Arbitration CAS 2017/A/5473 Ekaterina Pashkevich v. International Olympic Committee (IOC), award of 16 November 2018 (operative part of 1 February 2018)

Panel: Prof. Christoph Vedder (Germany), President; Prof. Michael Geistlinger (Austria); Mr Dirk-Reiner Martens (Germany)

Ice Hockey
Doping (use of a prohibited substance or method; tampering with doping control; cover-up of and complicity in the commission of an ADRV)
Standard of proof in general
Standard of proof with regard to the alleged doping scheme
Means of proof
Use of a prohibited substance
Liability of the athlete in case of substitution of the content of his/her sample
Use of a prohibited method
Tampering with any part of doping control
Administration of a prohibited method or substance to an athlete
Cover-up of or complicity in the commission of an ADRV

1. **The comfortable satisfaction standard is well-known in CAS practice, as it has been the normal CAS standard in many anti-doping cases even prior to the World Anti-Doping Code (WADC). The test of comfortable satisfaction must take into account the circumstances of the case. Those circumstances include the paramount importance of fighting corruption of any kind in sport and also considering the nature and restricted powers of the investigation authorities of the governing bodies of sport as compared to national formal interrogation authorities. The gravity of the particular alleged wrongdoing is relevant to the application of the comfortable satisfaction standard in any given case. It is important to be clear, however, that the standard of proof itself is not a variable one. The standard remains constant, but inherent within that immutable standard is a requirement that the more serious the allegation, the more cogent the supporting evidence must be in order for the allegation to be found proven.**

2. **A sports body is not a national or international law enforcement agency. Its investigatory powers are substantially more limited than the powers available to such bodies. Since the sports body cannot compel the provision of documents or testimony, it must place greater reliance on the consensual provision of information and evidence, and on evidence that is already in the public domain. The CAS panel's assessment of the evidence must respect those limitations. In particular, it must not be premised on unrealistic expectations concerning the evidence that the sports body is able to obtain from reluctant or evasive witnesses and other sources. In view of the nature of the alleged doping scheme and the sports body's limited investigatory powers, the sports**

body may properly invite the CAS panel to draw inferences from the established facts that seek to fill in gaps in the direct evidence. The CAS panel may accede to that invitation where it considers that the established facts reasonably support the drawing of the inferences. So long as the CAS panel is comfortably satisfied about the underlying factual basis for an inference that an athlete has committed a particular anti-doping rule violation (ADRV), it may conclude that the sports body has established an ADRV notwithstanding that it is not possible to reach that conclusion by direct evidence alone. At the same time, however, if the allegations asserted against the athlete are of the utmost seriousness, i.e. knowingly participating in a corrupt conspiracy of unprecedented magnitude and sophistication, it is incumbent on the sports body to adduce particularly cogent evidence of the athlete's deliberate personal involvement in that wrongdoing. In particular, it is insufficient for the sports body merely to establish the existence of an overarching doping scheme to the comfortable satisfaction of the CAS panel. Instead, the sports body must go further and establish, in each individual case, that the individual athlete knowingly engaged in particular conduct that involved the commission of a specific and identifiable ADRV. In other words, the CAS panel must be comfortably satisfied that the athlete *personally* committed a *specific* violation of a *specific* provision of the WADC.

3. **Article 3.2 WADC (in the present case the 2009 version) establishes that all ADRVs except those involving the actual presence of a prohibited substance can be proven by *"any reliable means"* including, but not limited to, witness testimony and documentary. In addition, an ADRV under Article 2.2 WADC in the form of use or attempted use of a prohibited substance or prohibited method, may be established by reference to *"other analytical information which does not otherwise satisfy all the requirements to establish"* an ADRV based on presence of a prohibited substance. This includes any admissions by the athlete, any *"credible testimony"* by third parties, and any *"reliable"* documentary evidence or scientific evidence.**

4. **Even admitting, *arguendo*, that a general doping and sample-swapping scheme existed, if the participation of an athlete in any of the various features of the scheme has not been proven, a CAS panel cannot be comfortably satisfied that an inference in favour of the athlete's use of a prohibited substance can be made.**

5. **The principle of strict liability does not apply in an identical fashion where an athlete is alleged to have committed an act or omission that contributed to the substitution of the athlete's urine by another person. Were it otherwise, then any athlete who provided a urine sample as part of normal doping control procedures would automatically commit an ADRV if a third party who is entirely unconnected with the athlete, and in respect of whom the athlete has no knowledge or control, later substitutes the content of the athlete's sample. Consequently, logic and fairness both dictate that an athlete can only be held liable under Article 2.2 WADC for the substitution of his/her urine by another person if (a) the athlete has committed some act or omission that facilitates that substitution; and (b) s/he has done so with actual or constructive knowledge of**

the likelihood of that substitution occurring.

6. **In order for a CAS panel to be comfortably satisfied that an athlete has committed an ADRV of use of the prohibited method of urine substitution, it is insufficient merely to establish the existence of a general sample-swapping scheme; rather, the panel must be comfortably satisfied that the athlete was personally and knowingly implicated in particular acts that formed part of, and facilitated the commission of, the substitution of his urine within that scheme. The probative value of circumstantial evidence is insufficient to overcome the absence of direct evidence that the athlete committed an ADRV of use of a prohibited method.**

7. **Article 2.5 WADC provides that *"tampering or attempted tampering with any part of doping control"* constitutes an ADRV. The Comment to Article 2.5 WADC explains that this article prohibits conduct which subverts the Doping Control process but which would not otherwise be included in the definition of Prohibited Methods. As urine substitution is a prohibited method under Article 2.2 WADC in connection with M2.1 of the Prohibited List, Article 2.5 WADC covers types of tampering other than urine substitution and of a few other methods defined under section M of the Prohibited List. In general terms, it is a misconception of the relationship between Article 2.2 WADC and Article 2.5 WADC to conclude that, if the requirements of Article 2.2 WADC are met, the requirements of Article 2.5 WADC automatically are met too. To the contrary, if the elements of Article 2.2 concerning a prohibited method are fulfilled, recourse to Article 2.5 WADC is excluded.**

8. **Article 2.8 WADC provides that the administration to any athlete of any prohibited method or prohibited substance shall constitute an ADRV. This therefore covers the administration of a prohibited method to an athlete by a third party (which can be another athlete). The administration of a prohibited method or substance by an athlete to himself constitutes a use of a prohibited method or substance, which would fall under Article 2.2 WADC, rather than under Article 2.8.**

9. **Mere participation of an athlete in a general doping and sample-swapping scheme in his/her own interest is not sufficient to constitute assistance and encouragement in an ADRV committed by other athletes, even through the involvement of coaches, team doctors, etc. If there is no sufficiently cogent and probative evidence to enable a CAS panel to comfortably conclude that the athlete assisted, encouraged, aided, abetted, covered up or was otherwise complicit in any ADRV under Article 2.2 to Article 2.7 WADC committed by other athletes, the athlete cannot have committed an ADRV under Article 2.8 of the WADC.**

I. PARTIES

1. Ms. Ekaterina Pashkevich (the "Athlete" or "Appellant") is a Russian ice hockey player. At the XXII Olympic Winter Games which took place in Sochi, Russia in 2014 (the "Sochi Games"), the Athlete was a player on the Russian Women's Ice Hockey Team, which finished sixth overall in the Women's Ice Hockey Event.

2. The International Olympic Committee (the "IOC" or "Respondent") is the world governing body of Olympic sport having its registered offices in Lausanne, Switzerland. The IOC is incorporated as an association pursuant to articles 60 *et seq.* of the Swiss Civil Code.

II. FACTUAL BACKGROUND

3. Below is a summary of the facts and allegations based on the Parties' written submissions, pleadings and evidence at the hearing. Additional facts and allegations found in the Parties' written submissions, pleadings and evidence may be set out, where relevant, in connection with the legal discussion that follows.

A. Background Facts

1. Facts Common to the Sochi Appeals

4. As explained below, the Athlete's appeal has been heard before the Court of Arbitration for Sport (the "CAS") jointly with the appeals of 38 other Russian athletes who were found by the IOC Disciplinary Commission to have committed anti-doping rule violations ("ADRVs") at the Sochi Games. For ease of reference, in this Award the joint appeal proceedings are referred to as the "Sochi Appeals", while the Athlete and the 38 other athletes are referred to collectively as the "Sochi Appellants".

5. In addition to the facts specific to the Athlete's appeal, there are various factual circumstances that are common to all of the Sochi Appeals. Those common facts are summarised in this section of the Award.

a. The Sochi Games and the emergence of allegations of systematic doping and evasion of doping controls by Russian athletes

6. The Sochi Games took place between 7 and 23 February 2014. The Russian national team enjoyed significant success at the Sochi Games: Russian athletes ended up first in the overall medal table and won a total of 33 medals including 13 gold medals. This represented a very significant improvement from the national team's performance in the previous Olympic Winter Games in Vancouver in 2010, where Russia finished eleventh in the medal table.

7. Each of the Sochi Appellants competed at the Sochi Games and provided urine samples as part of mandatory doping controls carried out during the Games. None of those samples tested positive for the presence of any prohibited substances.

8. Later that year, on 3 December 2014, a German television channel broadcasted a documentary concerning the alleged existence of an extensive secret, institutional doping programme within the All-Russia Athletics Federation.

b. The WADA Independent Commission

9. On 16 December 2014, following the broadcast of those allegations, the World Anti-Doping Agency ("WADA") announced the appointment of an independent commission (the "Independent Commission") to investigate the allegations as a matter of urgency. The formal terms of reference, which were published on 16 January 2015, required the Independent Commission to:

> *"conduct an independent investigation into doping practices; corrupt practices around sample collection and results management; and, other ineffective administration of anti-doping processes that implicate Russia, the International Association of Athletics Federations (IAAF), athletes, coaches, trainers, doctors and other members of athletes' entourages; as well as, the accredited laboratory based in Moscow and the Russian Anti-Doping Agency (RUSADA)".*

10. The three members of the Independent Commission appointed by WADA were: Mr. Richard W. Pound QC, former President of WADA; Prof. Richard H. McLaren, an experienced CAS arbitrator and Professor of Law at Western University in Ontario, Canada; and Mr. Günter Younger, Head of the Cybercrime Department at Bavarian Landeskriminalamt in Munich, Germany.

11. On 9 November 2015, the Independent Commission delivered its final report (the "IC Report"). The IC Report contained a detailed account of the Independent Commission's findings concerning the:

> *"systemic failures within the IAAF and Russia that prevent or diminish the possibility of an effective anti-doping program, to the extent that neither ARAF, RUSADA, nor the Russian Federation can be considered Code-compliant".*

12. The IC Report explained that the Independent Commission's investigation had *"confirmed the existence of widespread cheating through the use of doping substances and methods to ensure, or enhance the likelihood of, victory for athletes and teams"* in Russia. The cheating was carried out *"by the athletes' entourages, officials and the athletes themselves"*. The IC Report went on to explain that the investigation had established the existence of:

- *"A Deeply Rooted Culture of Cheating"* which included *"widespread"* and *"long standing"* acceptance of cheating *"at all levels"*. The Independent Commission had identified the

existence of a *"fundamentally flawed mindset that is deeply ingrained in all levels of Russian athletics"*.

- *"Exploitation of Athletes"*, including the deployment of *"coercive activities"* to compel athletes to participate in doping activities.

- *"Confirmed Athletes Cheating"*, in particular the *"consistent and systematic use of performance enhancing drugs by many Russian athletes"*. In addition, a significant percentage of athletes *"were unwilling to participate"* in the Independent Commission's investigation.

- *"Confirmed Involvement by Doctors, Coaches and Laboratory Personnel"* who *"acted as enablers for systematic cheating along with athletics coaches"*.

13. The IC Report went on to make an extensive number of detailed findings regarding the existence, scope, mechanics and consequences of that doping scheme.

c. The WADA Independent Person Reports (the McLaren Reports)

14. On 19 May 2016, WADA announced that it had appointed Prof. Richard McLaren to conduct an independent investigation into the allegations made by Dr. Grigory Rodchenkov. Dr. Rodchenkov was the former director of the formerly WADA accredited laboratory in Moscow (the "Moscow Laboratory") and the official on-site anti-doping laboratory in Sochi (the "Sochi Laboratory"). After leaving Russia in 2015, Dr. Rodchenkov made a series of widely publicised allegations concerning the existence of a sophisticated doping scheme before, during, and after the Sochi Games.

15. The terms of reference set by WADA directed Prof. McLaren:

> *"To establish whether:*
>
> *1. There has been manipulation of the doping control process during the Sochi Games, including but not limited to, acts of tampering with the samples within the Sochi Laboratory.*
>
> *2. To identify the modus operandi and those involved in such manipulation.*
>
> *3. To identify any athlete that might have benefited from those alleged manipulations to conceal positive doping test[s].*
>
> *4. To identify if this modus operandi was also happening within the Moscow Laboratory outside the period of the Sochi Games.*
>
> *5. There is any other evidence or information held by Grigory Rodchenkov"*.

16. On 16 July 2016, Prof. McLaren submitted his first report (the "First McLaren Report") to WADA. The report was published shortly before the 2016 Summer Olympic Games in Rio

de Janeiro, Brazil. The First McLaren Report provided the following summary of Prof. McLaren's *"Key Findings"*:

> *"1. The Moscow Laboratory operated, for the protection of doped Russian athletes, within a State-dictated failsafe system, described in the report as the Disappearing Positive Methodology.*
>
> *2. The Sochi Laboratory operated a unique sample swapping methodology to enable doped Russian athletes to compete at the Games.*
>
> *3. The Ministry of Sport directed, controlled and oversaw the manipulation of athlete's [sic] analytical results or sample swapping, with the active participation of the FSB, CSP, and both Moscow and Sochi Laboratories".*

17. On 9 December 2016 – exactly one year after the publication of the IC Report – Prof. McLaren delivered his second report (the "Second McLaren Report"). Chapter 6 of the Second McLaren Report contained detailed findings concerning the existence of a far-reaching doping programme at the Sochi Games. Prof. McLaren concluded that there had been:

> *"a carefully orchestrated conspiracy, which included the complicity of Russian sports officials within the MofS, CSP, Moscow based Sochi Laboratory personnel, RUSADA, the Russian Olympic Organising Committee, athletes, and the FSB".*

He explained that while *"it will never be possible to establish the exact number of individuals involved or their specific roles"*, the overall effect of the programme deprived other competitors of a level playing field at the Sochi Games.

18. In the Second McLaren Report, Prof. McLaren explained that the Russian Ministry of Sport had developed a list of favoured athletes who would be provided with a *"cocktail"* of performance-enhancing drugs to aid their performance at the Sochi Games. According to Prof. McLaren, the athletes on that list *"were considered protected and their samples would be automatically swapped during the games"* pursuant to the scheme; he therefore referred to those athletes as *"protected athletes"*.

19. Prof. McLaren went on to explain that a key aspect of the programme to facilitate and conceal this doping was the creation of *"a catalogued bank of clean urine from the protected athletes"*. That repository of clean urine would be *"maintained on site to facilitate the swapping"* of dirty samples for clean, i.e. drug-free, samples. In summary:

- Prior to the Sochi Games, protected athletes provided clean samples of their own urine in plastic beverage bottles.
- Those samples were delivered to the Moscow Laboratory where they were tested to ensure they were, in fact, clean.

- Once that had been verified, the clean samples were provided to the Centre of Sports Preparation of National Teams of Russia ("CSP") and catalogued under each athlete's name in preparation for future delivery to the Federal Security Services ("FSB").

- In the period before the Sochi Games, a *"clean urine bank"* was established at the FSB Command Centre, which was situated immediately adjacent to the Sochi Laboratory. Inside that building a dedicated room containing several large freezers was set up for the purpose of storing the clean urine samples.

20. The Second McLaren Report went on to describe how, having established a bank of clean urine samples in the building next door to the Sochi Laboratory, sophisticated arrangements were implemented to facilitate the covert swapping of urine samples provided by protected athletes at doping control tests during the Sochi Games. The arrangements involved the surreptitious removal of the athletes' B sample bottles, which were provided to an FSB officer who had devised a technique for removing and replacing the plastic caps on the bottles without detection. Prof. McLaren explained that, in order to facilitate this process, athletes who underwent doping control tests would secretly send images of their doping control forms ("DCF") to particular persons who would then transmit this information to the Sochi Laboratory, thereby enabling the laboratory to identify which of the anonymised sample bottles needed to have their contents substituted with clean urine belonging to the relevant athletes.

21. According to Prof. McLaren's summary of the evidence provided by Dr. Rodchenkov, a key aspect of the doping scheme was the creation and use of a so-called *"Sochi Duchess List"*. This list contained the names of 37 Russian athletes *"whose samples were to be automatically swapped for their own clean urine stored in the FSB Command Center at Sochi"*. Those athletes' samples needed to be swapped because the athletes *"had been authorised to use the cocktail of oxandrolone, methenolone and trenbolone during the Games"*.

22. According to Prof. McLaren, while the narrative summarised above *"seems like fiction"*, the conclusions of his reports were based on *"immutable facts"* established by forensic testing including analysis of scratch marks on sample bottles, analysis of sodium concentration in urine samples from the Sochi Games and a comparative DNA analysis of various samples from athletes identified as protected athletes.

d. The IOC Disciplinary Commission's Report to the IOC Executive Board (the Schmid Report)

23. Between the publication of the First and Second McLaren Reports, on 19 July 2016, the IOC appointed a Disciplinary Commission chaired by Mr. Samuel Schmid, former President of the Swiss Confederation, to establish facts in support of the disciplinary procedure that the IOC had commenced under Rule 59 of the Olympic Charter (the "Schmid Commission").

24. On 2 December 2017, the Schmid Commission delivered its Report to the IOC Executive Board (the "Schmid Report"). The Schmid Report began by explaining that the function of

the Schmid Commission was *"to establish the facts on the basis of documented, independent and impartial evidence"*. It went on to explain that the Schmid Commission had concluded that:

> *"1) The analysis of the documented, independent and impartial elements, including those confidentially transmitted to the [Schmid Commission], is corroborated by the forensic analysis performed by the ESC-LAD and the biological analysis carried by the CHUV. This enables the confirmation of the existence of the Disappearing Positive Methodology as well as a tampering methodology, in particular during the Olympic Winter Games Sochi 2014, as described in the Final Report by Prof. Richard McLaren.*
>
> *The [Schmid Commission] confirms the seriousness of the facts, the unprecedented nature of the cheating scheme and, as a consequence, the exceptional damage to the integrity of the IOC, the Olympic Games and the entire Olympic Movement.*
>
> *The Russian officials admitted wrongdoing by individuals within Russian institutions but never "State doping support system".*
>
> *The [Schmid Commission] has not found any documented, independent and impartial evidence confirming the support or the knowledge of this system by the highest State authority.*
>
> *[…]*
>
> *5) The [Schmid Commission] noted that the system progressed along with the evolution of the anti-doping technologies: initially the DPM was based on cheating in the reporting mechanism ADAMS, subsequently it escalated into a more elaborated method to report into ADAMS by creating false biological profiles; ending with the tampering of the samples by way of swapping "dirty" urine with "clean" urine. This required a methodology to open the BEREG-KIT® bottles, the constitution of a "clean urine bank" and a tampering methodology to reconstitute the gravity of the urine samples. This was confirmed by the results of the UNIL-ESC / CHUV forensic and biological analysis.*
>
> *The [Schmid Commission] noted from oral witnesses that there was an evolution around 2011-2012: prior to this time, individual athletes were required to purchase doping products and/or to pay to cover-up their individual test results, when it seems that, as part of the scheme during the Olympic Winter Games Sochi 2014, the programme covered the costs of the manipulation of the doping tests.*
>
> *6) Within this evolution of the system, the analysis of the evidence as well as the movie Icarus, shows that Dr Grigory Rodchenkov played a key role. Due to his scientific abilities he was able to set-up detection methods to improve the fight against doping, to publish scientific articles and participate to [sic] experts' observatory programmes, winning great international credibility. This enabled him on one hand, as an anti-doping expert, to gain access to the international expertise and strategy, in particular, during the Olympic Games London 2012, which helped him to contribute to the development of the specific system to be operational during the Olympic Winter Games Sochi 2014.*
>
> *On the other hand, this knowledge allowed Dr Grigory Rodchenkov to design better doping products and protocols, ensuring that they would be less detectable and to establish a methodology to cover-up*

doping tests.

7) The detailed analysis of the e-mail exchanges attached to the [McLaren] Reports, […] allows to confirm the involvement of a number of individuals within the Ministry of Sport and its subordinated entities, such as CSP, VNIIFK, RUSADA, Moscow and Sochi Laboratories. All the independent and impartial evidence as well as the results of the forensic and biological analysis confirm this conclusion.

Nevertheless, the independent and impartial evidence do not allow the [Schmid Commission] to establish with certitude either who initiated or who headed this scheme.

On many occasions, reference was made on the involvement at the Minister of Sport's level, but no indication, independent or impartial evidence appeared to corroborate any involvement or knowledge at a higher level of the State.

This assertion is confirmed by Prof. Richard McLaren's change of wording in his Final Report: in his Preliminary Report, he considered the existence of a "State-dictated failsafe system", including the activity of the Moscow Laboratory operating "under State directed oversight and control of its anti-doping operational system"; but, in his Final Report, he amended the wording to "An institutional conspiracy existed across summer and winter sports athletes who participated with Russian officials within the Ministry of Sport and its infrastructure, such as the RUSADA, CSP and the Moscow Laboratory, along with the FSB for the purposes of manipulating doping controls".

8) In addition to the above conclusions, the [Schmid Commission] considers that the various Russian institutions are considered to be administratively and/or legally responsible, as demonstrated in the second part of these conclusions".

e. The IOC Disciplinary Commission

25. In December 2016, the IOC appointed a Disciplinary Commission chaired by Prof. Denis Oswald (the "IOC DC"). The IOC DC was responsible for investigating potential ADRVs committed by individual Russian athletes at the Sochi Games. In late 2016 and in 2017, the IOC DC initiated formal disciplinary proceedings against a number of Russian athletes, alleging that those athletes knowingly and actively engaged in an elaborate State-orchestrated doping and cover-up scheme at the Sochi Games.

26. In November and December 2017, the IOC DC delivered its final decisions containing findings that the Sochi Appellants and several other Russian athletes committed ADRVs through their participation in such a scheme. The IOC DC retrospectively disqualified each of those athletes from the relevant competitions they had participated in at the Sochi Games and declared each athlete ineligible to participate in any future editions of the Games of the Olympiad or the Olympic Winter Games.

2. Facts Related to the Athlete

27. On 8 February 2014, the Women's Ice Hockey Event started.

28. On 9, 11, 13, 15, 16 and 18 February 2014, the Athlete competed in the Women's Ice Hockey Event at the Sochi Games. The Athlete's team finished sixth in that competition.

29. Before the Women's Ice Hockey Event had commenced, on 7 February 2014, the Athlete underwent a doping control test at the Sochi Games. She provided a urine sample, which was allocated the reference number 2889676.

30. On 11 February 2014, the Athlete underwent a further doping control test at the Sochi Games. She provided a urine sample, which was allocated the reference number 2889506.

31. The Athlete's samples provided during the doping control tests at the Sochi Games did not test positive for any prohibited substance.

B. Proceedings against the Athlete before the IOC Disciplinary Commission

32. Following the investigations and reports described above, on 22 December 2016, the IOC notified the Athlete that disciplinary proceedings before the IOC DC had been initiated against her.

33. On 19 October 2017, the Athlete was informed by the IOC that the investigation into her had been completed. The IOC enclosed with its letter a large number of documents, including the Independent Person ("IP") dossier for the Athlete, forensic expert reports and results of examinations on the Athlete's sample bottles, scientific analyses of the sodium concentrate in the Athlete's urine and DNA analyses. The IOC requested written comments from the Athlete by 1 December 2017 and a hearing was set for 4 December 2017.

34. Further information was provided to the Athlete approximately three weeks before the hearing, in the form of written affidavits of Prof. McLaren and Dr. Rodchenkov. The Athlete was also informed that her urine sample had been subjected to DNA re-testing, and those test results were made available to her a few days prior to the hearing.

35. On 1 December 2017, the Athlete filed written submissions with the IOC DC, in which she denied the allegations against her.

36. On 4 December 2017, a hearing took place before the IOC DC at the IOC Headquarters in Lausanne, Switzerland. The Athlete participated in the hearing in person and was represented by legal counsel.

