain on stand-by [**para 4 of Fitzroy King's witness statement; SWB 3016**].

146. After **1:00 a.m.** on Saturday, Rolph Seales asked Mitchell's to view footage of an underwater camera and Fitzroy King said Mitchell's divers were *too big to fit in that pipeline* and Mitchell were told to *stand-by* and at about **2:45 a.m.** Mitchell's divers were told to stand down and they returned to Mitchell's compound at about **3:10 a.m.** [**paras 7-8 of Fitzroy King's witness statement; SWB 3017**].

Eastern Divers

147. Eastern was contacted at **11:40 p.m. on Friday and at 12:30 a.m.** some of its members arrived at Berth 6 with the full team being assembled at the compound by 1:25 a.m. and was briefed by the Incident Commander.

148. Andy Johnson said that the Incident Commander told him that *due to the variables around the incident [Eastern] should prepare itself for retrieval of not rescue due the possibility that the divers may have expired* [**Andy Johnson's witness statement at paras 9-11; p. 1527 of the WB**].

149. After its assessment of the site, Andy Johnson told the Incident Commander that his team would not be able to make an entry to perform the rescue operation as approximately 120 feet of the 1,200 foot pipeline was filled with water (based on what was seen on the video footage). Eastern remained on stand-by offsite for the next 12 hours from 5:00 a.m. [**paras 14-20 of Andy Johnson's witness statement; WB 1529**].

Hull Support

150. Hull was contacted at about 4:30 p.m. but was unable to mobilize a crew – Gyasi Woodley who is Hull's Operation Manager said that he had several discussions with Rolph Seales and Hull advised against cutting the horizontal section of the pipe as being too risky [**Woodley's witness statement at paras 5 and 8; SWB 2991**].

OTSL

151. OTSL was contacted on Friday afternoon and its dive vessel arrived at Paria at about 8:30 p.m. and remained on stand-by until 5:30 a.m. on Saturday and was not called upon by Paria [**paras 6-8 of Ian Bertrand's witness statement; SWB 2842**].

HHSL and the cameras

152. HHSL was only contacted at about 10:50 p.m. on Friday by Michael Wei [**para 107 of his witness statement; WB 1090**]; a push rod camera with operating crew arrived from Atlantic LNG at 9:00 p.m. but that camera was not inserted until midnight [**paras 104, 105 of Michael Wei's witness statement; WB 1289**]. Collin Piper said that the push rod camera actually came at 11:00 p.m. [**para 134 of his witness statement; WB 1369**].

PARIA DID NOT GET ADVICE FROM ROLPH SEALES AND FUENTES TO CONSIDER LMCS' RESCUE PLANS

153. Paria had available to it Rolph Seales and Krishna Fuentes to request either or both of them to have discussions with the LMCS divers to consider their rescue plans so that Paria and the IMT could have made a decision whether to reconsider its decision to prevent the LMCS divers from diving into the pipeline.

154. Also, they could have attempted to contact an expert such as Mr. Zaid Khan of In-Corr Tech Ltd to give them advice as to whether there was a risk of another Delta P event after the pressure in the pipeline was stabilized. Such an expert could have also advised them about the risks of sending in divers in the pipeline to rescue divers from the pipeline.

155. Paria used the diving companies to support its unreasonable insistence on receiving conclusive video evidence of the inside of the pipeline. The evidence discloses that Paria became pre-occupied and distracted by the cameras and video and ignored the information by Boodram and Michael Kurban. In any event, the video when it was eventually received, confirmed that the line contained clear water (not oil) so much so that the model number on the tank pushed by the crawler was clearly visible.

156. Summarily, the evidence discloses that the IMT on Friday evening (we say as early as 7:15 p.m. when SGS came onsite) that there was commercial equipment for a rescue. In fairness to Piper, he did say in his evidence, that during Friday evening he knew that *LMCS had equipment, commercial air supply equipment…experienced divers and had divers willing to go into the pipeline*.

157. Piper (and by implication the IMT) therefore had actual knowledge (we say by 7:15 p.m.) that there was all the commercial equipments and competent divers and a rescue dive plan to make a feasible rescue. Piper's decision to maintain the prohibition cannot be regarded as reasonable or justified on any view: [**CP/Day 9/p. 212/lines 12-16**].

