Decision Issued: July 12, 2021

**IN THE MATTER OF**
**THE ENGINEERS AND GEOSCIENTISTS ACT,**
**R.S.B.C. 1996, chapter 116, as amended**

**and**

**IN THE MATTER OF LAURA FIDEL, P. Eng.**
**EGBC File No. T15-048**

# DETERMINATION OF THE DISCIPLINE COMMITTEE

| | |
|---|---|
| Hearing Dates: | July 6 - 17, 2020 |
| Closing Submissions heard on: | September 28 - 29, 2020 |
| Discipline Committee Panel (the "Panel"): | Ed Bird, P. Eng., Chair<br>Tom Morrison, P. Eng.<br>Dr. Ronald Yaworsky, P. Eng. |
| Counsel for the Association: | Andrew D. Gay, Q.C., Adrian D. A. Greer |
| Counsel for the Member: | Steven Haakonson, Cassandra Paterson |
| Counsel for the Panel: | Michael Shirreff |

## TABLE OF CONTENTS


A. Introduction ..... 3
B. Notice of Inquiry ..... 7
C. Agreed Statement of Facts ..... 10
   *i. Mt. Polley Mine* ..... 10
   *ii. Construction of the embankments* ..... 10
   *iii. The engineering firms involved at Mt. Polley* ..... 11
   *iv. AMEC professionals* ..... 11
   *v. Design and construction of the TSF* ..... 12
D. Additional Evidence and Findings of Fact ..... 13
   *i. Ms. Fidel's engineering background* ..... 13
   *ii. AMEC's involvement on the Mt. Polley Mine project* ..... 14
   *iii. Engineering complexity of the TSF embankments* ..... 16

*iv. The observational approach* ..... 18
*v. Further evidence addressed below* ..... 18
E. Relevant Legal Principles ..... 18
*i. Burden and standard of proof* ..... 18
*ii. Determinations available under section 33 of the Act* ..... 19
*iii. Unprofessional conduct* ..... 20
*iv. Negligence* ..... 23
*v. Is it open to the Panel to find that Ms. Fidel committed both unprofessional conduct and negligence with respect to the same allegation?* ..... 25
F. General Comments on the Expert Evidence ..... 26
*i. Ms. Fidel's position on Dr. Robertson* ..... 26
*ii. Association's position with respect to Mr. Haynes* ..... 27
*iii. The Panel's overall views on the expert evidence* ..... 29
G. Determinations on the Allegations in the Notice of Inquiry ..... 31
a) Notice of Inquiry – paragraph #1 ..... 31
*i. Overview* ..... 31
*ii. Ms. Fidel became the EOR for the TSF* ..... 32
*iii. Role of the EOR in industry in 2013-2014* ..... 33
*iv. Evolution of the definition and role of the EOR* ..... 35
*v. Departure of key employees/EOR as the engineering firm or an individual* ..... 36
*vi. The role of the EOR in the MPMC/AMEC documents* ..... 39
*vii. Ms. Fidel's understanding of the roles she assumed in 2013* ..... 40
*viii. Ms. Fidel's experience and training when she became the EOR* ..... 42
*ix. Conclusions on Paragraph #1* ..... 44
b) Notice of Inquiry – paragraph #2 ..... 50
c) Notice of Inquiry – paragraph #3 ..... 53
d) Notice of Inquiry – paragraph #4 ..... 57
*i. Overview* ..... 57
*ii. Ms. Fidel's submission about the use of the word "ensure" in the Notice of Inquiry* ..... 58
*iii. 4.a. – failing to visit the site more than once while Project Manager and EOR* ..... 58
*iv. 4.b. – failing to ensure that appropriately experienced engineers visited the site to observe the TSF embankments* ..... 60
*v. 4.c. – obtaining updates on the water balance* ..... 63
*vi. 4.d. – failing to ensure the implications, in terms of stability and consequences, of the matters referred to in 4.c. were assessed* ..... 66
*vii. 4.f. – failing to advise MPMC that undergraduate students should not be used as inspectors* ..... 67
*viii. 4.g. – failing to request and review seepage monitoring reports* ..... 69
*ix. Conclusions on paragraph #4* ..... 71
e) Notice of Inquiry – paragraph #5 ..... 71

f) Notice of Inquiry – paragraph #6 ..... 78
g) Notice of Inquiry – paragraphs #7-10 ..... 82
H. Reasons of Dr. Yaworsky with Respect to Paragraph #8 ..... 85
*i. The role of the EOR* ..... 87
*ii. Ms. Fidel as EOR* ..... 88
*iii. Ms. Fidel's qualifications and experience to act as EOR* ..... 89
*iv. Conclusion* ..... 91
I. Conclusion and Summary ..... 92

## A. INTRODUCTION

1. In this proceeding, the Association of Professional Engineers and Geoscientists of the Province of British Columbia (the "Association") raises a series of concerns about the professional conduct of Laura Fidel (nee Wiebe), P. Eng. The allegations arise from engineering work performed by Ms. Fidel in connection with the Tailings Storage Facility (the "TSF") at the Mt. Polley copper and gold mine (the "Mine").

2. At the material time, Ms. Fidel was employed as an engineer with AMEC Earth & Environmental Limited, a division of AMEC Americas Limited (collectively referred to in this decision as "AMEC"). Ms. Fidel was still employed by AMEC as of the date of this hearing, although the company was then referred to as AMEC Foster Wheeler Americas Limited.

3. On August 4, 2014, there was a breach in the perimeter embankment of the TSF, which led to approximately 21 million cubic metres of Mine tailings flowing from the TSF into Hazeltine Creek, Quesnel Lake and the surrounding water system. Without question, the TSF breach led to wide-ranging and serious environmental issues in the local watershed and areas surrounding the Mine.

4. At the time of the TSF breach, Ms. Fidel had been on leave from her position at AMEC since February 2014. Prior to taking leave, Ms. Fidel had been involved with the Mt. Polley project in various capacities at AMEC, including as both the Engineer of Record (the "EOR") and the Project Manager starting in the spring of 2013.

5. It should be emphasized at the outset of this decision that the Association has <u>not</u> alleged any link or connection between Ms. Fidel's professional conduct and the cause of the perimeter embankment breach in the TSF. The Association's position is that it can establish that Ms. Fidel committed unprofessional conduct or negligence without also having to prove that her actions caused or contributed to the TSF failure.

6. The specific allegations against Ms. Fidel are set out in the Amended Notice of Inquiry issued by the Association, dated June 22, 2020 (the "Notice of Inquiry"). The content of the Notice of Inquiry is set out in full in the decision below.[1]

7. In broad terms, the Notice of Inquiry alleges that Ms. Fidel: accepted responsibility for engineering roles on the Mt. Polley project for which she was not qualified (the EOR position); sealed and accepted professional responsibility for an engineering design that was not prepared by her, or which was not prepared under her direct supervision; failed to properly and diligently observe and monitor the TSF embankments when she was the EOR and Project Manager; and failed to properly address and investigate construction activities at the TSF that appeared to deviate from its intended design.

8. This Panel was established in accordance with section 32 of the *Engineers and Geoscientists Act* (the "Act").[2] The hearing of this matter proceeded over the course of 12 days between early July and late September 2020.[3] The Panel heard 10 full days of evidence, which included lengthy testimony from experts called by both the Association and Ms. Fidel. The evidence at the hearing, as described more fully below, included an Agreed Statement of Facts, a Joint Book of Documents containing 242 tabs of materials, two lengthy expert reports and many other documents that were introduced into evidence at the hearing (33 exhibits in total). It was a document intensive hearing and the Panel heard evidence about many of the technical aspects of the TSF.

9. At the conclusion of the evidence, the parties exchanged detailed written submissions, as well as written reply submissions, and the Panel then heard two days of oral argument from counsel.

10. The Association's allegations against Ms. Fidel were vigorously defended. Ms. Fidel's position was that the Association had not met its burden to prove any of the allegations in the Notice of Inquiry. Ms. Fidel submitted that if there were any concerns about her professional conduct in relation to the TSF and the Mine, such matters did not rise to a level such that a disciplinary hearing should even have been necessary, arguing that any such issues should have been more appropriately addressed through a practice review.

---

[1] The Association did not pursue the allegation in paragraph #4(e) of the Notice of Inquiry.

[2] On February 5, 2021, the *Professional Governance Act*, SBC 2018, c. 47 ("PGA") came into force and the *Engineers and Geoscientists Act* ("EGA") was repealed. In addition, the Bylaws of EGBC were repealed and replaced at the same time. The Panel requested submissions from the parties as to any impact of these legislative changes with respect to this proceeding given that the decision had not been completed as of the date that the PGA came into force. The parties agreed, and the Panel accepts, that the repeal of the EGA does not impact this proceeding and the Panel is to assess and determine these matters in accordance with the provisions of the EGA and the Bylaws that existed at the material times.

[3] The hearing was conducted by video-conference owing to public health restrictions in place due to the Covid-19 pandemic.

11. During the proceeding, the Panel was provided with a detailed history of the design and construction of the TSF at Mt. Polley. Over the course of many years, as the volume of the water in the TSF impoundment increased, the embankments were raised in several Stages, with the TSF slopes becoming increasingly steep in the years leading up to the eventual breach in 2014.

12. The engineering complexity of the dam increased as the height of the TSF embankments rose. Each raise of the embankments resulted in an incremental increase in the loading, deformation, hydraulic pressures and shear stresses within the TSF foundation. The Panel accepts that, certainly by the time of Ms. Fidel's tenure as EOR and Project Manager, the TSF embankments at Mt. Polley were large and complex engineered structures, both in terms of the design that was used, but also as a result of the elements and materials used in the construction.

13. For the initial years of the project, dating back to the construction of the "starter dam" in 1996, engineering services in relation to the TSF were performed by Knight Piesold. AMEC assumed engineering responsibility for the TSF in March 2011. Ms. Fidel first worked on the project later that same year, in October 2011. AMEC personnel were then responsible for a series of raises to the TSF embankments from 2012 through 2014. During most of that period, the engineer at AMEC who filled the EOR role in relation to the TSF was Todd Martin, P. Eng., P. Geo, who was at the time considered to be a leading engineer in both the design and construction of mine tailings facilities.

14. The owner of the Mine, Mount Polley Mining Corporation ("MPMC"), played the key role in the construction of the embankment raises. MPMC was also primarily responsible for the day to day monitoring of the construction and the day-to-day performance of the TSF. During AMEC's engagement with Mt. Polley, MPMC relied predominantly on inexperienced, undergraduate engineering students to perform the monitoring work relating to the TSF.

15. Throughout Ms. Fidel's time as the Project Manager and EOR, it was apparent to the Panel that the level of communication between MPMC and the engineering firms involved in the TSF and the Mine was less than ideal. The Panel will address the implications of these problems when examining some of the allegations in the Notice of Inquiry.

16. By early 2013, Mr. Martin and two other engineers at AMEC who had also played prominent roles with respect to the Mt. Polley project had left the firm to either retire or join another local engineering firm, BGC Engineering Ltd. ("BGC"). After these departures, AMEC management needed to assemble a new AMEC Mt. Polley project team in order to maintain its ongoing business relationship with MPMC and its parent company, Imperial Metals Corporation.

17. It was at this juncture, when the new AMEC project team was put together, that Ms. Fidel became the EOR and Project Manager in relation to the TSF. At that time, Ms. Fidel had been a professional engineer for over two years. She had never served as an EOR on a project similar to the TSF. The majority of her prior experience with tailings dams related to construction monitoring and site investigation work. Given the events that led to Ms. Fidel becoming the EOR within AMEC, the Panel had no hesitation in concluding that Ms. Fidel was severely let down by her senior colleagues at the firm. Instead of taking more time to establish a new project team that had the same or similar professional qualifications as the engineers who had left the firm, AMEC management determined, apparently without much analysis or discussion, that Ms. Fidel was capable and qualified to fill the EOR and Project Manager roles for the TSF.

18. The Association took the position, as one aspect of this proceeding, that Ms. Fidel did not have the necessary training or experience to properly serve as the EOR. As such, the Association submitted that she ought not to have accepted the professional assignment. Other allegations in the Notice of Inquiry addressed aspects of Ms. Fidel's conduct while EOR and Project Manager that the Association also argued fell short in terms of her professional obligations.

19. Unbeknownst to AMEC or Ms. Fidel at the time, after leaving AMEC, Mr. Martin and his new firm, BGC, were engaged by MPMC to undertake engineering work in relation to the Mine and TSF. BGC was also taking active steps in 2013 to procure the design work for the raise of the dam to its ultimate height at the following construction Stage. MPMC communicated regularly with BGC during 2013-2014 about a number of engineering issues at the Mine, but did not keep AMEC up to date to a similar level. Eventually, MPMC did retain BGC in place of AMEC to assume engineering responsibility for the TSF and the future dam raise. However, before that could happen, the TSF breach occurred – at a time when AMEC was still responsible for the structure.

20. As outlined below, the Panel has concluded that certain aspects of Ms. Fidel's actions fell short of what was expected of her as the EOR and Project Manager in relation to the TSF. That being said, the Panel has also concluded that the Association has not met its burden to prove other matters set out in the Notice of Inquiry, including the allegation that Ms. Fidel committed unprofessional conduct in assuming the EOR role. With respect to many of these issues, the Panel concluded that Ms. Fidel's actions, even if reasonably and fairly criticized when analyzed with the benefit of hindsight, should not be viewed as negligent or rising to the level where it could be said that her conduct was a marked departure from that expected of an engineer in similar circumstances.

21. Dr. Yaworsky departed from the other Panel members with respect to the allegations in paragraph #8 in the Notice of Inquiry. With respect to that issue, unlike the majority of

the Panel, Dr. Yaworsky concluded that the Association did prove that Ms. Fidel breached the Code of Ethics (the "Code") in accepting the professional assignment as the EOR for the TSF. Although he determined that Ms. Fidel breached the Code, Dr. Yaworsky nevertheless agreed with the majority of the Panel that Ms. Fidel's actions in that regard should not be considered to be unprofessional conduct and that the allegation in paragraph #1 of the Notice of Inquiry ought to be dismissed. Dr. Yaworsky's conclusions on paragraph #8 are addressed in a separate section in the decision.

22. A summary of the Panel's conclusions in this matter is as follows:

a. the allegations against Ms. Fidel set out in paragraphs #1, 2, 4. c., 4. d., 4. f. and 5 of the Notice of Inquiry were not established by the Association and are therefore dismissed;

b. the Association proved the allegations against Ms. Fidel in paragraphs #3, 4. a., 4. b., 4. g. and 6 of the Notice of Inquiry on the balance of probabilities. The Panel has concluded that for each of these allegations the appropriate finding is that Ms. Fidel committed unprofessional conduct;

c. the allegations at paragraphs #7-10 of the Notice of Inquiry, which related to breaches of the Code and section 20(9) of the Act, are dismissed except to the extent that those matters overlap with the proven allegations of unprofessional conduct in other paragraphs in the Notice of Inquiry. With respect to the overlapping allegations, the Panel concluded that the appropriate finding was for each such matters to be viewed as unprofessional conduct, being the more serious finding; and

d. Dr. Yaworsky departed from his fellow Panel members and concluded that Ms. Fidel breached Principle 2 of the Code as alleged in paragraph #8 of the Notice of Inquiry. Dr. Yaworsky's conclusions in relation to this issue are addressed separately below.

## B. THE NOTICE OF INQUIRY

23. The allegations against Ms. Fidel in the Notice of Inquiry were as follows:

> **AND TAKE NOTICE** that the allegations against you are that:
>
> 1. You demonstrated unprofessional conduct in or about April 2013 when you undertook and accepted responsibility for the role of Engineer of Record ("EOR") for the Mount Polley Tailings Storage Facility (the "TSF"), and advised Mount Polley Mining Corporation ("MPMC") that you were accepting this responsibility, in circumstances where you were not qualified by training or experience to fulfil that professional assignment.

2. You demonstrated unprofessional conduct in or around March and April 2013 when you accepted professional responsibility for the Stage 9 2013 Construction Monitoring Manual in circumstances where you were not qualified by training or experience to accept that responsibility.

3 . You demonstrated unprofessional conduct in or around March and April 2013 by affixing your seal to the Stage 9 2013 Construction Monitoring Manual and the Stage 9 design drawings, in circumstances where the Stage 9 design of the TSF embankments was not prepared by you or under your direct supervision, and in circumstances where another engineer was most directly responsible for preparing the Stage 9 design.

4. You demonstrated unprofessional conduct or negligence when, having accepted the responsibility of EOR and Project Manager in connection with the Stage 9 raise of the TSF embankments, you failed to ensure that there was sufficient observation and monitoring of the TSF embankments while you were EOR, or to warn MPMC of the need for better observation and monitoring, particularly in view of the fact that the embankments were built to a slope of 1.3H:1V which was unusually steep for rockfill tailings embankments on soil foundations built by the centreline method with a relatively narrow crest, including by:

    a. failing to visit the site and observe the embankments more than once in a thirteen month period from January 2013 to February 2014;

    b. failing to ensure that a geotechnical engineer or engineers with appropriate experience and knowledge of the design of the embankments visited the site to observe the TSF embankments for changed loading conditions, for potential indicators of safety or stability issues including bulging, cracking, sloughing, seepage, shrinking or absent beaches, impoundment water levels including for risk of water overtopping, and generally to ensure that the embankments were functioning as intended and in a safe condition;

    c. failing to ensure that you were receiving regular updates on the volume and elevation of water in the TSF impoundment and the status of the beaches within the TSF;

    d. failing to ensure that the implications, both in terms of stability and consequences if failure occurred, of any changes in the matters referred to in paragraph (c) was assessed;

    e. [Association did not proceed with allegation];

    f. failing to advise and warn MPMC that students should not be used as Field Inspectors, including in relation to construction monitoring, as they would have too little experience and training to fulfil the role of a Field Inspector; and

g. failing to request and review reports of seepage monitoring which may provide evidence of a potential unsafe condition with the embankments such as piping.

5. You demonstrated unprofessional conduct or negligence when you signed and sealed the Stage 8/8A As-Built Report in which you made the statement that the raise of the embankment was "judged to have been carried out in conformity with design intent", when in fact the Stage 8/8A raise was constructed at a steeper slope and with a wider crest than was designed, something which, as EOR, you should have known.

6. You demonstrated unprofessional conduct or negligence when in the Fall of 2013 you became aware of an unfilled excavation at the toe of the perimeter embankment of the TSF, and as EOR and Project Manager you did not take steps at any time prior to commencing a leave from work in February 2014:

   a) to have an appropriately qualified geotechnical engineer assess the excavation to determine what impact, if any, the excavation would have on the stability of the embankment if it was left unfilled;

   b) to determine the extent and purpose of the excavation or who had authorized it; and

   c) to notify MPMC that the excavation was not in conformity with the Stage 9 Design.

7. The conduct set out above at paragraphs 1 to 6 is contrary to Principle 1 of the Association's *Code of Ethics* which requires that all members and licensees shall hold paramount the safety, health and welfare of the public, the protection of the environment and promote health and safety within the workplace.

8. The conduct set out above at paragraphs 1 and 2 is contrary to Principle 2 of the Association's *Code of Ethics* which requires that all members and licensees shall undertake and accept responsibility for professional assignments only when qualified by training or experience.

9. The conduct set out above at paragraphs 2 and 3 is contrary to Principle 3 of the Association's *Code of Ethics* which requires that all members and licensees shall provide an opinion on a professional subject only when it is founded upon adequate knowledge and honest conviction.

10. The conduct set out above at paragraphs 2 and 3 is contrary to s. 20(9) of the *Act* which provides that a member or licensee receiving a seal or stamp under this section must use it, with signature and date, to seal or stamp estimates, specifications, reports, documents, plans or things that have been prepared and delivered by the member or licensee in the member's or licensee's professional capacity or that have been prepared and delivered under the member's or licensee's direct supervision.

## C. AGREED STATEMENT OF FACTS

24. Prior to the hearing, the parties were able to agree on a number of facts that were set out in an Agreed Statement of Facts, dated July 5, 2020 (the "ASF").

### *i. Mt. Polley Mine*

25. The Mine is a copper and gold mine located 11 km from the town of Likely, in the interior of British Columbia. During the material period, the Mine was owned and operated by MPMC, which was a subsidiary of Imperial Metals Corporation.

26. While the Mine was operating, its tailings were discharged into the TSF, which was bounded by a U-shaped (in plan-view) dam. The dam was comprised of three contiguous embankments: the main embankment, the south embankment and the perimeter embankment. The TSF was bounded on the remaining side by a natural slope.

27. The breach of the perimeter embankment in the TSF on August 4, 2014 was sudden and without warning. As a result of the breach, approximately 21 million cubic metres of tailings and water flowed into nearby waterways, with much of the discharge ending up in Quesnel Lake.

### *ii. Construction of the embankments*

28. The TSF embankments were constructed of earth and rock-filled dams built on top of a soil foundation. Over time, the embankments were increased in both size and height, with each raise of the embankments being referred to as a "Stage". The embankment raises were required to accommodate the increasing need for impoundment storage at the Mine.

29. The starter dam for the TSF was completed in 1996. Various raises of the embankments then occurred during the course of a number of construction seasons, starting in 1996-1997. Stage 8/8A was undertaken in 2012 and Stage 9 (incomplete) was started in 2013 and was scheduled to be completed in 2014.

30. Initially, the starter dam was constructed to a crest elevation of 927 metres (measured relative to sea level). Following Stage 7 in 2011, the crest elevation was 960.1 metres. Following Stage 8A, the crest elevation was 965 metres. The intended crest elevation following Stage 9 was to be 970 metres. The TSF breach occurred when the perimeter embankment was at a crest elevation of approximately 969 metres.

31. At the time of the breach, MPMC was in the second construction season of the Stage 9 raise of the embankments. Prior to the breach, MPMC had been planning a further raise of the embankments (Stage 10).

*iii. The engineering firms involved at Mt. Polley*

32. There were a number of engineering firms involved in the construction and design of the TSF, dating back to the outset of the project. As addressed further below, MPMC's willingness to change engineering firms is a feature of the underlying events that the Panel has determined to be relevant when examining Ms. Fidel's actions and conduct as the EOR and Project Manager.

33. The firm involved at the outset of the project was Knight Piesold. Knight Piesold had engineering responsibility for the TSF, including the design of the embankment raises, through Stage 6B (completed in 2010).

34. AMEC had some limited involvement with the project in the mid-2000s. In 2006, MPMC retained AMEC to prepare an independent dam safety review. AMEC was later retained by MPMC in 2007 to prepare a report titled "Optimization Potential – Follow up from Dam Safety Review". These projects pre-dated Ms. Fidel's involvement with Mt. Polley.

35. In March 2011, AMEC assumed engineering responsibility for the TSF in place of Knight Piesold. AMEC personnel then designed and oversaw raises to the embankments from Stages 7 (2011) through 9 (2013-2014).

36. As noted above, BGC was also involved in the project after certain AMEC personnel switched firms in 2013. MPMC retained BGC to prepare the 2012 Annual Review Report for the TSF. BGC was also subsequently selected by MPMC to design the anticipated Stage 10 TSF embankment raise.

*iv. AMEC professionals*

37. In addition to Ms. Fidel, whose background and experience with the TSF and MPMC will be discussed in further detail below, a number of other AMEC personnel were involved with the Mine and the TSF.

38. Until he moved to BGC, the senior geotechnical engineer and design engineer at AMEC on the Mt. Polley project was Mr. Martin. Mr. Martin was the engineer responsible for the embankment raises at Stages 7, 8 and 8A. Mr. Martin was also the EOR for the TSF after AMEC assumed engineering responsibility from Knight Piesold (a position that he held continuously until he left AMEC at the end of 2012).

39. Mr. Martin's reviewer on the project was Dr. Michael Davies, who left AMEC in the spring of 2012.

40. The design work for the Stage 9 raise of the embankments was started by AMEC in the fall of 2012 under Mr. Martin's guidance. However, before the Stage 9 design package was formally issued, Mr. Martin left AMEC for BGC. At BGC, Mr. Martin reviewed Ms. Fidel's report on the stability analysis for the Stage 9 design and advised that his signature could be added to the analysis as the reviewer.

41. Daryl Dufault was another geotechnical engineer at AMEC who spent considerable time working on the Mt. Polley project. Mr. Dufault became a professional engineer in British Columbia in 2005. He left AMEC in January 2013 when he joined Mr. Martin at BGC. At AMEC, Mr. Dufault had been the Project Manager with respect to the TSF.