37. On 11 December 2017, the IOC DC rendered the operative part of its decision in the Athlete's case. The IOC DC held that the Athlete had committed ADRVs contrary to Article 2 of the IOC Anti-Doping Rules applicable to the XXII Olympic Winter Games in Sochi in 2014

("IOC ADR"). As to the issue of sanctions, the IOC DC: (a) disqualified the Athlete from the Women's Ice Hockey Event she had participated in at the Sochi Games; (b) withdrew the Athlete's diploma and ordered its return to the IOC; (c) disqualified the Russian team from the Women's Ice Hockey Event at the Sochi Games (with all resulting consequences); and (d) declared the Athlete ineligible to be accredited in any capacity for all editions of the Games of the Olympiad and the Olympic Winter Games subsequent to the Sochi Games.

38. The IOC DC did not issue a reasoned decision with respect to the Athlete (*see below* paras. 41-42).

III. PROCEEDINGS BEFORE THE COURT OF ARBITRATION FOR SPORT

39. On 19 December 2017, the Athlete filed her Statement of Appeal against the IOC with respect to the IOC DC's decision in accordance with Article R47 *et seq*. of the Code of Sports-related Arbitration (the "Code"). In her Statement of Appeal, the Athlete nominated Mr. Boris Vittoz, Attorney-at-Law in Lausanne, Switzerland as arbitrator and requested that this procedure be expedited in accordance with Article R52 of the Code.

40. Also on 19 December 2017, following the filing of 25 similarly-situated appeals and in anticipation of the filing of a number of additional appeals, the Parties agreed to refer the Sochi Appeals to two Panels and in doing so, entered a procedural agreement (the "Procedural Agreement").

41. The relevant portions of the Procedural Agreement, as they relate to this procedure, are as follows:

- The Hon. Michael J. Beloff, subject to challenge in accordance with Article R34 of the Code, would act as the Respondent's appointee as arbitrator. The Deputy President of the Appeals Arbitration Division, in consultation with the Parties, would appoint the President of the Panel. Any party wishing to challenge an arbitrator must do so within 72 hours of being provided with such arbitrator's statement of independence.

- Because the IOC DC was not able to issue reasoned decisions in time in all cases, the Chair of the IOC DC shall file, by 22 December 2017, a statement setting out the principles applied in the decisions. This shall not be construed as a waiver by any appellant of any of his/her rights.

- Athlete's Appeal Brief to be filed by 5 January 2018.

- Both Parties to identify witnesses and scope of witness testimony by 13 January 2018, including a short summary describing the scope of such expected testimony.

- Respondent's Answer to be filed by 17 January 2018.

- Expert reports and witness statements to be filed by 17 January 2018.

- The Parties agree to a limited consolidation as follows: (a) procedural communications from and to CAS do not need to be made separately for each athlete but can be made together for all athletes appearing before the same Panel; and (b) the Parties may file a joint Appeal Brief / Answer on common issues for all athletes, and separate Appeal Briefs / Answers addressing issues that are specific to each athlete.

- The hearing will begin on 22 January 2018. It will last between 5 to 7 days, including a weekend if necessary, and take place in Switzerland.

- The Parties agree that the hearing shall be organised as follows: a joint hearing on "common issues" for all athletes, in particular, fact witnesses and methodology of experts, over 3 days, followed by hearings for the different athletes, grouped by discipline / Panel. Both Panels may be present during the joint hearing on common issues but each Panel will attend the respective parts specific to their cases. The Panels reserve the right to modify the Parties' proposed hearing organisation plan as they deem necessary.

- The relevant International Federations ("IFs") will be provided with all the Parties' submissions and invited to attend the hearing as observers. Any participation beyond that will be subject to application by the IFs and subject to a decision of the Panel.

42. On 20 December 2017, Prof. Denis Oswald, Chair of the IOC DC, issued a three-page summary of the principles followed by the IOC DC in dealing with the Sochi cases and in rendering their decisions (the "IOC DC Principles"). These Principles are particularly relevant to the Athlete's case since she was not provided with a reasoned decision by the IOC. The IOC DC Principles stated in particular:

- The IOC DC had not sought to apply *"collective justice"*, nor had it sought to issue *"collective sanctions"*. Instead, the IOC DC examined each case individually and only sanctioned athletes where sufficient evidence existed to find personal implication in violations of anti-doping rules.

- In accordance with Article 3.1 of the WADC, the anti-doping organisation has the burden of establishing that an ADRV has occurred, which the IOC DC applied.

- The standard of proof is comfortable satisfaction, bearing in mind the seriousness of the allegation that is made.

- Several elements of evidence were considered, which were placed in a global perspective. Evidence was looked at like a puzzle: one piece may not be clear as to what it represents; the pieces all together have a much clearer meaning. The evidence

in these cases matched together and corroborated to a point where no doubts were possible.

- The system in Sochi was developed to benefit a so-called list of *"protected athletes"*. The protected athletes were featured on the Duchess List, while others, notably female hockey players and bobsleigh athletes, were intimately involved in the overall scheme. This evidence was supported by Dr. Rodchenkov and confirmed by material evidence such as scratch marks, high levels of sodium, and inadequate DNA in the athletes' samples.

- Based on comfortable satisfaction, an athlete could be found to be a protected athlete and as such a beneficiary and participant in the doping scheme, and thus guilty of ADRVs, if: (a) the athlete featured on the Duchess List, which indicated that the athletes on the list were provided access to a specific cocktail of Prohibited Substances and who were shielded from adverse analytical findings during doping control in Sochi through automatic swapping; and/or (b) objective evidence of tampering could be retained with respect to one or more of an athlete's samples. Such evidence consists of forensic marks indicative of surreptitious opening of a sample and/or evidence of abnormal sodium levels in their urine and/or DNA results indicative of urine mixing.

- In certain cases, and further to the above, the IOC DC relied on circumstantial evidence indicating that certain athletes benefited from protection.

43. On 22 December 2017, the Respondent challenged the Athlete's nomination of Mr. Boris Vittoz as arbitrator.

44. On 23 December 2017, the Athlete challenged the Respondent's nomination of the Hon. Michael J. Beloff as arbitrator.

45. On 24 December 2017, the Hon. Michael J. Beloff, while not accepting the grounds for challenge asserted by the Athlete, declined his nomination as arbitrator.

46. On 27 December 2017, the Respondent nominated Prof. Dr. Martin Schimke in place of the Hon. Michael J. Beloff as arbitrator. Prof. Dr. Schimke, however, did not accept his nomination.

47. On 28 December 2017, the Respondent nominated Dr. Dirk-Reiner Martens, Attorney-at-Law in Munich, Germany as arbitrator.

48. On 3 January 2018, Mr. Vittoz, while not accepting the grounds for challenge asserted by the Respondent, declined his nomination as arbitrator.

49. On 4 January 2018, the Athlete nominated Prof. Dr. Michael Geistlinger, Law Professor in Salzburg, Austria as arbitrator.

50. On 5 January 2018, the Athlete filed a Joint Appeal Brief in the Sochi Appeals, including 50 Exhibits, as well as an Individual Appeal Brief, in accordance with the Procedural Agreement and Article R51 of the Code.

51. The Athlete's request for relief was drafted as follows:

> *"(1) that the Decision of the IOC Disciplinary Commission in the matter of Ekaterina Pashkevich … dated 11 December 2017 be annulled*;
>
> *(2) that the Panel find that the Appellant's due process rights were violated by the IOC Disciplinary Commission;*
>
> *(3) that the IOC be ordered to pay the costs of the arbitration (if any) and the Appellant's legal fees and expenses".*

52. On 8 January 2018, following a consultation phase with the Parties on the selection of the President of the Panel, the CAS Court Office, on behalf of the Deputy President of the Appeals Arbitration Division, informed the Parties that the Panel constituted to decide this appeal was as follows:

President:	Prof. Dr. Christoph Vedder, Law Professor in Munich, Germany
Arbitrators:	Prof. Dr. Michael Geistlinger, Law Professor in Salzburg, Austria
	Dr. Dirk-Reiner Martens, Attorney-at-Law in Munich, Germany

Throughout the procedure, this Panel was referred to as "Panel 2".

53. On the same date, the CAS Court Office confirmed the constitution of another Panel which would, on agreement of the Parties, also hear the common issues relevant to the Sochi Appeals. This Panel was comprised of Prof. Dr. Christoph Vedder (President), Dr. Hamid G. Gharavi and Dr. Dirk-Reiner Martens (Arbitrators). Throughout the procedure, this Panel was referred to as "Panel 1".

54. On 15 January 2018, the Athlete filed a request for urgent relief seeking an extension of the late entry deadline for the forthcoming 2018 Olympic Winter Games in PyeongChang, as well as the Invitation Review Panel and the Olympic Athlete of Russia Implementation Group to consider the Athlete's entry, until 5 February 2018.

55. On 16 January 2018, the Athlete filed a witness statement.

56. On 17 January 2018, the Respondent filed its Joint Answer Brief in the Sochi Appeals, including 546 Exhibits, as well as an Individual Answer Brief with respect to the Athlete in accordance with the Procedural Agreement and Article R55 of the Code. Within this submission, the Respondent filed expert reports and witness statements as follows:

Expert Reports:

- Prof. Christophe Champod
- Prof. Michel Burnier
- Dr. Vincent Castella

Witness Statements:

- Prof. Richard McLaren
- Dr. Grigory Rodchenkov

57. The Respondent's individual request for relief was drafted as follows:

"The Respondent requests:

(1) The Appeal filed by Ekaterina Pashkevich is dismissed.

(2) The Decision of the IOC Disciplinary Commission in the matter of Ekaterina Pashkevich … dated 11 December 2017 is confirmed.

(3) *The IOC is granted an award for costs".*

58. On the same day, 17 January 2018, the Athlete filed her expert reports and witness statements as follows:

Expert Reports:

- Mr. Geoffrey Arnold
- Mr. Alexey Bushin
- Dr. Evgenia Burova
- Prof. David Charytan
- Dr. Susan Pope

Witness Statements:

- Mr. Evgeny Kudryavtsev
- Mr. Yuri Chizhov
- Mr. Grigory Krotov
- Mr. Maxim Verevkin
- Mr. Andrey Knyazev

59. On 19 January 2018, the Panel confirmed with the Parties that it would accept the testimony of Dr. Rodchenkov by video and with his face covered. In such communication, the Parties

were reminded that it would ultimately be for the Panel to weigh the evidence as presented to them and to judge it accordingly.

60. Additionally, on 19 January 2018, the Respondent confirmed that applications for late entries would be extended until 5 February 2018.

IV. SUBMISSIONS OF THE PARTIES

A. The Athlete's Submissions

61. The Athlete's submissions, in essence, may be summarised as follows:

1. Issues common to the Sochi Appeals:

a. The IOC DC's reasoning and general approach to the evidence

62. Although no reasoned decision was rendered by the IOC DC in the Appellant's case, the Appellant's submissions make reference to the IOC DC's reasoning as it was made known in its reasoned decisions issued in other cases relating to the group of the 39 Sochi Appellants. This is based upon the Procedural Agreement which established the particular format of joint and individual sections of the proceedings. References to the IOC DC made on behalf of the Appellant in the Joint Appeal Brief and in the Athlete's Individual Appeal Brief, as well as in the hearing, refer to arguments that are common to the reasoned decisions that are identical in substance and also largely in their wording.

63. The Sochi Appellants submit that the IOC DC fundamentally erred in its application of the relevant legal framework to the facts of the Sochi Appellants' cases. In particular, rather than seeking to determine whether the specific requirements set out in the relevant provisions of the WADC have been made out in individual cases, the IOC DC took a generic and *"broad brush approach"* to its assessment of the evidence. It proceeded from a foregone conclusion, and applied assumptions and circular inferential reasoning to reach its ultimate conclusion that the Sochi Appellants were each guilty of ADRVs. In particular, the Sochi Appellants submit that:

- The IOC DC began by assuming the existence of an institutionalised system to protect certain doped athletes during the Sochi Games. This assumption, however, was based solely on the *"contradictory and untrue"* allegations made by Dr. Rodchenkov. Notwithstanding that, the IOC DC's reasoning proceeded on the assumption that Dr. Rodchenkov's allegations were true and accurate.

- The IOC DC further assumed, again on the basis of Dr. Rodchenkov's allegations, that particular individual athletes were involved in the scheme of institutionalised doping. It proceeded on that assumption despite the absence of any conclusive evidence connecting individual athletes to the scheme.

- On the basis of those two assumptions, the IOC DC concluded that the individual Sochi Appellants must each have: (a) used the Duchess Cocktail; (b) provided clean urine to be used to replace dirty urine samples with clean ones; and (c) communicated the number of their doping control samples at the Sochi Games to the persons who were responsible for tampering with, and substituting the contents of, the samples provided by the Sochi Appellants during the doping control process.

64. As a result of this approach, the Sochi Appellants submit that the IOC DC disregarded the fundamental principle that inferences can only be drawn from primary facts that have been established by admissible evidence.

65. Furthermore, in respect of the allegations of tampering, the IOC DC did not even attempt to identify the specific acts that each individual Sochi Appellant purportedly committed. Instead, it merely asserted that the entire process *"forms a chain constitutive in globo of the conduct relevant as tampering"*, and that each individual Sochi Appellant *"must have"* participated in the chain and provided urine to be used for the purpose of tampering.

66. The Sochi Appellants further submit that the IOC DC's analysis of the evidence failed to take into account that:

- As a result of the time constraints created by the IOC, the Sochi Appellants had no or only limited opportunity to provide counter-evidence to the reports prepared by the IOC's experts.

- The testimony of Dr. Rodchenkov, who is the IOC's principal witness and the sole source of many of the allegations against the Sochi Appellants, is unverified and untested.

- The testimony of other unnamed witnesses referred to in the McLaren Reports is inadmissible, and likewise unverified and untested.

- The Evidentiary Disclosure Package of documents that accompanied the McLaren Reports, which the IOC DC described as *"independent and objective evidence"*, was in fact provided by Dr. Rodchenkov. The originals and metadata of those documents had not been made available to the Sochi Appellants despite their repeated requests for this. The documents were therefore nothing more than further allegations by Dr. Rodchenkov.

- The McLaren Reports are not evidence capable of being used to establish ADRVs against the Sochi Appellants, but are rather *"a compilation of Professor McLaren's subjective conclusions"* and *"a reproduction of unverified witness testimony"*.

67. In terms of the application of the principles of the WADC, the Sochi Appellants submit that the IOC DC applied *"a vague notion of conspiracy"*, which does not exist as a freestanding ADRV under the applicable version of the WADC in force at the time of the Sochi Games.

Furthermore, the IOC DC sought to merge the concepts of *"conspiracy"* and *"complicity"* by reference to an erroneous interpretation of the explanation of *"vertical complicity"* in CAS 2007/A/1286-9. Had the IOC DC applied the principles reflected in those decisions correctly, then it would necessarily have concluded that there is no direct evidence that any of the individual Sochi Appellants committed an ADRV. Nor, the Sochi Appellants submit, is there any indication that any of them acted in cooperation with one another or with any third parties with a view to committing an ADRV. In particular, the IOC DC gave no consideration to the subjective intention or knowledge of any of the individual Sochi Appellants in relation to the alleged scheme.

b. The Sochi Appellants' due process rights

68. In addition to the alleged flaws in the approach and reasoning of the IOC DC, the Sochi Appellants further submit that the proceedings before the IOC DC violated their fundamental due process rights.

69. In particular, the Sochi Appellants submit that:

- The IOC notified most of the Sochi Appellants that it had opened formal investigations against them on 22 December 2016. Thereafter, the Sochi Appellants under investigation heard nothing further from the IOC for several months. It was only in October 2017 that the IOC informed those individuals that the investigations had been completed. Moreover, the remainder of the Sochi Appellants, i.e. those who had not been notified they were under investigation in December 2016, were only informed for the first time of the fact they were under investigation in October 2017.

- The IOC did not provide copies of the scientific reports and analyses it had commissioned until very late in the procedure. In some instances, the IOC's expert evidence was only provided to the Sochi Appellants a matter of days before the hearings before the IOC DC. The IOC therefore *"held back evidence until the last possible moment"*, with the result that the Sochi Appellants were unable to prepare their defences in an adequate manner.

- In addition to the IOC's failure to disclose those scientific reports and analyses within a reasonable time, the IOC refused, and in some instances continues to refuse, the Sochi Appellants' requests for access to relevant documents and evidence in the IOC's possession. The Sochi Appellants unsuccessfully requested access to: (a) BEREG-KIT sample bottles; (b) DNA-relevant materials and protocols; (c) photographs and video footage produced by Prof. Champod; (d) IOC statistics; and (e) an un-redacted version of Dr. Rodchenkov's diary.

- Lastly, despite the fact that the evidence of both Dr. Rodchenkov and Prof. McLaren was treated as being of *"major significance"* by the IOC DC, the Sochi Appellants were denied the opportunity to cross-examine either of those individuals.

70. The Sochi Appellants, therefore, submit that the IOC: (a) failed to disclose in a timely manner the evidence that would be used against them; (b) withheld key evidence and information; (c) failed to provide a proper opportunity for the Sochi Appellants to review reports and analyses; and (d) failed to provide the Sochi Appellants with a proper opportunity to file rebuttal evidence in response to the IOC's evidence.

71. As a result, the Sochi Appellants submit that the IOC unfairly deprived them of the opportunity to properly present their case. Those *"repeated breaches"* of the Sochi Appellants' fundamental due process rights impugn the legitimacy of the entire process and vitiate the validity of the IOC DC's decisions.

72. In support of this argument, the Sochi Appellants point out that the Doping Hearing Panel of the International Bobsleigh and Skeleton Federation ("IBSF") recently delivered a decision which held that

> *"not hearing Dr Rodchenkov before a proper Disciplinary Commission or Hearing Panel […] is convincingly probable to be contested before a Court as being not compatible with the principles of international law, Swiss procedural law and in particular with article 6 § 1 of the European Convention for the Protection of Human Rights regarding the right to a fair process"* (Decision of the IBSF Doping Hearing Panel in the matter of Aleksander Tretiakov dated 18 December 2017, para. 53).

c. The burden and standard of proof

73. The Sochi Appellants submit that the IOC bears the burden of proving, to the comfortable satisfaction of the Panel, that the Sochi Appellants have committed ADRVs. In this regard, the Sochi Appellants refer to the CAS awards in CAS 2004/O/645 and CAS 2004/O/649 in support of the proposition that the evidence required in order to satisfy the comfortable satisfaction standard must reflect the gravity of the wrongdoing alleged against the Sochi Appellants and, in particular, the more serious the allegation, the less likely it is that the alleged event occurred, and hence the stronger the evidence that is required before the occurrence of the event is established.

74. In this regard, the Sochi Appellants note that the Disciplinary Commission of the International Luge Federation ("FIL") recently delivered a decision in respect of one of the Sochi Appellants which stated that:

> *"this matter concerns a doping violation that is to be seen as severe as the IOC has issued lifelong ineligibility of the athlete from the Olympic Games. Therefore the degree of conviction of the doping violation must be at the upper end of the range of the standard of proof so that a high level of conviction is necessary in order to impose sanctions against the athlete"* (Decision of the FIL Disciplinary Commission in the matter of Albert Demchenko dated 12 January 2018).

d. The alleged ADRVs under the WADC

75. The Sochi Appellants state that throughout the proceedings, it has been unclear precisely which provisions of the WADC the IOC alleges that the Sochi Appellants violated. The IOC DC ultimately referred to three categories of ADRVs, namely: (a) tampering pursuant to Article 2.2 and M2.1 of the 2009 Prohibited List or pursuant to Article 2.5 of the WADC; (b) use of a Prohibited Substance pursuant to Article 2.2 of the WADC; and (c) *"cover up / complicity"* pursuant to Article 2.8 of the WADC.

76. In respect of Articles 2.2 and 2.5:

- The Sochi Appellants criticise the IOC DC's conclusion that, *"it would not even be necessary to demonstrate that the Athlete was a conscious participant in the process and was aware of its subversion purpose to conclude that a violation of tampering pursuant to Art 2.2 of the 2009 WADC is … established"*. The Sochi Appellants submit that it is absurd to apply a strict liability standard to allegations of tampering. It would be contrary to natural justice for an athlete to be found to have committed an ADRV in circumstances where an athlete provides a clean urine sample, which is then used without his/her knowledge by a third party in a process which the athlete has no knowledge of. Instead, the IOC must establish, in respect of each individual Sochi Appellant, that he/she actively and knowingly committed an act that constitutes tampering pursuant to Article 2.2 and/or 2.5 of the WADC.

- Further, the Sochi Appellants submit that the provision of clean urine alone does not fall under the Prohibited Method of urine substitution. The Sochi Appellants therefore argue that the IOC DC erred in law when it asserted that an athlete who provides clean urine *"commits tampering as much as the person who actually carries out the urine substitution"*.

77. In relation to Article 2.8, the Sochi Appellants submit that:

- Whereas *"conspiracy"* is expressly referred to in Article 2.9 of the 2015 WADC, *"conspiracy"* is not referred to in Article 2.8 of the 2009 WADC. Instead, under the 2009 WADC *"conspiracy"* is merely a possible aggravating circumstance pursuant to Article 10.6. It is not an independent ground for a finding of an ADRV.

- For the purposes of Article 2.8 of the WADC, complicity or cover-up requires proof that the athlete is acting with *intent*, i.e. with a degree of knowledge of the actions he/she is complicit in.

- Consequently, in order to establish a violation of Article 2.8 of the WADC against an individual athlete, the IOC must demonstrate not only that the athlete committed an act which assisted or covered up the commission of an ADRV by a third party, but that they did so with the intention of assisting or covering up that ADRV.

e. The evidence against the Sochi Appellants, Dr. Rodchenkov's testimony

78. The Sochi Appellants submit that Dr. Rodchenkov's testimony cannot be relied upon to support any of the ADRVs alleged by the IOC.

79. First, the Sochi Appellants submit that Dr. Rodchenkov's evidence is unverified by any other witnesses or documentary evidence. Despite this lack of corroboration, the IOC has unquestioningly accepted the truthfulness of that evidence and has not sought to test or independently verify his testimony.

80. Second, the Sochi Appellants submit that Dr. Rodchenkov is not a credible witness. In particular, they submit that Dr. Rodchenkov provided his testimony to Prof. McLaren in a context where he was facing deportation from the United States to Russia, where he would be likely to face criminal prosecution. Accordingly, Dr. Rodchenkov had an interest in telling a spectacular story that downplayed his own involvement in the cover-up of positive doping test results and instead framed the story as one involving sophisticated and far-reaching wrongdoing orchestrated by the Russian State. There is, however, no evidence to support these claims.

81. The Sochi Appellants also allege that Dr. Rodchenkov has repeatedly changed his story during the past three years in order to promote his own personal interests. He only made allegations of a widespread State-sponsored conspiracy after the Independent Commission exposed his criminal activities. According to the Sochi Appellants, if Dr. Rodchenkov had truly been interested in *"coming clean"* about this involvement in wrongdoing, he would have done so as a confidential witness before the Independent Commission. Instead, however, *"he demonstrably lied to the Independent Commission"*, which went on to recommend the imposition of serious sanctions against him. Only at that point did Dr. Rodchenkov decide to *"come clean"*. Even then, however, he elected to provide his story first to the media, and not to the relevant criminal or anti-doping authorities.

82. In addition to repeatedly changing his story, the Sochi Appellants submit that there are *"striking inconsistencies"* in Dr. Rodchenkov's testimony, which the McLaren Reports fail to address. By way of example:

- Between July and December 2016, Dr. Rodchenkov changed his testimony regarding his knowledge of the methodology that the FSB allegedly used to open the sealed B sample bottles at the Sochi Games. Whereas the First McLaren Report recorded that it was not known how those bottles were opened, in the Second McLaren Report it was recorded that Dr. Rodchenkov *"recalled"* personally witnessing the actual tools that were used to open the bottles.

- Similarly, Dr. Rodchenkov has provided inconsistent accounts regarding the composition of the alleged Duchess Cocktail. Having originally stated that the *"cocktail"* consisted of a mixture of trenbolone, oxandrolone and methasterone, he subsequently – and without any explanation – changed the description to trenbolone,

oxandrolone and metenolone. Metenolone is an entirely different steroid with different chemical properties to methasterone.