158. In its Opening Statement [**para 8 (g)**] Paria said it made *extensive and sustained efforts… to explore what feasible solutions were available to rescue these men, against a ticking clock, <u>in circumstances where the clear responsibility for the safety of the men… was always that of LMCS, not Paria</u>*. <u>(our emphasis)</u>

159. Paria says that LMCS as the contractor was regarded as the First Responder. A point repeated by Archbald in his *viva voce* evidence and underscored in Paria's Opening at para 9 (e) where Paria maintains that:-

> "*… the responsibility for the safety of the deceased men and Christopher Boodram while they were carrying out the works <u>rested squarely on LMCS… and</u>*

accordingly any attempts to impose such responsibility upon Paria is misplaced." (our emphasis)

160. It is submitted that Paria had a joint responsibility with LMCS to take steps to first discuss LMCS' rescue plans with LMCS divers in order to assess their viability and then implement the best plan.

161. The inevitable conclusion from the evidence of the rescue efforts of Paria produced in these proceedings is that the hours between the time of the incident and the early hours of Saturday morning were squandered by Paria. This is the time period in which the men were most likely alive and as each hour passed the possibility that they were alive became less and less likely.

THE FACT THAT PARIA FAILED TO IDENTIFY DELTA P AS A POTENTIAL RISK MEANT THAT NO EMERGENCY PLANS WERE DEVELOPED BY PARIA (OR INSISTED FROM LMCS) TO MITIGATE THIS RISK

162. At para 4.0 of Paria's HSE Requirements for Contractor [**CB 12**] all Paria contractors *must conduct suitable and sufficient risk assessments or Job Hazard Analyses* (*JHAs*) *or Job Safety Analyses (JSAs) for all activities and for all Work Permits*.

163. At para 7.0 of this same document [**CB 13**] Paria requires all contractors *to have Emergency Response Plans (ERPs) for fires, gaseous emissions, spills and any other credible scenarios*. Moreover, at lines 2-4 of 7.0

> *"This [ERP] will be reviewed by Paria's HSSE personnel for adequacy prior to the commencement of any work."*

164. Wei's confirmation at para 76 of his witness statement [**WB 1285**] that Paria's Technical and Maintenance Department reviewed and accepted LMCS' documents including its risk assessment means that the risks identified by LMCS (which did not include Delta P) were accepted by Paria.

165. This means that Paria, wrongly, did not regard Delta P as a *credible risk*.

166. It also means that since Paria did not regard Delta P as a potential risk, Paria did not have any emergency response plans to deal with Delta P. Further, that Paria did not insist that LMCS include an emergency response plan to deal with Delta P.

167. Accordingly, when the incident occurred, neither Paria nor LMCS recognized the root cause of Delta P and because neither identified Delta P as a potential risk, neither had an emergency response plan to rescue the divers.

168. Certainly, Mr. Zaid Khan's view is that the Delta P was a credible risk and at 2.4 of his Report [**CB 1258**] he said that since both Paria and LMCS failed to identify Delta P as a risk *no steps to eliminate the hazard were implemented.*

169. OSHA agreed with Zaid Khan's assessment and at 5.3 and 5.4 of OSHA's Preliminary Report [**CB 1230**] it said that neither Paria nor LMCS's Emergency Plan *captured emergency scenarios*; in relation to LMCS, this was scenarios *specific to the job* and for Paria, scenarios *based on a risk assessment.*

170. It follows, therefore, contrary to Wei's evidence, Delta P was both a *credible scenario* required to be documented in an Emergency Rescue Plan approved by Paria (in accordance with Paria's HSE Requirements for Contractors at para 7.0 [**CB 13**]) and should have been included by LMCS in its Emergency Plan following a *suitable and sufficient risk assessment* (in accordance with the same HSE Requirements at para 4.0 [**CB 12**]).

171. Paria's failure to insist on the inclusion of Delta P as a credible scenario which should have been part of LMCS' Emergency Response Plan, meant that Paria's HSSE personnel did not carry out a proper or adequate review of LMCS' documents.

TREATMENT OF THE FAMILY

172. The families of Rishi Nagassar, Yusuf Henry and Fyzal Kurban were in the car park outside Paria's compound from Friday 25th February, 2022 to Sunday 27th February, 2022 seeking information on the rescue efforts.

173. Both the families of Rishi and Fyzal indicated that they were informed of the decision to transition to recovery on the news on the evening of Sunday 27th February, 2022.