42. After the departure of Messrs. Martin and Dufault, a new AMEC project team was assembled with Stephen Rice, P. Eng. acting as the review engineer for the Mine and TSF. Mr. Rice was a senior engineer at the time, having become a professional engineer in British Columbia in 1981. Mr. Rice joined AMEC in 2000 and worked at the firm until he retired in 2017. In 2013, Mr. Rice acted as the review engineer for the 2012 Stage 8/8A As-Built Report; the Stage 9 TSF Construction Drawings and Stability Analysis Report; the Stage 9 Construction Monitoring Manual; and the Stage 9 Stability Analysis Report.

43. In addition to Mr. Rice and Ms. Fidel, there were other AMEC personnel involved at various times in the Mt. Polley project, including Luke Marquis and Dmitri Ostritchenko, who were both EITs.

*v. Design and construction of the TSF*

44. Construction of the embankment raises was undertaken by contractors hired directly by MPMC. During the course of Stages 7, 8/8A and 9, on-site quality control relating to the construction of the embankment was undertaken primarily by students hired directly by MPMC. These were typically engineering students, including first and second year undergraduate students, and their role was to provide on-site construction monitoring and quality control.

45. Engineers from AMEC, including Ms. Fidel, provided training to the on-site monitors (also referred to in the documents as "field inspectors"). Ms. Fidel was first involved in this training in May 2012, at the start of that construction season. At that time, Ms. Fidel attended the Mine for several days over a number of weeks, together with Messrs. Marquis and Ostritchenko, to provide training to the on-site monitors and also to inspect the construction.

46. The on-site monitors would report regularly to AMEC as the construction season progressed (providing AMEC with information summarizing the construction activities,

including photographs). AMEC personnel would then review these reports and address any concerns with the on-site monitors and other MPMC representatives.

47. Following the departure of Mr. Martin and Mr. Dufault from AMEC, Ms. Fidel assumed a much more prominent role within AMEC with respect to the Mt. Polley project. In February 2013, Mr. Rice advised MPMC that Ms. Fidel would be the Project Manager with respect to the TSF. By April 2013, Ms. Fidel was also appointed as the project EOR.

48. The AMEC Stage 9 TSF Construction Drawings and Stability Analyses report was signed and sealed by Ms. Fidel and was reviewed by Mr. Rice. That report was issued by AMEC on March 8, 2013.

49. Construction of the Stage 9 raise was started in 2013. During that season, construction monitoring and quality control was undertaken by the MPMC summer students through the end of August 2013. After August, when the students returned to school, responsibility for the construction monitoring was assumed by EITs at AMEC.

50. Ms. Fidel visited the Mine and TSF for two days in August 2013. Mr. Ostritchenko and Mr. Marquis made many visits to the site between April and December 2013.

51. AMEC issued the 2013 (Stage 9) As-Built and Annual Review Report on March 12, 2014. That report was signed and sealed by Ms. Fidel.

## D. ADDITIONAL EVIDENCE AND FINDINGS OF FACT

52. In addition to the evidence set out in the ASF, the Panel has made the following findings based on the testimony of the witnesses at the hearing, as well as the additional documents that were introduced into evidence (note that this section also includes reference to some other matters set out in the ASF).

### *i. Ms. Fidel's engineering background*

53. Ms. Fidel obtained a Bachelor of Science in Engineering from McMaster University in 2005. Shortly thereafter, she started work at AMEC in the field of geotechnical engineering.

54. Ms. Fidel became a professional engineer and member of the Association in January of 2012. She was previously registered as a professional engineer in Ontario in May of 2011.

55. Some of the more germane aspects of Ms. Fidel's professional experience prior to becoming the EOR and Project Manager in relation to Mt. Polley include:

a. Ms. Fidel worked on the Kupol project in Russia from approximately 2007 – 2014 that involved a rock-fill tailings dam. On that project, Ms. Fidel was involved in construction monitoring and supervision and also trained field personnel. Ms. Fidel was also involved in undertaking stability analyses for dam raises; drafting construction design manuals; and filling the role of the project manager, authoring as-built and annual review reports.

b. From November to December 2009, Ms. Fidel was involved with the Red Lake Gold Mine at Balmertown, Ontario. Ms. Fidel performed various tasks, including writing mine closure letter reports and developing conceptual tailings management options.

c. From 2009 to 2012, Ms. Fidel was involved with the Huckleberry Mine in British Columbia. Ms. Fidel completed construction monitoring, water balance modelling and annual report writing in relation to the tailings dam at the mine. Ms. Fidel also completed slope stability analyses for two dams at the site, including for the raise of a plug dam for a pit known as the East Pit.

d. From 2010 to 2013, Ms. Fidel was involved in the Red Chris mine in British Columbia. In that role, Ms. Fidel coordinated fieldwork, including supervision of foundation investigations, borrow pit and other site investigations. She was also involved in the preparation of construction drawings for the tailings impoundment area. She was not responsible for the design of the tailings storage facility embankments.

e. In August of 2013, Ms. Fidel was involved with the design of a new tailings storage facility at the San Bartolomé Mine in Bolivia. Specifically, Ms. Fidel was a project engineer involved in design report preparation, overseeing preparation of design drawings, performing filter compatibility checks, as well as performing stability analysis on the final configuration of the tailings facility embankment.

*ii. AMEC's involvement on the Mt. Polley Mine project*

56. The magnitude of the TSF embankment raise at each Stage was determined from water balance calculations performed by MPMC which modelled the elevation of the water in the TSF based on projected inflows and outflows.

57. When AMEC assumed engineering responsibility for the TSF in 2011, it undertook its own geotechnical site investigations and prepared a broad report about the TSF which was finalized on March 28, 2012.

58. In addition to the engineering work described above, in 2014 AMEC submitted a proposal to MPMC for embankment design work beyond Stage 9, through to the completion of the dam's ultimate height (BGC was ultimately retained by MPMC for Stage 10).

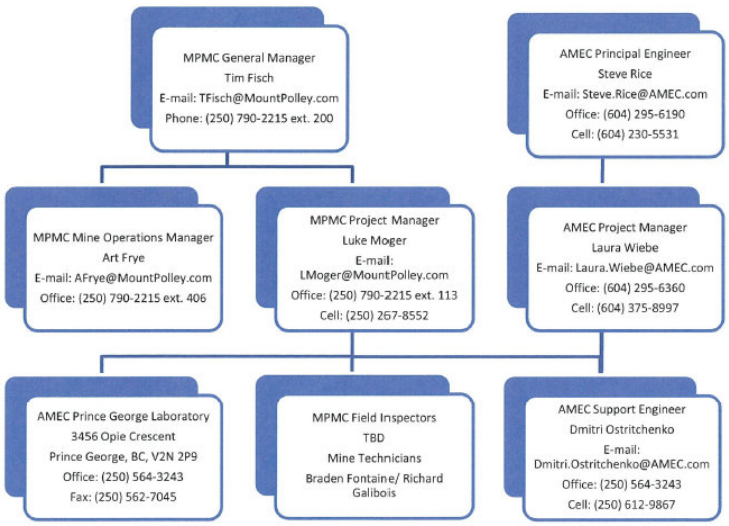
59. Leading up to the end of 2012, AMEC's team of engineers involved in the Mount Polley project had a high degree of experience and expertise with tailings facilities. The departure of Mr. Martin and Mr. Dufault from AMEC was a significant problem for the firm in terms of staffing the Mt. Polley project. In early 2013, the primary person within AMEC responsible for assembling a new project team was Mr. Rice.

60. Mr. Martin had held the title "Senior Geotechnical Engineer" when he had worked on the Mt. Polley project at AMEC. Mr. Rice's title was that of "Principal Engineer", which referred to his rank within AMEC and not to his level of experience as a geotechnical engineer.

61. In the new AMEC project team, Mr. Rice assumed the role of reviewer, in place of Dr. Davies. Ms. Fidel became both the Project Manager and EOR – taking over the roles that had been previously fulfilled by Mr. Dufault and Mr. Martin, respectively.

62. The AMEC organization chart set out in Figure 2.1 of the Stage 9 2013 Construction Monitoring Manual, dated April 11, 2013, described the new AMEC project team as follows:

**Figure 2.1: 2013 Construction Organization Chart**



63. In the meantime, while AMEC was assembling its new team in 2013, Mr. Martin and Mr. Dufault were pursuing future Mr. Polley project work for their new firm, BGC. In 2013, unbeknownst to AMEC, BGC was awarded the contract to design the raise of the dam to its ultimate height (Stage 10).

64. Even though BGC was going to assume engineering responsibility for the TSF going forward, there was no transfer of responsibility from AMEC to BGC with respect to the engineering and construction being undertaken in relation to Stage 9.

65. The evidence also revealed that, at some time during 2013, MPMC retained BGC to perform water balance analysis and projections for the Mt. Polley TSF. Neither MPMC nor BCG informed AMEC of that assignment.

*iii. Engineering complexity of the TSF embankments*

66. The Association filed expert evidence in this proceeding from Dr. Andrew Robertson, Ph.D., P. Eng. The Panel had no hesitation in qualifying Dr. Robertson as an expert in the geotechnical aspects of tailings ponds. More will be said about Dr. Robertson's report in the decision below.

67. As Dr. Robertson explained, the TSF embankments at the Mine were highly complex engineered structures. The TSF was constructed using a method that relied on filters and internal drainage, on top of variable soil conditions. The elements and materials used in the construction of the embankments added to the engineering complexity of the TSF. Dr. Robertson testified that a tailings dam, unlike a water dam, is continually changing in terms of its loading and operating conditions, which further adds to the complexity of the structure.

68. There was no issue between the parties about the basic elements of the embankments, which were designed and built using different "zones", each of which was to serve a specific purpose and which was comprised of different materials. The Association described these zones in its closing submissions as follows:

- The Embankments had a till core, known as Zone S, which was designed to have low permeability and prevent the migration of water from the impoundment through the dam at rates which could cause internal erosion.

- Adjacent and downstream from the core, the Embankments had a filter zone known as Zone F, whose functions included collecting any seepage that did flow through the core and preventing fines from migrating out of the core.

- Adjacent and downstream of the filter zone, the Embankments had a transition zone known as Zone T, whose functions included preventing the migration of filter zone material into the outer rockfill zone.

- Adjacent to the downstream of the transition zone was the outer rockfill zone known as Zone C.

- Upstream of the core was Zone U which was generally made of tailings in the form of sand cells and which provided upstream support for the core. The TSF was originally designed as an "upstream construction" dam (or "modified centreline" as described by Dr. Robertson at p. 8 of his report) in which the upstream part of the Embankment raises rested, in part, on prior placed tailings from previous construction.

69. Based on Dr. Robertson's review of the history of the design and construction of the TSF embankments, he explained how there had been a number of "design adaptations" made over time that had resulted in the TSF having a "complex shape and complex arrangement of material zones and drains within the embankment." Dr. Robertson testified that the TSF also had a unique and unusual feature in that it contained an upstream drain within the embankment that combined with the more permeable upstream zones to result in a complex seepage regime.

70. Further adding to the complexity of the TSF was the subsurface geology at the location of the Mine. Dr. Robertson explained that the soil layers beneath an embankment can have a significant impact on embankment stability and, accordingly, on the necessary embankment design. Stability will be influenced by the strength of the foundation materials and, as an embankment gets higher, the instability of weak layers at depth will increase. At the Mine, the subsurface conditions were such that there was substantial variability resulting from the glacial and glaciofluvial nature of the soil deposits.

71. As noted above, the height of the TSF embankments significantly increased over time. By the time that AMEC assumed responsibility for the TSF, the embankments were still being raised and had become much steeper than what was set out in the initial design. During this same period, the water volumes in the impoundment were also increasing significantly.

72. Without question, for all of the above reasons, the Panel accepted that the TSF embankments were highly complex engineered structures.

*iv. The observational approach*

73. Both experts agreed that the "observational approach" was used by the engineers responsible for designing and monitoring the TSF. Under the observational approach, the embankments were not constructed assuming "worst-case" conditions. Instead, probable conditions within the TSF were assessed and the embankments were then designed in accordance with those assessments. Dam behavior was then observed and monitored, particularly during construction, in order to ensure that the performance of the dam was meeting the design.

74. When using the observational method, an engineer is required to determine whether design modifications might be necessary based on what is observed on-site. The observational approach therefore requires a certain level of diligence by an engineer. Particularly with respect to complex structures like the TSF, situations can arise where observations necessitate very quick design responses. Further, even observations of positive dam safety and performance might provide useful information for the design engineer to improve aspects of the design that are already performing well. Regardless of how the structure evolves, design changes are to be expected when an engineer is using the observational approach.

*v. Further evidence addressed below*

75. The Panel has made further findings of fact below in relation to each of the specific issues in the Notice of Inquiry. Before turning to the allegations against Ms. Fidel, the Panel will first address the legal principles that are relevant to this proceeding.

## E. RELEVANT LEGAL PRINCIPLES

*i. Burden and standard of proof*

76. The Association at all times bears the burden of proof in this proceeding.

77. The standard of proof to be applied by the Panel is the "balance of probabilities", meaning that the Panel must find that it is "more likely than not" that the alleged facts occurred.

78. With respect to these issues, the Panel agreed with the manner in which the burden and standard of proof were addressed in *R. v. Schoenborn*, 2010 BCSC 220 and *F.H. v. McDougall*, 2008 SCC 53, which decision was expressly adopted in *Kaminski v. Assn. of Professional Engineers and Geoscientists of British Columbia*, 2010 BCSC 468, at paragraph 52.

*ii. Determinations available under section 33 of the Act*

79. In its submission, the Association described the task for the Panel as being to determine "whether the conduct of Ms. Fidel met appropriate professional standards, having regard to the [applicable] legal framework." The Panel accepts, in a general sense, that this is its role with respect to assessing and analyzing the allegations against Ms. Fidel.

80. The findings available to the Panel are set out in detail in section 33 of the Act:

> 33 (1) After an inquiry under section 32, the discipline committee may determine that the member, licensee or certificate holder […]
>
> (b) has contravened this Act or the bylaws or the code of ethics of the association, or
>
> (c) has demonstrated incompetence, negligence or unprofessional conduct.

81. In the Notice of Inquiry, Ms. Fidel was alleged in different paragraphs to have engaged in "unprofessional conduct", "negligence" and/or various breaches of the Act and the Code.

82. The parties did not agree on the appropriate definitions to be given to "unprofessional conduct" or "negligence". In the result, it was necessary for the Panel to review and consider these terms in order to establish the appropriate legal lens through which the allegations in the Notice of Inquiry are to be considered.

83. Further, certain of the allegations in the Notice of Inquiry were said to constitute unprofessional conduct *or* negligence (see paragraphs #4-6 in the Notice of Inquiry). It was the Association's position with respect to these paragraphs that it was open to the Panel to conclude that Ms. Fidel's conduct amounted to *both* unprofessional conduct and negligence, but if such a conclusion was reached by the Panel, that Ms. Fidel could not be punished twice in such a situation (sometimes referred to as the rule against "double jeopardy").

84. Ms. Fidel disagreed with the Association's position and submitted that each allegation in the Notice of Inquiry could be found by the Panel to be either negligence *or* unprofessional conduct, but not both. In support of her position, Ms. Fidel emphasized that the Notice of Inquiry itself treated unprofessional conduct and negligence as alternative pleas and she noted the use of the disjunctive "or" that connected each allegation in the Notice of Inquiry.

85. The Panel has also addressed this issue below.

*iii. Unprofessional conduct*

86. The Association relied on the definitions of "unprofessional conduct" set out in a number of prior decisions, including: the Court of Appeal's decision in *Salway v. Assn. of Professional Engineers and Geoscientists of British Columbia*, 2010 BCCA 94; a decision of a discipline committee of the Association in *Re: Ian Foreman P.Geo*., (August 25, 2015); and the B.C. Supreme Court decision in *Familamiri v. Assn. of Professional Engineers and Geoscientists of British Columbia*, 2004 BCSC 660.

87. In *Re: Foreman*, the discipline panel discussed the concept of unprofessional conduct as a marked departure from the conduct expected of a reasonable professional:

> [93] The Association's Code of Ethics Guidelines addresses the standard of professional conduct as follows:
>
> > "The APEGBC Code of Ethics serves several purposes. It designates the standard of conduct expected of engineers and geoscientists in easily understandable terms. It distinguishes appropriate professional conduct from that which fails to meet a required standard. The Code also provides a basis on which allegations of unprofessional conduct are adjudicated by the Discipline Committee or other groups charged with responsibilities related to the conduct of members."
>
> [94] Hence, unprofessional conduct is that which does not meet the standard expected through application of the Code of Ethics. The Panel accepts the submission of the Association based on *Law Society of British Columbia v. Martin*, 2005 LSBC 16, that professional misconduct is established where there is a marked departure from the standard to be expected of a competent professional, and that minor or inadvertent failure to comply with professional standards does not constitute unprofessional conduct.

88. In *Salway*, the discipline panel had concluded that an engineer engaged in unprofessional conduct by failing to respond to certain communications from his clients. When the matter was before the Supreme Court (2009 BCSC 262), Mr. Justice Sewell had set aside the discipline panel's findings, emphasizing that the panel had only found that "Dr. Salway did not perform up to an acceptable standard of practice". Mr. Justice Sewell concluded that this was *not* sufficient for a finding of unprofessional conduct because there had not been an additional finding by the discipline panel that Dr. Salway's conduct was "blatant or cavalier" (paragraphs 31-33). Mr. Justice Sewell therefore held that the discipline panel had "equated simple negligence with unprofessional conduct and thereby erred in law" (paragraph 34).

89. On further appeal, the Court of Appeal restored the original finding of the discipline panel that Dr. Salway had committed unprofessional conduct. At the appeal hearing, Dr. Salway had argued, on the basis of earlier case law, including *Reddoch v. The Yukon*

*Medical Council*, 2001 YKCA 13, that an element of dishonour or moral turpitude ought to be required to ground a finding of unprofessional conduct in cases of professional discipline. The Court of Appeal rejected that analysis and deferred to the initial findings of the discipline panel:

> [32] … Reasonableness requires courts to give deference to a professional body's interpretation of its own professional standards so long as it is justified, transparent and intelligible. The pre-Dunsmuir decisions relied on by the respondent, including *Reddoch*, no longer set the standard for professional misconduct as conduct that is dishonourable, disgraceful, blatant or cavalier. Rather, it is the disciplinary body of the professional organization that sets the professional standards for that organization…

90. In the result, the Court of Appeal made clear that there is no need for any additional element of "disgrace" or moral turpitude in order to properly found a conclusion of unprofessional conduct. It is the discipline panel, acting reasonably, that is to determine the appropriate standards of professionalism for the members.

91. The Panel noted that a "marked departure" test was also used by the panel in *Re: Eric Chrysanthous*, *P. Eng*., (May 17, 2017).

92. Ms. Fidel appeared to accept that the "marked departure" test applies when examining the concept of "unprofessional conduct", but she did not agree with the Association as to how that phrase should be interpreted. Relying in large part on jurisprudence from the Law Society of British Columbia, Ms. Fidel submitted that in order for the Association to establish a "marked departure", the Panel must also conclude that Ms. Fidel's conduct displayed culpability of a "gross or aggravated" nature, as opposed to a mere failure to exercise ordinary care (see for example, *Strother v. Law Society of British Columbia*, 2018 BCCA 481, paragraph 64). In some ways, Ms. Fidel's position was similar to what had been successfully argued by Dr. Salway before the British Columbia Supreme Court. Ms. Fidel urged the Panel to exercise caution in interpreting "unprofessional conduct" so as to ensure that "minor or inadvertent" failures to comply with professional standards do not become automatically elevated to a level of professional discipline.

93. Ms. Fidel further submitted that the Panel should recognize there as being a spectrum of professional competency amongst engineers in a particular field – just because an engineer may not be regarded as a leading practitioner, or even perhaps "above average", does not mean that the engineer has engaged in "misconduct." Ms. Fidel argued that the standards against which a professional is to be measured must recognize the range of competencies amongst similarly qualified professionals.

94. For these reasons, according to Ms. Fidel, there must be an element of *gross culpability* associated with the marked departure in order for a finding of unprofessional conduct to follow.

95. The Panel notes that there is no definition of "unprofessional conduct" in the Act. However, it is significant to the Panel that the Legislature chose to use that term rather than "professional misconduct", which is the phrase used in the *Legal Profession Act* and many other professional regulatory statutes. The decisions that Ms. Fidel relies on to suggest some heightened standard of gross culpability arise from legislative schemes that refer specifically to "professional misconduct" and not the concept of unprofessional conduct. In the eyes of the Panel, there must be some meaningful difference between the two terms.

96. That being said, the Panel also recognizes that there appears to be a degree of commonality between the various definitions of "misconduct" used across professional disciplinary schemes, regardless of how such conduct is specifically defined. Perhaps unprofessional conduct should be regarded as being slightly less culpable conduct than "misconduct", but even if that is the case, based on its review of the authorities that it was referred to in this proceeding, the Panel is of the view that for either of these conduct findings, there appears to be a general recognition that there must be *something more* than what one might regard as mere professional "negligence".

97. Having reviewed the authorities referred to by the parties, the Panel does not accept Ms. Fidel's submission that the Association must prove gross or aggravated culpability to establish unprofessional conduct. The legal test that Ms. Fidel urges on the Panel has never before been applied by a discipline panel examining an engineer's conduct under the Act and the Panel is of the view that to apply such a definition would not be in keeping with the conclusions in *Salway*, where the Court of Appeal overturned the decision of Mr. Justice Sewell.

98. The Panel has concluded that the term "unprofessional conduct" has been properly defined and applied in previous decisions under the Act, as outlined in the Association's written submissions. In none of these prior decisions did a discipline panel require that the marked departure also be accompanied by some level of gross culpability. Using *Salway* again as an example, there was no finding that Dr. Salway's actions also exhibited some degree of "culpability of a gross or aggravated nature."

99. The Panel is of the view that the "marked departure" test is the appropriate rubric through which Ms. Fidel's actions must be assessed and that is the analysis that the Panel has applied below in considering the allegations in the Notice of Inquiry. On this basis, in order for the Association to establish unprofessional conduct on the part of Ms. Fidel, her actions must be viewed by the Panel as being a marked departure from the conduct expected

of a professional with similar qualifications and in similar circumstances as Ms. Fidel was at the material time.

100. This requires more than a minor or inadvertent failure to comply with professional standards and more than a failure to exercise ordinary care, but it does not require any element of gross culpability, as urged by Ms. Fidel.

*iv. Negligence*

101. As noted above, the Association also submitted that the Panel can make findings that Ms. Fidel has demonstrated "negligence" with respect to certain of the allegations in the Notice of Inquiry.

102. Again, similar to unprofessional conduct, the concept of "negligence" is not defined in the Act.

103. In the absence of a statutory definition, Ms. Fidel took the position that all of the elements of a civil negligence claim must be established by the Association in order to prove any allegations of negligence set out in the Notice of Inquiry.

104. Specifically, Ms. Fidel noted that a civil claim in negligence requires not only a breach of a standard of care, but also a causative link between the breach and the resulting damages (*F.H. v. McDougall*, 2008 SCC 53). In this proceeding, as the Association tendered no evidence linking the allegations against in the Notice of Inquiry to any resulting harm or damage – emphasizing that the Association was not alleging any connection between Ms. Fidel's conduct and the TSF breach – Ms. Fidel submitted that the Association could therefore not meet its burden to prove any of the allegations of negligence in the Notice of Inquiry.

105. The Association's position was that "negligence", as that term is used in the Act, is not defined in relation to civil law principles and is more appropriately viewed as "the legal term for carelessness" measured against accepted norms or standards of conduct within an industry or amongst persons in like circumstances. As the Panel understood the submission, the Association argued that in assessing whether there has been negligence under the Act, a discipline panel need only consider the standard of care applicable in a certain situation and whether or not that standard has been breached. It is not necessary for the discipline panel to also assess whether or not damage has resulted.

106. The Association referred the Panel to the Supreme Court of Canada's description of the standard of care in negligence in *Hill v. Hamilton-Wentworth Regional Police Services Board*, 2007 SCC 41, at paragraph 69:

> The general rule is that the standard of care in negligence is that of the reasonable person in similar circumstances. In cases of professional negligence, this rule is qualified by an additional principle: where the defendant has special skills and experience, the defendant must "live up to the standards possessed by persons of reasonable skill and experience in that calling".

107. As a further articulation of these principles, the Association also noted the following passage from *Davidson v. British Columbia*, 1995 CanLII 1334, at paragraph 24:

> ... the standard of skill and care which a professional man is required to exercise may be defined as follows: that degree of skill and care which is ordinarily exercised by reasonably competent members of the profession, who have the same rank and profess the same specialization (if any) as the defendant…

108. Emphasizing that the primary purpose of the Act is the protection of the public, the Association submitted that negligence under the Act must be interpreted in a manner that is consistent and harmonious with the Association's overarching duties to protect the public and not tied strictly to tort law concepts.