- Dr. Rodchenkov also initially told Prof. McLaren that, *"there was an FSB agent in each Sochi doping control station responsible for sending the DCFs for protected Russian athletes to Irina Rodionova [the Deputy Director of the Centre for Sports Preparation] to be forwarded to Dr. Rodchenkov or his secretary to ensure that the correct samples were swapped"*. He later stated, however, that the athletes themselves transmitted images of the DCFs to Ms. Rodionova. Subsequently, Dr. Rodchenkov amended his testimony yet again, informing the Schmid Commission that *"the athlete or accompanying person"* or *"the DCO or corrupt personnel at the Doping Control Station"* were responsible for photographing the DCFs and sending the images to Ms. Rodionova.

83. Furthermore, the Sochi Appellants also submit that the IOC's own forensic analysis undermines Dr. Rodchenkov's allegations. In this regard:

- While the IOC contends that all of the protected athletes named on the Duchess List automatically had their samples swapped, the forensic analysis commissioned by the IOC found no conclusive evidence of tampering with the samples. Even on the basis of the IOC's own classification of scratch marks – which the Sochi Appellants submit was fundamentally flawed – a total of 119 out of 171 examined bottles from the Sochi Games contained no marks at all that could potentially indicate tampering.

- The IOC was forced to close disciplinary proceedings against several Russian athletes despite Dr. Rodchenkov's allegations against those athletes. In particular, Dr. Rodchenkov had alleged that two identified female athletes were participants in the alleged conspiracy. This allegation was based entirely on the fact that their names appeared on the so-called *"Medals-by-Day List"*. That document – as the IOC has since acknowledged – is of no probative value. As a consequence, the IOC had to terminate the proceedings against those two athletes despite Dr. Rodchenkov expressly implicating them in wrongdoing.

84. Lastly, the Sochi Appellants state that Dr. Rodchenkov is *"a criminal and a drug dealer with an admitted history of doping-related offences"*. Dr. Rodchenkov was found by the Independent Commission to be personally involved in the manipulation of blood and urine samples for his own financial gain, including by soliciting and accepting bribes. As such, he had a clear motive to blame his own wrongdoing on others. This was reflected in the IC Report, which also described Dr. Rodchenkov as *"obstructive"* and *"not credible"*. Similarly, the First McLaren Report noted that, *"there are allegations against [Dr. Rodchenkov] made by various persons and institutional representatives … that might impinge on his credibility in a broader context"*.

85. Third, the Sochi Appellants submit that a number of allegations asserted by Dr. Rodchenkov against the Sochi Appellants are based on diary entries that are of no probative value. In particular, they contend that the authenticity of the diary has not been independently verified.

They also note that the diary was only mentioned in passing in the McLaren Reports, suggesting that Prof. McLaren either did not see the diary or accorded it no probative value.

f. Direct evidence regarding the commission of ADRVs by the Sochi Appellants

86. The Sochi Appellants submit that there is no direct evidence that any of them actively committed an ADRV or otherwise knew of, were involved in, or benefited from an ADRV committed by third parties.

87. The Sochi Appellants submit, first, that there is no evidence that any of them ever took the Duchess Cocktail. In this regard:

- There is no dispute that none of the Sochi Appellants' samples collected during the Sochi Games contained any Prohibited Substances. In particular, none of the samples showed the presence of any of the three substances that allegedly comprised the Duchess Cocktail.

- All of the Sochi Appellants underwent numerous doping control tests outside of Russia, which by definition was beyond the reach of any Russia-based institutionalised doping system. None of the samples provided by the Sochi Appellants outside Russia ever tested positive for any Prohibited Substance.

- Dr. Rodchenkov alleges that the presence of an athlete's name on the Duchess List meant that they were *"protected"* and were therefore authorised to take the Duchess Cocktail. However, Dr. Rodchenkov has also confirmed that: (a) he never administered the Duchess Cocktail to any athletes; and (b) he never witnessed the Duchess Cocktail being administered to any athletes. His testimony concerning the consumption of the Duchess Cocktail by individual Sochi Appellants is therefore nothing more than hearsay, which should be disregarded by the Panel.

- Neither the McLaren Reports nor Dr. Rodchenkov's witness testimony contain any detailed information relating to the purported composition or effects, including the timing of such effects, of the Duchess Cocktail or the dosages and frequency of administration of the cocktail to individual athletes.

88. Second, the Sochi Appellants submit that there is no evidence that any of them ever provided urine outside of regular doping control procedures. Each of the Sochi Appellants denies ever having provided clean urine outside of regular testing procedures. There is no evidence that disproves those denials. In particular, the Sochi Appellants submit that while the McLaren Reports refer briefly to documents that list athletes who allegedly provided clean urine for storage in the *"urine bank"*, the origin and purpose of these documents is unclear and their alleged relevance is based solely on Dr. Rodchenkov's unreliable testimony.

89. Third, the Sochi Appellants submit that there is simply no evidence that any of the Appellants communicated information regarding their samples to any third parties. In particular:

- The sole basis for this allegation is Dr. Rodchenkov's testimony, which aside from being generally unreliable, is also very vague. Dr. Rodchenkov admits that he never personally witnessed any athletes transmitting information regarding their samples to anyone.

- Further, as noted above, Dr. Rodchenkov has provided inconsistent evidence on this point, having initially stated that the information was transmitted to Ms. Rodionova by FSB agents based in each doping control station, rather than by the athletes who had just provided the samples.

g. Indirect evidence regarding ADRVs by the Sochi Appellants

90. In addition to the absence of direct evidence, the Sochi Appellants also submit that there is no indirect evidence that any of the Sochi Appellants committed an ADRV.

(i) Scratch Marks

91. In respect of the forensic analysis of the marks on the sample bottles commissioned by the IOC, the Sochi Appellants submit that the analysis carried out by Prof. Champod's team at the Lausanne Laboratory has a number of serious flaws.

92. First, the Lausanne Laboratory developed a threefold classification of marks that fails to properly reflect uncertainty in the origin of many marks. In particular, the laboratory automatically classified all marks that are not compatible with "F marks" (namely marks *"typical of those consecutive to the manufacturing process"*) or "U marks" (namely marks *"typical of those observed … when the bottle is regularly closed"*) as "T marks" (namely marks *"typical of those observed consecutive to a tampering activity"*). The laboratory's approach to the classification of marks therefore made no allowance for any error rate or alternative explanation of the marks. This is particularly problematic in view of the fact that:

- The Lausanne Laboratory acknowledged that the distinction between different categories of marks is not certain.

- The Lausanne Laboratory acknowledged that it could not be certain of the origin of particular marks.

- The Lausanne Laboratory acknowledged that certain marks that were classified as T marks were not compatible with the T marks that the laboratory had produced under controlled conditions.

93. Second, the empirical data on which the Lausanne Laboratory's analysis was based was too limited. In particular, the *"marks of known status"*, which formed an important part of the laboratory's framework for classifying marks on bottles from the Sochi Games, was based on experiments conducted on just 11 sample bottles. This limited number of bottles was incapable of providing reliable empirical data from which conclusions could reliably be drawn regarding the origins of the marks on the Sochi sample bottles.

94. Third, the Lausanne Laboratory failed to test any alternative hypotheses. Instead, it focused exclusively on two alternative propositions, namely that bottles under examination: (a) were initially closed in accordance with regular instructions and then forcibly reopened with metallic tools before being resealed with the same cap; or (b) were closed regularly without any wrongdoing. As a result, the Lausanne Laboratory did not consider alternative hypotheses regarding the origin of marks on the bottles: for example, individual manufacturing characteristics arising from the bottles being produced on different machines, the introduction of foreign particles into the bottles during the sample collection process, or acts of sabotage.

95. Fourth, the Lausanne Laboratory failed to modify its initial hypothesis after that hypothesis failed. In particular, both of the alternative propositions described above assumed that the bottles under examination had been closed in accordance with *"regular"* instructions. The instructions issued by the manufacturers of the BEREG-KIT bottles state that when closing the bottle, the plastic cap should be turned *"until it moves no further"*. The initial testing conducted by the Lausanne Laboratory, however, found that too many marks were left when they attempted to open bottles closed between 12 clicks and 15 clicks (the maximum possible closure). Accordingly, the laboratory decided to vary the state of closure to between 6 and 11 clicks. As a result, although the initial hypothesis, that the bottles had been closed according to regular instructions, failed, the laboratory did not modify the hypothesis or consider an alternative hypothesis. The Sochi Appellants submit that this is both *"contrary to the scientific method"* and *"a rather plain sign of bias"*.

96. Fifth, the methodology for opening the bottles that the Lausanne Laboratory employed was entirely based on Dr. Rodchenkov's unverified allegations. The tools that the laboratory used to open the sample bottles were designed in a way that was intended to replicate the tools described by Dr. Rodchenkov. However, it has never been established whether those tools resemble that description and there has been no contact between the Lausanne Laboratory and Dr. Rodchenkov. The Sochi Appellants submit that this is *"highly questionable"* since another forensic examiner used different tools to produce what appeared to be similar results. This *"implies that a range of items or conditions could result in the production of similar marks on the plastic caps"*.

97. Sixth, the experiments carried out by the Lausanne Laboratory were not carried out in conditions comparable to those that existed during the Sochi Games when the tampering was alleged to have occurred. In particular:

- While the sample bottles in Sochi would have been filled with urine, the Lausanne Laboratory only opened empty sample bottles in an upside-down position. It is

unclear, however, whether the same marks would be produced irrespective of whether the bottles are opened upside-down or correct-side-up. Indeed, it is unclear whether it is even possible to open an upside-down bottle that is filled with urine.

- The Lausanne Laboratory did not consider whether the long-term freezing of sample bottles might have affected the marks that appear inside the bottle caps. This is significant, since freezing causes expansion and retraction, which can result in distortion or movement. This cannot be ruled out as a cause of marks.

- The Lausanne Laboratory also failed to consider whether the oxidation of the metal ring, which was observed in a number of cases, could have affected the marks found on the plastic caps.

98. Seventh, the Sochi Appellants submit that since the Lausanne Laboratory elected to carry out its examination of the Sochi bottles by using imaging techniques that can be deployed through the bottle caps, it followed that the marks were *"not examined directly, but rather though the distortion effect of the plastic cap"*. In the Sochi Appellants' submission, this *"undisputedly increases the error rate"*.

99. Eighth, the Sochi Appellants submit that the members of the team who carried out the relevant experiments and forensic analysis at the Lausanne Laboratory were insufficiently qualified to conduct these tasks. In particular, several members of the team were undergraduate or postgraduate students who had only undergone a limited 15-day training programme and who were therefore *"completely inexperienced"* in assessing marks and scratches. This fundamentally undermines the reliability of the entire exercise.

100. In any event, the Sochi Appellants submit that quite apart from the methodological and analytical flaws summarised above, the results of the analysis carried out by the Lausanne Laboratory did not yield any conclusive evidence that the Sochi Appellants' sample bottles had been tampered with. In particular:

- The Lausanne Laboratory found no T marks on 119 out of 171 examined sample bottles. The Laboratory concluded that it was ten times more probable that these sample bottles had *not* been manipulated than that they had been manipulated.

- Further, in respect of 18 of the 171 samples bottles, the Lausanne Laboratory found one or more isolated T marks. The laboratory concluded that these results were *"neutral"*. As such, the marks on those 18 bottles are not indicative of tampering.

- In respect of the remaining 34 bottles, the Lausanne Laboratory found multiple T marks. The laboratory stated, however, that, *"we do not claim that it is impossible to make such observations under the proposition on normal use of the bottle"*.

(ii) Sodium Content

101. In respect of the sodium content analysis commissioned by the IOC, the Sochi Appellants make a number of submissions:

102. First, out of a total of 230 urine samples collected from Russian athletes during the Sochi Games, Prof. Burnier identified just 13 samples from 12 athletes that showed unusually high levels of sodium. The overwhelming majority of the samples showed a normal sodium concentration. The Sochi Appellants submit that a normal level of sodium is strong evidence that those samples were not tampered with.

103. Second, in any event, in respect of the samples that did show a high sodium concentration, there are a multitude of causes other than tampering that may account for those elevated sodium levels. High levels of sodium in individual samples from Russian athletes who competed at Sochi are therefore not necessarily indicative of wrongdoing. In this regard, the Sochi Appellants submit that:

- The size of the reference population selected by Prof. Burnier for the purpose of establishing normal reference ranges for urinary sodium concentrations is not large enough to provide a reliable set of mean and standard deviation values.

- It is also unclear, in any event, whether the reference population (namely athletes who competed at the Olympic Winter Games in Vancouver in 2010) was medically, racially or dietarily representative of the Russian athletes who competed at Sochi. The validity of the comparison between the reference population and the Sochi samples is therefore questionable.

- Individual urine samples are not a reliable indicator of individual sodium intake. This is because levels of urinary analytes (e.g. sodium) are dynamic and often vary significantly depending on the physiological state of the person providing the sample.

- In addition, there are a multitude of individual physiological factors, such as blood pressure and state of hydration, and external factors, such as food intake and eating habits, that can significantly affect urinary sodium concentration. As such, it is not possible to describe a particular sodium value as *"normal"* or *"abnormal"* without knowing the physiological state, bodyweight and medical condition of the individual at the time the sample is provided.

104. Third, in order to measure the sodium concentration in the *"outlier"* samples, it was necessary for those samples to be diluted by the laboratory. If dilution is carried out incorrectly, then this can result in a substantial multiplication error. In the circumstances, it cannot be ruled out that the values that the IOC's expert identified as *"non-physiological"* are, in fact, the product of errors in the laboratory's dilution process rather than evidence of sample manipulation.

(iii) DNA Analysis

105. With respect to the DNA analysis commissioned by the IOC, the Sochi Appellants submit that contrary to the IOC's position, this forensic evidence in fact supports the Sochi Appellants' case that no tampering of samples occurred.

106. First, only two of the 139 urine samples subjected to DNA testing were shown to have a mixture of two or more individuals' DNA. This confirms that the urine in the Sochi Appellants' sample bottles was indeed their own urine, rather than someone else's urine.

107. Second, with respect to the two samples which were reported as having more than one person's DNA:

- The IOC inexplicably waited more than 10 months before it transmitted the relevant DNA reports to the Sochi Appellants in October 2017. This significantly impeded the Sochi Appellants' ability to properly analyse the reports and to prepare detailed rebuttal evidence.

- In any event, notwithstanding that inexplicable delay, the Sochi Appellants have obtained expert DNA evidence from an independent forensic scientist, Dr. Susan Pope, which establishes that there is a possibility that the mixture was caused by contamination or other irregularities before or during the testing process. Further, Dr. Pope explained that the quantity of extraneous DNA found in those two samples was very small. This does not fit with Dr. Rodchenkov's explanation that urine from several athletes was mixed for the purposes of substituting samples.

(iv) Duchess List

108. The Sochi Appellants further submit that the Duchess List does not constitute evidence that the Sochi Appellants used Prohibited Substances, or were involved in or aware of, any doping or tampering scheme.

109. First, the Sochi Appellants submit that the Duchess List is nothing more than a competition schedule, which was prepared ahead of the Sochi Games for the purpose of identifying potential medallists. The Russian Olympic Committee has confirmed this was the case. The only evidence to the contrary is Dr. Rodchenkov's unsupported allegation. Neither the IOC DC nor Prof. McLaren ever sought to verify whether this allegation is correct.

110. Second, the Sochi Appellants submit that the origin of the Duchess List is dubious. Dr. Rodchenkov is the only source of information regarding the origin of the document. There is no independent corroborating evidence concerning the identity of the creators of the Duchess List or the accuracy of the information contained in it. In this regard, neither Prof. McLaren nor the IOC has disclosed any metadata that could potentially clarify the circumstances in which the document was created.

111. Third, the Duchess List contains inaccuracies and inconsistencies with material contained within Prof. McLaren's Evidentiary Disclosure Package ("EDP") that further diminish its probative value. In particular, in several instances the same alphanumeric redaction code has been used to refer to two different athletes on the Duchess List and in the EDP. Further, several of the alphanumeric redaction codes relating to several particular athletes are inexplicably missing from a document that is alleged to be an English translation of the Duchess List. These errors and discrepancies further undermine the probative value of the Duchess List.

(v) Prof. McLaren's Reports

112. The Sochi Appellants further submit that testimony provided to Prof. McLaren by anonymous witnesses, which was subsequently used to provide support for the conclusions set out in the McLaren Report, has no probative value in these proceedings.

113. The Sochi Appellants submit that the contents of the McLaren Reports do not constitute admissible evidence that could be used to support any ADRV in these proceedings. In this respect, the Sochi Appellants submit in particular that:

- The McLaren Reports are merely the views and conclusions of one person based on a compilation of unverified witness testimony, documents and forensic analyses.

- The McLaren Reports expressly make it clear that the reports are not intended to assess whether any individual athletes have committed an ADRV. Since the McLaren Reports were published, Prof. McLaren has confirmed repeatedly that the reports were not intended, and did not seek, to investigate potential ADRVs by individual athletes.

- In any event, there is no indication that the findings contained in the McLaren Reports have been verified or tested since they were published. Prior to the proceedings before the CAS, the Sochi Appellants have had no opportunity to question Prof. McLaren. The contents of his reports must therefore be considered *"a mere manifestation of Professor McLaren's personal views"*.

b. Appropriate Sanctions

114. In addition to their submissions concerning the ADRVs that the Sochi Appellants are alleged to have committed, the Sochi Appellants submit that, even if they were to be found to have committed ADRVs, the sanction imposed by the IOC DC, namely ineligibility from all future editions of the Olympic Games, is grossly disproportionate.

115. The Sochi Appellants note that the IOC DC's decisions do not explain the factors that led it to impose sanctions of this magnitude against the Sochi Appellants. As a result, the Sochi Appellants submit that the IOC DC disregarded the detailed mandatory framework set out in the WADC.

116. The Sochi Appellants argue that while the Olympic Charter and the IOC ADR applicable to the Sochi Games merely establish a general rule that athletes may be declared temporarily or permanently ineligible from participating in future editions of the Olympic Games, the precise sanctions to be applied in individual cases must be determined in accordance with the WADC. The provisions of the WADC are *lex specialis* in cases where anti-doping organisations such as the IOC impose what constitute *de facto* sanctions even if in formal terms they are cast in terms of eligibility rules.

117. The IOC alleges that the Sochi Appellants committed violations of three specific provisions of the WADC, namely:

- Article 2.2 (Use of Prohibited Substance or Prohibited Methods);
- Article 2.5 (Tampering with any part of Doping Control); and
- Article 2.8 (Complicity).

118. In each case, the WADC lays down specific provisions concerning the sanctions applicable to violations of those respective provisions. In particular:

- For the ADRV of tampering, Article 10.3.1 of the WADC provides that a first-time offender shall receive a two-year period of ineligibility unless the conditions in Article 10.5 or Article 10.6 are met. Under Article 10.6, if the tampering occurs as part of a doping plan or scheme, then the period of ineligibility may be increased up to a maximum of four years.
- For the ADRV of use of prohibited substances or prohibited methods, Article 10.2 of the WADC provides that a first-time offender shall receive a two-year period of ineligibility. Again, this can be increased to four years if there are aggravating circumstances, which can include repeat commission of ADRVs, conspiracy or deceptive conduct to avoid detection of an ADRV.
- For the ADRV of complicity, Article 10.3.1 of the WADC provides that the sanction for first-time offenders shall be *"four (4) years up to lifetime ineligibility"* unless the conditions in Article 10.5 are met.

119. Accordingly, it follows that the IOC can only impose lifetime bans against the Sochi Appellants by establishing that they committed the ADRV of complicity. Even if that ADRV is established, however, a lifetime ban is the *maximum* possible sanction. The imposition of this sanction is conditional upon the proper exercise of the IOC's discretion. In particular, the IOC must have regard to the specific circumstances of each individual athlete's case and must provide proper reasons for its decision to impose the maximum sanction.

120. The Sochi Appellants submit that in the present cases there is no evidence that the IOC DC considered the various individual circumstances of each of the Sochi Appellants. On the

contrary, all of the reasoned decisions contain identical wording despite the significant differences between individual cases. It is clear, therefore, that the IOC DC wrongly imposed blanket sanctions on the Sochi Appellants without any consideration of or reference to their respective individual circumstances.

2. Issues in the Athlete's appeal

121. The Athlete submits that there is no evidence that she committed an ADRV. The Athlete points out that there are *"only three concrete allegations of wrongdoing"* against her, namely that:

- she took the Duchess Cocktail developed by Dr. Rodchenkov;
- she provided clean urine outside of regular testing procedures to be used for an alleged urine bank; and
- she transmitted the sample numbers from her DCFs to Ms. Rodionova to enable the subsequent swapping of her samples.

122. The Athlete submits that: (a) the IOC failed to adduce any evidence capable of supporting any of these allegations; and (b) the only source for these allegations is the testimony of Dr. Rodchenkov, which was wholly unreliable and in any event mere hearsay when it comes to these specific allegations.

123. In relation to her alleged consumption of the Duchess Cocktail, the Athlete submits that: (a) she did not take it; and (b) neither Prof. McLaren nor the investigations conducted by the IOC have revealed any evidence that the Athlete actually consumed any Prohibited Substance.

124. Although Dr. Rodchenkov acknowledges that the Athlete was not on the Duchess List, he nonetheless alleges that the Athlete was a *"protected athlete"* and was therefore authorised to take the Duchess Cocktail; however, he also confirmed that he never administered the Duchess Cocktail to athletes and never personally witnessed any athletes consuming that *"cocktail"*. Accordingly, the Athlete submits that Dr. Rodchenkov's testimony is mere hearsay, which should be disregarded, especially as it is not corroborated by any further evidence on the record. Dr. Rodchenkov's testimony is not evidence that can comfortably satisfy the Panel that the Athlete took the Duchess Cocktail or any prohibited substance. On the contrary, all of the negative doping tests that the Athlete was subject to in Russia and abroad prove that she is a *"clean athlete"*.

125. Furthermore, the Athlete points out that her name was indeed not on the Duchess List.

126. In relation to the provision of clean urine outside regular testing procedures, the Athlete submits that other than undergoing mandatory bi-annual medical check-ups at a hospital in Moscow, the Athlete never provided any urine outside of regular testing procedures. In this regard, the Athlete states that while the McLaren Report refers to a number of documents that purportedly list athletes who provided clean urine for a *"urine bank"*, the Athlete did not appear

on any of those lists. Further, while Dr. Rodchenkov stated that he saw urine bottles containing the clean urine of unspecified members of the Women's Ice Hockey Team in the FSB Command Centre on 1 February 2014, he did not name the Athlete in this context, and there is no evidence on record implicating her specific involvement. The Athlete submits that *"This is all the more telling given that in his 'affidavit', Dr Rodchenkov alleges that '[m]y staff catalogued all samples' supposedly received for the 'urine bank', which would imply that some form of comprehensive documentary evidence would exist if Dr Rodchenkov's allegations were true"*. In the circumstances, therefore, there is simply no evidence that the Athlete ever provided urine outside of normal testing procedures – still less that she did so in order to contribute to a *"urine bank"*.

127. In relation to the communication of information regarding her sample numbers, the Athlete submits that there is no evidence that she ever transmitted information regarding her samples to any other person and that she has not done so. In this regard:

- Dr. Rodchenkov's testimony in relation to this particular issue is *"very vague"*, which reflects the fact that Dr. Rodchenkov never personally observed any athlete transmitting information about their samples to anyone. Dr. Rodchenkov's testimony is mere hearsay and should be disregarded by the Panel.

- Furthermore, and in any event, Dr. Rodchenkov's testimony on this point has been inconsistent and contradictory. As noted above, according to the First McLaren Report, Dr. Rodchenkov's original evidence to Prof. McLaren stated that an FSB agent was present at each doping control station at the Sochi Games and was responsible for sending the DCFs to Ms. Rodionova for onward transmission to Dr. Rodchenkov. In a later statement recorded in the Second McLaren Report, however, Dr. Rodchenkov changed his account to one where it was the athletes, rather than an FSB agent, who transmitted pictures of their DCFs to Ms. Rodionova. This *"change of story"* not only calls into question Dr. Rodchenkov's evidence, but also demonstrates that the alleged doping scheme could have been carried out *"without any knowledge of individual athletes"*.