174. The evidence of LMCS is that they had difficulty in contacting Rishi and Yusuf's families but they gave the contact details which they had to Paria. Paria's evidence is that the families were updated through a meeting at the Staff Club on Saturday 26th February, 2022 and thereafter by way of WhatsApp.

175. Mushtaq Mohammed's evidence is that the families were informed of the decision to move to recovery on the evening of 26th February, 2022 by him via WhatsApp call.

176. In cross examination, Mr. Mushtaq Mohammed (Transcript of 3 January 2022) stated:

(a) That arrangements were made to accommodate the families on Saturday afternoon (that is almost 24 hours after the incident) (***Page 95, line 20)***;

(b) The first time that Paria met with the families was on Saturday 26th February 2022 at the Pointe-à-Pierre Staff Club ***(page 96, lines 11-13***);

(c) Before this meeting, Mr. Mohammed says that he did not know that the families were in the car park since Friday afternoon trying to get information ***(page 97 lines 8-10)***; and

(d) Mr. Mohammed said that he wouldn't argue the point and conceded that this was not an acceptable position ***(pages 101-102).***

RECOMMENDATIONS

177. Companies like Paria which undertake inherently dangerous works, ought to employ a Client Representative or Engineering Expert to assist in the preparation of the Scope of Works, to review the contractor's documents and to oversee the execution of the project by the contractor in accordance with the Permit to Work procedure.

178. Persons performing the roles and responsibilities set out in the Permit to Work procedure ought to have dedicated training and qualifications to enable them to perform the functions in those roles in accordance with the Permit to Work procedure.

179. The Client Representative or Engineering Expert should be empowered to coordinate the various aspects of the project under the supervision of the General Manager to ensure that Paria's objectives to create a safe system of work is achieved.

180. The Permit to Work Form ought to be clear and unambiguous. It ought to be redone and fit for purpose. The Permit to Work Form ought to be clear in prioritizing the tasks including the sequence of the tasks and it ought to be contractually underpinned.

181. Work instructions should be clear and unambiguous and required to be co-signed by the Applicant and the Contractor.

182. Consideration ought to be given to amending the Permit to Work procedure so that a Permit to Work would be issued for specific tasks which are inherently so dangerous that they should be given special treatment; this Permit to Work would only be issued after the issuer is satisfied that a toolbox meeting was convened in relation to this task and the risks were discussed and the control measures understood and agreed.

183. There should be clearer guidelines in the Permit to Work as to the meanings of "periodically" and "continually". In this case, it was the duty of the Applicant to continually monitor, however he did not arrive on the site until 2.00 p.m. on 25th February 2022. Therefore, there was no monitoring by him at all prior to that time.

184. Every Risk Assessment or Job Hazard Analysis with respect to any project dealing with subsea works involving pipelines ought to address what we regard as an obvious risk of Delta P. There should be a section in every risk assessment under which this hazard is considered and specific control measures are identified.

185. The Incident Command System should be reconfigured to address operational emergencies which may be regarded as exceptional. This would assist with the

development of an action plan specifically identifying the control measures and what resources are necessary to conduct any rescue.

186. Under the Incident Command System, there should more regular training and drilling and the Incident Command System periodically audited. Consideration should be given to the establishment of a rotating Incident Commander so that depending on the nature of the emergency the most suitable trained and qualified Incident Commander would be automatically appointed.

187. High risk activities should be scheduled only on those dates and times when the key members of the Incident Command Team are on site. The evidence discloses that when this accident occurred, none of the key members of the ICT were at Paria's compound. The evidence also showed that even though the incident occurred at 2.45 p.m. the ICT was convened close to 5:00 p.m.

188. The protocols for the establishment, training and drilling of the ICT should be accessible to regulators and periodically updated and tested. It should be supported by an active communications team which will ensure (without the need for direction by the Incident Commander) that victims' families can be accommodated, supported and communicated with on a timely basis.

189. Consideration should be given to having OSHA regulate the operations of the Incident Command System and this includes OSHA regulating the composition, training, procedure and drilling of the Incident Command System and requiring these to be certified annually as fit for purpose.

190. There are no compulsory diving standards in Trinidad and Tobago. There are, however, voluntary standards which have issued by Trinidad and Tobago Bureau of Standards. However, those standards have not been made compulsory due to a lack of consensus among the stakeholders. Also, because they are voluntary, they are not enforced.