109. On this issue, the Panel again agrees with the position of the Association. Whether or not a professional's conduct caused damage to a party that the professional owed a duty to should not be determinative of whether "negligence" is established, as that term is used in the Act.

110. Unlike tort cases, the Panel has concluded that a professional can be found to have been negligent pursuant to the Act in circumstances where the Association can establish a breach of the standard of care that was expected of the engineering professional, as that term is ordinarily defined, including in the decisions noted above (*Hill* and *Davidson*).

111. The Panel does not accept Ms. Fidel's submission that a finding of negligence in a professional discipline matter also requires a finding of resulting harm or damage. Such a view would be inconsistent with the public protection purpose of the Act. The professional conduct issue relates to the actions of the engineer, which should not be dependent on any particular outcome. Resulting damage might arguably be a factor in terms of a penalty that follows should the Association prove an allegation of negligence against a professional, but the Association need not prove the damages at first instance in order to establish that the professional was negligent as that word is used in the Act.

112. The Panel takes comfort in its conclusions on this issue from the definition of negligence adopted by the discipline panel in *Re: Foreman*, which cited the above-noted passage from *Davidson*.

113. The Panel also noted that a similar definition appears to have been used in the Regulation to Ontario's *Professional Engineers Act*, which includes a statutory definition for "negligence" that also does not require causation or damages, at section 72(1):

> "negligence" means an act or an omission in the carrying out of the work of a practitioner that constitutes a failure to maintain the standards that a reasonable and prudent practitioner would maintain in the circumstances.

114. In light of all of the above, the Panel has determined that the Association's submission that the concept of "negligence" as set out in section 33 of the Act is a breach of the standard of skill and care which a professional engineer is required to exercise, as compared to a reasonably competent and similarly situated member of the profession.

*v. Is it open to the Panel to find that Ms. Fidel committed both unprofessional conduct and negligence with respect to the same allegation?*

115. As set out in section 33 of the Act, after a hearing a Panel can determine that a member has contravened the Act, Bylaws or the Code; or has demonstrated incompetence, negligence or unprofessional conduct.

116. Each of these concepts must represent a different potential conclusion for a discipline panel. A plain reading of section 33 of the Act provides a number of potential determinations for a discipline panel based on the particular circumstances of a case.

117. The Association submitted in this proceeding that, in relation to the allegations where *both* negligence and unprofessional conduct are alleged against Ms. Fidel, it is open for the Panel to make both findings.

118. It goes without saying that unprofessional conduct and negligence are terms that each involve a departure from the expected standards of practice in the profession. As such, the Panel accepts that there could be situations where the evidence in relation to a particular allegation overlaps in terms of the analysis as between these two concepts.

119. As noted above, it is the Panel's view that a finding of negligence will follow if there has been a failure to maintain the standards that a reasonable and prudent practitioner – a finding that would focus on the "technical" skills, abilities, and performance expected of members of the profession.

120. Unprofessional conduct is different and requires a consideration of the marked departure test, which may be informed by reference to the ethical standards expected of members of the profession (including those in the Code).

121. Having reviewed the structure of the Act and considering the various terms used in section 33 of the Act, the Panel has concluded that the preferred approach in these circumstances, where allegations in a Notice of Inquiry could result in a variety of findings under the Act, is for the discipline panel to make a singular determination about each issue and to not characterize the conduct as meeting two types of conduct set out in section 33. There are gradations of culpability as between the various terms and a discipline panel should reach a conclusion as to the most serious finding that is appropriate on the given evidence.

122. The Panel sees this as being the preferable course as opposed to making findings in relation to multiple issues and then trying to fashion a singular penalty, which the Association has accepted would be the result on the basis of the rule against double-jeopardy.

123. A course of professional conduct may be seen to be an act of negligence by a professional. However, if there are elements of the conduct that also invoke a consideration of the Code or the ethical standards of the profession, or where the conduct at issue can be said to be a marked departure, then such conduct might properly be said to rise to the level where it is better viewed as being an instance of unprofessional conduct. If that was the case, the Panel has determined that the best course would be to make a finding of unprofessional conduct only.

124. That is the manner in which the Panel has considered the allegations against Ms. Fidel in the Notice of Inquiry.

## F. GENERAL COMMENTS ON THE EXPERT EVIDENCE

125. Both parties filed extensive expert opinion evidence in this proceeding. The evidence touched on a number of the allegations set out in the Notice of Inquiry. A significant portion of the parties' closing submissions then focussed on perceived inadequacies or issues with respect to the opposing party's expert evidence.

### *i. Ms. Fidel's position on Dr. Robertson*

126. In broad terms, Ms. Fidel submitted that the Association's expert, Dr. Robertson, was not independent or impartial and that his evidence should be given only limited weight as a result. Ms. Fidel suggested that Dr. Robertson revealed himself during his testimony to have been an advisor and advocate for the Association and submitted that he therefore could not be considered properly impartial or independent by the Panel. As Ms. Fidel put it, Dr. Robertson's opinions were "tainted by the manner in which he was retained and instructed by the Association…throughout the investigation of Ms. Fidel…"

127. In challenging Dr. Robertson's neutrality and impartiality, Ms. Fidel emphasized his involvement with the investigation into Ms. Fidel's conduct long before he was formally retained to provide an opinion for use at Ms. Fidel's discipline hearing. The bulk of the evidence that was said to support this submission emerged from the production of Dr. Robertson's expert file, which revealed that he had been involved in assisting the Committee with its Mt. Polley investigations as early as 2016-2017, almost three years before he produced his 2019 opinion addressing Ms. Fidel's conduct.

128. During the course of Dr. Robertson's early retainer with the Association, he attended a meeting with the Investigation Subcommittee in February 2017 and he also provided a preliminary opinion regarding Ms. Fidel's qualifications to act as the EOR for the TSF as early as April 2017. Dr. Robertson then attended a further meeting of the Investigation Subcommittee in September 2017.

129. The Investigation Subcommittee issued its decision about Ms. Fidel in November 2017. Dr. Robertson was only later retained by the Association, on November 29, 2018, to provide an expert opinion about Ms. Fidel's conduct in this proceeding.

130. In light of his background and involvement with the investigation, Ms. Fidel submitted that Dr. Robertson should be viewed as an advocate for the Association and not an impartial and independent witness. Ms. Fidel suggested that his file contents revealed that Dr. Robertson had formed early views about Ms. Fidel and her role on the Mt. Polley project which were based on incomplete information. Ms. Fidel suggested that Dr. Robertson then had no choice but to confirm his initial views when he was asked to provide a formal report for use in this proceeding.

131. In responding to these issues, the Association emphasized that there is no prohibition against an expert expressing opinions at both the investigative and discipline hearing stage. The Association submitted that the most important question is whether the expert at all times maintained his or her independence and impartiality. The Association noted that it is common for an expert to play two roles – both the impartial and independent witness and the confidential advisor to the party who retained him or her on technical matters in a case (*Vancouver Community College v. Phillips, Barratt*, 1987 CanLII 2532).

*ii. Association's position with respect to Mr. Haynes*

132. Mr. Haynes is the vice-president of mining in North America for Golder Associates Ltd. He is a senior geotechnical engineer with over 25 years of experience in mining, geotechnical and civil engineering projects throughout the world.

133. Mr. Haynes has also had significant experience at a large engineering firm similar to AMEC. As described by Ms. Fidel, Mr. Haynes was a "boots on the ground" expert. On

this basis, Ms. Fidel argued that his evidence should be preferred to Dr. Robertson, who offered a more academic view of the role and obligations of an EOR.

134. The Association dedicated a significant portion of its written closing to issues with respect to Mr. Haynes' report that the Association argued should lead to the Panel according Mr. Haynes' opinions little weight.

135. By way of example, the Association referred to specific aspects of his report which it submitted demonstrated that Mr. Haynes did not understand his role as an expert and strayed beyond the permissible scope of opinion evidence, at times providing opinions with respect to issues of fact that are within the domain of the Panel. During cross-examination, counsel for the Association took Mr. Haynes through various aspects of his report where the Association submitted that Mr. Haynes, in effect, became a "finder of facts" as opposed to an independent expert. Examples of the portions of the Haynes' report that the Association challenged on such grounds were set out in its closing submissions (see Tables 1-3).

136. The Panel accepts that the Association accurately set out the key legal principles in its closing submission that outline the role to be played at a hearing of this nature by an expert witness. An expert is to provide opinion evidence on issues that are expected to be outside the ordinary knowledge of the finder of fact. The usual course is for an expert to be provided with an assumed set of facts and then provide an opinion based on the assumed facts. The strength of the expert's opinion will generally be only as good as the assumed set of facts upon which the opinion is based. These principles have been set out in many court decisions, including *R. v. Mohan*, [1994] 2 SCR 9 and *R. v. Abbey*, [1982] 2 SCR 24.

137. The role of the expert is not to replace the fact-finder. In this proceeding, it is the role of the Panel to make findings of fact with respect to what happened in relation to the TSF, based on the evidence that was introduced by the parties at the hearing. There is no question that aspects of Mr. Haynes' report stray into areas where he appeared to be offering comments on the underlying facts. As an example, at page 3 of his report, Mr. Haynes offered a view about Ms. Fidel's assumption of the EOR role as follows: "Based on my review of the documents Ms. Fidel's primary role was project manager and lead engineer for the construction support provided by AMEC in 2013. The term Engineer of Record appears to have been assigned as a secondary role…" In making a statement of this nature, Mr. Haynes strayed beyond the purview of his role as an expert in this proceeding.

138. The Panel agrees with the Association that such issues are questions of fact, not opinion. If there is a matter on which a finding of fact must be made by the Panel, it needs to be based on the evidence that was adduced at the hearing and not from opinion evidence provided by an expert.

139. That being said, despite the facts that Mr. Haynes' report contained some issues of this nature, the Panel noted that during the course of cross-examination, whenever propositions were put to Mr. Haynes about areas where he had arguably strayed beyond his role as an independent expert and into issues of fact, Mr. Haynes readily and appropriately accepted the limitations of his role as an expert and conceded that aspects of his report might be matters on which the Panel would ultimately need to make factual findings.

140. The Association also attacked aspects of Mr. Haynes' evidence on the basis that his report was not supported by reference to a factual basis that allowed for him to offer the opinions in the report and argued that Mr. Haynes' responses went beyond the scope of the questions that were posed to him by counsel for Ms. Fidel, thereby offering argument and not objective opinion evidence. With respect to the latter issue, the Association referred to aspects of Mr. Haynes' report that addressed when the 1.3:1 slope of the TSF was adopted; whether or not the TSF design was itself deficient; and the firm management issues that appeared to have emerged from the departure of key AMEC engineers by early 2013. As a result of these issues, the Association argued that the Panel should be cautious in placing significant weight on Mr. Haynes' ultimate opinions (*West Moberly First Nations v. British Columbia*, 2018 BCSC 730).

*iii. The Panel's overall views on the expert evidence*

141. Both parties devoted significant time trying to diminish the credibility and/or utility of the other side's expert witness. The Panel has concluded that certain of the criticisms levied by each party have merit. By way of example, the Panel does not believe it to have been the ideal practice for Dr. Robertson to have played such a prominent role for the Association at the early investigative stages of this matter and then to later provide a formal opinion about areas where Ms. Fidel is alleged to have fallen short professionally. No doubt, in light of the technical complexity of the TSF, the Association required assistance from an expert such as Dr. Robertson to aid in the direction of the investigation. However, when that same expert is later put forward by the Association to provide independent opinion evidence at the hearing, there is the potential for concerns to emerge about the expert's impartiality given his earlier involvement in the investigation. Unlike the decisions referred to by the Association, this was not simply a situation where the expert was retained to provide ongoing technical support and guidance to counsel as the hearing progressed. It was a matter where the Association's expert was arguably part of its initial investigatory team.

142. Conversely, the Association's complaints about aspects of Mr. Haynes' report also have merit. Some of the answers given by Mr. Haynes in his report make it more challenging to assess his overall objectivity. A number of the statements he makes stray

into areas that are properly the subject of factual matters that must be addressed by the Panel as part of its deliberations when analyzing the allegations in the Notice of Inquiry.

143. The Panel wants to stress that none of these criticisms is intended to cast any aspersions on the professionalism or expertise of either witness. Both Dr. Robertson and Mr. Haynes were impressive witnesses and the Panel had no hesitation in qualifying each witness as an expert in their respective field. The Panel found that both experts gave their evidence in a clear, concise and credible manner and the opinions provided were of significant assistance to the Panel in examining the allegations against Ms. Fidel in the Notice of Inquiry. Although the parties each took issue with aspects of the opinion evidence given by the other party, overall both witnesses were very helpful for the Panel and their time and effort in participating in this hearing was appreciated by the Panel.

144. In particular, the different professional backgrounds between the experts assisted the Panel when looking at the allegations against Ms. Fidel. Dr. Robertson had extensive technical experience through his review board work, which included assessing the experience and expertise of EORs on many similar projects, as well as examining the underlying and complex engineering for tailings storage facilities. Dr. Robertson also had experience providing dam construction and design services for many years long before shifting the focus of his practice to the review board work (with a lot of that work occurring before the EOR was a widely recognized position).

145. While Mr. Haynes may not have the review board experience that Dr. Robertson possessed, he had been the EOR for a large engineering firm in relation to four tailings facilities and was, at the time of the hearing, still serving in the EOR role at a tailings facility in British Columbia. In light of his practical experience, the Panel found it helpful to have Mr. Haynes' evidence about the EOR role, and its evolution, from an engineer who had filled that same role over time and at a firm similar to AMEC.

146. Ultimately, the despite the criticisms levelled by each party against the other expert, the Panel was of the view that all of the issues raised, at most, would impact the weight to be given to the opinions of the experts and not the outright admissibility of the reports. Having carefully reviewed each party's submissions, the Panel does not see the differences between the experts as raising any issues where it would be appropriate for the Panel to completely disregard the opinion evidence that has been provided. On a number of allegations in the Notice of Inquiry, the differences between the views of the experts actually assisted the Panel in analyzing the allegations against Ms. Fidel.

147. Given the concerns raised by each party, the Panel treated the expert evidence cautiously. Aspects of the evidence from both experts that the Panel accepted and found to be of assistance is addressed in the following sections of this decision when looking at each individual allegation against Ms. Fidel in the Notice of Inquiry.

## G. DETERMINATIONS ON THE ALLEGATIONS IN THE NOTICE OF INQUIRY

148. In the following section, the Panel will review the Notice of Inquiry and will provide its analysis and findings with respect to each allegation against Ms. Fidel.

### a) Notice of Inquiry - paragraph #1

*i. Overview*

149. The essence of this allegation is that Ms. Fidel did not have the training and experience necessary to fulfill the role of the EOR in relation to the Mt. Polley TSF when she assumed that position at AMEC in 2013. Specifically, paragraph #1 of the Notice of Inquiry alleged:

> You demonstrated **unprofessional conduct** in or about April 2013 when you undertook and accepted responsibility for the role of Engineer of Record ("EOR") for the Mount Polley Tailings Storage Facility (the "TSF"), and advised Mount Polley Mining Corporation ("MPMC") that you were accepting this responsibility, **in circumstances where you were not qualified by training or experience to fulfil that professional assignment**. [emphasis added]

150. An analysis of this allegation requires the Panel to carefully review and consider Ms. Fidel's professional background; the facts relating to how Ms. Fidel became the EOR; and the expert evidence of Dr. Robertson and Mr. Haynes, both of whom addressed the nature and scope of the EOR role in 2013-2014 and the manner in which the EOR position has been better defined in more recent years.

151. At paragraphs #7 and #8 of the Notice of Inquiry, the same conduct alleged against Ms. Fidel in paragraph #1 of the Notice of Inquiry was also alleged to be a breach of Principles 1 and 2 of the Code. Principle 2 of the Code states that a member shall only undertake and accept responsibility for professional assignments that the member is qualified for, either by way of education or experience:

> 2) Undertake and accept responsibility for professional assignments only when qualified by training or experience

152. Put simply, the Association submitted that Ms. Fidel was not qualified to fulfill the professional assignment that she accepted when she became the EOR for the TSF. The Association argued that, in accepting the EOR position, Ms. Fidel accepted professional responsibility for a large and complex engineered structure and then failed to ensure that

the TSF was operated safely, thereby breaching Article 2 of the Code and committing unprofessional conduct.

*ii. Ms. Fidel became the EOR for the TSF*

153. The majority of the facts in relation to this issue are set out in detail above. After AMEC assumed engineering responsibility for the TSF in 2011, the EOR role on the project was filled for a number of years by Mr. Martin. Mr. Dufault was the AMEC Project Manager. There is no debate about Mr. Martin's qualifications and experience to serve as the EOR for the TSF. He was a senior geotechnical engineer and was considered to be a leading expert on the design of tailings storage facilities.

154. Prior to his departure from AMEC, Mr. Martin had been working on the design package for the Stage 9 raise of the TSF embankments, but that work had not been completed by the time he moved to BGC.

155. While Mr. Martin was the EOR on the project, Ms. Fidel was also involved in some aspects of the TSF and the Mine, dating back to the fall of 2011. In 2012, Ms. Fidel spent considerable time at the Mine training the MPMC field inspectors. Ms. Fidel's professional background at the time also included experience with other tailings pond and mine projects, as described above at paragraph 55.

156. After the key AMEC Mt. Polley employees departed for BGC, Mr. Rice and AMEC management assembled a new project team to carry on with the Mt. Polley work. Through this process, Ms. Fidel became both the Project Manager and the EOR in early 2013. The Association does not allege that Ms. Fidel did not have the necessary training and experience to act as the Project Manager (the Panel agrees that she did). The issues in the Notice of Inquiry focus only on Ms. Fidel's acceptance of the EOR position.

157. The internal AMEC documents show that the plan for Ms. Fidel to become the EOR was formulated within AMEC in or around February 2013. On March 9, 2013, AMEC issued the completed Stage 9 design package, which ended up being signed and sealed by Ms. Fidel. In April 2013, Ms. Fidel then signed and sealed the 2013 Construction Monitoring Manual (the "2013 CMM"), which was issued to MPMC.

158. Approximately ten months later, in February 2014, Ms. Fidel took a leave from her position at AMEC for family reasons. Following her departure, it does not appear as though Mr. Rice or AMEC management took any steps to fill the again vacant EOR position. At that time, in 2014, there were emails exchanged between some of the AMEC engineers that suggested the replacement EOR might be quite a junior engineer.

159. The Stage 9 As-Built and Review Report was issued by AMEC in March 2014. That report was also signed and sealed by Ms. Fidel. Later that summer, the TSF breach occurred.

*iii. Role of the EOR in industry in 2013-2014*

160. At the time of Ms. Fidel's appointment as the EOR on the Mt. Polley project, there was no comprehensive written definition within industry that outlined the role and/or responsibilities of an EOR. As Dr. Robertson noted in his report, "[i]n 2013 and 2014 the responsibilities of the EOR had not been defined in legislation or regulations in a form that was universally applied by the geotechnical community in BC or elsewhere."

161. However, despite the absence of a definition of the EOR role in any legislation or regulations, the position itself did exist in 2013-2014. As Dr. Robertson explained, the EOR position was a common role in the geotechnical engineering field, particularly with respect to tailings ponds, dating back to at least 2002:

> This term is used in North America when it is important that a large, high risk, civil engineering structure is designed, constructed and operated under the control of a 'responsible person' with the necessary technical understanding to make appropriate and informed decisions about the structure and to supervise its use and operation. It is the responsibility of 'The Engineer of Record' (EOR) to be fully familiar with the site investigation, design basis, as build conditions, operating requirements, monitoring results and any permit requirements such that he can make informed and responsible decisions about the structure. The EOR is responsible for periodic reviews of the monitoring results from the structure and for periodic inspections such that he [or she] is satisfied that the structure is built, operated, and maintained in accordance with the design and in a safe manner. The EOR is required to approve all material decisions regarding changes to the structure, its operating or monitoring requirements.

162. According to Dr. Robertson and the Association, the EOR was the engineer on a particular tailings project who was responsible for being aware of everything relating to the dam – the technical aspects of its design and development, as well as its ongoing maintenance and monitoring – so as to ensure that it is operating in accordance with the design. The EOR was the engineer responsible for the overall safety of the tailings facility.

163. It was the Association's position that even if Dr. Robertson's detailed description of the EOR position was not *universally* accepted in 2013-2014, the Panel should nevertheless conclude that Dr. Robertson's views about the responsibilities of the EOR were "typical in the industry" at that time and therefore illustrative of the standards of professional conduct that Ms. Fidel was expected to meet.

164. Mr. Haynes, on the other hand, did not agree that there was a "typical" definition of the EOR in 2013-2014. It was Mr. Haynes' opinion that the role of the EOR had been "inconsistent and variable" prior to the Mt. Polley TSF breach and that the term EOR had been "often used in an undefined manner, or that definitions were developed directly between the mine operator and the engineering firm".

165. The Panel noted that there was some support for Mr. Haynes' views elicited by Ms. Fidel during her cross-examination of Dr. Robertson, as he agreed with a number of propositions that revealed there to have been significant inconsistencies and gaps in terms of how the EOR role was defined in 2013-2014. By way of example, Dr. Robertson admitted that:

a. he was not aware of anywhere in the world where there was a universal application of a singular definition of the "engineer of record" in 2013-2014;

b. he was not aware of anywhere in the world that EOR was defined in regulations or legislation.

c. in British Columbia in 2013-2014, there were "no clear descriptions and no consistent descriptions" of the EOR role; and

d. he did not recall any time when a technical review board he was on prior to 2014 "sat down and put down a list of things that the engineer of record needs to do".

166. Even if one accepts there was no universal definition that outlined the duties and responsibilities of an EOR, the Association's position in this proceeding was that the core elements of the role were widely known and clearly defined in the profession and industry during the material period. In 2013-2014, regardless of the intricate and/or specific duties of the position, the Association submitted that the EOR role on a particular project was without question the important position in terms of the overall safety and technical aspects of a tailings storage facility and dam.

167. There was some agreement about this from Ms. Fidel's expert. As Mr. Haynes described, when he was the EOR for his firm in or around the same period of time, he regarded the EOR role as being the ultimate voice of his firm in terms of the integrity of the facility that he was overseeing. He said that, as EOR, although he would be able to draw on the experience of other engineers within his firm, he was the engineer within the firm responsible for the "safety of the facility relative to our design" (this was certainly the role that Mr. Martin appeared to fill at AMEC before his departure for BGC).

*iv. Evolution of the definition and role of the EOR*

168. Both of the parties also agreed that following the Mt. Polley TSF breach, a significant effort was made within industry and the profession to clarify and commit to writing the definition and duties of the EOR. Following the breach, the British Columbia government issued an order that every tailings facility in the province must have an EOR (that had not been a universal rule at the time of the breach).

169. It was apparent to the Panel that considerable efforts have been made in recent years to standardize the obligations and expectations of an EOR. Both experts testified that the role and concept of the EOR is continuing to evolve even today.

170. To illustrate the evolution, the Panel was referred to a number of recent professional publications. In 2016, the Association published a Professional Practice Guideline on Legislated Dam Safety Reviews, which included a written definition of the role and responsibilities of an EOR.

171. In May 2019, the CDA produced a draft revision to section 3.1 of the CDA Technical Bulletin: Application of Dam Safety Guidelines to Mining Dams, which discussed the evolution of the EOR role in the following terms:

> Since 2014, there have been extensive discussions among the dam safety community in Canada and internationally to improve guidance related to dam safety management inclusive of various roles and responsibilities such as the EOR. This revision to the 2014 Bulletin was developed to reflect these discussions and the evolution of the EoR concept.

172. In August 2020, the Global Tailings Review, co-convened by the International Council on Mining and Metals, United Nations Environment Programme, and Principles for Responsible Investment, published the Global Industry Standard on Tailings Management, which set out its definition of the EOR as follows:

> The qualified engineering firm responsible for confirming that the tailings facility is designed, constructed, and decommissioned with appropriate concern for integrity of the facility, and that it aligns with and meets applicable regulations, statutes, guidelines, codes, and standards. The Engineer of Record may delegate responsibility but not accountability…

173. From a review of these recent publications, it was clear to the Panel that even though more clarity is being brought to the position, the use of the term EOR in the mining context is still an evolving concept, both locally as well as at a global level.

174. Ms. Fidel referred the Panel to these publications and others as part of her position that the role of the EOR was uncertain and undefined in 2013-2014 (or at least not defined in the manner advanced by the Association through Dr. Robertson's opinions). Part of Ms.