128. The Athlete further submits that there is no forensic evidence that supports the IOC's allegations that she committed an ADRV. In respect of the finding of multiple T marks on both of her B sample bottles, the Athlete observes that the reports produced by the Lausanne Laboratory in respect of those sample bottles expressly stated that, in view of the limited number of bottles that were tested by Prof. Champod's team, *"we do not claim that it is impossible to make such observations under the proposition of normal use of the bottle"*. According to the Athlete, *"In other words, the Lausanne Laboratory acknowledged that the scope of their investigation was too limited to allow drawing any adverse inferences with respect to an alleged manipulation of the Appellant's sample bottles"*. As a result, *"there is no conclusive evidence that the Appellant's sample bottles were tampered with"*.

129. With respect to the sodium analysis of the Athlete's urine, the Athlete points out that in its letter dated 19 October 2017, the IOC stated that it had *not* found a non-physiological level of sodium in her urine samples. The IOC nevertheless submits that this *"does not constitute evidence of the fact that the sample was not effectively manipulated"*. The Athlete submits that this amounts to an illogical and unfair *"heads I win, tails you lose"* approach on the part of the IOC. Contrary to

the IOC's position, however, the absence of an abnormal level of sodium in the Athlete's urine does support the Athlete's case that she did not commit any ADRV. Finally, there is no evidence, and, in fact, no allegation, that the Athlete herself tampered with her samples, or that she was involved therein or had knowledge thereof.

130. In addition, DNA analysis of the Athlete's urine samples was carried out on behalf of the IOC. The results of that analysis, which were not communicated to the Athlete until a very late stage, confirmed that the urine sample contained the Athlete's DNA. Such results *"thus support the Appellant's submission that the urine in her sample bottles was her urine from the outset because … her sample bottles were never manipulated"*.

131. In conclusion, the Athlete stated that she has never previously been convicted of an ADRV, and that there is neither direct evidence nor credible indirect evidence that demonstrates her commission of an ADRV. As a result of the decision of the IOC DC, the Athlete's career will effectively be brought to an end. The Athlete therefore submits that, given the circumstances of the case, the Panel cannot be comfortably satisfied that the Athlete committed any ADRV. Accordingly, the decision of the IOC DC should be annulled.

B. The Respondent's submissions

132. The Respondent's submissions, in essence, may be summarised as follows:

1. Issues common to the Sochi Appeals

a. Background to the alleged doping and cover-up scheme

133. The IOC, in its written submissions, provided a detailed description of the doping and cover-up scheme that allegedly operated in Russia from 2011 to 2015.

134. The IOC highlighted the following three *"key findings"* of the First McLaren Report:

- The Moscow Laboratory operated, for the protection of doped Russian athletes, within a State-dictated failsafe system that the report described as the *"Disappearing Positive Methodology"*.

- The Sochi Laboratory operated a unique sample-swapping methodology that enabled doped Russian athletes to compete at the Sochi Games.

- The Russian Ministry of Sport directed, controlled and oversaw the manipulation of athletes' analytical results or sample-swapping. It did this with the assistance of the FSB, the CSP, and the Moscow and Sochi Laboratories.

135. The IOC notes that the McLaren Reports and the Schmid Report both identified the Disappearing Positive Methodology as the origin of the institutionalised doping and cover-up

scheme. In this regard, the IOC explains that Dr. Rodchenkov identified two aspects to the Disappearing Positive Methodology in his affidavit. In short:

- The sample numbers of a group of *"protected"* Russian athletes were communicated to the Moscow Laboratory in advance of urine analysis being undertaken on those athletes' samples. The urine analysis was then terminated after the initial testing procedure and the results were reported as negative in the Anti-Doping Administration & Management System ("ADAMS") and the Laboratory Information Management System ("LIMS"). If analysts at the Moscow Laboratory detected presumptive adverse analytical findings in those samples, the findings were reported to the Deputy Minister of Sport, Mr. Yury Nagornykh.

- In other cases, the Moscow Laboratory would conduct the initial testing procedure on samples without knowing whether it belonged to a protected athlete. If a presumptive adverse analytical finding was detected, the Moscow Laboratory would communicate this information electronically to a member of the Deputy Minister of Sport's staff. That individual would then obtain the name of the athlete to whom the sample belonged from RUSADA. This information would then be communicated to the Deputy Minister, who would issue either a *"Save"* or *"Quarantine"* order. A *"Save"* order required the analysis on the sample to stop and a false negative outcome to be reported in ADAMS and LIMS. A *"Quarantine"* order, on the other hand, meant that analytical work would continue as normal on the sample. In general, prominent Russian athletes were issued with *"Save"* orders, while lower profile Russian athletes and foreign athletes were generally issued *"Quarantine"* orders.

136. In addition to the Disappearing Positive Methodology, the Second McLaren Report also described the existence of a practice of *"washout testing"*. In short, this was a process that was used in order to gauge whether particular performance enhancing substances had cleared from an athlete's system prior to their participation in major sporting events. The *"washout testing"* process involved the regular collection and examination of an athlete's urine over a period of time, to enable the excretion rate of those substances to be measured and to determine whether the athlete was clean prior to entering a competition.

137. According to the IOC, the *"Sochi plan"* had three primary objectives, namely: (a) to facilitate the use of performance enhancing drugs with short washout periods; (b) to take the urine samples provided by doped athletes during doping control tests at the Sochi Games and to swap those samples with clean urine obtained from those athletes before they began taking the performance enhancing drugs; and (c) to hinder the testing of Russian Olympic athletes by the IOC or WADA and to impede the delivery of samples abroad.

138. With respect to the first objective, facilitating the use of performance enhancing drugs with short washout periods, the IOC submits that the evidence establishes that:

- In 2010, Dr. Rodchenkov began testing combinations of steroids with the aim of creating a cocktail of performance enhancing drugs with a reliable and short washout

period. This experiment ultimately resulted in the creation of a three-steroid cocktail known as the Duchess Cocktail, which consisted of oxandrolone, metenolone and trenbolone. In order to ensure a reliable washout period, the three steroids were dissolved in alcohol.

- Due to the unusual nature of the Duchess Cocktail, the method of ingestion was also unusual: it involved athletes swirling the *"cocktail"* in their mouth, enabling the performance enhancing substances to enter their bloodstream. As a result of this unusual manner of ingestion, it was unlikely that any athlete could have unwittingly consumed the Duchess Cocktail without realising they were ingesting a performance enhancing substance as part of a centrally orchestrated doping programme.

- Dr. Rodchenkov tested the Duchess Cocktail on his own body and determined that the washout period was consistently between three to five days – a relatively short washout period.

139. With respect to the second objective, enabling the substitution of *"dirty"* urine samples with *"clean"* urine samples from the same protected athletes, the IOC submits that the evidence establishes that around March 2013, Ms. Rodionova and various coaches and team doctors instructed approximately 75 Russian winter athletes to begin collecting their own clean urine. Those athletes were directed to provide approximately five to seven bottles of clean urine each before they began taking the Duchess Cocktail.

140. Pursuant to those instructions, athletes began collecting clean urine in various commercial receptacles, e.g. beverage bottles. The instruction that urine should be provided in non-medical containers would have provided a clear indication to those athletes that their urine would subsequently be used for an improper purpose.

141. Alongside the collection of clean urine, the Ministry of Sport created an Excel spreadsheet that listed the athletes who the Ministry had decided would be protected from doping control programmes. This spreadsheet was later referred to as the Duchess List. It was created by Mr. Alexey Velikodny using information obtained and provided by Ms. Rodionova. It was intended that the athletes named on the Duchess List would receive total blanket protection from the doping control process before and during the Sochi Games.

142. In addition, alongside the collection of clean urine and the identification of a list of athletes who would be shielded from doping control, Dr. Rodchenkov tasked an FSB officer, Mr. Evgeny Blokhin, with the responsibility of devising a technique to open sealed sample bottles without damaging the caps of the bottles. In February 2013, Mr. Blokhin reported that he had successfully devised such a technique.

143. During the course of the Sochi Games, Mr. Blokhin was in charge of operations within the FSB Command Centre, which was located in a building adjacent to the Sochi Laboratory. From that location, Mr. Blokhin oversaw the daily swapping of urine samples provided during the doping control process by protected Russian athletes.

144. According to the IOC, the process of swapping dirty urine samples for clean ones involved the following stages.

145. First, when athletes left the doping control station having provided their urine sample, they or their accompanying person took a photograph of their DCF and sent it by text message to Ms. Rodionova. At the same time, the Doping Control Officer ("DCO") or other corrupt personnel at the doping control station also took a photograph of the DCF as a second source of information. The information from the DCF was then relayed by text message to Dr. Rodchenkov. Separately, designated back-up coordinators also texted a photograph of the DCF either to Dr. Rodchenkov's assistant, Mr. Yuri Chizhov, or to Mr. Blokhin or Dr. Rodchenkov's secretaries. This was done in order to guarantee that the information was effectively communicated and to confirm the accuracy of the information being transmitted.

146. Second, having received the information from the photographs of the DCFs, Dr. Rodchenkov prepared a *"Catch of the Day"* table which listed the names, code numbers, specific gravity measurements and the volumes needed to fill the A and B bottles of the protected athletes whose samples were due to be swapped. Meanwhile, Mr. Blokhin retrieved the bottles of clean urine previously provided by those athletes and stored in the urine bank. He took those bottles to room no. 124 in the Sochi Laboratory (the "Operations Room") which was easily accessible from the outside, and which was not within the area under security badge control. Mr. Chizhov then selected the appropriate clean urine bottle and, where necessary, adjusted the specific gravity of the clean urine so that it matched the specific gravity recorded on the relevant DCF. If the specific gravity of the clean urine needed to be increased, Mr. Chizhov added a quantity of sodium chloride. Conversely, if the specific gravity of the clean urine needed to be reduced, then Mr. Chizhov used distilled water to dilute it.

147. Third, Mr. Evgeny Antilsky, the Manager of the doping control station at the Sochi Olympic Village, was responsible for receiving and storing all athletes' urine samples as they were collected throughout each day. At around 01h00 each morning, Mr. Antilsky telephoned the Sochi Laboratory to inform them that the vehicle containing the samples was en route to the laboratory. At this point, Dr. Rodchenkov and Mr. Chizhov checked the laboratory to ensure that all visiting scientists and external observers had left the building.

148. Fourth, Mr. Evgeny Kudryavtsev, the head of reception, storage and aliquoting at the Sochi Laboratory, checked and documented the samples as they arrived at the Laboratory. After separating the A and B sample bottles, Mr. Kudryavtsev wheeled the cart containing the B sample bottles to the frozen storage area, then removed the B sample bottles belonging to the athletes named in the Catch of the Day table and secretly placed them in the pocket of his lab coat. He then went to room no. 125 (the "Aliquoting Room"), where he opened the A sample bottles and passed those bottles and the corresponding B sample bottles through a small *"mouse hole"* that had been deliberately drilled in the wall between the Aliquoting Room and the Operations Room.

149. Fifth, Dr. Rodchenkov and Mr. Chizhov were in the Operations Room and received the sample bottles as Mr. Kudryavtsev passed them through the *"mouse hole"*. They gave the

unopened B sample bottles to Mr. Blokhin, who was also present in the room, who took the bottles to the FSB Command Centre to be opened. A short while later, he would return with the opened B sample bottles. Mr. Chizhov then discarded the contents of both the A and B sample bottles and thoroughly washed the bottles. Dr. Rodchenkov then refilled the bottles with the protected athletes' clean urine, taking care to ensure the volumes and specific gravities matched the volumes and specific gravities of the original samples. The B sample bottles were then resealed with the original intact plastic caps. Both the A and B samples bottles were then returned to Mr. Kudryavtsev in the Aliquoting Room through the *"mouse hole"*. After receiving the bottles, Mr. Kudryavtsev left the A sample bottles in the Aliquoting Room for analysis the following morning and brought the resealed B sample bottles back to long-term frozen storage area.

150. With respect to the third objective, inhibiting independent testing, the IOC submits that the evidence establishes that the Deputy Minister of Sport collaborated with the FSB to establish a system whereby samples that were to be sent abroad could be intercepted at the Russian border. Furthermore, before the Sochi Games, an arrangement was concluded whereby RUSADA would conduct out-of-competition testing for Norwegian athletes in Switzerland, while the Norwegian anti-doping authorities would conduct out-of-competition testing for Russian athletes. To minimise the possibility of Russian athletes being caught doping during those tests, a decision was taken for Russian skiers to travel to Switzerland, where RUSADA would collect their urine samples, which would then be delivered to the Sochi Laboratory, which would conceal any positive doping results.

b. Forensic Evidence

151. In support of its case as to the existence of the scheme described above and as to the personal involvement of the Sochi Appellants in the scheme, the IOC relied on several strands of forensic evidence. The IOC submitted that, when viewed together and alongside the evidence of Dr. Rodchenkov and other evidence, this forensic evidence provided strong support for the existence of a systematic doping conspiracy and cover-up at the Sochi Games.

(i) Scratch Marks

152. The first strand of forensic evidence consisted of the results of a forensic examination of the BEREG-KIT bottles undertaken by Prof. Christophe Champod. The IOC submits that this forensic analysis established a number of important points. In summary:

- Prof. Champod's team established that it was possible to use special tools to reopen a closed BEREG-KIT bottle. The use of such tools left marks on the bottles that were detectable under a microscope.

- In total, Prof. Champod analysed 232 sample bottles containing samples obtained from Russian athletes during the Sochi Games. Of those 232 samples, a total of 36 were found with multiple T marks. The IOC submits that this provides *"very strong support"*

for the proposition that those bottles had been tampered with.

- All of the 36 bottles that contained multiple T marks contained samples from Russian athletes who were identified as *"protected"*, either because they were named on the Duchess List or because Dr. Rodchenkov recalled that Ms. Rodionova had added them to the list of protected athletes.

- Prof. Champod's testing also established that it was easier to open BEREG-KIT bottles that were not closed to the maximum extent possible. He also noted that his ability to open bottles improved rapidly with practice, and that this increased proficiency was accompanied by a corresponding reduction in the number of marks left on the bottles by the re-opening tools. On the basis of these factors, Prof. Champod opined that a combination of experience and deliberately limiting the degree of closure of the bottle cap could make it possible to open a closed sample bottle without leaving many detectable T marks.

- Prof. Champod also established that in the case of 23 of the 36 bottles that had multiple T marks, it was possible to infer the initial degree of closure of the bottle cap before the cap had been reopened and replaced. This analysis indicated that all 23 of these bottles were not closed to the maximum level before they were reopened. While the maximum closure was 15 clicks, it was possible to establish that all 23 of those bottles were closed to a level between 6 and 11 clicks.

- In contrast, all of the bottles from Sochi that were used as single or double blind controls were closed to a level of at least 13 clicks. These pieces of information support the conclusion that: (a) the athletes whose bottles contained multiple T marks had deliberately not fully closed their sample bottles; and (b) they had done this in order to make it easier to reopen their sample bottles.

153. In conclusion, therefore, the IOC submits that there is no alternative explanation other than tampering for the multiple T marks on the 36 bottles. It would, moreover, be an implausible coincidence for all of the bottles of the suspected athletes to have a low level of closure, whereas the bottles of all other athletes had a higher level of closure. If the degree of closure were a random occurrence, closures below 12 clicks would have been observed outside of the bottles that contained marks indicative of tampering. The fact that this was not observed therefore demonstrates that this was not a coincidence, but rather a further indication of tampering.

(ii) Sodium Content

154. The second strand of forensic evidence that the IOC relied on was an analysis of the sodium content of the Sochi Appellants' urine samples. To this end, the IOC instructed an expert, Prof. Burnier, to conduct forensic analysis of the urinary sodium content of those samples and

to compare the results with reference values for sodium urinary concentration at the XXI Olympic Winter Games in Vancouver. That analysis established that:

- A total of 13 urine samples from Russian athletes who participated at the Sochi Games contained urinary sodium levels which were more than three standard deviations above the mean level in athletes at the Vancouver Games, and which were beyond the range of renal physiological possibilities.

- Of those 13 samples, five came from male bobsleigh athletes, four came from members of the female ice hockey team, three came from cross-country skiers and one came from a female biathlete.

- Furthermore, six of those 13 samples had an osmolarity ratio that was also above renal physiological possibilities. According to the IOC, this confirmed that the abnormal results have only one possible explanation: the addition of salt directly into the samples.

- Of those six athletes with sodium and osmolarity above the range of physiological possibilities, four were members of the male bobsleigh team and two were female cross-country skiers.

155. The IOC submits that since all of the abnormal sodium values were recorded for samples from athletes implicated in the conspiracy, this provides strong support for the existence of the doping and cover-up scheme. In particular, it supports the allegation that salt was added to substituted samples in order to ensure that the *"clean"* urine had a specific gravity that matched the specific gravity of the *"dirty"* urine that was being replaced.

156. Further, since three of the samples with abnormal sodium readings came from bottles that did not have multiple T marks, this evidence is consistent with the possibility that sample bottles could be opened without leaving multiple T marks. Indeed, since those high sodium levels were not physiologically possible, they could only be explained by manipulation of the samples, which could only have occurred if the bottles were opened. Accordingly, the absence of T marks on some of those bottles proves that sample bottles could be reopened without leaving significant visible marks on the bottles.

157. In addition, the IOC stated that it was important to stress that the abnormally high levels of sodium would only be present where: (a) the clean urine that was being substituted required an *upward* adjustment in its specific gravity in order to match the specific gravity of the dirty sample it was replacing; and (b) in order to achieve the desired increase in the specific gravity, it was necessary to add a quantity of salt that was so large that it pushed the sodium concentration above what is physiologically possible.

158. As a result, the urinary sodium analysis would not necessarily reflect other tampering that involved either: (a) the *downward* adjustment in the specific gravity of the clean urine, which was achieved through dilution with water rather than addition of salt; or (b) the *upward* manipulation of the specific gravity through the addition of a quantity of salt that was not so

large that it pushed the sodium concentration of the manipulated sample beyond the range of renal physiological possibility.

(iii) DNA Analysis

159. The third strand of forensic evidence relied on by the IOC consisted of DNA analyses of some of the Sochi Appellants' urine samples. There were two separate DNA analyses:

- the DNA analysis conducted by a DNA expert instructed by Prof. McLaren; and
- the DNA analysis conducted by a DNA expert instructed by the IOC.

160. With respect to the former, the IOC explained that Prof. McLaren had engaged an expert to undertake a DNA analysis of 16 urine samples obtained from 12 Russian athletes who competed at the Sochi Games. All of the samples were from athletes who were named on the Duchess List or were members of the Women's Ice Hockey Team. The DNA analysis of those samples showed that:

- The samples from the athletes who were named on the Duchess List all contained the urine of the athlete who originally provided the sample. According to the IOC, this is consistent with Dr. Rodchenkov's evidence that the samples provided by these athletes were swapped with the athletes' own previously collected clean urine.
- The analysis of the samples of two of the female hockey players showed inconsistent results. According to the IOC, this too was consistent with Dr. Rodchenkov's evidence, in particular his evidence that clean urine from the female hockey players had either not been collected or had been collected in insufficient quantities. Further, the sample bottles for those two female athletes contained marks indicative of tampering, while one also had a urinary sodium level that was physiologically impossible.

161. With respect to the DNA analysis commissioned directly by the IOC, this revealed the existence of two samples from female athletes that contained significant proportions of male DNA. In one case, the sample contained DNA from the female athlete and one unidentified male; in the other case, the sample contained DNA from the female athlete and three unidentified males. According to the IOC, it was very unlikely that in either case the presence of male DNA was the result of accidental contamination. In particular:

- The ratio of male and female DNA was such that it was unlikely that the substantial quantity of male DNA had been introduced through accidental contamination.
- The A samples and B samples were examined in different laboratories, in different countries and by different personnel. The results of the A sample analyses and B sample analyses were consistent. This excludes the possibility that contamination of

the samples occurred in the laboratory. In addition, the Lausanne Laboratory had also provided a detailed explanation of the steps it had taken to prevent DNA contamination, which also excluded the possibility of cross-contamination of samples occurring during the testing process.

- The presence of male DNA could not have occurred at the stage when the samples were collected. Only two people were involved in collecting the samples: the athlete and the DCO. Consequently, the collection process could not have resulted in contamination from three different males.

c. Dr. Rodchenkov's Testimony

162. In addition to the forensic evidence summarised above, the IOC relied on the witness evidence provided by Dr. Rodchenkov. Dr. Rodchenkov's written and oral evidence in these proceedings is summarised in detail below. The IOC submits that the Panel should be entirely satisfied that Dr. Rodchenkov's account of events is truthful and accurate.

163. First, the IOC submits that Dr. Rodchenkov was the main actor in the doping and cover-up scheme and, as such, is best placed to describe how it operated.

164. Second, the IOC submits that since Dr. Rodchenkov is no longer in Russia, he is now able to speak honestly with less fear of the consequences than if had he chosen to describe the existence and detail of the scheme while he was in Russia. It is neither surprising nor relevant that the Independent Commission found Dr. Rodchenkov not to be credible, since at the time he was still acting as the Director of the Moscow Laboratory. The Independent Commission's findings do not impugn the credibility of Dr. Rodchenkov's evidence now that he is able to speak freely.

165. Third, Dr. Rodchenkov's statements are precise and clear. They are also very consistent and contain *"no contradictions"* between the various elements of his account.

166. Fourth, Dr. Rodchenkov only provided detailed information concerning particular athletes when he appears to have specific information relating to those athletes. In many cases, he simply mentions the athlete's presence on the Duchess List and the objective consequences of this, without seeking to add specific details. Moreover, in three cases the information provided by Dr. Rodchenkov was decisive in clearing athletes who were charged with wrongdoing. This undermines the suggestion that Dr. Rodchenkov would invent stories against athletes.

167. Fifth, on every occasion when other evidence has been available, that evidence has *"systematically corroborated"* Dr. Rodchenkov's account. By way of example:

- Dr. Rodchenkov's explanations concerning the covert opening of the sealed sample bottles and the substitution of urine have been confirmed by the subsequent forensic analysis of T marks on the Sochi sample bottles.

- Similarly, Dr. Rodchenkov's account of how the specific gravity of clean urine samples was modified upwards/downwards (as necessary) through dilution or addition of salt has been confirmed by the urinary sodium analyses described above.

- Dr. Rodchenkov's explanations regarding the clean urine bank have also been corroborated by additional evidence, for example emails obtained during Prof. McLaren's investigation.

- Dr. Rodchenkov's explanation about the swapping of samples belonging to athletes who were not named on the Duchess List has also been confirmed by the fact that samples belonging to some of those athletes were found to contain mixed urine – a fact that was entirely consistent with Dr. Rodchenkov's evidence that no or insufficient clean urine had been obtained from those athletes before the Sochi Games for storage in the urine bank.

168. Sixth, Dr. Rodchenkov kept a regular diary during his time as Director of the Moscow and Sochi Laboratories. The facts recorded in that diary correspond with the evidence that he has provided. There is no indication that the content of the diary was rewritten after the events they purport to describe, or that Dr. Rodchenkov misrepresented the reality in his contemporaneous diary entries. The diary therefore provides contemporaneous corroboration for much of his evidence.

d. Burden and Standard of Proof

169. The IOC agrees with the Sochi Appellants that it bears the burden of establishing ADRVs.

170. In relation to the standard of proof, the IOC agrees that the comfortable satisfaction standard is higher than the standard of balance of probability. The IOC stresses, however, that the comfortable satisfaction standard is not as high as the criminal standard of proof beyond reasonable doubt. Moreover, it is not the case that the standard of proof directly depends on the potential gravity of the sanction to be imposed on the athlete, or the severity of the violation they are charged with.

171. In applying the comfortable satisfaction standard, the IOC submits that entirely circumstantial evidence may be sufficient to establish an ADRV in appropriate cases. The IOC states, in this regard, that under Swiss law arbitral tribunals enjoy *"significant discretion in terms of their evaluation of evidence and, failing any specific provision agreed by the parties, the deciding body is essentially free in its evaluation of the evidence"*.

172. The IOC draws a comparison between the facts of the present case and CAS 2015/A/4059. That case concerned the development and implementation of a team-wide doping programme whereby players received injections of a Prohibited Substance from a team doctor. The players contended that the evidence adduced by WADA was insufficient to enable the panel to be comfortably satisfied that all essential elements of the alleged ADRVs had been made out,

including, in particular, that the substance in question was actually a Prohibited Substance and that it had been administered to particular players on particular occasions. The IOC submits that the panel in that case preferred a *"strands in the cable"* rather than a *"links in the chain"* approach to the evidence, and asked itself, *"whether, considered cumulatively, they satisfied the test of comfortable satisfaction"*. The IOC advocates a similar approach to the assessment of the evidence in the present appeals.