191. Accordingly, it is recommended:-

(a) that Paria and similar companies adopt and maintain international best practice for commercial diving in relation to its subsea repair and maintenance jobs;

(b) The Trinidad and Tobago Bureau of Standards be invited to prepare and implement (following stakeholder consultation) a compulsory standard regulating the commercial diving industry in Trinidad and Tobago; and

(c) OSHA implement regulations so that international best practice can be implemented in relation to health and safety on the subsea worksite.

192. In pipelines less than 48 inches in diameter, that consideration be given to augment existing pipelines and for all new pipelines to be configured to permit, particularly at the elbows, an additional installation or design to permit divers to be able to turnaround.

193. The Accreditation Council of Trinidad and Tobago be appointed an Accreditation Agency for commercial diving in Trinidad and Tobago by amending the Accreditation Council of Trinidad and Tobago Act Chapter 39:06.

OSHA'S POWERS TO PROSECUTE UNDER THE OSH ACT

194. Having regard to OSHA's Preliminary Report [**CB 458]** which suggests that both Paria and LMCS may be guilty of various offences under the OSH Act, the Commissioners may consider, based on the evidence, to recommend proceedings by OSHA.

195. **Section 91 (2) of the OSH Act** permits OSHA, following any accident in an industrial establishment and where it appears from the Commission's Report that the OSH Act was not complied with, to bring summary proceedings against the person liable to be proceeded against in respect of such non-compliance and these proceedings are required to be commenced within six (6) months after the making of the Commission's Report.

196. **The OSH Act** imposes duties on employers, occupiers, employees, manufacturers and suppliers of goods. Some of these duties are owed not only to persons working at the

industrial establishment, but also to visitors and persons who might be affected by the activities carried out at the industrial establishment.

197. **Section 86 (1) of the OSH Act** states as follows:-

> "*Subject to subsection (2), where a person dies, is critically injured or develops an occupational disease in consequence of an employer, occupier or owner having contravened this Act, the employer, occupier or owner shall, without prejudice to any other liability or right of action arising out of the death or critical injury or disease, be liable to a fine of one hundred thousand dollars, or of an amount equivalent to three years pay of that person, whichever is greater, and the whole or part of the fine may be applied for the benefit of the victim or of his estate, or otherwise as the Court may determine*." (our emphasis)

198. It is submitted that the evidence discloses breaches of the OSH Act by LMCS (as employer of the deceased/injured divers) and by Paria (as occupier of Berth 6).

199. The jurisdiction to hear and determine such complaints brought by an Inspector pursuant to the OSH Act lies in the Industrial Court (**section 83 (1) of the OSH Act**) but also the Magistrates' Court (**section 80 of the OSH Act**).

200. Therefore, OSHA has a statutory power to file a complaint against Paria/LMCS in the Industrial Court or in the Magistrates' Court for breaches of the OSH Act/Regulations in accordance with **section 83(1)** and **section 80 of the OSH Act** respectively.

201. We therefore recommend that the Commissioners consider making recommendations to OSHA pursuant to the provisions of the Act.

CRIMINAL PROCEEDINGS

202. Mr. Prakash Ramadhar on behalf of some relatives of the divers raised the issue of the Commissioners making recommendations for criminal prosecution arising from the evidence before the Commission. This issue has been engaging the attention of the legal

team assisting me and we undertake to provide to the Commissioners a written opinion when the research is completed so that the Commissioners will have it before they compile their Report.

203. We would have that research completed within the next 7 days. The law in this area has been developing and there is a decision in Trinidad and Tobago in the case of **INQ 10 of 2008: In the Inquest into the death of Ojo Moyo Oliver**. This is a decision of Her Worship Magistrate Nalini Singh delivered on 22 April 2009 sitting as a Coroner and who was recently appointed as a High Court Judge. There have been other cases decided in other jurisdictions which must be looked at before we conclude our opinion. One of the principles of law is that where there is gross negligence and/or recklessness whether by positive acts or omission which result in the death of an individual, there can be a prosecution for manslaughter.

204. That Legal Opinion which I would send to the Commissioners would not be made public and it would not be put on the Commission's website. That would be a private and confidential document.

Dated this 13th day of January 2023

Ramesh L. Maharaj S.C.