Fidel's argument was that the Association was seeking in this proceeding to judge her professional conduct against standards that did not exist during the material period.

175. The Association accepted that the definition of the EOR position is still evolving, but again submitted that the core elements of the role were in existence long before Ms. Fidel became the EOR for the TSF at Mt. Polley – the EOR was the engineer responsible for monitoring and inspecting a dam so as to ensure that the structure was built, operated and maintained in accordance with the design intent and in a safe manner.

176. In addition to the detailed evidence given by Dr. Robertson, the Association referred the Panel to a report issued in 2011 by Dr. Norbert Morgenstern and other senior tailings pond engineers, who described the role of the EOR as follows:

> A professional engineer appointed by the oil sands operator who is responsible for the overall design, performance and safety of the tailings dam.

177. It was the Association's position that Ms. Fidel's conduct as the EOR for the TSF and Mine was being assessed in this proceeding only as against the standards that existed at the time and not in relation to how the position may now be understood after its evolution following the TSF breach.

*v. Departure of key employees/EOR as the engineering firm or an individual*

178. As is typically the case, the contract for the engineering services in relation to Mt. Polley was between the firm, AMEC, and the client, MPMC. As part of the contractual arrangements, AMEC agreed that it would provide the project EOR.

179. As Mr. Haynes described, industry practices have evolved in recent years such that the appointment of the EOR is now often documented between the firm and the client in a stand-alone agreement that outlines the EOR services. This ensures that the EOR position is properly defined. As Mr. Haynes testified:

> I think the industry is moving to the appropriate position where a firm is engaged and has a contract to provide engineer of record services, but an individual must be named as the point person, as the -- you know, as the -- to avoid a scenario where the company has undefined responsibility. But, you know, the company typically does need to set up a contract or – my personal practice has been to set up a contract for engineer of record, identify the role in that document, and establish a particular budget for that activity so that it isn't blended with -- with other things. I don't think this has been practiced across the industry. I suspect it's becoming more and more common.

180. The Panel has concluded that this is a practice that should be encouraged as the role continues to evolve in order to ensure that there is a clear recognition of the responsibilities of the project EOR.

181. With respect to Mt. Polley, there is no question that the departure of the key AMEC personnel by the start of 2013 played a significant factor in Ms. Fidel's appointment as the Project Manager and EOR for the TSF. AMEC was required to fill the positions that had been left vacant and Ms. Fidel was the selected as the candidate within the firm, without much in the way of a written explanation as to why that occurred.

182. The departure of Mr. Martin also led to some confusion about the roles of the engineering firms. After Ms. Fidel was appointed to her new positions, BGC and AMEC were competing against each other in 2013 to secure the Mt. Polley engineering work for the next raise at Stage 10. During this same period, MPMC was communicating with both engineering firms, but equal information was not being provided to each firm. It appeared to the Panel that MPMC's lines of communication with BGC were much more open than they were with AMEC. This was no doubt at least partly the result of MPMC's long-established relationship with Mr. Martin.

183. Mr. Haynes testified that he had seen similar issues arise on occasions in his own practice when an engineer had left a firm and/or project mid-stream. When a key employee, such as an EOR, leaves the firm, a decision must be made as to who will assume that role within the firm going forward. Christine Peters, P. Eng., a former AMEC manager, gave evidence at the hearing that finding and determining the replacement engineer was typically a task for firm management, as the senior managers at each firm have the best understanding as to who might have the appropriate qualifications and availability to fill the role. Firm management should also have a sense as to how overall firm resources were allocated. The Panel accepts that this would be the usual practice, particularly in a firm as large as AMEC.

184. That is precisely what happened in this case. After the departure of Mr. Martin and Mr. Dufault, Mr. Rice and AMEC management went about assembling a new project team, which included Ms. Fidel as both EOR and Project Manager.

185. Although Ms. Fidel was appointed to both positions, there were a number of questions that emerged during the hearing about whether or not it could fairly be said that the EOR was the engineering firm itself (AMEC) and not a specific engineer within the firm. The Panel was pointed to some written definitions of the EOR position that appeared to attribute the EOR role to the firm itself.

186. It was Dr. Robertson's evidence that although a firm can *appoint* an EOR, the specific role must still be performed by a person. The Association submitted that this is the only reasonable view of the matter, as an engineering firm can only act through its representatives – the firm itself cannot perform a site visit, assess data, prepare a design or exercise professional judgment. Those are matters that must be done by individuals.

187. The Association stressed that such a structure is foundational to the professional reliance model reflected in the Act – professional responsibility for roles assumed by an engineer cannot be avoided on the basis that the firm is the contracting entity and not the individual. In this particular matter, the Association emphasized that it was Ms. Fidel who signed the key documents, including the 2013 (Stage 9) As-Built and Annual Review Report, which signified to the Chief Inspector that she was individually responsible for the TSF. Further, in certain documents provided to MPMC by AMEC, Ms. Fidel was also expressly held out as being the new EOR and Project Manager.

188. Ms. Fidel, on the other hand, submitted that she had understood the EOR as being an AMEC *firm* role. She testified that she understood that she was to be the Mt. Polley Project Manager and the "point person" for AMEC in terms of its dealings with the client. She thought she was a representative for AMEC as the EOR, but that it was the firm that was properly considered the EOR for the TSF. Ms. Fidel described a meeting with Mr. Rice during which Mr. Rice told her that she was to fill this "point-person" role, but advised her that this was to be only part of her overall role on the project team, which she believed was to have been focussed more on construction oversight and project management as opposed to being responsible for overall TSF and dam safety.

189. The Panel noted that there were some documents from the material period in which AMEC personnel referred to the EOR position as a firm role, as opposed to a role specific to an individual engineer. By way of example, when Mr. Rice emailed Ms. Fidel on March 14, 2013 about the 2012 Stage 8/8A As-Built Report, he stated, "…AMEC is the EOR and it is an AMEC report. Todd and Daryl don't work for AMEC any more. Let me figure it out". Regardless of how the EOR position may have been viewed in the broader profession, there very much appeared to be a lack of clarity about how the role was conceptualized within AMEC.

190. There is no question that there were also important documents exchanged during the material period that did <u>not</u> refer to Ms. Fidel as the EOR. Ms. Fidel asked the Panel to review these documents in order to assess the extent of the professional obligations she had assumed. The lack of such information in these documents was interesting, but the Panel also noted that Ms. Fidel was described as the EOR in other important documents, including the 2013 CMM, so this argument would appear to take Ms. Fidel only so far.

191. The description of the EOR role in the available documents exchanged between AMEC and MPMC in relation to the project was clearly incomplete, not comprehensive and was generally of limited assistance to the Panel in terms of trying to decipher what was expected by AMEC or MPMC of the project EOR during the material period. Regrettably, there was no evidence called at the hearing from either senior management at AMEC or MPMC as to what the client or the firm understood was to be Ms. Fidel's role in 2013-2014

when she became the EOR. Evidence of that nature might have been of assistance to the Panel, as it could have illuminated what was envisioned by these parties as to what was contemplated by the EOR role given the lack of clear documentary evidence.

192. In light of how the EOR position appears to have been thrust on Ms. Fidel by Mr. Rice and AMEC, the Panel has accepted that Ms. Fidel was uncertain at that time as to what AMEC expected of her in the EOR role. The Panel has also concluded that Ms. Fidel no doubt viewed her appointment to the position from the perspective that she was one member of the AMEC project team and was not, in accepting the EOR role, assuming overall responsibility for all aspects of the TSF and Mine.

193. That being said, the Panel does not accept that the EOR position could have been filled by the firm and not an individual engineer. No doubt, the size and breadth of AMEC's practice would have allowed Ms. Fidel, or any other engineer in a similar position, to seek out and rely on the assistance of other colleagues within AMEC with specialized experience on any issues that might have arisen as the project moved forward. Nevertheless, the Panel agrees with the Association's position that the professional reliance model reflected in the Act is founded on the important concept that an individual engineer will be accountable for any professional issues that may emerge in relation to a project. In the result, the Panel is of the view that although a firm can appoint an EOR, that role must still be fulfilled by an individual engineer.

*vi. The role of the EOR in the MPMC/AMEC documents*

194. As touched on briefly in the preceding section, the Panel was struck by the absence of detailed references to the EOR position in the key AMEC and MPMC documents relating to the Mt. Polley project. For such a potentially significant position, there was almost no attempt by the firm or the client to delineate what was expected of the engineer in that position.

195. As one example, there was no mention at all of the EOR in the March 6, 2013 AMEC budget. For a position that one would have expected to carry some significance on the project, regardless of how the role might have been specifically defined, the Panel was quite surprised to learn that the position was not even referred to in the budget (in fact there was no specific budget allocation for the EOR role). Based on the budget, it did not appear as though either the firm or the client viewed the role in the manner set out by the Association at this hearing.

196. Although not decisive in terms of defining her role and responsibilities in the positions that she accepted, Ms. Fidel emphasized that the only document that she executed that referred to her as the EOR was 2013 CMM, which described her as *both* the Project Manager and EOR.

197. As the work progressed on Stage 9, AMEC's 2013 proposal for the Stage 10 raise also did not identify Ms. Fidel as the EOR. In that document, Ms. Fidel was proposed to be one of two project engineers reporting to a more senior Project Manager. No evidence was called at the hearing to explain why Ms. Fidel was deemed capable by AMEC of fulfilling the EOR role for Stage 9, but apparently not for the subsequent Stage 10 raise. This was another area where some further evidence might have assisted the Panel.

198. Of all of the key project documents, only the 2013 Operations, Maintenance, and Surveillance Manual (the "OMS Manual") provided some guidance as to how MPMC and AMEC viewed the EOR position. In the OMS Manual, Table 2.1 provided the following brief description of the EOR:

> Familiar with the technical aspects as well as maintenance and inspection requirements of the TSF. Responsible for providing the engineered drawings and associated support in TSF design.

199. It goes without saying that this definition was much less comprehensive than that set out by Dr. Robertson. Other aspects of the OMS Manual provided further information about what was envisioned by the EOR role, but none of the additional statements come close to offering a detailed or comprehensive definition. The most direct passages are at page 73 of the OMS Manual, where it is noted that with respect to annual dam safety reviews, the EOR is to evaluate the safety of the TSF and issue an annual inspection report.

200. The lack of definition of the EOR role in the MPMC documents was highlighted by Mr. Haynes in his expert report. However, under cross-examination Mr. Haynes conceded that the limited definitions in the OMS Manual did not appear to have been exhaustive and he agreed with the Association that what was set out in the manual was not typical in terms of the types of roles that were played by EORs at that time. As the Panel understood Mr. Haynes' evidence, the typical role of the EOR at that time would have been broader than what was described in the OMS Manual.

201. All of that being said, the Panel does regard the lack of information in the key documents as to what was contemplated of the EOR as being another important factor when assessing Ms. Fidel's professional conduct.

*vii. Ms. Fidel's understanding of the roles she assumed in 2013*

202. Ms. Fidel was not involved in any discussions directly between AMEC and MPMC about who would assume the role of EOR in early 2013. The Panel never heard from Mr. Rice or any other witnesses from either AMEC or MPMC about what the plan was between the client and the firm in terms of which engineer would assume that role after Mr. Martin moved to BGC.

203. Similarly, there was no evidence called at the hearing from MPMC as to how the client viewed the role of the EOR. Did MPMC see the role in the same manner that Dr. Robertson described it? Or were the expectations between MPMC and AMEC different and perhaps less onerous? The Panel appreciates that the Association would likely take the position that such questions are not relevant in terms of assessing the role of the EOR as described by Dr. Robertson, which it submitted was the appropriate standard against which to measure Ms. Fidel's conduct.

204. When Mr. Rice emailed Luke Moger at MPMC on February 4, 2013, he spoke about a new project team at AMEC, but he did not specify which engineers would assume which roles. No specific mention was made in Mr. Rice's email as to who would be the EOR. Ms. Fidel was later appointed to the role, but there was an absence of evidence at the hearing as to *why* that decision was made by Mr. Rice and/or AMEC management. There were a number of emails that circulated internally within AMEC about who would be on the new project team before Ms. Fidel was ever mentioned as a possible EOR, but again, these emails did not offer much in the way of an explanation or justification as to why certain people were being put forward for specific positions.

205. Even without evidence about why Ms. Fidel was chosen as the next EOR after Mr. Martin's departure, the Panel has concluded that AMEC and its senior management must have believed that Ms. Fidel had the necessary qualifications and experience to assume the EOR role on the project. The same must be said in terms of the MPMC's views of Ms. Fidel in that role, as there was no evidence that the client raised any concerns with Ms. Fidel's appointment.

206. The Association submitted that the reasons for the appointment are not relevant to the question of whether or not Ms. Fidel had the professional training and experience to fulfill the EOR role – that issue stands on a question of what the position involved and whether or not Ms. Fidel was appropriately qualified. Again, although the Panel understood the Association's position, given the inconsistent nature of how the EOR position was treated within the industry, the Panel still found it notable that all of the parties appeared to accept that Ms. Fidel had the qualifications to fill the role.

207. There is no question that Ms. Fidel understood she was to become the Project Manager for the 2013 construction of the Stage 9 raise and any issues relating to necessary modifications to the design. Ms. Fidel also knew that, at the very least, she was to become the key point of contact between AMEC and MPMC in relation to the TSF.

208. With respect to the notion that Ms. Fidel was only assuming a "point-person" role in terms of AMEC's communications with MPMC, the Association submitted that if there was any confusion about the scope of the position, Ms. Fidel had ample time to clarify matters, highlighting the months between her meeting with Mr. Rice when she was asked

to take on the position and the date on which she executed the 2013 CMM in April 2013 as the EOR. Ms. Fidel had almost two months to consider and determine whether or not she had the training and experience to assume the EOR position. If she had any concerns at all about her new role, or what was entailed, the Association submitted that she should have clarified or sought confirmation as to precisely what was expected of her.

209. Further, the Association also emphasized that the role of the project EOR was never limited in any document that was provided by Ms. Fidel or AMEC to MPMC. The 2013 CMM did not provide any limits or restrictions on Ms. Fidel's role as the EOR. Similarly, when Ms. Fidel sent the 2013 CMM to MPMC in draft, although she set out a series of points about how the Stage 9 manual differed from the Stage 8 manual, she did not advise MPMC that the EOR role was going to change within AMEC following Mr. Martin's departure or attempt to limit what was expected of her as the new EOR. Based on all of the documents that were exchanged, AMEC was clear with MPMC that Ms. Fidel was the EOR starting in April 2013 and there were no limitations to the appointment.

*viii. Ms. Fidel's experience and training when she became the EOR*

210. The Panel intends no disrespect to Ms. Fidel in noting that she was still a relatively junior engineer in 2013 when she became the EOR for the TSF. Ms. Fidel became a P. Eng. in Ontario in 2011 and in British Columbia in 2012. Before that, she had been an EIT since 2005, working as a project engineer on a number of projects in Canada and worldwide. Ms. Fidel did not complete any postgraduate course work towards a masters degree.

211. Within a few months of becoming a P. Eng. in Ontario, Ms. Fidel started work on the Mt. Polley project. She worked with Mr. Martin on aspects of the projects until he left AMEC at the end of 2012. At the time of her appointment as EOR in 2013, Ms. Fidel had never:

a. been the engineer with overall responsibility for the design of a tailings dam;

b. led a team to design a tailings dam;

c. been responsible for determining whether experts in other disciplines had to be retained to provide input into the design or operation of a tailings dam;

d. been responsible for deciding whether the amount of site investigation undertaken was sufficient for the purposes of understanding dam foundation conditions;

e. had responsibility for determining whether the client's wish that the dam be raised meant there had to be a reassessment of the overall design of the dam;

f. been responsible for advising the client about aspects of a downstream slope or whether a downstream slope should be buttressed; and

g. been responsible for advising on whether seepage modeling or system of embankment drains needed to be changed.

212. Dr. Robertson provided extensive evidence about the level of training and/or experience that he considered an EOR was required to have in order to properly fulfill the role with respect to a tailings facility in 2013-2014:

> EoR's for tailings dams are typically civil, geotechnical or geological engineers. Typically their engineering training would include advanced courses in geotechnics, and courses in geology, hydrology, hydrogeology, and dam design, and possibly in geochemistry, fluid transport systems and other related engineering subjects. A minimum BSc level degree is required but MSc with specialization in geotechnics is more typical. They would be expected to have a thorough practical grounding in geotechnical site investigation, design, construction supervision and analyses for embankment stability, seepage calculations, water balance determinations, flood routing and spillway design. They would also be expected to have experience with analysis and interpretation of TSF and embankment monitoring, risk assessment, setting of trigger levels, and emergency response plan development, preparation of construction and operating manuals and dam safety inspections. Typically 15 years of geotechnical engineering practice with at least 10 years in progressively increasing responsibility for tailings dams design, operation, monitoring, risk assessment and emergency response action planning would be required to develop the expertise to function as a competent EoR for dams that are not complex or not very high risk dams. For complex and high risk tailings dams a greater amount of experience and capability, 20 years or more, is typically appropriate. It is recognized that often there are technical issues and complexities that extend beyond the experience and capability of the EoR. The understanding of the EoR must be sufficient to enable them to identify that they need to consult appropriate experts to obtain secure solutions.

213. In his report, Mr. Haynes agreed that Ms. Fidel did not have the education and training in 2013-2014 to fulfill the role of an EOR as that position would be defined as of the date of the hearing, or as the role was defined by Dr. Robertson in the above passage from his report.

214. Mr. Haynes, who does not hold an M. Sc. level degree himself, accepted that the EORs he dealt with were generally seasoned engineers with extensive experience in tailings facilities design. That being said, having reviewed Ms. Fidel's professional background, it was Mr. Haynes' opinion that Ms. Fidel did have sufficient training, experience and expertise to fulfill the role of the EOR *as that role had been established between MPMC and AMEC by 2013-2014*, given her history on the project; the fact that she had some level

of oversight by Mr. Rice, who stepped in as the review engineer in 2013 as part of the new AMEC Mt. Polley project team; and BGC's involvement at the same time providing services to MPMC that one would consider as being those traditionally of the EOR.

*ix. Conclusions on Paragraph #1*

215. Against the backdrop set out above, the Panel was tasked with determining whether the Association met its burden to prove that Ms. Fidel committed unprofessional conduct (or breached the Code) when she accepted the EOR role in relation to the TSF due to the fact that she was not qualified by training or experience to fulfill that professional assignment.

216. As noted above, the Association submitted that the Panel could determine this issue without reference to specific issues or problems with the TSF that emerged during Ms. Fidel's tenure as the EOR, or the ultimate cause of the TSF breach in 2014. The Association took the position that it was not necessary to introduce such evidence in relation to this allegation.

217. The Association submitted that the conduct issue in paragraph #1 of the Notice of Inquiry was relatively simple – was it appropriate for Ms. Fidel to accept the EOR position for the TSF in light of the responsibilities associated with that role and having taken into consideration the extent of her professional training and background? Based on a comparison of Ms. Fidel's professional background against the evidence given by Dr. Robertson, the Association submitted that the Panel must conclude that the allegation was proven, as Ms. Fidel was not qualified to assume the EOR role with respect to such a large, complex engineered structure as the TSF.

218. Having reviewed all of the evidence, including the competing opinions provided by Mr. Haynes, the Panel has concluded that it would be unfair to Ms. Fidel to analyze this allegation in an evidentiary vacuum and without reference to all of the contextual events and surrounding circumstances leading up to her appointment.

219. From a review of the documents tendered at the hearing, the Panel has concluded that Ms. Fidel was thrust into the EOR role in early 2013 by AMEC management, specifically Mr. Rice. When Messrs. Martin and Dufault left the firm, there was a clear effort within AMEC to reformulate a project team, no doubt with a view to retaining the Mt. Polley work. The new project team was assembled primarily by Mr. Rice, who appears to have played the key role in the decision to appoint Ms. Fidel as the AMEC EOR.

220. In light of how the new project team was established, the Panel has concluded that AMEC management must have believed that Ms. Fidel had the necessary qualifications to

serve as the Mt. Polley project EOR. No concerns about Ms. Fidel's appointment appear to have been expressed by anyone within AMEC.

221. There were no documents prepared by AMEC or MPMC that outlined for Ms. Fidel exactly what was expected of her in the EOR role. There were some limited references to the position in certain of the project documents, such as the 2013 CMM, but the parties accepted at this hearing that the references to the EOR position in these documents could not be said to have been comprehensive. In the result, there was very minimal guidance for Ms. Fidel in terms of what was expected of her as the new project EOR.

222. Similar to AMEC, there was also a complete absence of any evidence showing that MPMC was not comfortable with Ms. Fidel as the EOR. MPMC was a sophisticated client that had direct responsibility for the monitoring of the TSF and reporting to AMEC. The Panel did not see any evidence that suggested any concerns by MPMC about Ms. Fidel stepping into the EOR role after Mr. Martin's departure.

223. Further, and although not at all decisive on the issue, the Panel also noted that there was no evidence at the hearing that showed either Mr. Martin or Mr. Dufault raising any concerns about Ms. Fidel's new position after they left AMEC. Having been the EOR and Project Manager on the project for so long, had it been so obvious that Ms. Fidel was not professionally capable of taking on that role after his departure, the Panel thought there might have been some reference to that from the BGC engineers.

224. By all accounts, all of the key parties appeared to accept that Ms. Fidel was qualified to the extent necessary to serve as the EOR for the TSF at Mt. Polley as that position had been structured between AMEC and MPMC. If it should have been obvious to Ms. Fidel that she did not have the necessary training and experience to be the EOR, the Panel is left to wonder why that issue never emerged as between AMEC and MPMC.

225. There is also the question as to what Ms. Fidel understood about the EOR position at the time. Ms. Fidel testified that she did not understand that she was being asked by AMEC to assume the EOR role in the manner that it was defined at the hearing by the Association and Dr. Robertson. The Panel has accepted Ms. Fidel's evidence on this issue.

226. Ms. Fidel submitted that, based on her discussions with Mr. Rice in early 2013, she understood the EOR to have been more akin to the lead communication role as between AMEC and MPMC. She did not see herself as being the engineer assuming overall responsibility for all aspects of the TSF, nor did she understand this to be the role that Mr. Rice was asking her to take on. Although the Panel has concluded that Ms. Fidel was honestly describing what she understood the EOR role to involve at the time, there was also no question that Ms. Fidel's actions during the 2013 construction season included tasks that went beyond what would typically fall within a strict Project Manager role, particularly

some of the TSF monitoring that Ms. Fidel oversaw that season. As such, although the Panel has concluded that Ms. Fidel did not think of the role in the terms put forward by the Association, she was nevertheless aware that the EOR position had some extra element of responsibility beyond what was expected of her as the Project Manager.

227. Both parties claimed that the other could have called Mr. Rice to give evidence about his discussions with Ms. Fidel and why she was selected as the EOR. The Association submitted that it was not necessary for it to adduce evidence from Mr. Rice on such discussions, as any advice he gave Ms. Fidel about the role should not matter when examining whether she accepted a professional assignment for which she was not qualified. The Association submitted that this issue does not turn on any subjective views of Ms. Fidel or Mr. Rice.

228. That being said, in light of the many uncertainties in this proceeding with respect to both the role and responsibilities of the EOR on this particular project, the Panel was challenged by the absence of evidence from either Mr. Rice or MPMC as to why Ms. Fidel was selected for the position and what the expectations were as between the firm and the client in terms of the role.

229. The essence of the Association's position was that the issue must be examined from the position of the standard role of an EOR at that time (as articulated by Dr. Robertson); that Ms. Fidel ought to have known what was involved with being the EOR; that Ms. Fidel should easily have recognized that she did not have the training and experience to fulfill that role for the TSF; and that Ms. Fidel should have sought to clarify what was involved with the position that she was accepting if she had any questions or doubts about her ability to fill the role.

230. Relying on the opinions of Dr. Robertson, the Association argued that Ms. Fidel took on a position that required her to understand all of the technical aspects of the TSF and to monitor the TSF to ensure that it was safe and operating as contemplated by its design.

231. In 2013-2014, Ms. Fidel had considerable prior experience with other similar projects and she had worked on the Mt. Polley TSF under Mr. Martin's guidance for the previous two years. There is no question that by early 2013 that Ms. Fidel had the requisite experience and training to assume the role of Project Manager for the TSF after Mr. Dufault departed AMEC.