173. Furthermore, the IOC draws a comparison between the sample-swapping that allegedly occurred at the Sochi Games and the types of concealed cheating that CAS panels have previously considered in match-fixing cases. According to the IOC, cases such as CAS 2014/A/3625 demonstrate that the absence of a certain type of evidence does not necessarily mean that the alleged fact did not occur. Rather, the occurrence or non-occurrence of the alleged fact should be analysed through the prism of other available evidence, having regard to the deliberately concealed nature of the alleged wrongdoing.

174. In this connection, the IOC stresses that it is also important for the Panel to bear in mind why the IOC has been constrained in its ability to provide additional witness statements or other evidence that could unequivocally establish the involvement of each individual Sochi Appellant in the alleged doping scheme. In particular, given the circumstances, the IOC submits it is not realistic to expect a confession or admission from Russian athletes, coaches or associated individuals. Anyone providing such evidence could expect to suffer *"dire consequences"* as a result of doing so. This is demonstrated by the fact that key whistle-blowers such as Dr. Rodchenkov and Ms. Yuliya Stepanova and her husband Mr. Vitaly Stepanov have been forced to live in hiding since revealing the existence of the scheme.

175. Against this backdrop, the IOC:

> *"invites the Panel to first, come to a conclusion on the existence of a doping and cover-up scheme, and, secondly, draw conclusions with respect to the general implication of the athletes"*.

176. In respect of the first limb, the IOC submits that it has been established beyond any doubt that there was a doping and cover-up scheme in existence in Russia between 2011 and 2015. In this regard, the IOC points to the fact that:

- The McLaren Reports described the existence of a sophisticated, evolved system that was refined over a number of years, and which operated in order to enable doped athletes to compete as though they were clean. Those conclusions were backed up by Prof. McLaren's publication of an EDP, which contained over 1,000 pieces of contemporaneous documentary evidence that corroborate the McLaren Reports' findings.

- The decision of the IOC Executive Board dated 5 December 2017, which suspended the Russian Olympic Committee on the basis of the findings of institutionalised cheating, has not been challenged in principle.

- The acting director general of Russia's national anti-doping agency, Ms. Anna Antseliovich, confirmed to the New York Times in December 2016 that there was *"an institutional conspiracy"*.

- The expert forensic evidence commissioned by the IOC, which included scratch mark analysis, urinary sodium analysis, and DNA analysis, all confirmed that samples from Russian athletes at the Sochi Games had been manipulated on a wide scale and in a manner that accorded with the *modus operandi* described by Dr. Rodchenkov.

177. The IOC also submits that it is *"simply not credible"* that the Sochi Appellants were not implicated in the doping and cover-up scheme. In this regard, the IOC submits that the Sochi Appellants were both *"the main beneficiaries of the scheme"* and an indispensable part of its operation. If one actor in the system did not fulfil their role, then the system would not work. The *raison d'être* of the scheme was to enable protected athletes to dope, safe with the knowledge that this would not be revealed by a positive doping test. This objective could not have been achieved, and the entire scheme would be pointless, if the athletes concerned were not made aware that they were being protected in this way.

178. In respect of the Sochi Appellants whose names appeared on the Duchess List, the IOC submits that those athletes' use of the Duchess Cocktail was an integral part of the scheme. Dr. Rodchenkov has described the specific and unusual manner in which the Duchess Cocktail had to be consumed. It is therefore impossible that any of the Sochi Appellants could have unwittingly ingested the Duchess Cocktail and not realised that he/she was taking a prohibited performance enhancing substance as part of an illegal doping programme.

179. Moreover, it is inconceivable that when individual Sochi Appellants were offered the Duchess Cocktail they were not informed at the same time that measures would be taken to protect their use of the Prohibited Substance from being detected by doping controls.

180. The IOC alleges that, as part of the scheme, athletes were required to provide their own urine to be stored in a clean urine bank. This required the cooperation and active participation of those athletes. It is not credible that clean urine could have been obtained from those athletes during regular doping controls or medical examinations without the athletes knowing how the urine would be used, particularly because the evidence establishes that the urine was collected in containers including commercial beverage bottles, rather than urine sample bottles.

181. The IOC also alleges that the Sochi Appellants were required to photograph their DCFs and to send them to Ms. Rodionova, so that she could inform the Sochi Laboratory which athletes' samples needed to be swapped. Again, the Sochi Appellants must have been aware of the improper purpose for which this information was required.

182. For all these reasons, the IOC submits that each of the Sochi Appellants must have been fully aware that they were being protected under the doping and cover-up scheme. Any alternative scenario in which the Sochi Appellants were not personally implicated in and/or aware of the scheme is simply implausible. In particular, there is no reason why clean athletes would have

been protected from doping controls, since there would be no purpose in swapping samples belonging to such athletes. Any alternative scenario would also entail Dr. Rodchenkov risking his life by concocting an elaborate fabricated story for no personal gain. It would also entail a set of extraordinary consequences, since Dr. Rodchenkov's allegations align with the findings of the forensic analyses undertaken on the Sochi Appellants' urine samples from the Sochi Games. The IOC submits that this alternative scenario is so improbable as to be impossible.

183. The IOC rejects the submission that the IOC DC implemented a form of collective justice against the Sochi Appellants. On the contrary, the IOC submits that the IOC DC carefully considered each Appellant's circumstances on a case-by-case basis before concluding that it was comfortably satisfied that the involvement of the individual Appellant in the scheme was established. In this regard, the IOC points out that the IOC DC terminated disciplinary proceedings against a number of athletes on the basis that there was insufficient evidence they had committed an ADRV.

184. In summary, the IOC submits that the Panel can be comfortably satisfied that each of the Sochi Appellants benefited from the urine substitution scheme and, therefore, had taken Prohibited Substances and colluded in the deliberate concealment of this unlawful activity.

e. Tampering, Articles 2.5 and 2.2 of the WADC

185. The IOC notes that the definition of tampering as a Prohibited Method pursuant to the M2 Prohibited List relates to alterations in the integrity and validity of a sample, and specifically includes urine substitution. The IOC alleges that the Sochi Appellants were active participants in a scheme that involved the covert swapping of urine collected during doping control procedures with clean urine that was collected and stored for the specific purpose of effecting that substitution. This process involved, as an integral element, the secret reopening of closed sample bottles and the replacement of the contents of those bottles. This clearly compromised the integrity of the samples.

186. On this basis, the IOC submits that the present cases should be considered as violations of Article 2.2 of the WADC pursuant to the definition of tampering set out in Chapter M2.1 of the 2014 edition of the Prohibited List, rather than as tampering under Article 2.5 of the WADC. The IOC further submits that, given the respective formulations of Article 2.2 and Article 2.5, the latter *"covers a broader concept of tampering and constitutes a lex generalis"*. Accordingly, to the extent that any conduct does not fall within the ambit of Article 2.2, it would fall under the wider ambit of Article 2.5.

187. The IOC submits that under Article 2.2 of the WADC, a violation may occur even in the absence of intent or negligence and, indeed, even in the absence of conscious knowledge of the violation. Consequently, the IOC submits that it is not necessary to establish that the Sochi Appellants were conscious participants in the scheme and were aware of its purpose in order to establish a violation of this provision. Nevertheless, the IOC in any event repeats that the possibility that the Sochi Appellants were mere *unknowing* participants can reliably be excluded.

188. Accordingly, the IOC submits that: (a) each of the Sochi Appellants violated Article 2.2 of the WADC; and, subsidiarily (b) the same factual circumstances also constituted a violation of Article 2.5 of the same Code.

f. Use or Attempted Use of a Prohibited Substance, Article 2.2 of the WADC

189. In addition to the ADRV of tampering, the IOC submits that each of the Sochi Appellants also committed the ADRV of use of a Prohibited Substance. In the IOC's submission, the Sochi Appellants' use of Prohibited Substances can be inferred either from: (a) their presence on the Duchess List; or (b) their *ad hoc* protection, which may be inferred from the results of the various forensic analyses described above.

190. The IOC repeats that the very purpose of the doping and cover-up scheme was to enable protected athletes to use Prohibited Substances without fear of being caught by the doping control process. As such, it may logically be inferred that each participant in the scheme made use of the benefit the scheme was intended to provide, by consuming Prohibited Substances during the Sochi Games. Accordingly, the IOC submits that each of the Sochi Appellants committed a violation of Article 2.2 of the WADC by using Prohibited Substances.

g. Cover-Up / Complicity, Article 2.8 of the WADC

191. The IOC submits that the scheme implemented during the Sochi Games involved a complex conspiracy involving numerous categories of participants including athletes, intermediaries, laboratory staff and representatives of the Ministry of Sport. All of those individuals were participants in a conspiracy, which had the specific objective of covering up doping. The Sochi Appellants' participation in that conspiracy constituted a violation of Article 2.8 of the WADC.

192. In support of this submission, the IOC refers to the award in CAS 2007/A/1286, 1288 & 1289, where the CAS applied the concept of a vertical conspiracy pursuant to which an athlete who, for his or her own interests, participates in a conspiracy involving other athletes, commits a violation of Article 2.8 of the WADC.

193. The IOC also notes that under Article 2.8 of the WADC a person who commits *"any other type of complicity involving an anti-doping rule violation or any attempted anti-doping rule violation"* commits a violation of Article 2.8. In this connection, in CAS 2008/A/1513, the Panel explained that this provision *"covers numerous acts which are intended to assist another or a third party's anti-doping rule violation"*. The Panel further explained that while Article 2.8 does not expressly state how substantial the assistance must be in order to constitute a violation of the article, *"the standard is probably quite low because according to the wording even just 'any type of complicity' is sufficient"*.

194. The IOC submits that each of the Sochi Appellants committed numerous acts that assisted, and were intended by the Sochi Appellants to assist, in the commission of an ADRV. Those acts included: (a) providing clean urine for storage in the urine bank; (b) photographing their DCFs and transmitting the images to Ms. Rodionova; and (c) deliberately failing to close their

sample bottles by not turning the plastic lid to the maximum number of clicks. Further, the IOC submits that the Sochi Appellants' assistance was of a repeated nature – for example, they each provided multiple samples of clean urine – and was fundamental to the success of the sample-swapping scheme. Moreover, in contrast to the position in *Hoch*, the Sochi Appellants had direct knowledge of the ADRV they were assisting in, rather than knowledge merely inferred from circumstantial evidence.

195. In these circumstances, the IOC submits that the Panel can be comfortably satisfied that each of the Sochi Appellants violated Article 2.8 of the WADC.

h. Due Process Rights

196. The IOC denies that the proceedings before the IOC DC violated the Sochi Appellants' fundamental due process rights. In this regard, the IOC states that:

- The proceedings before the IOC DC were conducted under time constraints in view of the start date of the XXIII Olympic Winter Games in PyeongChang in February 2018. In this regard, there was *"an obvious need to rapidly proceed to the resolution"* of the cases and *"a very high expectation"* that this would be done before the 2018 Games.

- The proceedings were opened in December 2016. All of the athletes were immediately notified that the IOC would need to conduct additional investigations before any oral hearings could take place.

- Thereafter, the IOC commissioned Prof. Champod to undertake examination of marks found on the relevant sample bottles. This stage of the investigation *"had a blocking effect on the entire process"* since it had to be performed on unopened sample bottles, meaning that other analyses on the samples such as DNA and sodium level analyses could not be carried out until the examination of marks was completed. It was for this reason that the proceedings before the IOC DC had to be paused until autumn 2017.

- The Sochi Appellants were notified of the hearings before the IOC DC and the evidence then available *"at the earliest opportunity"*. Once the proceedings re-started, they proceeded speedily. The IOC adds that while certain aspects of the evidence *"were indeed brought late in the proceedings"*, they were nonetheless provided to the Sochi Appellants *"as soon as they were available"*.

- Further, in respect of Dr. Rodchenkov's testimony, the IOC states that the possibility of obtaining direct testimony *"was only discovered extremely late in the process"*. In the circumstances, the *"best solution"* that could be attained was the provision of written affidavits, which were always provided to the Sochi Appellants as soon as possible.

197. The IOC further submits that, in any event, since the CAS has full power to conduct a *de novo* review of the evidence, any violation of procedural rights at first instance is cured by these proceedings before the CAS. The IOC cites various CAS awards in support of this proposition, including: CAS 2017/A/4387; CAS 2015/A/3879; CAS 2013/A/3262; CAS 2014/A/3467; and CAS 2009/A/1920. This curative effect covers procedural defects such as denial of justice, unfairness, lack of independence of the first instance tribunal, non-participation in the proceedings or a potential conflict of interest. The Sochi Appellants' submissions concerning the violation of due process rights before the IOC DC are therefore academic.

i. Sanctions

198. The IOC submits that, as a consequence of the ADRVs which each of the Sochi Appellants is alleged to have committed, the Sochi Appellants' individual results for the Sochi Games should be annulled as follows:

- Pursuant to Articles 7.1 and 8.1 of the IOC ADR, the results achieved by each Sochi Appellant during the Sochi Games should be annulled, with all resulting consequences.

- Pursuant to Article 7.1 of the IOC ADR, the results of the competitions directly concerned by a sample for which tampering is directly and objectively established shall be automatically disqualified.

- In view of the alleged ADRVs described above, pursuant to Article 8.1 of the IOC ADR all of the Sochi Appellants' results at the Sochi Games shall be annulled.

199. In addition to those individual disqualifications, disqualification of team results is also required in accordance with the applicable regulations of the relevant International Federations, i.e. the International Ice Hockey Federation ("IIHF"), International Skating Union ("ISU"), International Ski Federation ("FIS"), FIL and IBSF. Further, Article 9.1 §3 of the IOC ADR provides that in sports which are not defined as *"Team Sports"*, but where awards are given to teams, if one or more team members have committed an ADRV during the period of the Sochi Games, then the entire team may be subject to disqualification.

200. Further, in addition to the retrospective individual and team disqualifications described above, the IOC submits that each of the Sochi Appellants should be subject to a lifetime ban from participating in any future editions of the Games of the Olympiad or the Olympic Winter Games. In particular, the IOC submits that pursuant to Article 7.3 of the IOC ADR, the IOC DC had a measure of discretion in determining the appropriate sanction. In particular, it had the power to declare an athlete temporarily or permanently ineligible from participating in subsequent editions of the Games of the Olympiad and the Olympic Winter Games. This measure corresponds to Article 59 §2.1 of the Olympic Charter.

201. CAS jurisprudence establishes that sanctions must not be disproportionate to the offence and must always reflect the extent of the athlete's guilt. In the present cases, the Sochi Appellants' conduct has shocked the world at large and constitutes *"the most serious example of systemic cheating in the history of Olympic sport"*.

202. In light of the importance of the Olympic Games and the sporting interests at stake, the IOC submits that *"the highest standards of behaviour must be demanded of all the people involved"* since it is *"vital that integrity in sport is maintained"*. The institutionalised cover-up has caused severe damage to the image of the Olympic Games. It is therefore *"inconceivable that the Olympic Movement would have to continue to accept in its events any athlete or person having been implicated in such a scheme"*.

203. The IOC states that it is not merely the fact of the specific ADRVs that justifies the imposition of a ban on all future participation in the Olympics, but also *"the fact that the Athletes were part of a conspiracy, which infected and subverted the Olympic Games in the worst possible manner"*. Accordingly, in view of the severe and long-lasting harm the Sochi Appellants' conduct has caused to the Olympic Movement, the period of ineligibility should not be restricted to the next Winter Olympic Games but should apply to all subsequent editions of the Games of the Olympiad and the Olympic Winter Games.

204. In support of its argument in favour of the imposition of lifetime bans, the IOC submits that the Sochi Appellants are wrong to rely on the award in CAS 2011/O/2422. In that case, the issue was whether an athlete who previously received a ban exceeding six months for an ADRV unrelated to the Olympic Games could additionally be banned from participating in the subsequent edition of the Olympic Games – something that gave rise to a double jeopardy issue. In contrast, the present cases concern the exercise of discretion under the Olympic Charter to ban athletes from participating in future editions of the Olympics on the basis of their involvement in the most severe form of systemic cheating in Olympic history.

205. Accordingly, the issue that confronts the Panel in this case is not limited to considering whether it is legitimate to declare ineligible an athlete who committed an individual ADRV that did no more than impugn his/her own personal integrity. Rather, it concerns the sanctions that may properly be imposed when an individual participates in a conspiracy *"which, beyond the anti-doping rule violations which it involved, constituted a fundamental breach of the Olympic values and, as such, ethically unacceptable misbehaviour within the meaning of Art. 59 §2.1 of the Olympic Charter"*. The IOC submits that, against this backdrop, the imposition of lifetime bans is clearly supported by Article 59 §2.1 of the Olympic Charter.

2. Submissions as to the Athlete's appeal

206. In respect of the Athlete, the IOC submitted that, *"the evidence in this matter must always be seen in the context of the global scheme of which each individual athlete including Ms Pashkevich was only one participant and beneficiary amongst many others"*. In this connection, the existence of a large-scale doping regime at the Sochi Games was *"an inescapable reality … confirmed by converging elements of objective evidence"*. The scheme in question had a purpose – namely to shield individual athletes

from doping control and to conceal evidence of their doping – and could not have been operated without the participation of the protected athletes, including the Athlete.

207. The IOC went on to note that the Women's Ice Hockey Team, of which the Athlete was a member, was not initially contemplated as part of the urine-swapping scheme and so they were not mentioned on the Duchess List. However, as expanded upon the Joint Answer Brief, according to the IOC, the members of the Women's Ice Hockey Team were implicated in the doping scheme. In the IOC's submission, this allegation was evident from the fact that eight members of the Women's Ice Hockey Team were found to have sample bottles with direct evidence of tampering in the form of multiple T marks and/or abnormal sodium content, as well as two cases of samples with mixed DNA from the female athletes and unidentified males. These elements confirm that the members of the Women's Ice Hockey Team were directly implicated in the scheme.

208. The inference of the Athlete's participation was supported by further pieces of corroborating evidence. In particular:

- Both of the Athlete's B sample bottles had multiple T marks, i.e. evidence of tampering.

- Dr. Rodchenkov specifically recalled in his affidavit that the Women's Ice Hockey Team was included in the urine-swapping scheme and provided with the Duchess Cocktail, and that in particular Ms. Rodionova had added the team to the list of protected althletes and that he had swapped their samples.

- On 20 January 2014, Dr. Rodchenkov met with the Deputy Minister of Sport, Mr. Yury Nagornykh, the State Coach of the Russian Men's National Ice Hockey Team, Mr. Zinetula Bilyuletdinoc, and the Team Doctor of the Russian Men's National Ice Hockey Team, Dr. Valery Konov. Dr. Rodchenkov recalled that both he and Dr. Konov were against giving male ice hockey players the Duchess Cocktail, as Dr. Rodchenkov felt they did not have the necessary discipline with respect to the use of the cocktail and that including them on the Duchess List was therefore risky.

- On 21 January 2014, when Dr. Rodchenkov received a version of the Duchess List from Mr. Velikodny, neither the Men's nor the Women's Ice Hockey Teams were on it.

- However, Dr. Rodchenkov subsequently learned that Ms. Rodionova had been providing the Duchess Cocktail to the Women's Ice Hockey Team, which concerned him because their urine patterns had not been tested before the Sochi Games and he doubted sufficient clean urine had been collected in advance. He also recalled asking Ms. Rodionova whether the players were taking diuretics.

- On 1 February 2014, Dr. Rodchenkov visited the FSB Command Centre and inspected the urine bank, and recalled seeing plastic bottles with urine provided by members of

the Women's Ice Hockey Team during his visit.

- Dr. Rodchenkov stated that during the Sochi Games, he and Ms. Rodionova were repeatedly called by Dr. Dmitri Kondrashin, the team doctor of the Women's Ice Hockey Team, who was concerned that the players' samples would test positive for the Duchess Cocktail. He recalls that Ms. Rodionova described Dr. Kondrashin as being close to an *"apoplectic collapse"*.

209. In addition, the IOC's forensic science evidence provides further support for the proposition that the Athlete committed an ADRV:

- Multiple T marks were found on both of the Athlete's B sample bottles, which *"is strong evidence of the fact that the bottles were surreptitiously opened and corroborates the fact that the samples were swapped"*. Further, the forensic expert had been able to estimate that both B sample bottles had initially (i.e. pre-forced reopening) been closed only to between 6 and 9 clicks. This stands in contrast to the fact that *"athletes have all stated that they closed their bottles to the maximum level possible"*. Accordingly, this *"implies that the athletes, and in this case Ms Pashkevich, deliberately did not close the bottles fully, in order to facilitate their reopening"*.

- The DNA analysis confirmed that the Athlete's samples contained her urine. Accordingly, the IOC submits that the combination of this fact and the presence of multiple T marks *"confirm that the samples were tampered with and therefore subject to swapping"* and *"indicates that she must have delivered clean urine for this purpose"*. The IOC noted that *"the protection of athletes necessarily implies that they are aware of this protection, from which they otherwise cannot benefit"*.

210. On the basis of the evidence set out above, the IOC submits that the Panel could be comfortably satisfied that the Athlete had committed ADRVs of:

- Tampering, pursuant to Articles 2.2 and 2.5 of the WADC and Chapter M2.1 of the Prohibited List;

- Use of a Prohibited Substance, pursuant to Article 2.2 of the WADC; and

- Cover-up / Complicity, pursuant to Article 2.8 of the WADC.

211. As a result of those alleged violations, the IOC submits that:

- The results achieved by the Athlete during the Sochi Games should be annulled, with all resulting consequences;

- The results of the competitions directly concerned by a sample for which tampering is directly and objectively established should be automatically disqualified;

- The Athlete should be disqualified from the competition in which she participated

during the Sochi Games; and

- The Athlete should be declared ineligible to be accredited in any capacity for all editions of the Games of the Olympiad and the Olympic Winter Games subsequent to the Sochi Games.

212. In addition to the Athlete's individual disqualification, pursuant to Article 5.9 of the 2013 IIHF Disciplinary Regulations and Article 9.1 (2) of the IOC ADR, given the disqualification of more than two players, the results of the Russian Women's Ice Hockey Team at the Sochi Games should be annulled, with the resulting consequences.