232. When Mr. Rice called Ms. Fidel into the meeting and outlined the new positions that she was going to assume, the Panel has inferred that Ms. Fidel would likely have been quite excited to be identified by her employer as being capable of assuming even further responsibility with respect to the Mt. Polley project. The Association's position would require the Panel to conclude that Ms. Fidel, when asked by AMEC management to become

the EOR, ought to have independently assessed what she was being asked to take on and formulated her own conclusion that she was not adequately qualified. At the time, the Stage 9 design package had already been substantially prepared by Mr. Martin. Ms. Fidel had worked on the design package in the fall of 2012 and that work was almost complete. Most of the expected work in the coming months at the TSF was going to relate to the construction and ongoing monitoring, with the construction being based on the design that had been prepared while Mr. Martin was at AMEC.

233. In reviewing these events, the Panel was mindful of the evidence from the experts as to exactly how the EOR role would have been defined in 2013-2014 as against the factual circumstances that led up to Ms. Fidel's appointment. Both experts agreed that there were no industry publications setting out exactly what was included in terms of the role and responsibilities of the EOR. Even though there was no evidence that she sought out such information, the Panel found the absence of a widely publicized definition of the EOR to be a significant factor in terms of whether Ms. Fidel's actions should be seen as unprofessional conduct and requiring a disciplinary response.

234. For reasons that were not explained at the hearing, the AMEC budgets for the work at Mt. Polley did not give significant weight to the role that the EOR was supposed to play on the project. As noted above, there was no specific line item in the 2013 budget in relation to the work of the EOR. Further, the AMEC budgets appeared to be wholly inadequate in terms of what should have been required for EOR site visits based on the evidence of both experts.

235. What appears to have happened in terms of this project is that AMEC management failed to consider the need to place a senior, experienced geotechnical engineer in the EOR role with Mt. Polley following Mr. Martin's departure. The Panel was left to speculate as to whether this AMEC failure was the result of a misunderstanding as to the scope or importance of the EOR role, or whether the decision was instead driven by other considerations, such as the desire to minimize client costs for the engineering services in relation to the project.

236. The Panel appreciates that the reasons as to why AMEC made this decision may not be material when one is considering this allegation in the Notice of Inquiry, which focusses only on Ms. Fidel's conduct. After Mr. Martin left AMEC, a much less experienced engineer ended up being appointed to an important oversight role with respect to a tailings dam that was incredibly complex from an engineering perspective. If there is to be any criticism as to how Ms. Fidel came to be the EOR on this project in 2013, the Panel has concluded that the role played by Mr. Rice and AMEC management was central to the analysis.

237. The Panel had no hesitation concluding that Ms. Fidel was aware and accepted in early 2013 that she was to become responsible for monitoring the construction for 2013 Stage 9 work. That type of role was entirely consistent with the Project Manager position which Ms. Fidel was qualified to take on. The evidence is much less clear with respect to whether Ms. Fidel also appreciated that by agreeing to take on the EOR role, she was assuming responsibility for the stability and overall performance of the TSF and dam during that same period.

238. The Association argued that Ms. Fidel had an obligation to carefully choose her professional assignments – even if the role of the EOR was undefined in industry standard materials, and even if there were no internal documents between AMEC or MPMC that set out precisely what the role involved, Ms. Fidel nevertheless failed to take any steps to investigate these issues and she did not have the requisite training and experience as outlined in detail by Dr. Robertson.

239. Assessing an engineer's training and experience is a challenging issue when there are no defined parameters that outline what qualifications are required with respect to a specific professional assignment. To use an obvious example, this was not a situation where an engineer with a geotechnical background accepted professional responsibility for a structure clearly outside of his or her expertise, such as a bridge.

240. What the Panel was asked to do in this matter was to assess Ms. Fidel's training and experience in 2013 and then determine whether or not she met the requisite standard that the Association submitted was unwritten but articulated at the hearing by its expert, Dr. Robertson. There is no question that Ms. Fidel was not appropriately qualified to serve as the EOR in 2013-2014 if one accepts that Dr. Robertson's report sets out the role of the EOR during the material time.

241. In this matter, the Panel has concluded that role of the EOR as articulated by Dr. Robertson was not the role that Ms. Fidel accepted on her appointment. Dr. Robertson's views about the level of experience and/or education that an engineer must have had to accept an EOR position are no doubt illustrative of the fact that the EOR position was seen to be important in terms of the overall project, but the Panel has not concluded that Dr. Robertson's opinions were reflective of the broad standards that existed at that time. No doubt the EOR position had to be filled by an experienced engineer, as Mr. Haynes also noted in his report, but in light of all of the evidence from the material period, the Panel was not willing to conclude, on the basis of expert opinion evidence, that there was a standard level of training, experience and expertise that an engineer had to have in 2013-2014 before accepting an EOR assignment. The Panel found it particularly difficult to reach such a conclusion given that the standards said to be articulated by Dr. Robertson were not

written or recorded anywhere and there were competing views about the role expressed by Ms. Fidel's expert, Mr. Haynes.

242. In examining whether Ms. Fidel committed unprofessional conduct by taking on the EOR role with respect to Mr. Polley, the Panel was also of the view that the context surrounding Ms. Fidel's appointment as EOR must also be considered as part of the analysis. As noted above, there was no suggestion by anyone involved in the project that Ms. Fidel was not appropriately qualified. Mr. Haynes, in his report, offered the opinion that Ms. Fidel was qualified to act as the EOR in light of the oversight that was provided by Mr. Rice and the contemporaneous involvement at Mt. Polley by Mr. Martin and others at BGC.

243. The communication as between the engineering firms and MPMC in relation to the Mt. Polley project was less than satisfactory. The evidence revealed MPMC to be communicating regularly with BGC during the material period, while not providing the same level of information to AMEC. MPMC clearly had strong ties to Mr. Martin, as the Stage 10 design work was later awarded by MPMC to BGC. It appears that, during 2013-2014, MPMC in many ways still treated Mr. Martin as its primary engineer for the TSF even though AMEC had the contract to provide engineering services through that ongoing raise.

244. This dynamic no doubt led to many issues for Ms. Fidel in her new role as EOR. She was appointed to a position that was new for her within AMEC. There was limited guidance available to her in the project documents with respect to what was expected of her in this role; the EOR position was poorly defined in the profession; and the client did not appear to treat Ms. Fidel as though she was now the engineer with overall responsibility for the TSF.

245. The Panel is not willing to make a finding of unprofessional conduct against an engineer in these circumstances. There was indeed a blending of the Project Manager and EOR roles by AMEC and Ms. Fidel. For example, when one reviews the project documents from 2013-2014, including the time sheets for the AMEC employees, it becomes clear that Ms. Fidel undertook work that season that would have been beyond a strict role as only the Project Manager. As such, there was some recognition on her part that the EOR role encompassed additional responsibilities. Within AMEC, however, there did not appear to be much in the way of delineation as between the two roles and Ms. Fidel was left on her own to determine and consider what was required of her as the EOR in addition to her Project Manager position.

246. There is no question that Ms. Fidel did not undertake the EOR role in the manner described by Dr. Robertson, as the Association's expert. There is also no question that Ms. Fidel would not have been qualified at that point in time to undertake the EOR role as it is

now broadly defined. That being said, the Panel has concluded that there was no clear and consistent definition of an EOR in 2013-2014. Further, with respect to this matter, and perhaps due to the absence of a broad standard definition, the EOR term was used between AMEC and MPMC in an undefined manner and clearly not as described by Dr. Robertson.

247. In light of all of the above, the Panel has concluded that the Association has not proven, on a balance of probabilities, that Ms. Fidel was not qualified to act as the EOR and that her conduct in accepting the position on the Mt. Polley project was a marked departure as that term has been defined in previous discipline cases.

248. For these reasons, the Panel has concluded that the Association has not proven the allegation in paragraph #1 of the Notice of Inquiry, or the alleged breaches of the Code in paragraphs #7 and 8 of the Notice of Inquiry.

**b) Notice of Inquiry - paragraph #2**

249. Paragraph #2 of the Notice of Inquiry stated:

> You demonstrated **unprofessional conduct** in or around March and April 2013 when you accepted professional responsibility for the Stage 9 2013 Construction Monitoring Manual in circumstances where you were **not qualified by training or experience to accept that responsibility**. [emphasis added]

250. As noted above, the 2013 CMM was signed and sealed by Ms. Fidel and the manual was then issued to MPMC.

251. The Association took the position that Ms. Fidel did not have the training or experience necessary to sign and seal the 2013 CMM. Ms. Fidel argued that she did have the requisite qualifications and experience in light of her involvement with previous projects involving construction monitoring, as well as her prior work preparing construction monitoring manuals.

252. At paragraphs #7-9 of the Notice of Inquiry, the factual foundation of this allegation was also alleged by the Association to lead to findings that Ms. Fidel breached Principles 1, 2 and 3 of the Code.

253. On this issue, the Association relied almost exclusively on the opinion of Dr. Robertson that Ms. Fidel was not qualified to sign and seal the 2013 CMM:

> The monitoring required for the observation of the performance of both the embankments and TSF is considerably more than the instrumentation installed to monitor physical stability. In particular it requires an understanding of all the potential influences of tailings disposal and construction on and

> performance responses of the TSF, including the embankments in order to assess if loads, deformations, seepage, pore pressures and physical stability are all in accordance with design expectations.
>
> Based on the information reviewed, it is my opinion that Laura Fidel did not have sufficient training, experience and expertise in overall TSF design, performance assessment and development of surveillance, instrumentation and monitoring programs to develop comprehensive monitoring programs, and interpret their performance to fill the role of EoR. She therefore did not have the training, experience and expertise to develop and sign Construction Monitoring Manual without the supervision and review of a competent Professional Engineer.

254. As can be seen in the above passage, Dr. Robertson's opinion on this allegation was directly connected to his view that Ms. Fidel was not qualified to be the EOR for the TSF at Mt. Polley.

255. The Panel noted that in the paragraphs of his report preceding the above excerpt, Dr. Robertson opined that Ms. Fidel did have the necessary training, experience and expertise to sign and seal the 2012 Stage 8/8A As-Built Report, in light of the guidance and review that was provided to her by Mr. Martin even though he had already left AMEC.

256. With respect to the 2013 CMM, the Association submitted that Ms. Fidel lacked the experience necessary to properly monitor seepage flows; she had no experience with overall TSF design; and her work history did not include any role in determining how TSF performance would be assessed (for example, determining the number or location of piezometers or inclinometers). In many ways, the issues the Association raised with respect to paragraph #2 in the Notice of Inquiry are viewed as complimentary to the broader allegation in paragraph #1 in terms of Ms. Fidel assuming the EOR role on the project.

257. Because of the dynamic aspects of a tailings dam construction – with constantly changing loads and seepage heads – the Association argued that monitoring construction is not simply a matter of supervising what is happening in terms of the build. The responsible engineer must also be constantly reviewing the *impact* of the construction on the design – with a view to ensuring that the monitoring is identifying any issues that might be relevant to the design or overall dam safety. To properly undertake this role, the engineer must have a thorough understanding of all of the technical aspects of the TSF.

258. Mr. Haynes did not agree with Dr. Robertson's conclusions on this issue, noting that other factors must also be considered when looking at Ms. Fidel's role, including the level of oversight and review provided by Mr. Rice, as well as the fact that the 2013 CMM was in many ways the same manual that had been developed by AMEC for the earlier Stages – a construction monitoring manual was produced for each raise of the dam, but much of the

content from the manual was simply transferred from one raise campaign to the next, while capturing elements from the previous raise.

259. The Association countered Mr. Haynes' view by noting that even if a document has evolved over time, there could always be circumstances where the document must evolve further – and the engineer responsible needs to have the training and expertise to assess whether or not such circumstances exist and then make any necessary adjustments as matters are occurring.

260. That may be, but in this instance the Panel was provided with no evidence to show any aspects of the 2013 CMM that were alleged to have been inappropriate or not in keeping with professional practice. In the result, the Panel was asked by the Association to conclude that Ms. Fidel committed unprofessional conduct in relation to this allegation without any particularization of potential issues with the actual engineering work performed. This made the task that much more difficult for the Panel given the conflicting opinions from experts as to where the line should be drawn in terms of a professional's qualifications to undertake a specific task.

261. It certainly does not appear as though Mr. Rice played a significant role on the project after the departure of Messrs. Martin and Dufault. That said, Mr. Rice did record four hours to the Mt. Polley project in April 2013. As such, in considering this allegation, the Panel must factor in that Mr. Rice was involved with the project to some degree at the time when the manual required review. As Ms. Fidel testified, "[Mr. Rice] reviewed [the 2013 CMM] and sent back his comments. I can't remember whether they were electronic or hard copies."

262. Given that Mr. Rice appeared to have reviewed the document and noting that much of the content had been developed and used over multiple AMEC dam raise campaigns, including the portion of the manual specific to monitoring, Mr. Haynes offered an opinion that Ms. Fidel did possess sufficient training, experience and expertise to sign and seal the 2013 CMM:

> The Construction Monitoring Manual includes information on roles and responsibilities during construction, construction materials, borrow areas, foundation preparation, material placement compaction and testing, sampling procedures, reporting requirements and instrumentation. The instrumentation section is one page of the thirty pages in the document.
>
> A construction monitoring manual was produced for each raise, but much of the content was transferred from one raise campaign to the next, while capturing elements from the previous raise. This is the case for the Stage 9 Construction Monitoring Manual; most of the content is the same as for previous manuals…

…

> It is indicated on Page 30 of the Stage 9 Construction Monitoring Manual that Mr. Steve Rice reviewed the document as Principal Engineer. As noted, much of the content of the document had been developed and used over multiple dam raise campaigns, including the portion related to dam monitoring.
>
> Given the fact that this document evolved over many years and senior review was provided by the designated Principal Engineer Mr. Steve Rice, my opinion is that Ms. Fidel possessed sufficient training, experience and expertise to sign and seal the Stage 9 Construction Monitoring Manual.

263. Against the above facts, the Panel was asked to conclude that Ms. Fidel's conduct in accepting professional responsibility for the manual was a breach of the Act and unprofessional conduct, being a marked departure from the conduct expected of an engineer in Ms. Fidel's position. At the same time, it was also alleged that Ms. Fidel's actions were a breach of various principles set out in the Code.

264. There is no question that Ms. Fidel accepted professional responsibility for the 2013 CMM when she signed and sealed it. The Panel had no hesitation in reaching that conclusion.

265. The more difficult question was whether Ms. Fidel was not qualified to accept that responsibility. This required the Panel to again interpret and assess Ms. Fidel's professional qualifications and experience. For this allegation to be established, the Panel must be satisfied that it is more likely than not that Ms. Fidel was not appropriately qualified.

266. This is an issue that the Panel viewed as being quite close to the line. That being said, given the competing opinions of the experts, together with Ms. Fidel's testimony about how the manual was reviewed by Mr. Rice (and possibly also Mr. Witte), the Panel has determined that the Association did not meet its burden, on the balance of probabilities, to establish that Ms. Fidel's conduct in executing the 2013 CMM constituted unprofessional conduct. As such, the Panel has concluded that the allegations in paragraph #2 in the Notice of Inquiry must be dismissed, along with the corresponding allegations in paragraphs #7-9 of the Notice of Inquiry that seek to address the same conduct as a potential breach of the Code.

### c) Notice of Inquiry - paragraph #3

267. The third allegation against Ms. Fidel arose from to the fact that she affixed her seal to the 2013 CMM and the Stage 9 design drawings. Specifically, the Notice of Inquiry stated:

> You demonstrated **unprofessional conduct** in or around March and April 2013 by affixing your seal to the Stage 9 2013 Construction Monitoring Manual and the Stage 9 design drawings, in circumstances where the Stage 9 design of the TSF embankments **was not prepared by you or under your direct supervision**, and in circumstances where another engineer was most directly responsible for preparing the Stage 9 design. [emphasis added]

268. The issue in relation to this allegation is whether a professional engineer is permitted to take responsibility for a design that he or she did not prepare and which was also not prepared under his or her direct supervision.

269. In this matter, when the Stage 9 design package was prepared by AMEC in 2012, Ms. Fidel was involved in the Mt. Polley project under Mr. Martin's guidance. When the design documents were later signed and sealed by Ms. Fidel, she had assumed the roles of Project Manager and EOR.

270. Section 20(9) of the Act includes very specific language with respect to the sealing of documents:

> A member or licensee receiving a seal or stamp under this section must use it, with signature and date, to seal or stamp estimates, specifications, reports, documents, plans or things that have been prepared and delivered by the member or licensee in the member's or licensee's professional capacity or that have been prepared and delivered under the member's or licensee's direct supervision.

271. The Association has also published Quality Management Guidelines (the "Guidelines") that address the appropriate use of an engineer's seal and provide specific requirements in order for documents to sealed by a professional, as follows:

> The Act requires that APEGBC professionals must seal all documents that they prepare and deliver, in their professional capacity or were prepared under their direct supervision. Conversely, they must only seal and deliver documents for which they are willing to accept professional responsibility. Failure to seal a document that is required to be sealed and that an APEGBC professional has prepared and delivered is a breach of the Act.

272. As further set out in paragraph 3.1.3 of the Guidelines, when a professional seals, signs and dates a document, he or she is confirming that the engineering or geoscience work was prepared by the professional in his or her professional capacity, or under his or her direct supervision.

273. Finally, it is also worth noting that paragraph 3.4.1 of the Guidelines sets out requirements quite similar to those in section 20(9) of the Act.

274. In this matter, Ms. Fidel was involved in the design process, as she assisted with the stability analysis and did some work relating to the design after Mr. Martin departed AMEC, but overall responsibility for this work still fell to Mr. Martin.

275. Based on a review of the obligations set out in the Act and Guidelines, the Panel is of the view that mere involvement in a project is not sufficient for an engineer to seal design documents unless that engineer is also in a position to take responsibility for all aspects of the design and the design concept.

276. There are some limited exceptions to the basic rule that are addressed in section 3.5.1 of the Guidelines – if an engineer is going to seal documents prepared by another engineer, the second engineer must "perform a review at a level comparable to that required to prepare the original document" (para. 3.5.1.3), which is said to "include a review of all key engineering or geoscience issues before sealing the document" (para. 3.5.1.6).

277. In this instance, Ms. Fidel did not conduct her own review of all of the design elements to the degree required by the Guidelines. During the course of cross-examination, Ms. Fidel acknowledged a number of important aspects of the design that she had inherited from Mr. Martin and which had been completed prior to his departure to BGC (as examples, the seepage monitoring, the change to centreline construction, the parameters used for the stability analysis and the slope of the embankments).

278. A careful review of Ms. Fidel's evidence with respect to these matters and others revealed that she did not independently turn her mind to the appropriateness of many of the significant components of the TSF design, particularly the use of the centreline construction approach, as well as the amount of the slope used in embankments.

279. The Panel has concluded that the engineer primarily responsible was Mr. Martin, who must be said to have had overall technical direction for the Stage 9 design. In the result, as Ms. Fidel did not prepare the Stage 9 design herself, or directly supervise its preparation, she was professionally required to undertake a review of the design to a level comparable to that which was required to prepare the design initially.

280. The evidence did not show Ms. Fidel undertaking that level of review and, in the result, she should not have signed and sealed the Stage 9 design drawings or the 2013 CMM, which enclosed the Stage 9 design package.

281. The Panel has some sympathy for the position that Ms. Fidel found herself in at the time. Both of the experts agreed that Ms. Fidel had the necessary training and experience to undertake the engineering work, provided that she received appropriate guidance from a senior engineer. Further, prior to sealing these documents, as noted above, Ms. Fidel had

been involved in the design process, so this was not a situation where an engineer signed and sealed documentation that she had no prior involvement with.

282. The Panel also noted that there appeared to be some debate internally within AMEC as to which firm, AMEC or BGC, should be signing off on certain of the key documents. This was again a result of the departure of the key AMEC employees. Although there do not appear to have been discussions between the firms about signing and sealing the Stage 9 design package, there were emails about which engineer would sign the 2012 As-Built report. When that issue arose, in March 2013, Mr. Rice was very clear with Ms. Fidel that, because the 2012 As-Built report was an AMEC document, it was required to be signed by an AMEC engineer. No doubt similar views were at play when it came to signing and sealing the design documents.

283. The Panel also viewed it as being appropriate to emphasize with respect to this allegation that there were no issues raised by the Association at the hearing about problems with these documents. As a result, this appears to be a breach of Ms. Fidel's professional obligations without any resulting harm.

284. All of that being said, even though Ms. Fidel had been involved in the aspects of the project and despite what may have been some internal pressures within AMEC to retain the engineering work within the firm, the Panel has concluded that the key steps in the design process, starting with concepts focussing on the types of construction (upstream versus centreline), the assumed seepage rates and the design criteria for the raise were important issues that required an annual re-evaluation of any number of important design and safety factors, as described by Dr. Robertson during his evidence.

285. At that time, there was guidance available to Ms. Fidel in both the Act and the Guidelines that should have alerted her to the fact that it was not appropriate for her to sign and seal the 2013 CMM and the Stage 9 design drawings without undertaking her own independent and thorough review. In sealing these documents as she did, the Panel has concluded that Ms. Fidel breached the Act, the Guidelines and Principle 3 of the Code (as alleged in paragraphs #9-10 of the Notice of Inquiry). It is the Panel's conclusion that, in light of the importance of these Guidelines, Ms. Fidel's actions must be regarded as a marked departure from the conduct reasonably expected of a professional and therefore unprofessional misconduct.

286. The Panel has concluded that the Association has proven that Ms. Fidel committed unprofessional conduct as alleged in paragraph #3 of the Notice of Inquiry. In light of this conclusion, the Panel has not made separate findings in relation to paragraphs #9-10 of the Notice of Inquiry.

### d) Notice of Inquiry - paragraph #4

*i. Overview*

287. Paragraph #4 of the Notice of Inquiry raised a series of allegations that related, in broad terms, to insufficient observation and monitoring of the TSF embankments during the course of Ms. Fidel's tenure as the EOR and Project Manager.

288. Each of these allegations emphasized the fact that the TSF embankments had been built to a slope of 1.3:1, which by all accounts was unusually steep for a rockfill tailings embankment constructed on a soil foundation. As Dr. Robertson stated in his report, "I am not aware of any prior compacted rockfill tailings dam of a height comparable to that at Mount Polley with a downstream slope constructed with a slope angle of 1.3H:1V on a soil or rock foundation".

289. The Panel accepted Dr. Robertson's evidence that, as slope steepness and height increases for the embankments, so does the risk of deformation and the potential for cracking of the TSF core. Further, the Panel also accepted that increases in both embankment height and slope would have been changes of condition that required appropriate monitoring, construction and operation.

290. At Mount Polley, the 1.3:1 slope was first used during the course of the Stage 7 construction.

291. When the observational engineering approach is being used, the designer of the embankment must continue to be fully aware of conditions of construction as well as loading on the structure. Care must be taken to observe and measure the responses of the embankment to changing conditions in order to be able to respond and adopt in a timely manner, modify the design appropriately and/or implement any required remedial measures.

292. The Panel will deal with each of the sub-allegations in paragraph #4 of the Notice of Inquiry, in turn. It must be noted that each of these matters was alleged in the Notice of Inquiry to be *either* unprofessional conduct or negligence.

293. Before providing its analysis, the Panel will first set out the starting portion of paragraph #4 of the Notice of Inquiry, which stated:

> You demonstrated **unprofessional conduct or negligence** when, having accepted the responsibility of EOR and Project Manager in connection with the Stage 9 raise of the TSF embankments, **you failed to ensure that there was sufficient observation and monitoring of the TSF embankments while you were EOR, or to warn MPMC of the need for better observation and monitoring**, particularly in view of the fact that the embankments were built

> to a slope of 1.3H:1V which was unusually steep for rockfill tailings embankments on soil foundations built by the centreline method with a relatively narrow crest, including by: [see particulars addressed individually below] [emphasis added]

*ii. Ms. Fidel's submission about the use of the word "ensure" in the Notice of Inquiry*

294. In her closing submissions, Ms. Fidel took the position that many of the allegations in paragraph #4 of the Notice of Inquiry must fail solely because the Association framed these allegations as failures on the part of Ms. Fidel to "ensure" certain events that are of course beyond her control. Ms. Fidel equated "ensuring", as that word was used in the Notice of Inquiry, to the concept of "guaranteeing" certain events, or making certain that a particular event is to occur. As an engineer cannot reasonably provide any type of guarantee, Ms. Fidel submitted that the Panel could only conclude that the Association had failed to meet its burden with respect to these allegations.

295. The Panel does not accept Ms. Fidel's submission on this point. Respectfully, the Panel is of the view that the interpretation urged by Ms. Fidel is overly technical and not in keeping with a common sense reading of the allegations in the Notice of Inquiry.

296. The use of the word "ensure" in paragraph #4 of the Notice of Inquiry does not, in the Panel's view, allege that Ms. Fidel was to be "guaranteeing" anything. In fact, these individual allegations against Ms. Fidel make sense even if the word "ensure" is removed from the Notice of Inquiry. What is set out in paragraph #4 of the Notice of Inquiry are a series of allegations that Ms. Fidel failed to sufficiently observe and monitor the TSF and the inclusion of the word "ensure" in the allegations does not impact what is being alleged by the Association.

*iii. 4. a. – failing to visit the site more than once while Project Manager and EOR*

297. There is no disagreement between the parties with respect to how many times Ms. Fidel visited the Mt. Polley site while she was EOR and Project Manager. She attended on one occasion, for two consecutive days, in August 2013.

298. Mr. Rice never attended the site.

299. Both of the experts agreed that Ms. Fidel should have visited the TSF more frequently than she did. As Dr. Robertson stated:

> My opinion is that the EoR/Project Manager should have attended the site to view the conditions of the TSF as well as the embankment construction and

> embankment performance several times per year. A visit at the start of construction to observe TSF conditions as well as initial stripping and preparation of the embankment for material placement, borrow sources, discuss the construction requirements with the construction team, evaluate the personnel for competence for construction and quality control and quality assurance for the seasons construction. A visit during the period of construction to observe the main activities of construction, materials used, quality control and assurance, the lines and grades of placement and the instrumentation response to construction. A visit on completion of construction to view the TSF conditions and as a final inspection and review of the completed construction, including quality control and assurance and instrumentation and surveillance records for responses to construction, to verify that construction and performance has been in accordance with the design intent and performance expectations. Lastly there should be a visit during late winter to early spring to observe the conditions of tailings and water management under winter conditions and prior to spring melt. Such a winter visit would have made apparent the poor seepage monitoring conditions and should have triggered urgent requests for remediation to ensure that monitoring can be done. The results of these observations would be included in the As-Built Report.

300. In his report, Mr. Haynes similarly agreed that a minimum frequency of visits would be at least one attendance for the purposes of performing an annual dam safety inspection, plus one to two further visits each year if construction was occurring.

301. Ms. Fidel was the EOR for a period of approximately 10 months, between April 2013 and February 2014. The AMEC scope of work and budget estimate for the 2013 engineering services was quite revealing in terms of what was contemplated by the firm in the way of site visits during the 2013 season. The budget contemplated Ms. Fidel attending the site only once during construction activities. If necessary, the budget allowed for a site visit to be conducted by Mr. Rice.

302. The infrequency of 2013 site visits was clearly a continuation of the AMEC practice that existed when Mr. Martin was the EOR. In the year prior, the budget for AMEC's 2012 work also included a singular site visit during construction activities by Mr. Martin, as well as by Mr. Dufault. It would appear to the Panel that the number of site visits must have been influenced by budgetary restraints and client directions.

303. When the Panel reviewed the 2013 budget, it noted that 40 hours were provided for each of Ms. Fidel and Mr. Rice to travel to and attend the Mt. Polley site. In the result, particularly given Mr. Rice's much higher hourly rate, there remained ample room in the budget for Ms. Fidel to undertake further visits to the site in addition to her August attendance, given that Mr. Rice did not attend himself. The Panel agreed with the Association that the TSF, in light of its engineering complexity, required much more frequent on-site visits by a senior AMEC engineer.

304. It goes without saying that the number of site visits to be undertaken with respect to a particular tailings pond project will depend on a number of factors, including the degree of construction and any other activities in the tailing facility; the frequency of visits by other suitably trained engineers working on the project; and the nature and complexity of the dam itself.

305. As both experts testified, there may be circumstances where perhaps one annual visit by an engineer or project manager is acceptable. However, in this matter, particularly in light of the complexity of the dam at Mt. Polley and its ever-narrowing approach to its ultimate height, the Panel agreed with the Association that Ms. Fidel did not meet the standard expected in these circumstances in her capacity as either the Project Manager or EOR.

306. The Panel has concluded that this conduct by Ms. Fidel is more than mere negligence and rises to the level of unprofessional conduct, as it must be considered to be a marked departure from the standards expected of a competent professional. It was not sufficient given the circumstances of the TSF for Ms. Fidel to only monitor data and reports about the TSF from a distance.

307. Through its decision on this issue, the Panel does not intend to establish a specific number of times that a Project Manager or EOR must attend a site in relation to a project of this nature. In the circumstances of this matter, the Panel is of the view that it is enough to conclude that Ms. Fidel's singular visit in August 2013 was not sufficient to meet her professional obligations.

308. As the Panel has concluded that this conduct amounts to unprofessional conduct for the reasons addressed above, we will not also make findings as to whether the Association has proven negligence in relation to this allegation.

*iv. 4. b. – failing to ensure that appropriately experienced engineers visited the site to observe the TSF embankments*

309. The Association submitted that there were two elements to this allegation in the Notice of Inquiry. First, it alleged that Ms. Fidel failed to ensure that appropriately experienced engineers visited the site to observe the TSF. Second, the Association alleged that the EITs and MPMC students who were on-site were not tasked by Ms. Fidel with the appropriate and necessary observational responsibilities. In the result, the Association argued that the presence of students and EITs on-site was no answer to the suggestion that Ms. Fidel failed in the manner alleged in paragraph #4. b. of the Notice of Inquiry.

310. Again, the Association introduced expert evidence from Dr. Robertson about the standards with respect to how frequently a qualified engineer should be on-site to assess

key performance metrics of a tailings facility during a construction season. It was Dr. Robertson's opinion that an appropriately experienced engineer should make at least monthly visits during the construction season and quarterly visits at other times, subject to special circumstances that might have mandated more frequent attendance:

> *(b) How often, if at all, should the reasonably prudent EoR/Project Manager ensure that an appropriately experienced geotechnical engineer with knowledge of the design of the embankments visit the site, including to observe the TSF embankments for changed loading conditions, for potential indicators of safety or stability issues including bulging, cracking, sloughing, seepage, shrinking or absent beaches, impoundment water levels including for risk of water overtopping, and generally to ensure that the embankments are functioning as intended and in a safe condition?*
>
> It is my opinion that during the summer months when there is active construction and sand cell placement that it would be prudent for the EoR to ensure that there are at least monthly inspections of the TSF by an appropriately experienced geotechnical engineer as described above to perform the inspections listed. The visual observations of bulging, cracking, sloughing, seepage, narrow or absent beaches are not always captured by the instrumentation or inspections by personnel not trained and experienced in knowing what to look for. This frequency can be reduced to quarterly in winter months when activities are restricted to tailings placement and water management. Additional visits may be appropriate when activities in the TSF or observations by tailings operating and surveillance staff note operating conditions or embankment responses not anticipated in the design or performance of the TSF.

311. Somewhat similarly, Mr. Haynes opined that a suitably experienced person should inspect the facility at least monthly for potential indicators of safety or stability issues, including bulging and cracking. Mr. Haynes was of the view that an appropriately experienced person *could* be a geotechnical engineer, but he said there could also be situations where such inspections were performed by staff who were not geotechnical engineers, provided that these individuals had received appropriate training and had demonstrated an understanding of overall dam safety.

312. The Panel has concluded that the essence of the evidence from both experts is again quite similar. For an engineering project of such complexity and size as the TSF, it makes sense that the person undertaking the inspections must be able to understand not only the design basis of the structure, but must also be able to identify if aspects of the structure on-site are functioning differently from that intended in the design concept. This is more so when the observational approach is being used by the engineer. Perhaps an appropriately trained EIT could fulfill this purpose if the person had a good familiarity with the site and understood precisely what the senior engineer was expecting, but that was not the procedure utilized at the Mt. Polley TSF.

313. As noted above, the observation and monitoring of the TSF was left primarily to MPMC's undergraduate students, with AMEC EITs visiting at regular monthly intervals and providing other oversight remotely. None of the EITs in this instance appeared to the Panel to have the necessary training or experience to provide proper monitoring of the embankments, as contemplated by Mr. Haynes.

314. By way of contrast, the Panel also noted that that when Knight Piesold was involved in the Mt. Polley project, that firm did not use MPMC students as monitors. At some point, after AMEC assumed responsibility for the TSF, the monitoring practices changed and AMEC allowed its client to have a say in the monitoring process, which one would again speculate might have been related to trying to reduce costs. For her 10 month period as EOR, Ms. Fidel then inherited the student monitoring structure from Mr. Martin and those involved in the project before her. There was no evidence at the hearing about Ms. Fidel or any of her colleagues at AMEC, including Mr. Rice, questioning the role played by the MPMC students.

315. There was also no evidence introduced at the hearing with respect to specific issues emerging at the TSF in 2013 terms of bulging, cracking, sloughing, seepage, shrinking or absent beaches, or otherwise, but the Panel accepts that the absence of such features does not take away from the fact that there could have been subtle indicators of such events that might have been recognized had an engineer with an appropriate level of experience been on-site. There is no question that many important observations can be identified when an experienced engineer walks a site. In this matter, ongoing and regular monitoring of the tailings dam was left to AMEC EITs and MPMC students. The EITs, who both testified at the hearing, were not tasked with the type of on-site monitoring that the experts agreed was required.

316. In light of the above, the Panel has concluded that the Association has proven the allegations in paragraph #4. b. of the Notice of Inquiry on a balance of probabilities. During her time as the EOR and Project Manager on the Mt. Polley project, the evidence revealed that Ms. Fidel did not take appropriate steps to ensure that the expected standards of observation were taking place with respect to the TSF. Given that there was no direct evidence linking Ms. Fidel's failures in this regard to the eventual breach of the TSF, the Panel contemplated whether this failing should be regarded as an occasion of negligence on the part of Ms. Fidel as opposed to unprofessional conduct. Ultimately, given the connections between the issues in paragraphs #4. a. and #4. b. of the Notice of Inquiry, as well as the overall engineering complexity of the TSF and the need to ensure regular observations of the embankments, the Panel has concluded that this issue is quite serious and is better viewed as a marked departure from the conduct expected of a professional and therefore unprofessional conduct.

*v. 4. c. – obtaining updates on the water balance*

317. This allegation asserted that Ms. Fidel failed to ensure that she was receiving "regular updates" on the volume and elevation of the water in the TSF impoundment. Dr. Robertson was asked to provide his opinion on the issue and his view was succinct, as follows:

> The pond water volume and elevation are important with regard to the hydraulic loading on the embankment as well as the potential for overtopping. A prudent EoR would require that they are informed of such levels regularly to assess the potential for overtopping of the embankment.

318. Mr. Haynes agreed, in a general sense, with Dr. Robertson about the need to have regular updates on water elevations. As Mr. Haynes wrote: "An EoR for a tailings facility would typically request to receive updates on water elevations in the impoundment, and the status of beaches if beaches were required as part of the design."

319. Based on the evidence adduced at the hearing, the Panel accepts that information about the elevation and volume of water, as well as the status of the beaches, would have been critical information for the EOR or Project Manager to have in terms of assessing and ensuring that the TSF was being operated in a safe condition and that its design was appropriate.

320. No evidence was provided by the experts as to precisely *how frequently* an EOR or Project Manager should demand "regular" updates on these matters from a client.

321. Due to the manner in which MPMC had structured its affairs with its engineers, MPMC was responsible for measuring and producing the water balance calculations. Even prior to Ms. Fidel assuming the Project Manager and EOR roles, AMEC had never been responsible for measuring the pond water levels within the TSF.

322. As outlined in the OMS Manual, MPMC was expected to: inspect the tailings beach daily; measure and monitor the pond water levels weekly (increasing to daily during spring freshet); determine the volume of the supernatant ponds annually; and inspect flows into the drain monitoring sumps monthly. These were tasks to be undertaken by the client and there was no set schedule for the provision of the results to AMEC.

323. There was some evidence introduced at the hearing that showed that Ms. Fidel requested water balance information from MPMC at various points during her tenure as EOR. Ms. Fidel testified that she asked for updates on the pond elevation a number of times during 2013 from Mr. Moger of MPMC. The documents revealed that Ms. Fidel also emailed the monitors on-site at Mt. Polley in late July 2013 and requested updated elevations for the pond.

324. The Association accepted that some efforts were made by Ms. Fidel, but took the position that her attempts were minimal, particularly when compared to the frequency of the measurements actually being undertaken by MPMC. As the Association put it, this important information was there to be had, but Ms. Fidel simply did not ask for it. Of particular note, the Association highlighted how Ms. Fidel obtained no data on the pond elevation for the vast majority of the spring freshet, which is a period of critical importance in terms of monitoring the TSF.

325. While the 2013 construction season progressed, behind the scenes and apparently without the knowledge of anyone at AMEC, MPMC was providing significant data on water volumes to BGC. In fact, the evidence appeared to show that MPMC was sharing water balance information with BGC at regular intervals. For reasons that were not explained at the hearing, MPMC apparently did not see a need to keep AMEC and Ms. Fidel as current as it kept BGC.

326. The Panel accepts that an understanding of the water volume in the TSF impoundment would have been an important issue to understand and monitor, both in terms of maintaining the stability of the TSF embankments, but also at a broader level given that the potential consequences of a dam failure would be very serious. Similarly, the Panel also accepts that the maintenance of an appropriate freeboard level in the tailings pond would be important, as such data related directly to the potential for an overtopping of the dam. Ensuring that a minimum freeboard was being maintained would have required regular and frequent knowledge of the water elevation.

327. In the 2013 As-Built and Annual Review Report, which was signed and sealed by Ms. Fidel, AMEC acknowledged directly that it had not reviewed the water balance of the TSF. It was noted in the report that the water balance had been maintained by MPMC.

328. In or around the same period of time, in 2013-2014, BGC issued a number of its own memorandums to MPMC that touched to some degree on the water balance. The first was prepared on June 18, 2013. At that time, BGC was working to develop a predictive water balance that was intended to assist in identifying the volume of TSF water – an initial step towards the ultimate height dam design for the upcoming season.

329. On July 25, 2013, BGC issued a further memorandum to MPMC indicating that the firm had alerted the Ministry of Environment to water challenges that were being experienced on-site and had also let the Ministry know about the steps that were being taken to develop a predictive water balance model.

330. Later that year, on November 27, 2013, BGC issued a further memorandum to MPMC that made a series of recommendations about aspects of the water balance.

331. The fact that MPMC was providing information of this type to BGC is not a complete answer when considering Ms. Fidel's professional obligations. The Association emphasized that, even though BGC was assessing the water management issues in 2013, the Panel should be careful not to confuse the role of BGC with the role of AMEC. BGC was looking at the implications of the water issues in terms of its task of designing the dam to its ultimate height in the next construction season. AMEC, on the other hand, was responsible for the Stage 9 design and construction and Ms. Fidel, who was the EOR and Project Manager in 2013, was not receiving adequate updates on the water balance. The fact that BGC may have been dealing with aspects of the water balance did not alleviate the need for Ms. Fidel to ensure that she was meeting her own professional obligations.

332. The Panel accepts the Association's submissions on these issues. That being said, when analyzing this allegation in the Notice of Inquiry in terms of Ms. Fidel's conduct and actions, the Panel has concluded that the relationship between MPMC and BGC must again be taken into consideration. Similar to how the EOR role was approached by MPMC, the evidence showed this to be a situation where MPMC and its management considered BGC to be the appropriate firm to address water balance issues and broader matters relating to the design of the dam, even though AMEC was still the responsible firm for Stage 9. Despite the fact that Mr. Martin was no longer at AMEC, it appeared that MPMC still viewed him to be the engineer with overall responsibility for the TSF and dam. There was still a contract in place between MPMC and AMEC, but the client's primary line of communication at that time was through the former AMEC engineer, now at BGC.

333. Against this backdrop, the Panel was asked by the Association to conclude that Ms. Fidel's efforts during her tenure as EOR were not adequate with respect to seeking updates from MPMC about the volume and elevation of the water in the TSF or the status of the TSF beaches. Again, these were measurements that were not performed by AMEC personnel, so the issue related solely to Ms. Fidel's perceived lack of efforts in seeking out the information from MPMC.

334. There was no evidence at the hearing about the impact, if any, of Ms. Fidel failing to obtain this data more frequently. There was an overtopping event that occurred in the TSF, but this happened after Ms. Fidel had taken her leave in 2014, so it did not occur while she was the EOR or Project Manager.

335. Again, both experts agreed that it is necessary for an EOR to obtain regular data about pond elevation and volumes. There was no evidence called at the hearing about a set industry standard as to the frequency by which such data should be reviewed and assessed. There is no question that there were gaps between the times when Ms. Fidel requested updated data from MPMC, but the evidence did show Ms. Fidel making some efforts in this regard in January, May, July and October 2013, when she asked for information about

aspects of the pond elevation, embankment elevation and freeboard measurements. In addition to these documented requests for information, Ms. Fidel also testified about asking Mr. Moger for updated water balance and freeboard data a number of times during 2013. During that same period, MPMC and BGC were undertaking fairly significant work and analysis of the water balance and water management problems within the TSF.

336. The Panel accepts that Ms. Fidel would have received further information if she had made more requests of MPMC. More could most certainly have been done by Ms. Fidel to obtain and review such data. The Panel does not view Ms. Fidel's apparent lack of professional curiosity about these matters without criticism. Ms. Fidel should have been more proactive on these matters. That being said, the issue in terms of this allegation in this proceeding is whether or not Ms. Fidel breached the standards expected of her and was negligent under the Act, or whether her infrequent requests for updates on the volume and elevation of the water in the TSF should be regarded as a marked departure from the conduct expected of a similarly positioned engineer.

337. In light of the overall evidence in relation to this allegation, although the Panel does not regard Ms. Fidel's efforts to obtain this data as being an example of exemplary engineering work, the Panel has concluded that the efforts made by Ms. Fidel, albeit infrequent, were just enough in the unique circumstances that existed in this case that it cannot reasonably be said that her conduct was either negligent or unprofessional conduct.

338. As such, the Panel has concluded that the Association has not met its burden with respect to this allegation and it is dismissed.

*vi. 4.d. – failing to ensure the implications, in terms of stability and consequences, of the matters referred to in 4. c. were assessed*

339. The allegation in paragraph #4. d. of the Notice of Inquiry is inextricably linked to paragraph #4. c. In essence, the Association alleged that Ms. Fidel was not in a position to ensure or assess the implications of any changes with respect to the water balance and/or status of the beaches within the TSF because she was not receiving regular updates with respect to such matters.

340. In a general sense, overtopping of a dam is typically caused by one of two reasons – increases in environmental water entering the storage facility, or increases in overall mine production. If water balance measurements reveal that the capacity of the tailings dam may be exceeded, the mine owner will be required to reduce capacity.

341. Ms. Fidel did not appear to have been told about this, but MPMC knew there was a water balance problem within the TSF that season. MPMC had BGC reviewing and considering such matters.

342. There was some evidence of stability analysis being undertaken during Ms. Fidel's 10 month tenure as the EOR. The Stage 9 tailings storage facility construction drawings and stability analyses for the embankment raise to its final elevation showed that AMEC considered the water levels as part of its stability analysis. That stability analysis was conducted assuming two scenarios – first, with the tailings pond being drained; and second, undrained and full. Ms. Fidel testified that the undrained scenario was modelled to simulate the worst case outcome in overall embankment stability.

343. In performing this stability analysis, Ms. Fidel and AMEC assessed the potential implications of changes in the water balance and volume within the TSF. Perhaps if Ms. Fidel had more experience at that time, she would have more actively requested and demanded updated water balance and water volume information from MPMC. That being said, MPMC was a sophisticated client and the Panel has concluded that Ms. Fidel appeared to have assumed that she could rely on MPMC to provide updated information if there were any changes or concerns.

344. Although the steps taken with respect to assessing the water balance and water volume may not have been ideal professional practices, in light of the Panel's conclusions with respect to paragraph #4. c. of the Notice of Inquiry, the Panel has also concluded that the corresponding allegation in paragraph #4. d. is also not an instance of negligence or unprofessional conduct on the part of Ms. Fidel. In the result, this allegation is also dismissed.

*vii. 4. f. – failing to advise MPMC that undergraduate students should not be used as inspectors*

345. MPMC had structured its affairs with AMEC so that MPMC's summer engineering students, primarily first and second year undergraduates, were to be used at the Mt. Polley project as field inspectors with responsibility for construction quality control. This was effectively a full-time construction monitoring position for these students during the course of the summer.

346. There was no evidence at the hearing that Ms. Fidel was specifically consulted with respect to the decision to use students for such monitoring. It was an arrangement that Ms. Fidel inherited from prior engineers at AMEC, including Mr. Martin. That being said, in the 2013 CMM, which Ms. Fidel signed and sealed, she accepted the state of affairs that existed at Mt. Polley with respect to the monitoring of the TSF.

347. The Panel has accepted the Association's basic premise that the practice used to monitor the TSF was unsatisfactory. Undergraduate engineering students, who knew very

little about the intricacies of geotechnical engineering, tailings ponds or construction monitoring, were responsible on the ground to undertake regular monitoring of a large, complex engineered structure. Although the MPMC students received training from AMEC (Ms. Fidel personally with respect to certain construction seasons), the Panel has concluded that the overall practice was inappropriate in light of the potential human and environmental impact that would result from a failure of the TSF.

348. Dr. Robertson provided opinion evidence that it was inappropriate to use undergraduate students in the manner they were used at Mt. Polley. It was Dr. Robertson's opinion that it was the obligation of the EOR or Project Manager to ensure that the mine operator was aware of the risks posed by using students, as the lack experience of these monitors would not equip them to recognize when issues with the TSF became non-compliant in terms of the specifications or design.

349. The two primary AMEC EITs involved at Mt. Polley in 2013 also did not have significant relevant experience with respect to dam constuction and design. The EITs visited the site and the MPMC students on a roughly monthly basis, but the on-site students were in large part left to report to AMEC by way of email and other reports.

350. The Association highlighted certain issues that appeared to have been missed during the 2013 construction season by the on-site MPMC students, including: compaction procedures were not being followed and the zone C material was being placed on underlying rock fill lifts that had not been properly scarified; the widening of the crest that occurred during Stages 8 and 8A resulted in rock being end-dumped down the face of the downstream slope (which was not contemplated by the design); and the width of the till core of the main and perimeter embankments was less than the minimum design width of 5 metres in certain places.

351. Mr. Haynes, on the other hand, testified that he had a personal experience with students being used effectively as members of a quality assurance team, provided that the students had the appropriate training and supervision, and that solid lines of reporting were established and used as between the students and the engineering firm.

352. During the course of the 2013 construction season, Ms. Fidel provided training and direction to the on-site MPMC monitors. She also received and reviewed their daily reports. There was also evidence introduced at the hearing that showed Ms. Fidel communicating regularly with the AMEC EITs who frequently attended the site to review the construction in addition to the on-site monitors.

353. The Association took issue with Mr. Haynes' opinions concerning the use of students, noting that he did not provide any parameters about what should be considered appropriate training. Further, the Association emphasized that, with specific respect to this

matter, the students were only being supervised by AMEC EITs and the level of direct contact between the students and Ms. Fidel was, at most, occasional. For these reasons, the Association argued that the Panel should prefer the opinion evidence provided by Dr. Robertson that the overall system of student inspectors was not appropriate.

354. As noted above, the Panel does regard the monitoring system that was in place at Mt. Polley as having been adequate or appropriate. The allegation in the Notice of Inquiry against Ms. Fidel is that she failed in her professional obligations to advise MPMC that the system of using MPMC students as field inspectors was not appropriate. This was a "system", if one can call it that, which had been in place for a number of construction seasons and dam raises and pre-dated Ms. Fidel's involvement as Project Manager or EOR.

355. The Association's position was that when Ms. Fidel accepted her new roles in early 2013, she ought to have independently re-assessed the monitoring and inspection arrangements that had been in place for a number of years, most recently under the watch of Mr. Martin and Mr. Dufault.

356. With the benefit of hindsight, that may indeed have been a prudent course for a new EOR on the project to have taken. That being said, given how Ms. Fidel inherited the practice from Mr. Martin, a very experienced engineer, coupled with the absence of any resulting harm, the Panel has determined that this allegation falls far short of amounting to either negligence or unprofessional conduct on the part of Ms. Fidel.

357. Ms. Fidel inherited a system of monitoring that had been in place for many years and which had been established long before she became EOR or Project Manager. Ms. Fidel was in these positions for only one year and the Panel has concluded that the fact that she did not, during her short tenure, "advise" or "warn" MPMC that its long-established system was not appropriate is not conduct that is fairly characterized as a breach of the Act such that Ms. Fidel should be found to be negligent or have committed unprofessional conduct. In the result, this allegation is dismissed.