V. HEARING

213. A hearing was held in this procedure from 22-27 January 2018 in Geneva, Switzerland. The Panel was assisted by Mr. Brent J. Nowicki, Managing Counsel to the CAS, and Mr. Edward Craven and Mr. Andrew Smith, *ad hoc* clerks. Over the course of the six-day hearing, the following individuals attended the Athlete's hearing:

For the Appellant:

Ms. Ekaterina Pashkevich (Appellant)
Mr. Philippe Bärtsch (Schellenberg Wittmer) (Counsel; in-person)
Dr. Christopher Boog (Schellenberg Wittmer) (Counsel; in-person)
Ms. Anya George (Schellenberg Wittmer) (Counsel; in-person)
Dr. Anna Kozmenko (Schellenberg Wittmer) (Counsel; in-person)
Dr. Philip Wimalasena (Schellenberg Wittmer) (Counsel; in-person)
Dr. Annabelle Möckesch (Schellenberg Wittmer) (Counsel; in-person)
Mr. Luka Groselj (Schellenberg Wittmer) (Counsel; in-person)
Mr. Olivier Bieler (Schellenberg Wittmer) (Counsel; in-person)
Mr. Konrad Staeger (Schellenberg Wittmer) (Counsel; in-person)
Mr. H. Mustermann (Schellenberg Wittmer) (Counsel; in-person)
Ms. Ksenia Iliyash (Schellenberg Wittmer) (Counsel; in-person)
Ms. Irene Ringger (Schellenberg Wittmer) (Paralegal; in-person)
Mr. Andrey Kondakov (International Centre for Legal Protection) (Counsel; in-person)
Mr. Nikita Sergeev (International Centre for Legal Protection) (Counsel; in-person)
Mr. Anton Garmoza (International Centre for Legal Protection) (Counsel; in-person)
Mr. Christof Wieschemann (Wieschemann Rechtsanwälte) (Counsel; in-person)
Mr. Artem Patsev (Clever Consult) (Counsel; in-person)
Mr. Paul J. Greene (Global Sports Advocates) (Counsel; in-person)
Mr. Pavel Abratkievicz (Witness; by video)
Mr. Massimiliano Didoni (Witness; by video)
Mr. Martin Hillebrand (Witness; by video)
Mr. Evgeny Kudryavtsev (Witness; by video)
Mr. Yuri Chizhov (Witness; by video)
Mr. Grigory Krotov (Witness; by video)

Mr. Maxim Verevkin (Witness; by video)
Mr. Andrey Knyazev (Witness; by video)
Dr. Susan Pope (Witness; in-person)
Mr. Geoffrey Arnold (Witness; in-person)
Mr. Alexy Bushin (Witness; in-person)
Mrs. Evgenia Burova (Witness; in-person)
Prof. David Charytan (Witness; by video)

For the Respondent:

Ms. Tamara Soupiron (IOC) (Legal Counsel; in-person)
Ms. Anne van Ysendyck (IOC) (Legal Counsel; in-person)
Mr. Jean-Pierre Morand (Kellerhals Carrard) (Counsel; in-person)
Mr. David Casserly (Kellerhals Carrard) (Counsel; in-person)
Mr. Nicolas Français (Kellerhals Carrard) (Counsel; in-person)
Mr. Anton Sotir (Kellerhals Carrard) (Counsel; in-person)
Prof. Richard McLaren (Witness; by video)
Dr. Grigory Rodchenkov (Witness; by video)
Prof. Christophe Champod (Witness; in-person)
Dr. Vincent Castella (Witness; in-person)
Prof. Michel Burnier (Witness; by video)
Mr. Thierry Boghossian (Witness; by video)
Ms. Dominique Baz (Interpreter; in-person)

For the CAS:

Mr. Matthieu Reeb (Secretary General)

Observers:

Ms. Nathalia Gart (Russian Luge Federation)
Ms. Elena Vyalbe (Russian Cross-Country Ski Federation)
Mr. Alexander Kiknadze (Russian Hockey Federation)
Mr. Sergey Parkhomenko (Russian Bobsleigh Federation)
Dr. Stephan Netzle (FIS)
Dr. Michael Noth (FIS)
Dr. Beatrice Pfister (ISU)
Ms. Christine Cardis (ISU)
Mr. Christian Krähe (FIL)
Mr. Horst Lichtner (IIHF)
Ms. Ashley Ehlert (IIHF)

Interpreters:

Ms. Olga Dakhina
Ms. Elena Gurkina

Ms. Laurence Binnington
Ms. Maria Radetskya
Ms. Olga Nicod

Stenographer:

Ms. Karen McKendry

214. At the outset of the hearing, the President of both Panels present in the hearing room explained the particular format of the hearing that was agreed upon by the Parties in the Procedural Agreement. Within the following six days, 39 individual appeals against the decisions of the IOC DC were to be heard by both Panels.

215. Since there are issues common to all of the 39 appeals, i.e. in relation to the alleged doping scheme, the Parties agreed that those common matters were to be dealt with in joint sessions in front of both Panels. The individual hearings for each of the Sochi Appellants, however, were to be heard exclusively by the Panel in charge of the athlete in question.

216. The detailed timetable for the joint sessions and individual hearings, which was proposed by agreement of the Parties and modified by the Panels, was accepted by the Parties.

217. The deliberations on the common issues were to be conducted jointly by both Panels while the deliberations related to each of the individual Athletes were to be held separately before the one or the other Panel in charge, exclusively. However, the Panels explained that the discussion of common issues may extend to aspects related to individual athletes and, therefore, asked the Parties for permission to proceed jointly also in those circumstances. The Parties expressly agreed.

218. The President of the Panels went on to remind the Parties that, according to the Procedural Agreement, the operative parts of the 39 decisions would be rendered by 31 January or 1 February 2018 with the reasoned awards following in due course.

219. Moreover, given that the Respondent extended the deadline for applications under the late-entry procedure until 5 February 2018, the President of the Panels stated, and the Parties confirmed, that the Athlete's request for urgent relief was moot.

220. Furthermore, the President of the Panels reiterated that, based on the Procedural Agreement, observers on behalf of the interested federations were admitted to attend the joint sessions and the individual hearings related to the athletes under their jurisdiction without, however, the right to speak.

221. Lastly, the President of the Panels affirmed that the Parties agree on the jurisdiction of the CAS, the composition of the Panels, the admissibility of the appeals, and the applicable law.

A. The Joint Hearing on the Sochi Appeals

1. Opening Statements

a. The Athlete

222. At the outset of the hearing, the Sochi Appellants submitted that the findings of, and sanctions imposed by, the IOC DC had no basis in fact or law. The Sochi Appellants' submissions in support of that proposition may be summarised as follows.

223. There was no evidence that any of the Sochi Appellants: (a) had consumed the alleged Duchess Cocktail, or any other prohibited substance; (b) had provided urine outside of doping procedures or medical check-ups; (c) had communicated any information to anyone regarding the doping procedure at the Sochi Games; (d) had been involved or took part in *"washout"* tests leading up to the Sochi Games; (e) had been involved in any alleged tampering of their sample bottles; or (f) had committed an ADRV.

224. The IOC and the IOC DC had chosen to rely, blindly and at face value, on the allegations of Dr. Rodchenkov, without hearing him or considering that he might be making self-serving allegations to protect himself. The IOC disregarded evidence contradicting Dr. Rodchenkov's allegations.

225. The IOC DC failed to look at the evidence from an objective standpoint, instead proceeding from a foregone conclusion, namely that the Sochi Appellants were guilty, and applying presumptions and circular reasoning to ensure that the conclusions it wanted to reach would ultimately be reached.

226. From the perspective of the Sochi Appellants, the IOC DC and the IOC had adopted a *"heads I win/tails you lose"* approach. For example, in relation to the salt issue, the IOC had adopted the position that: (a) abnormal levels of sodium in athletes' urine samples was evidence of an ADRV; but (b) usual levels of sodium in athletes' urine samples was *not* evidence that their samples had *not* been tampered with. A similar approach had been taken in relation to the scratches and marks issue. In short, *"The athletes always lose"*.

227. Some of the Sochi Appellants had been banned for life based on nothing more than their name appearing on the so-called Duchess List.

228. The IOC DC and the IOC had forgotten that they operate in a legal order, where athletes have rights that must be respected; where there are rules about the burden and standard of proof; and where innocent people cannot be sanctioned on the basis of mere assumptions.

229. The IOC DC rendered its decisions in complete disregard of both the Sochi Appellants' due process rights and the applicable rules and regulations. The IOC DC and the IOC had imposed collective punishment, which was impermissible by any standard.

230. The appeals should not be decided based on an allegation of broad conspiracy. The WADC and Swiss law are based on the fundamental principle of individual guilt and responsibility. The principles of natural justice could not be abandoned; and the focus had to be on whether any of the individual athletes had committed a specific ADRV, rather than on whether an alleged scheme existed.

231. The Panel was obliged to make this assessment itself, rather than relying on the subjective assessments of the evidence made by others, including Prof. McLaren, particularly in circumstances where those assessments had been made in violation of due process.

232. The burden of proof was whether an ADRV had been established to the comfortable satisfaction of the Panel. With regard to the standard of proof, given the very serious nature of the allegations against the Sochi Appellants, very convincing proof was required to substantiate them. Such proof did not exist.

233. The IOC bore the burden of proving a link between the alleged specific ADRV, i.e. tampering, use of a prohibited substance, or covering up an ADRV, and the individual Sochi Appellants, which in various material respects involved establishing knowledge or intent on the part of the athletes. On the evidence, the IOC could not establish the necessary link in respect of any of the alleged ADRVs.

234. Prof. McLaren was neither a witness to the alleged events under consideration, nor was he independent, and his findings were in no way binding on the Panel. Furthermore, Prof. McLaren had repeatedly stressed that he had never considered or sought to establish specific ADRVs committed by individual athletes.

235. Dr. Rodchenkov was not a credible witness; he had lied repeatedly in the past; he had a strong motivation to blame others for his wrongdoing; his accounts were inconsistent, contradicted by the IOC's own experts and did not withstand scrutiny; and he was telling a *"spectacular, but not true"* story.

236. The IOC's position had shifted, because its original stance did not fit with the forensic examination conducted by its own experts. The Panel would also hear evidence from various experts presented by the Sochi Appellants, who were internationally recognised and would highlight the numerous flaws in the expert evidence submitted by the IOC.

237. Finally, the Panel would hear evidence from the Sochi Appellants themselves, who would explain their innocence and how the unjustified decisions had affected them.

238. In conclusion, the only reason why the Sochi Appellants had been sanctioned was because: (a) their names appear on a list; and (b) Dr. Rodchenkov says that this means that they were protected. The Sochi Appellants were victims of Dr. Rodchenkov's false allegations and the IOC's decision to blindly rely on those allegations.

b. The Respondent

239. In its opening statement, the IOC submitted as follows:

240. The IOC DC had done its best to conduct the proceedings under the difficult circumstances which had existed; in any event, the hearing before the CAS was *de novo*.

241. While the Panel was considering the appeals of individual athletes, those appeals had to be considered within the framework of a conspiracy, which was aimed at completely subverting the doping control processes for the benefit of a specific group of athletes.

242. The *"iceberg"* of widespread doping emerged in 2016 when Dr. Rodchenkov made his spectacular revelations to the New York Times of systematic urine swapping at the Sochi Games. Prior to then, the scheme had been very effectively concealed.

243. Prof. McLaren's investigations had established that there was, at the Sochi Games, an institutional doping scheme aimed at avoiding doping control for certain Russian athletes. In reaching his conclusions, Prof. McLaren had taken into account: Dr. Rodchenkov's testimony; evidence from confidential witnesses; forensic examinations including in respect of scratch marks, sodium content and DNA analysis; and extensive documentary evidence. With regard to institutionalised doping, conspiracy and cover up, the findings of Prof. McLaren were *"decisive and conclusive"*.

244. The organisation of the scheme was not limited to the laboratory but extended to the Ministry of Sport, with one central active figure, Mr. Nagornykh, the Deputy Minister of Sport, who reported to Mr. Mutko, the Minister of Sport. The FSB was actively involved with, and very much part of, the scheme. The CSP, headed by Ms. Rodionova, was also a central actor to the scheme.

245. In February 2013, a team headed by Mr. Blokhin had found a way to open the supposedly tamper-proof sample bottles.

246. The scheme required the disciplined participation of all the participants, including the protected athletes, i.e. those on the Duchess List.

247. In rendering its decisions, the IOC DC had used both the evidence of Prof. McLaren and an evidence dossier, including forensic evidence, in respect of each individual athlete.

248. With regard to the sample bottles of the suspect group, i.e. those on the Duchess List, 36 out of approximately 90 bottles bore significant marks, which was strong support for the fact that they had been opened. By contrast, none of the samples of athletes outside the suspect group bore such marks.

249. The sodium *"outliers"* from the Sochi Games were all within the suspect group. Furthermore, in certain cases, the sodium levels: (a) were physiologically impossible; and (b) provided incontrovertible evidence that samples had been tampered with.

250. There had been a systematic application of a urine-swapping scheme for the protected athletes.

251. With regard to the burden and standard of proof, the Panel was required: (a) to take into account the fact that a conspiracy has the purpose of hiding evidence; and (b) to be comfortably satisfied of its conclusion – no more and no less.

252. With regard to the involvement of the athletes, once one concludes that an athlete is a participant in the scheme, one must find that they had knowledge of the scheme because otherwise the scheme itself would not make sense. One would not swap clean samples for other clean samples, and part of the scheme required athletes to bring their clean urine. The individual athletes were part of a conspiracy, and it was the conspiracy that the Panel had to address.

253. On the evidence, the Panel could be comfortably satisfied that all of the Sochi Appellants had participated in the scheme and committed ADRVs.

254. With regard to the sanction that had been imposed on the Sochi Appellants, what had occurred at the Sochi Games was the worst ever perversion of the Olympic Games.

2. Evidentiary Proceedings

255. The following summarises the witness testimony and evidence in respect of the factual matters common to the Sochi Appeals:

a. Factual Evidence

(i) Dr. Grigory Rodchenkov

256. Dr. Rodchenkov prepared a substantial number of affidavits providing his account of what he terms the *"Russian State-sponsored doping program during the Sochi games"*. These include:

- Affidavits submitted in connection with the proceedings before the IOC DC, dated: (a) 24 October 2014, which was a typographical error and ought instead to have referenced the year 2017; (b) 2 November 2017; and (c) 5 November 2017;

- An affidavit dated 2 November 2017, submitted in connection with the proceedings before the Schmid Commission; and

- An affidavit dated 15 January 2018, submitted in connection with these proceedings before the CAS, along with individual affidavits as they relate to the individual athletes.

257. In his written evidence, Dr. Rodchenkov stated that he served as the Director of the Moscow Laboratory from March 2005 until 9 November 2015, as well as the Director of the Sochi Laboratory in 2014, before fleeing Russia on 17 November 2015 because of *"threats to my physical security and well being"*.

258. Dr. Rodchenkov stated that the manipulation of the doping control systems in Russia, before, during and after the Sochi Games, which he refers to as the *"Sochi Plan"*, was: *"(a) orchestrated by then-Minister of Sports Vitaly Mutko and then-Deputy Minister of Sports Yury Nagornykh, (b) financed by the Ministry of Sports, and (c) carried out by dozens of other government and RUSADA officials and employees (including myself)"*.

259. With regard to the events leading up to the Sochi Games, Dr. Rodchenkov stated that the 2013 IAAF World Championships *"served as an important 'warm up act' for our doping work at the Sochi Games"*. By this time, according to Dr. Rodchenkov: (a) various Russian athletes had been instructed to maintain stores of clean urine; (b) top-level athletes were taking a three-steroid cocktail, which he had developed in 2010/2011 based on the detectability of new long-term metabolites; and (c) from the Moscow Laboratory, Dr. Rodchenkov had been able to swap *"dirty"* urine samples – which he said *"only happened in a few cases"* – with clean urine from the stores which had been built up over time, and which was *"delivered to the lab for all 'protected' athletes"* by Ms. Rodionova, the Deputy Director of the CSP, and Mr. Alexei Melnikov, a State Coach. According to Dr. Rodchenkov, by this time the FSB had succeeded in establishing a way to open the supposedly tamper-proof BEREG-KIT bottles.

260. Dr. Rodchenkov stated that the Sochi Plan had three primary objectives, namely:

- using Performance Enhancing Drugs ("PEDs") with a limited *"washout"* period, meaning that they would be undetectable in urine after a very short period of time;
- the ability, during the Sochi Games, to swap the urine of doped athletes for urine taken from that athlete before the athlete began taking PEDs; and
- the ability to hinder both: (a) the testing of Russian Olympic athletes scheduled by the IOC or WADA; and (b) the delivery of samples abroad.

261. With regard to the first objective, Dr. Rodchenkov described his creation of a PED referred to as the Duchess Cocktail, which he says *"mixed combined alcohol extracts of three steroids: Oxandrolone (Anavar), Metenolone (Primobalan), and Trenbolone (Parabolan)"*. Dr. Rodchenkov described this as *"one of my most significant contributions to Russia's doping program"*. He stated that he knew he needed to avoid a pill-form substance when devising this PED, as this would be less reliable given the differences between athletes' metabolisms. Accordingly, Dr. Rodchenkov stated that he created the Duchess Cocktail in liquid form, which the athletes could take sips of, or swirl around their mouth, in order to transmit the steroids *"directly and quickly, into their blood stream and target muscle tissues"*. Dr. Rodchenkov stated that Mr. Kiushkin, Ms. Rodionova's assistant, *"was responsible for making the cocktail that Rodionova distributed to coaches and athletes"*. He further stated that Ms. Rodionova told him that she had altered the formula devised by him, *"giving the mixture with whiskey to some athletes but using Martini vermouth for other athletes who could not tolerate whiskey"*.

262. Dr. Rodchenkov stated that in or around July 2011, he tested the Duchess Cocktail on himself, for the purpose of assessing its washout period. Following various laboratory tests and analysis, he said that the washout period was adjudged to be *"reliably 3 – 5 days"*.

263. With regard to the identities of the protected athletes, Dr. Rodchenkov stated that, *"The Ministry of Sports, and in particular Deputy Minister Nagornykh, decided which athletes would be 'protected' from doping-control threats or problems"*. According to Dr. Rodchenkov, these athletes' names were placed on an excel spreadsheet by Mr. Velikodny based on information from Ms. Rodionova; this spreadsheet would later be referred to as the Duchess List. Dr. Rodchenkov stated that Mr. Nagornykh informed him that Mr. Mutko, the Minister of Sport, had reviewed and approved this list. According to Dr. Rodchenkov, the swapping of urine for athletes on the Duchess List was *"automatic"*, and those athletes benefitted from *"complete blanket protection"*.

264. Dr. Rodchenkov stated that he was sent the Duchess List on 21 January 2014, and that the *"list of 'protected athletes' grew as we came nearer to the Sochi Games, including (for example) the entire women's hockey team"*. He further stated that: (a) Mr. Nagornykh directed that *"foreign athletes"* who were nevertheless eligible to compete for the Russian national team were not to be included on the list; and (b) the members of the Russian snowboard team were removed from the Duchess List because that team *"included foreigners and we did not know their protocol when competing internationally, nor had we ever tested their urine, and therefore could not control their protocol"*.

265. With regard to the second objective of the Sochi Plan and the alleged systematic collection of clean urine, Dr. Rodchenkov stated that in approximately March 2013, *"Rodionova, coaches, and team doctors directed approximately 75 Russian winter athletes to begin collecting urine, which would be used to swap for dirty urine if necessary during the Sochi Games"*. Dr. Rodchenkov explained that notwithstanding the short washout period of the Duchess Cocktail, the Sochi Plan, in order to have maximum impact, would require some athletes to continue using the Duchess Cocktail shortly before or during the Sochi Games, thereby giving rise to the risk of positive doping tests.

266. Accordingly, in order to address that risk, and as an *"insurance policy"*, it was necessary to establish a *"bank"* of clean urine, which could be used during the Sochi Games for the purpose of urine swapping. Dr. Rodchenkov stated that athletes were told to collect approximately five to seven bottles or cans of clean urine prior to starting their use of the Duchess Cocktail. He further stated that, *"Rodionova had her team – which consisted of Kiushkin, Velikodny, and others – collect athletes' clean urine while at training sites and during periods where their urine should have tested clean, either before the doping protocol or because the sample was collected far after their washout period"*. According to Dr. Rodchenkov, athletes were also instructed to freeze their urine before sending the bottles to Ms. Rodionova in Moscow in plastic bags.

267. Dr. Rodchenkov stated that in the period between March 2013 and the Sochi Games, Ms. Rodionova or Mr. Velikodny transported this supply of clean urine to Dr. Rodchenkov in the Moscow Laboratory. He stated that these samples, of approximately one hundred athletes, were tested to ensure that they were clean; and that his staff *"catalogued all athlete samples, analysed*

them for clean grade, and passed them to Rodionova to store in the CSP until they were transported to the FSB [Command Centre]", which was situated approximately 100 metres from the Sochi Laboratory.

268. According to Dr. Rodchenkov, approximately 500 clean urine samples were stored in the freezers of the FSB Command Centre during this process. He stated that on 1 February 2014 he personally inspected this facility, and observed the clean urine samples in the freezers, *"stored in various, unofficial, commercial plastic bottles contained in plastic bags"*. Dr. Rodchenkov stated: (a) that the samples were *"very disorganized"*; (b) that he completed an inventory of the samples, albeit Dr. Rodchenkov stated that his earlier reference to having conducted a *"full inventory"* was imprecise, given that he *"did not review the contents of every bag of clean urine in the bank, but looked through many of the bags as indicated herein"*; and (c) that on his instruction, Mr. Blokhin agreed to reorganise the samples, separating them on the freezer shelves by sport, and then alphabetically by athletes' last names.

269. With regard to the opening of the supposedly tamper-proof BEREG-KIT bottles, Dr. Rodchenkov described a team of individuals, whom he describes as the *"Magicians"*, who successfully developed a method for opening sealed bottles. Dr. Rodchenkov stated that the supervisor of this team, Mr. Blokhin, informed him in February 2013 that they had achieved success in this regard. Dr. Rodchenkov then *"reported this important development to Nagornykh, who in turn reported it to Mutko"*.

270. Dr. Rodchenkov stated, however, that: (a) he *"never observed first hand any bottles being opened or de-capped"*; (b) accordingly, he did not know the *"precise method"* used by the Magicians to open the bottles; but (c) he did see a *"table with instruments that resembled a dentist's tools"*. Dr. Rodchenkov goes on to state that, *"I do know, based in part of my discussions with Blokhin, that the FSB replaced toothed rings and springs within the caps. However they accomplished the removal of the caps, I did not observe any changes when the bottles and caps were returned"*.

271. With regard to the process of urine swapping, Dr. Rodchenkov described a four-stage process, summarised below:

272. First, the athlete would arrive at the doping control station and provide a urine sample in accordance with the standard process, which would include a final leakage and closure check of the A and B sample bottles by the DCO assigned to the athlete. The athlete or a person accompanying the athlete, for example, a team physician or coach, would take a photograph of the completed DCF with their mobile phone, and the *"DCO or corrupt personnel at the Doping Control Station"* would do the same.

273. The athlete or a member of their entourage would then send a digital photograph of the DCF to Ms. Rodionova via text message who would then: (a) forward the photograph to Dr. Rodchenkov again via text message; and (b) call Dr. Rodchenkov at the Sochi Laboratory, to confirm which athletes had given urine that day to doping control. According to Dr. Rodchenkov, *"Back-up coordinators at the 15-16 Doping Control Stations texted photographs of athletes' DCFs to Chizhov, Blokhin, and my secretaries"*.

274. In his affidavit dated 15 January 2018, Dr. Rodchenkov further stated that: (a) these *"back up"* messages were also forwarded to him; (b) *"The DCFs were always sent to the Sochi Laboratory in both way[s], once through Rodionova or [in a few instances, Dr. Avak] Abalyan and once by the back up coordinators to Chizhov, Blokhin, or my secretaries. We wanted a 'double communication' to confirm the veracity of the information for the process"*; and (c) Ms. Rodionova *"utilized multiple telephones while at the Sochi Games and therefore I would receive the information from one of her many telephone numbers"*.

275. Second, Dr. Rodchenkov described using the information contained in the DCFs to create a *"Catch of the Day"* table, which set out names, sample code numbers, specific gravity measurements, and the volume of clean urine required to fill the A and B sample bottles. Following discussions between Dr. Rodchenkov, Mr. Chizhov and Mr. Blokhin, clean urine of the athletes concerned was brought by Mr. Blokhin to the Operations Room in the Sochi Laboratory, and left there to defrost during the day, while the room was locked. Once the clean urine samples had thawed, and *"well before the swapping occurred at night"*, Mr. Chizhov *"worked to prepare the samples for that night's swapping"*, including by manipulating samples to adjust the specific gravity to match the reading on the DCFs. According to Dr. Rodchenkov, *"If the specific gravity of any clean urine was lower, sodium chloride was added to the sample to increase the specific gravity. If the specific gravity of any clean urine was higher, distilled water was added to adjust the specific gravity. If the specific gravity matched or differed within 0.002 points, then the sample was left as is"*. With regard to this particular exercise, Dr. Rodchenkov stated that on 31 January 2014, i.e. one week before the commencement of the Sochi Games, he was provided with an Asahi densitometer, a device which measures specific gravity in urine, which was the same model as that used at the doping control stations. According to Dr. Rodchenkov, *"Having this instrument was critical to the swapping scheme, as we had to match Clean Samples with the specific gravity noted on the DCF"*.

276. Third, Dr. Rodchenkov described additional steps carried out in the Olympic Village as part of the Sochi Plan. In particular, he described how Mr. Antilsky, the Managing Director of the doping control station in the Polyclinics in the Olympic Village: (a) retained urine samples at the Olympic Village until approximately 01h00; and (b) called the Sochi Laboratory when the athletes' samples had been collected, informing them to expect the samples to arrive shortly. Dr. Rodchenkov stated that on receipt of this information, *"Chizhov and I made a round inside of the Sochi Lab to ensure that all foreigners and observers had left and that it was clear for urine swapping"*.

277. Fourth, Dr. Rodchenkov described the urine-swapping process itself, to which reference is made in the IOC's submissions.

278. Dr. Rodchenkov stated that following the completion of this urine-swapping process he: (a) *"destroyed the Catch of the Day table and deleted all the DCFs in my phone"*; (b) *"instructed [his] secretaries and Chizhov to delete any DCFs from their phones as well"*; and (c) called Ms. Rodionova to inform her that the swapping was complete.