*viii. 4. g. – failing to request and review seepage monitoring reports*

358. The allegations in paragraph #4. g. of the Notice of Inquiry raise concerns about Ms. Fidel's lack of requests for, and failure to review, reports of seepage monitoring. These reports were said to have provided potential evidence of unsafe conditions emerging at the TSF, including piping.

359. Ms. Fidel agreed that it was an important aspect of her role in relation to the project to regularly monitor seepage flows. She acknowledged that changes in seepage flows could indicate internal erosion of the embankments or piping.

360. It was Dr. Robertson's opinion that seepage flow rates were required to be measured and reviewed by an EOR or Project Manager at least monthly, but even more frequently if large changes in seepage rates were noted. Dr. Robertson addressed this issue in some detail in his report.

361. In his response report, Mr. Haynes also agreed that it was appropriate for seepage rate issues to be reviewed on a monthly basis, as he agreed that seepage rates were potential indicators of the safety and or stability of an engineered structure.

362. In the OMS Manual, it was specifically set out that seepage flows were to be measured monthly. The evidence at the hearing revealed inadequate steps being taken by AMEC and/or Ms. Fidel to obtain seepage flow data from MPMC in 2013 and the preceding years. A graph of seepage flow measurements was included in the Stage 9 As-Built and Annual Review Report (signed and sealed by Ms. Fidel), which revealed only a singular seepage rate measurement taken during a 9-10 month period. There was no documentation introduced at the hearing showing AMEC requesting more frequent data from MPMC during the course of 2013.

363. With respect to this allegation, the Panel has concluded that the Association has readily met its burden to show that Ms. Fidel did not meet the standards expected of a competent professional in terms of requesting this important seepage data. It was necessary for Ms. Fidel, in her role as either Project Manager or EOR, to assess changes in the drain flow as they were occurring. The data were needed in real time in order to ensure that any issues that arose could be addressed and corrected. There was no question that MPMC should have, on its own, provided the data more frequently to AMEC. However, it was ultimately the responsibility of the engineer to ensure that regular, current seepage flow data were obtained and to specifically request it if it was not being provided by the client in a timely manner.

364. Unlike allegation #4. c., which addressed Ms. Fidel's requests for updates on the water balance, the Panel has determined that the allegation with respect to the seepage monitoring must be viewed in a different light given the almost complete absence of any requests for this data. When analyzing allegations that a professional has fallen short in his or her obligations, it can be a challenge for a discipline panel to draw a line if asked to delineate precisely the point to which the professional must go to meet the expected standards. With respect to the water balance issue, there was enough evidence at the hearing about some requests being made that the Panel did not believe the Association had met its burden. A different analysis applies to the seepage data though, as there were almost no attempts made by Ms. Fidel to seek this information.

365. Ms. Fidel herself conceded that she and the rest of the AMEC team could have requested and assessed the seepage data on a more frequent basis. However, Ms. Fidel equated her failure to a mere inability to meet an *ideal standard* and submitted that her lack of requests for the data did not rise to the level of unprofessional conduct. The Panel does not accept Ms. Fidel's position. Seepage data were critical in terms of assessing the status of the dam and whether it was being maintained in a safe condition. The Panel has concluded that failing to request seepage data for months on end was a failure by Ms. Fidel to meet her professional responsiblities and must be considered a marked departure from the conduct expected of a competent professional.

366. As such, the Panel has concluded that the Association has established the allegation in paragraph #4. g. of the Notice of Inquiry and, similar to the other allegations in paragraph #4 that were proven, the Panel has concluded that this is an instance of unprofessional conduct by Ms. Fidel.

*ix. Conclusions on paragraph #4*

367. As set out above, the Panel concluded that the Association proved the allegations in paragraphs #4. a., b. and g. of the Notice of Inquiry. The allegations in paragraphs #4. c., d. and f. were dismissed.

368. Having reached these conclusions, the Panel also considered whether the appropriate course was to then review and assess all of the allegations in paragraph #4 of the Notice of Inquiry on a global basis. That is, given the divided success on the particularized allegations, should the Panel make an overarching conclusion about whether the Association had proven the broader failure to monitor the TSF alleged at the outset of paragraph #4 of the Notice of Inquiry?

369. Ultimately, the Panel determined that the better course was to review each of the individual allegations on their own, in the manner outlined above, treating each subparagraph as its own stand-alone allegation against Ms. Fidel. This was the approach used by parties in their submissions and it resulted in the Panel having concluded that the Association established three of the six allegations in paragraph #4 of the Notice of Inquiry.

**e) <u>Notice of Inquiry - paragraph #5</u>**

370. The fifth allegation in the Notice of Inquiry alleged that Ms. Fidel committed unprofessional conduct or negligence when she signed and sealed the 2012 Stage 8/8A As-Built Report:

> You demonstrated **<u>unprofessional conduct or negligence</u>** when you signed and sealed the Stage 8/8A As-Built Report in which you made the statement

> that the raise of the embankment was **"judged to have been carried out in conformity with design intent"**, when in fact the Stage 8/8A raise was constructed at a steeper slope and with a wider crest than was designed, something which, as EOR, you should have known. [emphasis added]

371. Of note, the complete phrase extracted by the Association from the Stage 8/8A As-Built Report was as follows:

> In general, the 2012 Stage 8/8A raise of the embankment is judged to have been carried out in accordance with design intent. This conclusion is based on AMEC's periodic observations of the construction, review of reports prepared by MPMC when AMEC was not on site, and the review of QA/QC records.

372. In its closing submissions, the Association noted a number of aspects of the Stage 8/8A As-Built drawings that were different from the TSF design, including:

a. the raise was built at a steeper slope than the design called for;

b. the crest that was built was far wider than what was designed, with the crest extending downstream of the previous downstream slope of the dam by way of end-dumping rock down the face; and

c. construction failed to maintain a small berm at the toe which was present in the design drawings, which steepens the effective slope of the embankment.

373. The Association tendered expert evidence from Dr. Robertson that expanded on these differences. As Dr. Robertson stated in his report:

> The 2012 As-Built Report indicates that the 2012 Stage 8/8A raise of the embankment is judged to have been carried out in conformance with the design intent. It would have been appropriate that a construction and loading condition change of this magnitude be mentioned in the As-Built Report and that a stability analyses would have been performed for the changed condition, or at least a memo to file written to indicate that the change had been observed during construction monitoring and its effect on stability assessed and approved prior to issuing an approval notification.
>
> The change in embankment section and loads inducing shear in the downstream slope and foundation are substantial and should have [been] described in the as-built report. The placement of Zone C on the downstream slope to widen the crest should have been done using a method of construction that would ensure adequate compaction. The method of placement of Zone C and its compaction is not described. There should also have been mention of the need to check stability and other potential effects of the revised embankment section.

374. According to the Association, these matters were not mere changes to the design of the raise, but were deviations from the original design that occurred during the course of the construction – changes that were not contemplated by any design.

375. To further illustrate these changes, the Panel was taken to both the Stage8/8A design and as-built drawings during the course of the evidence. As Dr. Robertson explained, the slope design for the raise was at 2:1 and the berm present in the design drawing would have made the effective slope flatter. In addition, Dr. Robertson took the Panel through the design width of the Zone C material at the crest. At that point, the raise was designed to be recessed from the pre-existing downstream slope.

376. Dr. Robertson then reviewed and commented on the Stage 8A design, which introduced the centreline construction method. That design also contemplated that the raise of the embankments would be at a 2:1 slope. Again, Dr. Robertson highlighted the design of the width of Zone C at the crest.

377. Further, Dr. Robertson reviewed the As-Built report for Stage 8/8A. He showed how the raise was in fact built to a 1.3:1 slope rather than the design of 2:1 and he showed the Panel how the Zone C width had increased significantly. He noted two other significant changes in regard to Zone C: the raise was no longer recessed from the pre-existing downstream slope; and the crest had been so enlarged that the entire downstream slope had been extended in the downstream direction.

378. In its As-Built report, AMEC referred to two items that were out of compliance with the original design intent, but which were said not to pose any immediate concerns to embankment stability or overall function – the Zone F and Zone T elevations; and the width of Zone S. These two issues were not the more significant items that Dr. Robertson had identified as needing to be addressed in the report.

379. Earlier in the As-Built report, AMEC also noted that the Stage 8A raise included a modification from the initial design that resulted in a temporary 1.3:1 slope:

> Both Stage 8 and 8A raises maintain a downstream slope of 1.3H:1V, which is temporary as the final dam downstream slope will be flattened as constructed. The NAG rockfill (Zone C) in the dam shell was placed and compacted by dozer and haul truck traffic. Transition material (Zone T) was obtained either on site crushing of run-of-mine waste rock or by selectively sorting run of-mine waste rock. Sand and gravel filter material (Zone F) was processed by on site crushing of run-of-mine waste rock. Till core fill (Zone S) was obtained from a locally borrowed, low permeability glacial till. Total tailings (Zone U) are deposited into the impoundment and, in combination with run-of-mine waste rock placement, provide upstream support for the embankments, progressively raised in a modified centreline (up to El. 963.5 m) to centreline configuration (above El.963.5 m).

380. During the course of cross-examination, Ms. Fidel accepted that there were changes between the design and the as-built conditions that were identified by Dr. Robertson as part of his evidence at the hearing. In her closing submission, Ms. Fidel submitted that even with these changes, the underlying circumstances in relation to the preparation of the As-Built report also needed to be considered by the Panel when assessing this allegation and whether the as-built conditions conformed to the design intent.

381. Ms. Fidel was not a signatory to the Stage 8 or 8A design drawings. The Stage 8 design drawings were dated March 30, 2012 and were prepared by Mr. Martin, Mr. Dufault and Mr. Ostritchenko and were reviewed by Dr. Davies. The Stage 8A design drawings and stability analysis were dated September 10, 2012 and were signed and sealed by Mr. Ostritchenko and Mr. Dufault and were reviewed by Mr. Martin.

382. After Mr. Martin left the firm, there was some debate or question between AMEC and BGC as to which firm and engineer would ultimately sign and seal the 2012 As-Builts. Even though they had left AMEC, Messrs. Martin and Dufault nevertheless reviewed and provided input on the as-builts while at BGC, given the key roles they had played prior to leaving AMEC.

383. There were a number of emails between the firms on the issue. As one example, on February 1, 2013, Mr. Dufault emailed Mr. Ostritchenko and asked him to make corrections to the Stage 8/8A, 2012 As-Built Report and also suggested that it be sent to Mr. Martin for a final read-through. This email was then forwarded to Ms. Fidel by Mr. Dufault on February 5, 2013. Mr. Ostritchenko also forwarded Mr. Dufault's request to Mr. Rice, seeking guidance and assistance on how to address any edits. Mr. Rice advised that the suggested edits could be made, but was very clear that there was no need to send it back to Mr. Martin for a final review.

384. These emails again reveal aspects of the issues resulting from Mr. Martin's departure. The emails also show the approach that Mr. Rice had in terms of the working relationship between the two engineering firms. Perhaps most importantly though in terms of this allegation in the Notice of Inquiry, implicit in this exchange is that both Mr. Martin and Mr. Dufault had reviewed the As-Built report and appeared to have been content with what it stated.

385. Mr. Martin then emailed Ms. Fidel directly about the 2012 As-Built Report on March 14, 2013, which prompted Ms. Fidel to email Mr. Rice to let him know that Mr. Martin was asking about its status. Mr. Rice responded to Ms. Fidel stating that he had done a preliminary review of the report and had made some minor edits and that he would like to see the drawings and do one more read through the report. With respect to Mr. Martin contacting Ms. Fidel directly, Mr. Rice advised that MPMC should be communicating with BGC.

386. It was accepted at the hearing that Ms. Fidel had authority to revise the 2012 As-Built drawings and the Association did not allege that she did not have the training and qualifications to sign and seal the 2012 As-Built Report. The issue in this allegation was the content of the report; specifically, the phrase extracted above.

387. On March 27, 2013, Ms. Fidel and Mr. Ostritchenko executed the AMEC 2012 As-Built Report as authors and Mr. Rice executed the report as the reviewer.

388. Only days later, on April 8, 2013, Mr. Martin and Mr. Dufault, then at BGC, executed the 2012 Annual Review Report that was provided to MPMC. In the BGC report, Messrs. Dufault and Martin, who had been responsible for the design and who had reviewed the 2012 As-Built report, also stated that the TSF embankment was performing in accordance with its design intent:

> **8.0 CONCLUSIONS AND RECOMMENDATIONS**
>
> Conclusions drawn on the basis of this annual review are as follows:
>
> 1. The TSF embankment was raised to a minimum crest elevation (till core) of 963.8 m in 2012.
>
> 2. Monitoring of the TSF embankment via instrumentation and visual inspections indicated the following:
>
> a. Surveys of inclinometers within the downstream shell of the dam indicate that movements are minor and well within tolerable limits.
> b. Foundation pore pressures have been stable.
> c. Pore pressures in the till fill of the dam have increased slightly due to the pore pressure increase of the tailings.
> d. The TSF embankment is performing in accordance with its design intent.

389. In responding to this allegation in the Notice of Inquiry, Ms. Fidel emphasized the fact that numerous professionals reviewed the 2012 As-Built Report, including the primary drafters of the design documents even though they had left the firm. Although there was no evidence at the hearing about the extent of these reviews, the Panel noted that there was also no evidence that any of these engineers had any cause for concern with what the Association identified as being many critical differences between the design and the as-built construction.

390. The Association took the position that any issues between AMEC and BGC about how reports were to be executed after Mr. Martin's departure are not relevant to an assessment of Ms. Fidel's professional conduct. The Association argued that the sole issue with respect to this allegation was that Ms. Fidel signed and sealed a document where she fell short in not identifying the differences between what was designed and what was built at the TSF. On this issue, the Association pointed to its cross-examination of Ms. Fidel,

during which she accepted the differences noted by Dr. Robertson between the design and the construction and also conceded that she was unaware of some of the changes that were there to be seen from an examination of the documents.

391. There is no dispute about these differences. The Panel has concluded that the issue is whether these differences were of such a nature that Ms. Fidel committed unprofessional conduct or negligence when she signed the report confirming that the construction conformed with the "design intent".

392. When the Panel reviewed the design and as-built drawings going back through the various Stages of the dam raises, it was notable that the divergence between the overall design and construction started several years before AMEC was even involved as EOR at Mt. Polley. By way of example, in the 2007 Knight Piesold Annual Report, the interim construction slope was shown as 1.4:1, as opposed to the final slope of 2:1.

393. In the Knight Piesold report on Stage 5 construction in 2008, the firm stated:

> 2.4.6 Zone C
>
> Zone C is a rockfill zone immediately downstream of Zone F in the Embankments and forms the downstream shell zone of the embankments. Zone C is comprised of coarse rock from the Wight Pit and provides structural stability for the embankments as well as a large, trafficable surface for haul trucks to drive upon. Zone C was placed in maximum 3 m lifts, and was compacted with selective transportation of the various trucks and construction equipment. No Particle Size Analyses were performed on Zone C material. The Zone C slope at the end of Stage 5 varied for each embankment, but on average was 1.4H:1V. This is an interim slope, and in future stages the embankments will be constructed at 2H:1V.

394. In the Knight Piesold 2010 Annual Inspection Report, it was noted:

> - The tailings embankments currently have a downstream slope of approximately 1.4H:1V. This was previously constructed as an interim slope to balance the construction material requirements with the waste production schedule for that particular year. This short term slope configuration still exists.
>
> *It is recommended that the downstream slope of the Main Embankment be evaluated during the Stage 7 design phase to assess whether it requires flattening at this time.*

395. AMEC assumed engineering responsibility for the TSF from Knight Piesold in March 2011. In AMEC's March 30, 2012 As-Built and Annual Report, the "design intent" was referred to in the following sections:

> **9) Overall performance of the Tailings Management Facility**
>
> Observations and data obtained over the course of 2011 indicate that the tailings management facility continues to perform in a satisfactory manner. The dam raising carried out in 2011 achieved conformance with design intent.
>
> …
>
> **5.6 Conformance of 2011 Construction with Design Intent**
>
> Based on AMEC's observations of the construction, review of reports prepared by MPMC when AMEC was not on site, and the QA/QC records, the 2011 Stage 7 raise of the dams was carried out in conformance with design intent.
> …

396. What struck the Panel when considering this allegation in the Notice of Inquiry was the absence of any definition in the relevant documents as to what was meant by AMEC when it referred to "design intent". Did the design intent relate to a singular raise of the embankments, or was it in reference to the ultimate design intent for the dam at its peak height? There had already been a number of interim changes to the TSF embankment slope during prior Stages, some of which had occurred during Knight Piesold's involvement with the project.

397. The Panel also noted that the specific phrase extracted by the Association in this allegation in the Notice of Inquiry did not include the first two words in the relevant paragraph from the 2012 As-Built Report, which stated that, *in general*, the embankment raise had been carried out in accordance with design intent. To the Panel, that was an important qualification in the report through which Ms. Fidel was indicating that the conformity was the design intent was at a "general" and not specific level. There were of course differences between design and construction at that time, but it did not appear obvious to the Panel that the as-built was not *generally* in conformance with the design.

398. As noted above, the evidence also showed that the 2012 As-Built Report was reviewed in draft by Mr. Martin at BGC, who had been responsible for the design at that Stage and who had been EOR on the project for a number of years and there was no evidence that Mr. Martin raised any concerns about the conclusions in the report about construction generally conforming to design. In fact, based on the communications between BGC and AMEC during the material period, the Panel has inferred that Mr. Martin must have found the As-Built report as having met the design intent.

399. Given all of the above factors – the historic divergence between construction and design with respect to the TSF; the involvement of Messrs. Martin and Dufault in reviewing the as-builts after they had left AMEC; the 2012 report from BGC that provided a similar

view; the apparent review of the as-built report by Mr. Rice; and the general manner in which the design intent was referred to the 2012 As-Builts – the Panel has concluded that the evidence does not allow for a conclusion that Ms. Fidel was either negligent or committed an act of unprofessional conduct when she signed and sealed the Stage 8/8A As-Built Report. In the result, the Panel has concluded that this allegation must be dismissed.

### f) Notice of Inquiry - paragraph #6

400. Paragraph #6 of the Notice of Inquiry alleged that Ms. Fidel demonstrated unprofessional conduct or negligence in the fall of 2013 when she became aware of an unfilled excavation at the toe of the perimeter embankment of the TSF and did not take certain steps to investigate it. Specifically, paragraph #6 of the Notice of Inquiry stated:

> 6. You demonstrated **unprofessional conduct or negligence** when in the Fall of 2013 you became aware of an unfilled excavation at the toe of the perimeter embankment of the TSF, and as EOR and Project Manager **you did not take steps** at any time prior to commencing a leave from work in February 2014:
>
> a. to have an appropriately qualified geotechnical engineer assess the excavation to determine what impact, if any, the excavation would have on the stability of the embankment if it was left unfilled;
>
> b. to determine the extent and purpose of the excavation or who had authorized it; and
>
> c. to notify MPMC that the excavation was not in conformity with the Stage 9 Design.

401. The evidence in relation to this allegation was relatively straightforward.

402. In 2013, MPMC and its contractors excavated soil and rock at the downstream toe of a portion of the perimeter embankment. Even though Ms. Fidel only attended the site once in 2013, other AMEC personnel were frequently on-site during the 2013 construction season, including Mr. Ostritchenko and Mr. Marquis. The daily site reports revealed there to have been AMEC personnel on-site starting in April 2013 through the end of November.

403. The reports for October 19-30, 2013 included photographs and descriptions of an excavation at the downstream toe of the perimeter embankment. This excavation work was taking place between corners 1 and 2 of the TSF.

404. Approximately 1700 metres at the toe of the perimeter embankment was stripped. A portion of the excavation, approximately 200 to 300 metres in length, was never backfilled and remained unfilled following demobilization of the site into the winter of 2013. Ms. Fidel learned of the excavation in or around October 2013.

405. When she was interviewed about these matters as part of the Association's investigation, Ms. Fidel admitted that she did not know the purpose of the excavation work. At the hearing, Ms. Fidel testified that she believed the excavation was being done to widen a perimeter haul road, but she also acknowledged that there were many things about the excavation that she did not understand. As some examples, Ms. Fidel did not know ahead of time that the excavation was going to take place; she did not know who had authorized the excavation; she did not know the purpose of the excavation; she was confused as to why the excavation was being done; and she acknowledged there was a lack of communication from MPMC about the purpose of the excavation.

406. Ms. Fidel conceded that, after she learned of the excavation in the fall of 2013, she did not seek specific information from MPMC about the purpose or reasons behind what was happening (what Ms. Fidel did not know at that time is that MPMC had retained BGC to assess the type of stripping and preparation work required in the fall of 2013 to prepare for future raises of the dam).

407. BGC had prepared a project memorandum, dated October 22, 2013, which identified (in Figure 23) the foundation stripping areas for a range of crest elevations. This BGC document was never provided to AMEC by MPMC. As Ms. Fidel noted in her submissions, when she inquired of MPMC seeking an update on the construction that year, she was not given any information from MPMC about the stripping along the toe of the perimeter embankment.

408. The Association introduced expert evidence from Dr. Robertson about the potential impact of the excavation at the toe of the embankment:

> The excavation at the toe of an embankment reduces the stability of the embankment. A prudent EoR/Project Engineer should at minimum determine when and why the excavation was being made, how deep it was intended to be and its location relative to the toe of the embankment. In addition the EoR/Project Engineer should establish who is specifying and controlling the excavation and if it could extend beyond the area observed or be made deeper. The length over which the trench will be open and if there are any other excavation or construction activities associated with the trench. The stability of the embankment slope with the trench at its toe should be checked.
>
> […]
>
> In my opinion the EoR/Project Manager is obligated to inform the mine operator of any construction, operation or other activities that they observe and consider to have a potential effect on the performance and/or safety of the TSF, and to provide an explanation as to why they believe there is a potential effect

> on the TSF. The EoR should also indicate what action has to be undertaken to ensure the integrity and performance of the TSF is not affected.

409. The essence of the Association's position with respect to this allegation was that Ms. Fidel did not meet the standard of conduct expected in the circumstances, as she did not know why the excavation was taking place or how deep the excavation was. She took no steps to investigate these issues with MPMC or with on-site AMEC personnel. Given that no such inquiries were made, Ms. Fidel had no idea whether or not the excavation might have an impact on the performance and/or safety of the TSF. The combination of this inaction on the part of Ms. Fidel was alleged to be either negligence or unprofessional conduct.

410. Ms. Fidel's expert, Mr. Haynes, agreed that an assessment of the excavation should have been made by an engineer upon becoming aware of such things happening near the toe of the embankment and outside of the original design. Mr. Haynes accepted that, depending on the extent of the investigation and its proximity to the embankment, a numerical stability analysis might also have been required.

411. In essence, there was an acceptance between the experts that an engineer in Ms. Fidel's position, either as the EOR or the Project Manager, had a professional obligation to ensure that an excavation of this nature was not adversely impacting the stability of the TSF. After such an investigation was performed, if the engineer formed the view that the unfilled excavation presented a hazard to the integrity of the embankment, Mr. Haynes opined that the engineer would then have a duty to inform the mine operator of that concern.

412. The Panel has concluded with respect to this allegation that Ms. Fidel's inaction in taking steps investigate the toe excavation fell below the standard of professional conduct required in the circumstances. There was no doubt that the communication between MPMC and AMEC was again poor in relation to this issue and AMEC would only later learn that BGC had been retained with respect to aspects of this work, but in her role as Project Manager and EOR at AMEC, it was incumbent on Ms. Fidel to take steps to investigate what was happening with the excavation and make some determination as to whether or not the excavation impacted the design.

413. The Panel appreciated that during the course of the 2013 construction season, there had been excavations taking place at other locations near the embankment. For example, in June and July 2013, excavation and stripping was undertaken in order to widen the haul road. During the course of that work, Mr. Marquis was on-site and MPMC was doing the work in pieces – excavating a portion and then backfilling before moving on to the next section. The evidence showed that Ms. Fidel was aware of that excavation work, as she provided instructions to Mr. Marquis about assessing and approving the placement of rock fill for the perimeter haul road foundation.

414. Further, MPMC also requested some involvement by AMEC in relation to further similar work in late November 2013 that led to Mr. Marquis attending the site to inspect a further stripping of the excavation area. At that time, Mr. Marquis reported on the issue to Ms. Fidel, but the area was covered in snow which hampered what could be achieved in the way of a detailed review.