279. With regard to the frequency of this activity, Dr. Rodchenkov described carrying out swapping activity prior to the commencement of the Sochi Games, including working very late into the night on 5/6 and 6/7 February 2014. He also stated that he *"carried out nighttime urine swapping*

during the entire Sochi Games". However, Dr. Rodchenkov went on to state that this did not occur every night during the Sochi Games. In particular, he stated that, *"For two nights, Thierry Boghossian, the WADA Independent Observer, stayed late in the lab. Thankfully, on those nights we were not required to swap urine samples"*.

280. With regard to the third objective of the Sochi Plan, Dr. Rodchenkov stated that to address the problems associated with Russian athletes' samples being sent abroad, Mr. Nagornykh *"worked with the FSB to create a system to intercept the samples at the border"*; Dr. Rodchenkov stated, however, that he was *"not involved in the details of this part of the scheme"*. Dr. Rodchenkov also referred to Russian skiers being told to travel to Switzerland in advance of the Sochi Games, where he says RUSADA would collect the urine samples before delivering them to the Sochi Laboratory, where the results would be hidden.

281. At the hearing, Dr. Rodchenkov gave evidence orally via Skype. He gave evidence from behind a screen, which concealed the entirety of his upper body save for his forearms and hands. His legal counsel, Mr. Jim Walden, and an interpreter accompanied him throughout his testimony.

282. During his examination-in-chief, Dr. Rodchenkov, *inter alia:*

- described the storing of clean urine samples in commercial bottles, such as Coca-Cola bottles and baby nutrition bottles;
- stated that he had been provided with a copy of the Duchess List on 21 January 2014, which *"represented names of athletes which were discussed during our meetings who were medal candidates and who were using the cocktail before they provided clean urine"*;
- described the process of thawing clean urine and adjusting its specific gravity, whether by adding salt or distilled water;
- described the process of washing the sample bottles and depositing the urine originally stored in them, which according to Dr. Rodchenkov would be poured into a large plastic tub, with a volume of approximately 20 litres, and then emptied, when the tub was approximately half full, into a toilet; and
- stated that during the Sochi Games, he estimated that approximately 100 sample bottles had been swapped, ranging from two to 12 bottles per night.

283. Under cross-examination, Dr. Rodchenkov was asked about a video from 2017, in which he was recorded saying *"I do not give a fuck about fighting the doping"*; it was put to Dr. Rodchenkov that this comment reflected his true beliefs. While accepting that he had made this statement when speaking with a friend, Dr. Rodchenkov stated that it was made *"in [an] emotional context"*. Dr. Rodchenkov was also asked about a comment he had made about his diary from 2014, specifically, that it represented *"millions of dollars in my bag"*. Dr. Rodchenkov replied that he was joking when he said this.

284. With regard to his account of the implementation of the Sochi Plan, Dr. Rodchenkov stated that FSB officers or representatives were present at the doping control stations during the Sochi Games; and that Mr. Blokhin had informed him that more than 20 FSB officers had received DCO certification. When asked about the photographs of the DCFs, Dr. Rodchenkov stated that these would be sent *"from maybe 10h00"*, but that he could not remember when the last messages would be received.

285. With regard to the thawing of clean urine, Dr. Rodchenkov stated that: (a) this would regularly start between 17h00 – 19h00, upon being delivered by Mr. Blokhin; and (b) sometimes, in order to accelerate the thawing process, the urine would be placed *"in warm water in a special plastic tub"*. He further stated that Mr. Chizhov would commence his preparatory work for the night swapping at around 17h00, continuing into the early hours. When questioned about Mr. Chizhov's evidence that he did not know how to adjust the specific gravity of urine samples, Dr. Rodchenkov stated that this was a lie; when re-examined by counsel for the Respondent, Dr. Rodchenkov stated that Mr. Chizhov is an internationally certified DCO, who was familiar with measuring specific gravity. When asked about his written evidence that he would receive calls around 01h00 to inform him that the samples were on their way to the Sochi Laboratory, Dr. Rodchenkov stated that he initially received those calls, but that later on during the Sochi Games he directed these calls to close colleagues.

286. With regard to the delivery of the samples to the Sochi Laboratory, which he said would occur shortly after 01h00, Dr. Rodchenkov stated that it would not necessarily be Mr. Kudryavtsev who received them from the ambulance, albeit Mr. Kudryavtsev was ultimately responsible for collecting the samples and delivering them, via the mousehole, in a timely manner to the Operations Room.

287. With regard to the washing of the sample bottles, Dr. Rodchenkov stated that this was done with distilled water, which Mr. Chizhov had brought to the Operations Room from the second floor. With regard to the urine that had been poured into a plastic tub, Dr. Rodchenkov stated that he would deposit the contents of the tub into a toilet, approximately 15 metres from the Operations Room.

288. With regard to the B sample bottles, Dr. Rodchenkov stated that it would usually take Mr. Blokhin one to two hours to bring them back. Sometimes they were full, and sometimes empty. Dr. Rodchenkov stated that the last stage of the swapping process took half an hour.

289. Dr. Rodchenkov was questioned about the statement in his affidavit that on two nights during the Sochi Games, a WADA independent observer had stayed late in the Sochi Laboratory, but that, *"thankfully, on those nights we were not required to swap urine samples"*. The Appellants suggested to Dr. Rodchenkov that if his account of the Sochi Plan was correct, it would have required sample-swapping every night during the Sochi Games. Dr. Rodchenkov's answer to this question was not particularly clear; it included the statement that, *"I do remember that there were limited amounts of nights when I do not participate in swapping"*.

290. Dr. Rodchenkov was questioned about his account of the clean urine bank. He stated that although he was not personally involved in the collection of clean urine and had never seen an athlete give a clean urine sample, he was aware that Mr. Velikodny had delivered most of those samples in plastic bags.

291. Dr. Rodchenkov was questioned about his diary entries, in particular the records of when he got up in the morning and went to bed at night. Counsel for the Sochi Appellants observed that from analysing the entries from the period of the Sochi Games, Dr. Rodchenkov was recorded as going to bed between 23h00 and midnight every night, with two or three exceptions. Dr. Rodchenkov responded that he was *"very rarely"* in his room at this time, and that he had written false bedtime entries *"because Blokhin was extremely nervous about my diary"*.

292. With regard to the creation of the Duchess Cocktail, Dr. Rodchenkov stated that he started thinking about this project at the end of 2010. The Appellants noted that in the First McLaren Report, the three ingredients had been listed as oxandrolone, trenbolone and methasterone, rather than metenolone. Dr. Rodchenkov stated that this had been a typographical error, and that *"we never had any source of methasterone in Russia"*.

293. In his oral evidence, Dr. Rodchenkov stated that he had never: (a) distributed the Duchess Cocktail; (b) seen an athlete take the Duchess Cocktail; (c) witnessed instructions being given to athletes and coaches to use the Duchess Cocktail; (d) seen an athlete give a clean urine sample; or (e) seen an athlete tamper with a doping sample. Dr. Rodchenkov did not indicate whether a benefit/risk analysis of the Duchess Cocktail was ever undertaken.

294. Towards the end of his cross-examination, Dr. Rodchenkov was asked about critical comments he had made in respect of two Russian whistleblowers, who had accused him and other athletes of wrongdoing. Dr. Rodchenkov stated that he had accused those whistleblowers of cheating and dishonesty because *"at that time, I was in Russia and I have no choice but to lie …"*.

295. In response to questioning by the Panel, Dr. Rodchenkov confirmed that he did not know who had sent the DCFs to Ms. Rodionova. Upon being directed to his written evidence, which included a statement that *"the athlete or a member of their entourage"* would text a photograph of the DCFs to Ms. Rodionova, Dr. Rodchenkov stated that what he was describing in his written evidence was the plan.

296. Asked by the Panel about the exact composition of the Duchess Cocktail, Dr. Rodchenkov stated that he needed five minutes to explain, and therefore refrained from doing so. Furthermore, he stated that he had no information about who transported the Duchess Cocktail or how and in which form, i.e., pills or liquid, it was transported across the borders to competitions or training camps abroad. With regard to the washout period of the Duchess Cocktail, Dr. Rodchenkov confirmed his written evidence that it was three to five days, although he also stated that the bigger the dose taken by an athlete, the longer the washout period would be.

297. After the evidence, the Parties confirmed that they had no doubt that the individual who testified via Skype from behind a screen was Dr. Rodchenkov.

(ii) Prof. Richard McLaren

298. Prof. McLaren testified by Skype at the hearing before the Panel. Prof. McLaren began his oral testimony by summarising the background to his reports and his terms of reference, before providing a high-level overview of some of the key findings contained in the McLaren Reports. He was then questioned at length by the representatives of the IOC and Sochi Appellants, as well as the members of the Panel.

299. At the outset of his testimony, Prof. McLaren expressly emphasised that, insofar as wrongdoing by individual athletes was concerned, he was not asked, nor had he attempted, to determine whether any individual athlete had committed an ADRV. Instead, he was *"merely asked to identify those who may have benefited from the systems"* described in the McLaren Reports. To this end, whenever the information that Prof. McLaren obtained indicated that a particular athlete potentially benefited from the system, he had provided the information in writing to WADA, who in turn provided the information to the relevant International Federation that the athlete belonged to. It was then for the International Federation to decide how to respond to that information. As a result, Prof. McLaren's work was *"just the starting point for further work"* by other organisations.

300. Prof. McLaren went on to explain that, in this respect, if his investigation obtained evidence that a particular athlete may have benefited from the scheme, then *"It didn't mean that they did benefit. It didn't mean that they committed [an] anti-doping rule violation"*. Prof. McLaren's mandate simply required him to identify athletes who *may* have benefited from the scheme. He was not, however, a result management authority with respect to particular athletes.

301. Prof. McLaren also explained that his investigation had been subject to particular constraints concerning time, money and the data that would be made available to the investigation.

302. During examination-in-chief by the IOC's counsel, Prof. McLaren was asked for his response to the suggestion that the McLaren Reports were based only on the testimony of Dr. Rodchenkov. Prof. McLaren responded that this was not an accurate characterisation. In particular, he explained that he had sought to corroborate everything that Dr. Rodchenkov said to him. To this end, Prof. McLaren had consulted confidential witnesses, numerous documents and an array of forensic scientific testing. With respect to the confidential witnesses, Prof. McLaren explained that during the course of his investigation he had spoken to four individuals who provided information on condition that their identities would remain confidential, in view of the serious risks they would face if their cooperation with Prof. McLaren became known.

303. Prof. McLaren was asked about the extent of his attempts to speak with athletes and coaches who were potentially implicated in the doping scheme he had described in the McLaren Reports. Prof. McLaren responded by describing the *"great deal of difficulty"* that the

Independent Commission had encountered when it attempted to speak to Russian athletes as part of its investigation. Those difficulties were exacerbated when Prof. McLaren was appointed by WADA as the Independent Person. On the few occasions when athletes did come forward, they provided information in circumstances that were not acceptable to Prof. McLaren's team; for example, because the athletes demanded to provide testimony in writing in response to questions provided in advance. As a result, Prof. McLaren's team was *"unsuccessful at speaking with athletes or completing any discussions to the point where we could rely on what they had to say to us"*. A similar position emerged when Prof. McLaren's team sought to speak to the athletes' coaches.

304. Prof. McLaren was then asked to comment on the reliability of the documentary evidence comprised within the Evidentiary Disclosure Package. In his initial response, Prof. McLaren explained that he had engaged experts to check the metadata of electronic documentation in order to verify that the documents were indeed created on the dates they purported to have been created on. He went on to explain, however, that the terms of the agreement through which Prof. McLaren's team obtained the database prevented him from allowing anyone else to check the metadata of the electronic documents. Upon further in-depth questions from the Panel, Prof. McLaren explained that he does not know whether Dr. Rodchenkov worked on a hard computer and copied data from the hard computer to his laptop or vice versa. Prof. McLaren had received the data as an image of the data in Russian language from a laptop. The authenticity of the data was examined from that image by an expert whose name he could not remember.

305. Prof. McLaren was then asked questions about the Duchess List. Prof. McLaren explained that a hard copy of the Duchess List had been provided to the Independent Commission at the outset of its investigation. That version of the document was created sometime after the Sochi Games, since it contained the medal results from the Games. Prof. McLaren's team was not able to confirm the metadata of that version of the document. He was, however, able to confirm the metadata for the original version of the Duchess List, which was created by Mr. Velikodny on 21 January 2014, two weeks before the Sochi Games commenced.

306. Prof. McLaren went on to discuss the credibility of Dr. Rodchenkov's evidence. He explained that the Independent Commission had originally interviewed Dr. Rodchenkov during interviews that took place at the Moscow Laboratory. Dr. Rodchenkov subsequently met in person with Mr. Pound, the Chair of the Independent Commission. On the basis of those interviews, the Independent Commission did not consider Dr. Rodchenkov to be a reliable witness. Prof. McLaren explained, however, that when he subsequently spoke to Dr. Rodchenkov in the course of the Independent Person investigations, he was able to confirm the accuracy of Dr. Rodchenkov's evidence using evidence from other reliable sources, for example forensic evidence regarding sodium levels, DNA and scratch marks.

307. Prof. McLaren added that since Dr. Rodchenkov was under the FBI witness protection programme, he was aware that if he failed to be truthful to Prof. McLaren, this could jeopardise his ability to remain in the United States. This was *"a powerful incentive to his being*

reliable and credible". For all these reasons, Prof. McLaren considered Dr. Rodchenkov to be *"a credible witness"* whose description of the Sochi sample-swapping scheme could be relied on.

308. Prof. McLaren was cross-examined by the Sochi Appellants' counsel. During the course of that cross-examination, Prof. McLaren stated, among other things, that:

- He had not specifically checked whether or not each of the athletes listed on the Duchess List had, in fact, gone on to compete at the Sochi Games.
- He did not know whether any of the individual athletes named on the Duchess List had, in fact, competed after consuming the Duchess Cocktail.
- He had not instructed any experts to analyse the likely composition, dosage and effects of the Duchess Cocktail.
- He confirmed that Dr. Rodchenkov's testimony was that *"most"* of the *"protected athletes"* were on doping programmes. Prof. McLaren considered it *"reasonable to assume"*, therefore, that Dr. Rodchenkov's testimony was that not all *"protected athletes"* were on doping programmes. Prof. McLaren was unable to identify which of the athletes were, and which were not, on doping programmes.
- He had not attempted to contact any of the Russian individuals, such as Mr. Kudryavtsev or Mr. Yuri Chizhov, who were named in the McLaren Reports as having been integral participants in the doping and cover-up scheme described in the reports.
- In view of his mandate, he had not investigated whether any of the individual Sochi Appellants had failed to comply with doping control procedures. Nor had he spoken to any of the Sochi Appellants with a view to obtaining information about potential ADRVs.

309. Following his cross-examination, Prof. McLaren answered questions posed by the Panel concerning his investigative methodology and specific aspects of the evidence relevant to the findings of the McLaren Reports. During the course of those answers, Prof. McLaren explained a number of matters, which are summarised below:

310. Prof. McLaren stated that the total number of individuals who were implicated in the doping and cover-up scheme was likely to exceed 1,000.

311. The authorities in the United States imposed certain conditions in respect of Prof. McLaren's ability to communicate with Dr. Rodchenkov and to access his documents. This included the undertaking that Prof. McLaren would not provide access to the electronic data files of Dr. Rodchenkov to any third parties, and that there would not be any transcripts of Prof. McLaren's interviews of Dr. Rodchenkov. Prof. McLaren testified that he *"had to agree"* on these conditions and that he *"wasn't in a position to negotiate"* them. He did not feel comfortable in answering the Panel's question as to the identity of the U.S. authorities in question.

312. Prof. McLaren testified that he did not, during his investigation, engage in or enquire about whether a risk/benefit analysis of the alleged doping scheme was carried out by those involved or the rationality of the alleged scheme, namely what were the added benefits of the Duchess Cocktail and whether these benefits were worth the risks of being uncovered in view of the number of persons allegedly involved and the overall complexity of the scheme, including the collection and storage of the clean urine, the incomplete closure of the sample bottles by the athletes before DCOs, the communication by the athletes of their individual DCF numbers via SMS and the opening and swapping of the samples.

313. Prof. McLaren confirmed that during the course of his investigation, his team had come into possession of copies of 18 pages of Dr. Rodchenkov's diaries. Prof. McLaren had come to the conclusion, however, that it would be *"far too complicated and difficult for us to use the diaries in the investigation"* and that they *"didn't add any value to our investigation"*.

314. Prof. McLaren expained that he had not sought to obtain access to the original versions of those 18 pages because he was confident that Dr. Rodchenkov's lawyers were not supplying fraudulent documents to the investigation. Prof. McLaren confirmed that he had not sought to obtain information about the writing in the diary – for example whether it was written in pencil or ink – and had not sought to have the copies of the diary authenticated since he had decided that it would not be relied on in the investigation. However, the Panel pointed out a reference to Dr. Rodchenkov's diaries at page 55 of the First McLaren Report, which in particular served as basis for the material statement that the Russian Sports Minister Mutko took part in the alleged doping scheme. Prof. McLaren was not able to explain the inconsistency of his testimony, nor why he used the excerpts of the diaries, of which the authenticity had not been tested, and without review of the full version of the diaries, in relation to the material allegation in the First McLaren Report that, *"excerpts from Dr. Rodchenkov's diary reflect several meetings with Minister Mutko in the month prior to and during Sochi Games. Dr. Rodchenkov's evidence is that the doping cover up plan for Sochi was discussed at those meetings"*.

315. Prof. McLaren confirmed that he had not personally attempted to contact any of the Sochi Appellants as part of his investigation and that, to the extent that his chief investigator had attempted to contact athletes in Russia, he had no success in doing so. In response to a later question, Prof. McLaren also confirmed that neither he nor his team had sought to make contact with any of the Russian athletes' team doctors.

316. Prof. McLaren also confirmed that he had not attempted to obtain copies of the video footage from cameras that were present in the vicinity of the Operations Room or the Aliquoting Room of the Sochi Laboratory, nor had he attempted to obtain information as to their whereabouts. He added that his team had sought to obtain data and information from the laboratory via WADA; however, this information was not made available by the Russian authorities.

317. Lastly, Prof. McLaren confirmed that he had not sought to obtain any records of the telephone call data relating to Dr. Rodchenkov's use of his mobile telephone during the period when the alleged urine substitution occurred at the Sochi Laboratory.

(iii) Evgeny Kudryavtsev

318. Mr. Kudryavtsev, a Russian citizen, testified orally via Skype. From 2012 until November 2017 he was the head of the section of the Moscow Laboratory with responsibility for logging and recording athletes' biological samples.

319. At the outset of his testimony, he confirmed the accuracy of his witness statement dated 17 January 2018, in which Mr. Kudryavtsev set out a detailed rebuttal of Dr. Rodchenkov's allegations concerning the existence of an elaborate sample-swapping conspiracy at the Sochi Games. According to Mr. Kudryavtsev, those allegations are entirely false and no such scheme ever existed.

320. In his statement, Mr. Kudryavtsev explained that in 2013 and early 2014 he had made numerous visits to Sochi as part of the preparations for the Sochi Games. He described how the Sochi Laboratory had undergone *"several thorough inspections"* during that time including inspections carried out by *"specialists from overseas"*. For example, in January 2014 WADA's Science Director oversaw an inspection that involved a meticulous examination of every single room at the laboratory. This was a prerequisite to the Sochi Laboratory receiving formal WADA accreditation.

321. Mr. Kudryavtsev also explained that *"a robust security system"* was in operation at the Sochi Laboratory throughout the Sochi Games, as required by WADA. The specific security measures included the installation of video cameras throughout the laboratory building, a system of electronic access badges to regulate access to individual rooms, a 24-hour-a-day security team and restrictions that prevented any non-accredited vehicles from accessing the laboratory site.

322. Mr. Kudryavtsev went on to describe how the laboratory operated in shifts around the clock, with substantial work being undertaken at night. The corridors around Mr. Kudryavtsev's department were never deserted, even at night, and therefore no suspicious activity could have gone unnoticed.

323. He also explained that his department was located on the same floor as the Aliquoting Room. Throughout the day and night shifts there were always between two and three employees in that room. Mr. Kudryavtsev stated that Mr. Thierry Boghossian, a WADA representative, closely monitored the department's work during the Sochi Games, in particular the work carried out in the Aliquoting Room. He added that WADA observers, laboratory employees and others could enter the Aliquoting Room at any time of the day or night.

324. Mr. Kudryavtsev expressly denied being aware of any hole in the wall between the Aliquoting Room and the Operations Room.

325. Mr. Kudryavtsev also stated that he could not remember ever meeting Mr. Blokhin or seeing him in the laboratory.

326. During examination-in-chief by the Sochi Appellants' counsel, Mr. Kudryavtsev denied that he had removed B sample bottles from the designated storage area by concealing them in his laboratory coat. According to Mr. Kudryavtsev, it would have been impossible to do this with even one bottle without it being obvious what he was doing. It would also have been impossible to wash sample bottles in the relevant room since the equipment that was necessary to do this was located on a different floor of the laboratory.

327. Mr. Kudryavtsev went on to repeat the description of Dr. Rodchenkov's conduct and character set out in his witness statement. He reiterated that Dr. Rodchenkov was rarely present in the Sochi Laboratory and, on the few occasions when he was present, *"he was often drunk"*. Mr. Kudryavtsev went on to say that, more generally, Dr. Rodchenkov drank alcohol and took drugs on a regular basis, suffered from *"mood swings"* and liked to tell *"unbelievable"* and *"colourful"* stories. Mr. Kudryavtsev suggested that Dr. Rodchenkov *"crav[ed] recognition and attention"* and *"was willing to do absolutely anything for financial gain"*.

328. Mr. Kudryavtsev added that he had decided to testify in the proceedings before the CAS because he wanted to prove to the world that Dr. Rodchenkov is lying and that no sample-swapping occurred at the Sochi Games.

329. In cross-examination, Mr. Kudryavtsev repeated the evidence in his witness statement concerning Mr. Boghossian's repeated visits to the Sochi Laboratory during the Sochi Games and Mr. Kudryavtsev's denial that he had ever met Mr. Blokhin.

330. Mr. Kudryavtsev was questioned about various emails that Dr. Rodchenkov sent to him in 2014. In response, Mr. Kudryavtsev alleged that prior to the Sochi Games, Dr. Rodchenkov had ordered *"everybody"* to create an email account on the Gmail platform and to provide Dr. Rodchenkov with the usernames and passwords for those accounts. Mr. Kudryavtsev stated that he had complied with that instruction and had set up an account, username and password, which he provided to Dr. Rodchenkov. He, therefore, suggested that the emails that appeared to have been sent by Mr. Kudryavtsev were in fact drafted and sent by Dr. Rodchenkov in Mr. Kudryavtsev's name. Mr. Kudryavtsev maintained he had never seen or responded to the emails, which were *"fake"* messages sent by Dr. Rodchenkov in order to perpetrate the *"fairy tale"* about sample-swapping.

(iv) Yuri Chizhov

331. Mr. Chizhov, a Russian citizen, testified by Skype. Since 2005 he has been the Head of the Administrative Support Section at the Moscow Laboratory. In that capacity, he was responsible for overseeing the administrative support services at the Sochi Laboratory during the Sochi Games.

332. At the outset of his testimony, he confirmed the accuracy of his witness statement dated 17 January 2018. In that statement, Mr. Chizhov explained that WADA inspected the Sochi Laboratory several times in the period before the Sochi Games. According to Mr. Chizhov, representatives of WADA *"thoroughly examined every room in the building"* including *"every nook and*

cranny". As a result of those inspections, *"minor critical remarks of a technical nature"* were made about the laboratory. Those remarks were immediately addressed and the international inspectors were subsequently *"very satisfied"* with the state of the building, including the control and security system.

333. Mr. Chizhov went on to describe the features of the security system that was in place at the Sochi Laboratory during the Sochi Games. In particular:

- Most employees only had access to the areas in the laboratory where they actually worked.
- WADA staff had access to all areas of the laboratory.
- A video surveillance system was installed throughout the building.
- A perimeter fence surrounded the laboratory and security cameras constantly monitored the entrance.