415. Subsequently, during the preparation of the 2013 As-Built report, Ms. Fidel asked Mr. Marquis to provide information about the November 2013 excavation, including its size, length, location and elevation. A section of the 2013 As-Built report then referenced how that area was stripped of organics and soils. It was noted that an inspection of the prepared foundation was attempted late in the season, but it did not happen because of the snowfall. AMEC noted that this section would require approval prior to any backfilling activities. The 2013 As-Built report was dated March 12, 2014. Ms. Fidel had left AMEC on leave as of February 2014.

416. Even if one accepted that the perimeter toe excavation was outside the scope of AMEC's work on the project, Ms. Fidel was still the EOR and Project Manager that year. It certainly appeared to the Panel that Ms. Fidel was caught in the cross-fire between MPMC's desire to move its contract for engineering services to BGC, while also wanting to rely on AMEC's personnel who were familiar with the project to make site visits in 2013, but she was still in an important role at AMEC at that time.

417. There was something going on at the TSF that Ms. Fidel did not understand. It was her responsibility, as either the Project Manager or EOR, to make the necessary inquiries to investigate the matter. Whether or not this was a specific issue that AMEC was responsible for should not have factored into the steps that needed to be taken at the time.

418. Given her roles at AMEC, the Panel has concluded that Ms. Fidel ought to have made inquiries to properly understand this excavation and to have assessed whether it could impact the stability of the embankment. There may have been an overall lack of coordination on what was happening at that time, but that is not a complete answer with respect to this allegation and the Panel has determined that Ms. Fidel fell short in terms of her professional obligations as the Project Manager and EOR with respect to what was occurring with this additional excavation.

419. The Panel has concluded that Ms. Fidel's failure to have the excavation assessed by a geotechnical engineer and the fact that she took no steps to determine the extent and purpose of the excavation, or who had authorized it, must be regarded as a marked departure from the conduct expected of a professional in those circumstances and therefore unprofessional conduct. The Association has proven the allegation in paragraph #6 of the Notice of Inquiry.

**g) Notice of Inquiry - paragraphs #7-10**

420. After setting out the six detailed allegations in the Notice of Inquiry that have already been addressed above, the Association also included four paragraphs at the end of the Notice of Inquiry that referenced the earlier allegations, but characterized the same set of facts as being either a breach of the Code (paragraphs #7-9) or a breach of section 20(9) of the Act (paragraph #10).

421. Specifically, the Notice of Inquiry stated at paragraphs #7-9:

> **7.** The conduct set out above at paragraphs 1 to 6 is contrary to Principle 1 of the Association's *Code of Ethics* which requires that all members and licensees shall hold paramount the safety, health and welfare of the public, the protection of the environment and promote health and safety within the workplace.
>
> **8.** The conduct set out above at paragraphs 1 and 2 is contrary to Principle 2 of the Association's *Code of Ethics* which requires that all members and licensees shall undertake and accept responsibility for professional assignments only when qualified by training or experience.
>
> **9.** The conduct set out above at paragraphs 2 and 3 is contrary to Principle 3 of the Association's *Code of Ethics* which requires that all members and licensees shall provide an opinion on a professional subject only when it is founded upon adequate knowledge and honest conviction.

422. At the hearing, the Association submitted that any finding by the Panel of a breach of the Code should automatically result in a conclusion that Ms. Fidel committed unprofessional conduct as that term is defined in the Act.

423. The Association took the position that it was open for the Panel to find unprofessional conduct without also finding a breach of the Code, but that the converse was not true – a breach of the Code could not be found by the Panel without a corresponding finding of unprofessional conduct.

424. Having carefully reviewed the Association's submissions on the point, the Panel does not agree that the Act should be interpreted in such a manner.

425. As noted above, section 33 of the Act sets out a number of available findings for a discipline panel after an inquiry has taken place under section 32 of the Act. Section 33(1)(b) provides a discipline panel with the ability to determine that a member has contravened the Act, Bylaws, or Code. Alternatively, a discipline panel may also find, pursuant to section 33(1)(c) of the Act, that a member has demonstrated incompetence, negligence or unprofessional conduct.

426. The Panel has concluded that each of these alternative findings in section 33 of the Act must be interpreted as referring to a different conceptual breach of a professional's obligations. Given how section 33 was drafted, if a breach of the Code was to automatically result in a finding of unprofessional conduct, it would be impossible for a discipline panel to find a stand-alone breach of the Code, which the Panel believes the legislative scheme must allow based on a plain reading of the section.

427. The Panel had concerns that the interpretation urged by the Association in this hearing would effectively read a portion of section 33(1)(b) out of the Act. That cannot have been the Legislature's intention and the Panel does not see that as being the best manner in which to interpret section 33 of the Act.

428. The Panel was also concerned that a rule where a breach of the Code, no matter how trivial, must automatically be seen as unprofessional conduct would have the potential to significantly fetter future discipline panels in terms of the broad level of discretion that is to be afforded panels by these sections of the Act (as noted by the Court of Appeal in *Salway*).

429. Given that the Act identifies a breach of the Code and unprofessional conduct as distinct concepts and distinct findings available to a discipline panel, the Panel has determined that the appropriate course is to interpret these provisions of the Act as providing discretion for a discipline panel to make a finding of a breach of the Code without automatically also viewing that breach as unprofessional conduct.

430. The more challenging issue for the Panel is what factors should be seen as distinguishing these two possible findings under the Act. The Panel found some limited guidance on the distinction in *Re: Foreman*, in which the essence of the discipline panel's decision was founded, in part, on the notion that unprofessional conduct is measured by the "marked departure" test, but also appeared to conclude that not every deviation from an expected standard, including a breach of the Code, would automatically result in a finding of unprofessional conduct. For there to be unprofessional conduct, the conduct at issue must still be found to be a marked departure.

431. The Panel has concluded that such an interpretation of these terms in the Act is also consistent with the wording of the Code itself. The Code is written in broad language that has the potential to capture a potentially wide range of professional conduct of varying seriousness. Even as between the specific provisions in the Code, it is clear that some of the principles must be considered as more serious and impactful than others. A discipline panel must have room to view a breach of the Code as falling at a point on a spectrum of seriousness, perhaps in part on the basis of the surrounding circumstances that exist with respect to the breach.

432. In *Salway*, the Court of Appeal was clear that a discipline panel considering allegations under the Act has discretion to determine whether certain actions by an engineer do or do not constitute unprofessional conduct. In fact, this is an issue where discipline panels are afforded considerable deference:

> [32] The reasonableness standard of review acknowledges that there is "a range of possible, acceptable outcomes which are defensible in respect of the facts and law". Reasonableness requires courts to give deference to a professional body's interpretation of its own professional standards so long as it is justified, transparent and intelligible. The pre-Dunsmuir decisions relied on by the respondent, including *Reddoch*, no longer set the standard for professional misconduct as conduct that is dishonourable, disgraceful, blatant or cavalier. Rather, it is the disciplinary body of the professional organization that sets the professional standards for that organization. So long as its decision is within the range of reasonable outcomes—i.e., it is justified, transparent and intelligible—it is not for courts to substitute their view of whether a member's conduct amounts to professional misconduct.

433. This important deference provided to discipline panels would be of no moment if a breach of the Code automatically amounted to a finding of unprofessional conduct. That would render the discipline panel's discretion to determine unprofessional conduct meaningless once a Code breach were shown, no matter how minor. The Panel does not think this is the proper approach.

434. In the result, the Panel has considered the allegations in paragraphs #7-9 of the Notice of Inquiry from the perspective that it is open to the Panel to find a breach of the Code that will *not* automatically be unprofessional conduct. In deciding to interpret the Act in this manner, the Panel wants to be clear that there is no question that the Code is a very important document. Evidence of a breach of the Code may be strong evidence of unprofessional conduct, but it should not be sufficient in and of itself, and the Panel has concluded that the appropriate course is to consider breaches of the Code, where they are proven, as part of an overall analysis of each allegation of unprofessional conduct.

435. There may be a situation where the appropriate conclusion is a breach of the Code as a stand-alone determination. At the same time, a breach of the Code may be a finding that leads a discipline panel to conclude that a course of conduct should in fact be regarded as unprofessional conduct.

436. In paragraph #7 of the Notice of Inquiry, the Association set out that each of the allegations in paragraphs #1-6 of the Notice of Inquiry was also a breach of Principle 1 in the Code, which requires members to hold paramount the safety, health and welfare of the public and the protection of the environment. As detailed above, the Panel has determined that the Association did not establish the allegations in paragraphs #1, 2, 4. c., d. and e., and

5 of the Notice of Inquiry. For the same reasons identified above with respect to each of those allegations, the Panel has concluded that these matters should also not be regarded as breaches of Principle 1 of the Code.

437. With respect to the alleged breaches of the Code in paragraph #8 in the Notice of Inquiry, for the same reasons set out when the Panel addressed paragraphs #1 and 2 above, the majority of the Panel has also concluded that the Association did not prove that Ms. Fidel breached Principle 2 of the Code, as alleged. Dr. Yaworsky did not share his fellow Panel members' conclusions with respect to whether Ms. Fidel's acceptance of the EOR position was a breach of Principle 2 of the Code even if the conduct should not be said to be unprofessional conduct. Dr. Yaworsky has prepared a dissenting opinion on this aspect of paragraph #8, which is set out below.

438. As noted above, the Panel has concluded that Ms. Fidel's actions with respect to paragraph #3 of the Notice of Inquiry were also contrary to Principle 2 of the Code and a breach of section 20(9) of the Act. As such, the Association met its burden to prove paragraphs #9 and #10 in the Notice of Inquiry insofar as those paragraphs addressed Ms. Fidel's conduct in signing and sealing the 2013 CMM. In light of the Panel's finding that Ms. Fidel committed unprofessional conduct with respect to that issue, there was no need for the Panel to further address those issues as part of this analysis of the Code.

439. With respect to the remaining allegation, that Ms. Fidel breached the Code and/or section 20(9) of the Act through her actions outlined in paragraph #2 of the Notice of Inquiry, the Panel has concluded that these allegations must also be dismissed in light of its specific findings in relation to paragraph #2 as set out above.

## H. REASONS OF DR. YAWORSKY WITH RESPECT TO PARAGRAPH #8

440. I have had the benefit of seeing and reviewing the complete decision prepared by my fellow Panel members. Although I accept the manner in which my colleagues have summarized the facts and the legal test, as well as the majority of their conclusions, there is one allegation in the Notice of Inquiry on which I have reached a different determination. My reasons are set out below.

441. Previous sections of this decision detail the Panel's conclusions with respect to paragraph #1 of the Notice of Inquiry. While I agree, on balance, with the conclusion that Ms. Fidel's actions did not demonstrate unprofessional conduct by virtue of her accepting the role of EOR in relation to the Mt. Polley project, unlike my colleagues, I have concluded that Ms. Fidel, by accepting the role of EOR, breached Principle 2 of the Association's Code, which is the stand-alone allegation in paragraph #8 of the Notice of Inquiry.

442. Principle 2 of the Code requires that all members and licensees shall undertake and accept responsibility for professional assignments only when qualified by training or experience.

443. My views on this issue are influenced in large part by what was set out in the project documents. Both the Stage 7 and 8 CMMs stated that "AMEC's Senior Geotechnical Engineer will serve as the Engineer of Record for the Mount Polley TSF Embankment." In each of those documents, Mr. Martin was identified as the Senior Geotechnical Engineer.

444. The Stage 2013 CMM also stated that "AMEC's Project Manager will serve as the Engineer of Record and have overall responsibility for AMEC's role with upcoming and future dam raising projects." Ms. Fidel was expressly identified in this document as the Project Manager.

445. Ms. Fidel, in a June 29, 2015 letter to the Association during the course of its investigation, stated that "AMEC assumed the responsibility of Engineer of Record…in January 2011 and continued in that capacity up until the completion of the tailings facility design up to El. 970 m. Ms. Fidel was involved in the project in varying capacities during this time."

446. That letter provided further details as to Ms. Fidel's involvement in the project from 2011 through 2014. Specifically, the letter set out that "March through December 2013, Ms. Fidel had the role of project manager for engineering services for the Mount Polley tailings facility." However, the letter was silent on Ms. Fidel's role as the EOR, which was noted in the 2013 CMM and appeared to have commenced in April 2013 at the latest.

447. The statement in the letter that "AMEC assumed the responsibility" was in my view reasonably read as though "AMEC assumed the responsibility for appointing an appropriate professional to take on that role" – given that the 2013 CMM clearly described Ms. Fidel as having "overall responsibility for AMEC's role with upcoming and future dam raising projects."

448. Although there were references to AMEC assuming the responsibility of the EOR, the Panel did not accept that position for the reasons set out above and I believe it is important to emphasize that Ms. Fidel personally assumed that role, as did Mr. Martin previously. I have reached this conclusion notwithstanding the lack of Ms. Fidel specifically stating such in her June 29, 2015 letter to the Association.

*i. The role of the EOR*

449. There was much evidence offered at the hearing by the two expert witnesses as to what was the typical understanding of the role of the EOR at the time. It was agreed that there was no universal written definition, however in my view this does not mean there was no definition and there appeared to be a consensus that the position required an engineer with some experience.

450. Mr. Haynes described his role as EOR at that same time as being the person in his firm responsible for the overall integrity of the facility and responsible for the safety of the facility relative to its design.

451. Knight Piesold understood that acting as the EOR was significant. In its February 10, 2011 letter, the firm notified MPMC that the:

> …the tailings impoundment has been developed using the observational approach, wherein the design is modified as appropriate depending on actual performance and conditions" and that the "overall tailings impoundment are getting large and it is extremely important that they be monitored, constructed and operated properly to prevent problems in the future. Knight Piesold would be happy to assist in the formal handover to the new Engineer of Record.

452. This letter, signed by Knight Piesold's Managing Director and President, was copied to the Chief Inspector of Mines and the Ministry of Energy, Mines and Petroleum Resources, further suggesting its importance at the time.

453. It was reasonable to conclude from this letter, and from the evidence of the expert witnesses, that the role of the EOR in the industry was seen to be an important and critical one, such that Knight Piesold offered twice, in the short letter, to provide for a *"formal handover"* of the EOR role.

454. Mr. Haynes, as Ms. Fidel's expert, described the role of the EOR as the ultimate voice of the firm related to the safety and integrity of the facility he was overseeing. Mr. Haynes agreed that the EOR is a "designation that carries with it a high degree of responsibility."

455. It can be concluded that AMEC also shared a similar view when it took over the role of the EOR from Knight Piesold. At that time, AMEC designated Mr. Martin, senior geotechnical engineer, as the EOR for the TSF until his departure, which provided some insight as to how AMEC viewed the relevance and importance of the position.

456. The role of EOR would have required a level of diligence and proactiveness and a reasonably senior professional experience to fulfill the role so as to provide such diligence.

These are characteristics that would also have been important on this specific project given the observational approach that was adopted for the TSF (I note that the importance of such was also emphasized by Knight Piesold in 2011).

*ii. Ms. Fidel as EOR*

457. Ms. Fidel appears to have been first designated as the EOR in an internal AMEC email from Mr. Rice. Earlier that day in the same email chain, Mr. Ostritchenko highlighted the importance of continuity of personnel with MPMC, emphasizing the pressure on AMEC at that time to retain MPMC as a client by keeping a consistent team in the face of departing senior staff. In the email, Mr. Ostritchenko stated his understanding of the new project structure, including who was to be the new EOR, "[Andrew] Witte or is it Laura?".

458. It may be that Mr. Ostritchenko, by first suggesting Mr. Witte as the EOR, did so in recognition of the importance of designating a more experienced professional in that role. Mr. Witte was an AMEC geotechnical engineer who had become a professional engineer in British Columbia in 2008; four years before Ms. Fidel.

459. When I reviewed the AMEC documents, including the "Preliminary Estimate for 2013 Engineering Services", it appeared that Ms. Fidel and Mr. Ostritchenko were regarded within AMEC as being similar in professional level. Table 4.1 in that document provided an indication of the relative experience level of each professional as judged by AMEC and proposed to clients: Mr. Ostritchenko was a "Professional Level 14"; Ms. Fidel a "Professional Level 15"; with Mr. Witte a "Professional Level 19". Typically, a higher Professional Level dictates a higher hourly rate to clients.

460. By comparison, Mr. Rice was a "Professional Level 30" and Mr. Martin, the previous EOR, would likely have been at a similar professional level to Mr. Rice.

461. The February 22, 2013 email response from Mr. Rice did not elaborate on why he designated or appointed Ms. Fidel as the new AMEC EOR and only allocated Mr. Witte as a "Technical Support/Advisor", although he suggested that Ms. Fidel, Mr. Witte and Mr. Ostritchenko should all be involved in communicating with MPMC.

462. In the hearing, Ms. Fidel testified that she understood that the EOR was to be a "point person", but it was not described how such a "point person" role would differ from, or expand on, the responsibilities of the Project Manager. Based on what Ms. Fidel undertook during the 2013 season, it appeared that she accepted her role to go beyond that of strict construction management.

463. Ms. Fidel agreed that she was identified as the EOR, yet conceded that she was also unclear as to the specifics of the role. As well, she admitted that, as a professional, she had an obligation to clear up the lack of clarity before she took on the role. Despite that recognition, there was no evidence of any further discussions or attempts by Ms. Fidel to clarify the role and responsibilities of the EOR.

464. I found it notable that Ms. Fidel made no mention of any kind of formal turnover of the EOR role when she went on leave – in contrast to what Knight Piesold emphasized was so important in 2011. In an email dated February 20, 2014, Ms. Fidel notified MPMC about her departure, "as I will be going on leave as of next week, Dmitri will be taking over as the main contact for MPMC." The email listed two specific tasks that AMEC would need to undertake: namely, the 2013 As-built and Annual Review report, and "smaller tasks (i.e. instrumentation assistance etc.)."

465. There was no evidence offered that confirmed that the role of EOR was formally handed over to anyone when Ms. Fidel went on leave – from Ms. Fidel's email, it was unclear if MPMC was to assume that it would be Mr. Ostritchenko? At the time, Mr. Ostritchenko was an EIT and not a professional engineer.

466. Thus, on balance, I have concluded that Ms. Fidel, as EOR, should have been much more than a mere point-person. This is evidenced from the attention Knight Piesold paid to a "formal handover"; the fact that AMEC appointed a senior geotechnical engineer as EOR prior to Ms. Fidel; as well as the evidence of both experts that even if the EOR may not have been precisely defined, it did embody an important role with respect to the design and safety of the TSF.

467. Therefore, I have concluded that Ms. Fidel did not fully appreciate the role of the EOR and was unclear as to the specifics of the role of EOR.

*iii. Ms. Fidel's qualifications and experience to act as EOR*

468. Regarding her qualifications and experience to be able to act as the EOR, Ms. Fidel was certainly familiar with the TSF and was a professional engineer. On balance, however, regardless of the absence of a universal EOR definition, I have concluded that Ms. Fidel should have reached the conclusion at that time that the EOR was not a nominal nor a junior role.

469. It should also be noted that even though Ms. Fidel was the EOR and Project Manager in 2013-2014, AMEC subsequently proposed to MPMC reallocated roles that designated more senior professionals in such positions, as evidenced in AMEC's March 8, 2013 "Proposal to MPMC for Stage 10". This proposal designated Mr. Sabbagh as Project

Manager and Ms. Fidel as one of two Project Engineers, with Mr. Witte as Technical Manager. Mr. Sabbagh was a Professional Level 22 ($190/hr) with Ms. Fidel as a Professional Level 15 ($125/hr). The two Project Engineers – one being Ms. Fidel – were the two most junior professionals listed on the proposed project team based upon their Professional Level.

470. This revealed to me that AMEC judged it appropriate to propose to MPMC a significantly more experienced team of professionals for the design of the next Stage of the TSF, as compared to what AMEC had set up for their ongoing 2013 engineering work, which included Ms. Fidel as EOR and Project Manager. Bolstering the "bench strength" of the AMEC team may have also been seen as a necessary competitive response to the presumption of the experience level BGC would offer MPMC, particularly given that a number of senior AMEC professionals had joined BGC.

471. The Stage 10 proposal was silent with respect to the role of the EOR; no professional was identified nor was any budget allocated for the position.

472. What I have determined from this review of the events is that Ms. Fidel, notwithstanding a reasonable familiarity with the TSF, was still a relatively junior professional as judged by AMEC. Ms. Fidel ought to have been aware that she was designated at such a level given her "Professional Level" as stated in the AMEC budget to MPMC.

473. On balance, considering all the foregoing, the role of the EOR in 2013 was not a nominal, nor relatively junior role. I have concluded that Ms. Fidel should have appreciated that the role had previously been designated to a senior engineer, such as Mr. Martin. In my view, Ms. Fidel should have ensured that she fully understood and was capable of undertaking the role of EOR and should not have accepted the position without further definition both within AMEC and with MPMC as the client.

474. As noted by my fellow Panel members, the evidence revealed that AMEC was facing competitive and commercial pressures in early 2013 with respect to retaining MPMC as a client given the departure of a number of senior engineers.

475. Against this background, the role of EOR was made more challenging by the complexities of the project structure and the less than ideal level of communication between MPMC and AMEC. These project characteristics suggested that the EOR would be faced with even greater challenges than typical and would be well-served by an experienced professional.

476. It appeared from the evidence that AMEC did have other options for the EOR, including for example, designating a more senior professional, Mr. Witte, should Ms. Fidel have expressed reservations regarding accepting such a role.

477. While AMEC should have provided more specifics and credence to the EOR role, including a specific budget and/or outline of responsibilities, there were budget allocations for Project Management. Ms. Fidel, as the Project Manager with overall responsibility for AMEC's role, would have reasonably had an ability to manage these budgets, including her own level of effort on the project, to allow her to undertake appropriate EOR activities.

478. AMEC's "2013 Budget Update and Preliminary Estimate for 2014 Engineering Services" summarized the 2013 level of effort as compared with the 2013 Budget. Task 100, Project Management, was budgeted at $8,640 but only $5,767 was projected to be expended (66%). Similarly, Task 200, Ongoing Engineering Support was budgeted at $61,506 but only $21,283 was projected to be expended (34%). The conclusion can be drawn that Ms. Fidel, as designated EOR as well as Project Manager for the 2013 work, had appreciable budgetary room that could have been utilized to better support EOR activities – but such steps were not taken.

*iv. Conclusion*

479. Professionals must fully understand their limitations and only accept professional assignments from a client that they are qualified to do so and are within their abilities, expertise and experience level. Similarly, professionals have the responsibility to only accept assignments from their employer that they are qualified to take on; if they do not fully understand or appreciate the responsibilities they are being asked to accept, they must take actions to ensure that they do.

480. Based upon all the foregoing, the conclusion I have reached, which is different from that of my fellow Panel members, is that Ms. Fidel should have recognized that she should not have undertaken and accepted the EOR professional assignment, as she was not sufficiently qualified by her training or experience, and therefore the breach of the Code alleged at paragraph #8 of the Notice of Inquiry is, on balance, proven.

481. Although I have concluded that Ms. Fidel breached the Code in this manner, I agree with my fellow Panel members that a breach of the Code alone should not automatically lead to a finding of unprofessional conduct. With respect to that issue, a discipline panel must ask whether the conduct of the member is such that it should be viewed to be a marked departure from the conduct expected of a similarly situated member of the profession.

482. Ordinarily, a breach of the Code would be strong evidence that the conduct of a member should be regarded as a marked departure. However, cognizant of the foregoing discussion accepting that a discipline panel can view a breach of the Code on a spectrum of seriousness, and given the very unique circumstances of this matter as set out in the decision above, I have concluded that Ms. Fidel's conduct is best viewed as a breach of only the Code. Although I am critical of Ms. Fidel for having accepted the professional assignment as EOR, I am nevertheless mindful of, and agree with, the many factors set out by my colleagues on the Panel that shaped our conclusions that Ms. Fidel did not commit unprofessional conduct. This was a very unfortunate sequence of events and Ms. Fidel found herself *de facto* appointed by her employer to a position that had significant responsibility, but which was also inadequately defined in industry or the profession.

483. In the result, I agree with the reasons set out by the Panel above that led us to dismiss the allegations in paragraph #1 of the Notice of Inquiry. I have concluded that Ms. Fidel ultimately should not have accepted the EOR role, but I am not prepared to view her actions as unprofessional conduct given the organizational context and project circumstances.

## I. CONCLUSION AND SUMMARY

484. In summary, the Panel makes the determinations set out at paragraph 22 above, pursuant to s. 33(1)(b) and (c) of the Act:

485. In the absence of a request for written submissions, the hearing on penalty and costs will take place by video conference, on a date and time to be arranged.

<original signed by>

Ed Bird, P. Eng., Chair

<original signed by>

Tom Morrison, P. Eng.

<original signed by>

Ron Yaworsky, P. Eng.