334. Mr. Chizhov stated that Dr. Rodchenkov's allegations concerning the existence of a sample-swapping scheme at the Sochi Laboratory were *"entirely invented"*. Mr. Chizhov denied ever committing any of the acts alleged by Dr. Rodchenkov. He was adamant that he never swapped samples or prepared urine for such a purpose. Nor did he witness anyone else doing this.

335. According to Mr. Chizhov, the scheme alleged by Dr. Rodchenkov would have been impossible because:

- The Sochi Laboratory operated 24 hours a day throughout the Sochi Games. The building was manned by employees all day and night. WADA employees also had unfettered round-the-clock access to the building and frequently conducted inspections at night.
- Video cameras were deployed throughout the interior of the laboratory building and around the external perimeter. The 24-hour video feed was often monitored by WADA observers. Mr. Chizhov personally participated in the viewing of video footage from these cameras with a WADA observer.
- The rooms where Dr. Rodchenkov alleged the sample-swapping occurred were located on the ground floor of the laboratory. The Aliquoting Room was used for aliquoting samples, while the Operations Room was used to store empty crates and leftover consumables. The crates were so densely packed that it would have been impossible to carry out any manipulation of samples in the room.
- Apart from empty crates there was no other equipment in the Operations Room. There was no electricity, running water or drain in the room. Nor was there a

bathroom in or close to the room. It would therefore have been impossible to empty and wash urine bottles in that room.

- No hole was drilled between the two rooms. The allegation that Mr. Chizhov had personally drilled such a hole or instructed someone to do so was *"simply absurd and entirely untrue"*.

336. Mr. Chizhov denied playing any role in the manipulation or swapping of urine samples. He insisted that the allegations concerning his involvement were baseless.

337. Mr. Chizhov went on in his statement to make various allegations concerning Dr. Rodchenkov. In particular, Mr. Chizhov alleged that Dr. Rodchenkov was frequently drunk during the Sochi Games and did not spend much time at the Sochi Laboratory. Moreover, after Dr. Rodchenkov left Russia in 2015, he contacted Mr. Chizhov several times via Viber. Dr. Rodchenkov acted in a *"very strange"* manner during those calls; for example, by asking Mr. Chizhov to remind him how they had swapped samples in Sochi because Dr. Rodchenkov had forgotten. Mr. Chizhov said he had the impression that Dr. Rodchenkov was *"drunk or under the influence of psychotropic substances"*.

338. During his oral testimony in front of the Panel, Mr. Chizhov reiterated that Dr. Rodchenkov was *"lying"* when he alleged that Mr. Chizhov was involved in swapping urine samples at the Sochi Laboratory. Mr. Chizhov denied that any swapping of samples took place at the laboratory.

339. Mr. Chizhov went on to explain that he had decided to testify before the Panel because he detests lying and felt that he was being blamed for something he had not done.

340. In response to questions put to him in cross-examination, Mr. Chizhov confirmed that he had previously undertaken a training course to become a DCO. As a result, Mr. Chizhov had learned how to collect urine and measure the acidity of samples. He denied, however, that he had ever been trained how to use a densitometer to measure the specific gravity of urine.

341. Mr. Chizhov also confirmed that toilets were situated approximately 20 metres from the room in the laboratory where the urine swapping allegedly took place. He confirmed that he had access to that area, which was outside of the high-security area of the laboratory.

342. Mr. Chizhov was questioned about his interactions with Mr. Blokhin. Mr. Chizhov stated that he had seen Mr. Blokhin on a couple of occasions at the Sochi Laboratory, but that he had never seen Mr. Blokhin inside the laboratory.

343. In answer to questions from the Panel, Mr. Chizhov confirmed that neither Prof. McLaren's investigative team nor WADA had contacted him seeking any information in connection with the alleged doping scheme and cover up. He also confirmed that no investigatory authorities had ever requested any data concerning the text messages that Mr. Chizhov sent and received during the relevant period.

(v) Grigory Krotov

344. Mr. Krotov, a Russian citizen, testified by Skype. Between 2008 and July 2016, Mr. Krotov worked as the Head of the Peptide Doping and Blood Test section of the Moscow Laboratory.

345. At the outset of his testimony, he confirmed the accuracy of his witness statement dated 17 January 2018. In that statement Mr. Krotov explained that, in that capacity, he had travelled to Sochi on a number of occasions in the period before the Sochi Games.

346. According to Mr. Krotov's statement, in January 2013 WADA representatives visited the Sochi Laboratory for the first time. Mr. Krotov, who was present at the inspection, observed the WADA representatives conduct an extremely thorough examination of all rooms in the building. During the following 12 months, a series of further inspections were carried out by WADA as part of the formal accreditation procedure.

347. Mr. Krotov's section was located on the second floor of the Sochi Laboratory. Samples were delivered there for analysis via a dedicated elevator from the ground floor. Samples were normally delivered each day between 13h00 and 18h00 and between 22h00 and 05h00. At around 03h00 each day, Mr. Krotov's section of the laboratory would commence analysing the samples received at night. According to Mr. Krotov, staff from WADA had unrestricted access to the entire laboratory and frequently conducted inspections, including at night.

348. Mr. Krotov stated that during his time working at the Sochi Laboratory, he never observed anything strange or suspicious. He never saw people in the laboratory who he did not recognise. He specifically denied having ever seen Mr. Blokhin in the laboratory building. Mr. Krotov denied that the sample-swapping scheme described by Dr. Rodchenkov ever existed. He added that such a scheme would have been impossible to implement, not least because the Sochi Laboratory was subject to *"exceedingly strict control with a security system in place"*. Video cameras were installed throughout the premises and people were constantly present, meaning that any suspicious daily activities would have been noticed.

349. Mr. Krotov went on in his statement to describe his experience of working with Dr. Rodchenkov. According to Mr. Krotov, Dr. Rodchenkov was *"a good scientist"* but a poor laboratory supervisor. He was poor at taking executive decisions, was forgetful and failed to oversee his subordinates properly. Mr. Krotov added that Dr. Rodchenkov suffered from *"constant mood swings"* and had a tendency to say strange and fantastical things. Mr. Krotov made a number of further allegations concerning Dr. Rodchenkov's conduct and character. These included assertions that Dr. Rodchenkov was *"crazy about money"* and *"keenly interested in sex"*.

350. In cross-examination, Mr. Krotov agreed that his team had been based on a different floor of the Sochi Laboratory from where the rooms where the swapping allegedly took place were situated. He explained that contact with laboratory staff on other floors had taken place by telephone.

351. Mr. Krotov was questioned by the IOC's counsel about a particular email from Mr. Velikodny to Dr. Rodchenkov, which had been forwarded to Mr. Krotov. The email stated that: *"All of them should be thoroughly retested and quarantined as instructed by YDN"*. When asked to explain the content of the message, Mr. Krotov noted that the email did not contain any instructions directed to him. He then added that he had not opened the email and did not understand why it had been sent to him.

352. Mr. Krotov was then questioned about another email which was expressly addressed to Mr. Krotov and which bore the subject line *"EPO candidates"*. Mr. Krotov stated that, as with the previous email, he had not opened this email and had therefore never read its contents. Mr. Krotov went on to assert that *"an email cannot be considered as a wrongdoing [sic]"* and *"confirm[s] nothing"*.

353. The IOC's counsel went on to question Mr. Krotov about further emails that he had sent to, and received from, Dr. Rodchenkov, which appeared to concern directions from the Ministry of Sport concerning the treatment of positive doping results. Mr. Krotov stated, among other things, that although Mr. Velikodny had been named in various emails sent to him, he had no idea who Mr. Velikodny was. He speculated that the emails could all have been sent to him *"accidentally"* and said the content of the emails did not make sense to him.

354. Towards the end of his testimony, Mr. Krotov denied the existence of any scheme that involved the swapping of samples and/or the concealment of positive doping test results at the Moscow Laboratory.

(vi) Maxim Verevkin

355. Mr. Verevkin, the Chief Specialist at the RUSADA Department of Doping Samples Collection at the time of the Sochi Games, testified by Skype.

356. At the outset of his testimony, Mr. Verevkin confirmed the accuracy of his witness statement dated 17 January 2018. In that statement, Mr. Verevkin explained that he had been responsible for overseeing the training of approximately 400 DCOs for the Sochi Games. In addition to that training role, Mr. Verevkin was also the manager of a doping control station during the Sochi Games.

357. Mr. Verevkin described the procedure for filling and closing sample bottles that was followed during the doping control process at the Sochi Games. In short:

- Upon arrival at the doping control station, the athlete presented a passport to the DCO and completed the DCF.

- The athlete was then accompanied by a DCO to the toilet, where he/she provided urine into a cup under the supervision of the DCO.

- The athlete then poured the urine from the cup into two bottles for the A and B samples before closing the lids of those bottles.

- Having done so, the athlete then provided the closed bottles to the DCO who ensured the bottles were closed *"to the maximum extent possible"*.

- The athlete would then turn the two sample bottles upside down, to ensure they were properly sealed.

- After this was done, the two bottles were placed and sealed in separate plastic bags.

358. According to Mr. Verevkin, the sample collection process involved the participation of the individual athlete, any representatives that accompanied him or her, a DCO and sometimes observers from WADA or International Federations. In these circumstances, he believed it was *"simply unfeasible"* that anyone could have attempted to manipulate the sample bottles by deliberately closing the caps to less than the fullest extent possible. Mr. Verevkin stated that he never saw anything like this occur at his doping control station during the Sochi Games.

359. Mr. Verevkin went on to explain that the use of mobile phones was prohibited at the doping control station. The taking of photographs was also prohibited. If anyone tried to use a phone at the doping control station, they were immediately instructed to desist. According to Mr. Verevkin, this rule was enforced *"strictly"* due to *"confidentiality concerns"*. Mr. Verevkin ended his witness statement by stating that there was not a single instance of suspicious activity at his doping control station during the Sochi Games. On the contrary, he had received *"very high reviews by international observers"* in respect of the conduct of the DCOs at his station.

360. During his oral testimony, Mr. Verevkin expanded upon his role as the manager of a doping control station. He reiterated that he had ensured that all of the DCOs at his station complied with all mandatory doping control procedures. He added that WADA representatives had visited Mr. Verevkin's doping control station during the course of the Sochi Games, and he had met with some of them personally. Mr. Verevkin reiterated that the use of any kind of audio or video devices at the doping control station was *"completely forbidden"*.

361. During cross-examination by the IOC's counsel, Mr. Verevkin stated that it would have been *"difficult"* for a member of the doping control staff to communicate the content of a DCF by text message to another person from the doping control station. Mr. Verevkin confirmed, however, that he could not know what individual athletes did after they left the doping control station.

362. During questioning by the Panel, Mr. Verevkin explained that no security cameras were present inside the doping control station. This was a consequence of mandatory international standards that required the protection of athletes' confidentiality. Mr. Verevkin also explained that the mere presence of mobile telephones at the doping control station was not prohibited, since athletes were allowed to bring their personal belongings with them when they underwent doping controls. The use of phones at the doping control station was, however, not permitted.

(vii) Andrey Knyazev

363. Mr. Knyazev, a Russian citizen who began working at RUSADA in 2008 as a DCO, testifed by Skype. During the Sochi Games, Mr. Knyazev was the manager of a doping control station. As part of that role, he was responsible for supervising the work of individual DCOs, including ensuring that they complied with all applicable rules and standards.

364. At the outset of his testimony, Mr. Knyazev confirmed the accuracy of his witness statement dated 16 January 2018. In that statement, Mr. Knyazev stated that the procedure for closing sample bottles was properly carried out at all times at his doping control station. Mr. Knyazev described the standard procedure that was followed and specifically stated that he *"remember[ed] it was carried out in this standard way at all times"*.

365. Mr. Knyazev, in his statement, explained that the use of mobile phones and video recording equipment was *"strictly prohibited"* at all doping control stations. If anyone was ever seen using a phone or hand-held device at the doping control station, they were always told to put it away.

366. Mr. Knyazev ended his statement by stating that he had never seen any suspicious or illegal behaviour at his doping control station. All of the DCOs at his station complied with their duties properly, which included *"checking that the bottles were properly closed to the fullest extent possible"*.

367. During his oral testimony, Mr. Knyazev provided a short description of his role as the supervisor of a doping control station and the standard process that was followed when athletes provided urine samples at the doping control station during the Sochi Games. During the course of that description, Mr. Knyazev reiterated that after pouring their urine into the two sample bottles, the athlete *"close[d] the bottles very tightly, to the maximum extent possible"*, after which the DCO would *"make sure that it is actually closed to the maximum extent possible"*. In Mr. Knyazev's view, it was impossible that sample bottles were not fully closed at his doping control station. Mr. Knyazev also reiterated that the use of audio and video recording devices was *"strictly forbidden"* at the doping control station.

368. During cross-examination, Mr. Knyazev stated that *"any possibility of contamination"* occurring during the sample collection process was *"excluded"* because the lid of the sample bottle is always closed immediately once the sample has been provided. He confirmed that DCOs have *"no right to touch any surface before closing the lids"* of the sample bottles and any contact between the DCO and the sample bottles is *"strictly forbidden"* before the bottles have been closed.

(viii) Thierry Boghossian

369. During the course of the hearing, the IOC requested permission for Mr. Thierry Boghossian to give evidence before the Panel. The Sochi Appellants did not oppose that request. On the basis of the Parties' respective positions, the Panel granted permission for the IOC to admit evidence from Mr. Boghossian.

370. Mr. Boghossian testified by Skype at the hearing. He did not file a written witness statement.

371. In his oral testimony, Mr. Boghossian explained that during the Sochi Games he had a mandate to visit the Sochi Laboratory and to observe as many processes as possible. This required his attendance at the laboratory at various times throughout the day and night. He witnessed a wide array of different processes, including sample processing, analytical work, review of data and reporting results into ADAMS. In addition, he also observed operations at doping control stations.

372. Mr. Boghossian explained that during the period of the Sochi Games there were approximately four days when he did not attend the Sochi Laboratory at all. He recalled being present in the laboratory overnight on consecutive nights on 8 and 9 February 2014. On two other occasions, he was present at the laboratory until around 21h00. On most of the rest of the days, he left the laboratory around 17h00 to 18h00.

373. Mr. Boghossian went on to say that he could not recall ever checking any footage from video cameras at the laboratory during the Sochi Games. Nor was he aware of any other WADA observer having reviewed any of the footage recorded by the cameras. He confirmed, however, that WADA carried out checks of the security systems at the laboratory in advance of the Sochi Games. As part of that process, his team had noted the presence of cameras both inside and outside of the laboratory.

374. In cross-examination, Mr. Boghossian confirmed that it was correct that the WADA independent observers were provided with full cooperation by the staff of the Sochi Laboratory and had full access to all laboratory operations and documents. It was also correct that members of the independent observer team were present at various times of the day and night during the Sochi Games in order to view the laboratory's operations at all hours.

375. In response to questions from the Panel, Mr. Boghossian stated that members of Prof. McLaren's investigative team had contacted him to request *"some basic information"* about his role in the WADA independent observer team. He did not, however, have any meetings with anyone from Prof. McLaren's team.

b. Expert forensic evidence on bottle opening

(i) Prof. Christophe Champod

376. The IOC relied on expert scientific evidence from Prof. Christophe Champod, a professor of forensic science at the Ecole des Sciences Criminelles at the Faculty of Law, Criminal Justice and Public Administration at the University of Lausanne.

377. Prof. Champod testified orally before the Panel as part of a joint expert evidence session with the forensic experts instructed by the Athlete: Mr. Geoffrey Arnold, Mr. Alexey Bushin and Mrs. Evgeniya Burova.

378. During that testimony, Prof. Champod confirmed the accuracy of two written expert reports dated 27 July 2017 and 30 November 2017 (the "Champod Reports"). The first report provided a detailed explanation of the methodology that Prof. Champod and his team at the Lausanne Laboratory had developed for the forensic examination of marks visible on the inside of the plastic caps of the BEREG-KIT sample bottles from the Sochi Games. The second report, which was produced after the methodology had been implemented through a lengthy series of practical experimentations and examinations, provided a further short summary of the methodology together with a detailed overview of the results of the testing and the conclusions which they gave rise to.

379. In the two reports, Prof. Champod explained that he had been instructed by the IOC to develop *"a methodology to determine whether scratches found on BEREG-KIT® bottles with urine samples provided by IOC is consistent (or not) with a tampering process"*. In light of that instruction, Prof. Champod explained that for each bottle under examination *"two propositions"* would be assessed, namely either that: (a) *"the bottle has been initially closed according to regular instructions, then forcibly opened using metallic tools and resealed with the same cap"*; or (b) *"the bottle has not been subject to the above-described alleged tampering method, but has been used and closed following regular instructions without any wrong doing"*.

380. Both of the Champod Reports began with a description of the physical components of a BEREG-KIT bottle and the manner in which the bottles are designed to operate. In short, a BEREG-KIT bottle comprises a glass container and a plastic cap. The top of the glass container has a glass screw thread, which finishes lower down the container with a glass ring moulded with four teeth. The plastic cap comprises four separate components: a plastic seal; a stainless-steel spring; a metal ring with teeth; and a red plastic ring which is used to prevent the bottle from being unintentionally closed. In order to close the bottle, the red plastic ring is removed so that the plastic cap can be screwed onto the bottle. The stainless-steel spring then pushes the metal ring onto the four moulded teeth on the glass container, thereby sealing the bottle.

381. The body of the plastic cap has 12 faces, six of which are flat and six of which are curved. When the sample bottle is closed, the plastic lid clicks up to 15 times. The degree of closure corresponds to the number of clicks. A full 360-degree rotation of the cap involves 12 clicks. The maximum closure of 15 clicks corresponds to one and a quarter full turns. The more that a bottle is closed, the smaller the gap between the glass container and the plastic cap becomes.

382. In addition to describing the structure, composition and normal operation of the BEREG-KIT bottles, the Champod Reports also quoted from the description of the alleged bottle tampering process contained in the Second McLaren Report, which summarised Dr. Rodchenkov's eyewitness account of the equipment that he alleged the FSB had used to reopen B sample bottles at the Sochi Games. The Champod Reports went on to explain that:

> *"only the above-described tampering method (or similar tampering method) has been investigated and not all conceivable usages of the bottles or actions that may facilitate its opening"*.

383. According to Prof. Champod, his team began their forensic analysis by seeking to develop a method of reopening closed sample bottles *"using a technique as close as possible to the technique described in"* the Second McLaren Report. In order to do this, they designed bespoke metallic tools that could be inserted between the plastic cap and the glass bottle on at least two positions away from each other, which would enable the operator of the tools *"to force and lift the metal ring above the glass teeth and hence liberat[e] the plastic cap"*.

384. The design of the tools *"started from the description given by Dr. Rodchenkov"* and then *"continued with multiple iterations by trials and errors"* by Prof. Champod's team. The objective of that trial-and-error process was *"to design [a] tool that could be easily used leaving the minimum number of marks"* on sample bottles. Prof. Champod explained that after *"a series of trials over 6 months with different techniques, including tools of various shapes and materials"*, his team had managed to design tools that consistently enabled closed sample bottles to be reopened in a way that allowed them to be resealed using the same plastic lid.

385. In order to reach that outcome, Prof. Champod's team trialled *"about 20 different tools"* under *"different working conditions"*, which resulted in the development of *"one that led to successful opening while leaving a limited number of marks on the inside of the cap"*. Prof. Champod explained that the *"initial phase of trial and errors"* involved tests on *"about 20 bottles"*.

386. Having devised the tools and techniques that enabled them to open the sealed bottles, Prof. Champod's team then began *"a systematic production and acquisition of marks obtained under controlled conditions"*. In essence, this involved comparing the marks that are created during the manufacture and ordinary usage of the BEREG-KIT bottles, with the marks that were created when Prof. Champod's team used metal tools to forcibly remove the plastic lid from closed bottles.

387. On the basis of the methodology described above, and using the special tools that they had created, Prof. Champod's team proceeded to carry out experiments using 22 BEREG-KIT bottles *"obtained from Sochi compatible kits"*. The purpose of those experiments was *"to produce marks for which production mechanisms can be established"*. Prof. Champod's team then attributed a classification to all observed *"marks"*, which Prof. Champod defined as

> *"all extraneous impressions in the inside of the plastic cap (scratches and marks visible on the smooth inner surface), on the metal ring or on the translucent plastic ring of the cap"*.

388. According to Prof. Champod, this stage of the experiment involved the following steps:

- Each bottle was unpacked from the kit and examined. The marks present on the bottles at that stage were systematically recorded.

- The bottles were then closed and re-examined *"to detect the marks consecutive to their closing"*.

- 11 of the 22 bottles were then forcibly opened using the tools designed by Prof. Champod's team, before being reclosed in order *"to investigate the marks associated with the use of the tools"*.

- Subsequently, a further 10 bottles were reopened by the forensic examination team using the same process.

389. During that initial process, Prof. Champod's team observed that:

- The *"degree of initial closure"* of a particular bottle *"has an impact on the level of difficulty to re-open it"*. Thus, the more tightly closed the cap of the bottle is, *"[the] more strength and movements between the cap and the glass are required when using the instruments, leaving more marks"* when forcibly reopening the bottle. Conversely, when a bottle is closed less tightly, *"the space left between the glass container and the plastic cap is larger which eases the opening … leaving fewer marks associated with that tampering activity"*. Accordingly, *"the tighter a bottle is initially closed, the larger the number of marks left by the re-opening tools will be"*.

- The ability of Prof. Champod's team to re-open bottles *"improved with the number of bottles opened. This increased ability meant that the number of marks left by the tools reduced"*.

390. Prof. Champod established a tripartite classification which involved the allocation of every observed mark to one of the following three categories:

- *"F marks"* which are marks *"typical of those observed consecutive to the manufacturing process either at Berlinger or its suppliers"*;

- *"U marks"* which are marks *"typical of those observed on the inside of the cap that are left either by the spring, the metallic ring or the glass container when the bottle is regularly closed"*; and

- *"T marks"* which are marks *"typical of those observed consecutive to a tampering activity as described above. They can be left by the designed tools. Other T marks are due to the movement of the metal ring when forced up, or the unscrewing of the cap"*.

391. Prof. Champod explained that the reopening experiments were conducted on a total of 21 bottles, each of which was initially closed *"between 6 and 11 clicks"*. He explained that this level of closure *"was chosen in order to lessen the number of T marks"*. In particular, he explained that:

> *"when the bottle is fully closed (e.g. at 15 clicks), the space left for the tool is reduced hence increasing the number of marks that will be left. By concentrating on bottles closed at a lower number of clicks, we guarantee that we have operated at the boundaries where the marks due to the tools are expected to be at their lowest. If these marks can be detected and characterised, the detection of marks left on bottles initially closed more tightly can be achieved as well"*.

392. Prof. Champod added in this regard, that according to the manufacturer's instructions, *"the bottle is considered as sealed (meaning that the contained urine will not leak) when closed with at least 5 to 7 clicks"*.

393. Having developed this methodology and the tripartite F, U and T mark classification system, Prof. Champod's team went on to examine batches of questioned sample bottles containing (among others) the Sochi Appellants' urine samples from the Sochi Games as well as a number of control samples.

394. The process for examining each of those bottles involved the following six steps:

- First, the bottle was placed on the photographic bench and photographed.
- Second, the 12 faces of the plastic cap were each photographed under controlled lighting conditions.
- Third, the images thereby obtained were *"examined and assessed by the forensic examination team and the visible marks are classified as F, U or T marks"*.
- Fourth, when those images showed the presence of T marks, they were recorded under appropriate lighting conditions at high magnification.
- Fifth, the photographs obtained were then assessed by the examination team, which then *"reache[d] a conclusion"* as to their categorisation.
- Lastly, the marks were then subject to a blind peer-review by a second forensic team. According to Prof. Champod, this meant that the second team who conducted the review *"ha[d] no knowledge of the conclusion reached by the examination team until they reach[ed] their own conclusion"*.

395. Prof. Champod cautioned that the labels F, U and T *"do not mean that the nature of the marks is definitively established"*. Instead, they mean that:

> *"their attributes (size, position, shape and direction) were compatible with what we have seen on marks of known status. In other words, during the characterisation of the marks left on the inside of the plastic cap of the questioned bottle, the labels assigned to observed marks only indicate that their source is presumed and that their attributes are compatible with observations made in controlled conditions"*.

396. Prof. Champod went on to explain that, following the forensic examination of a particular bottle, *"three possible conclusions can be reached, depending on the observations made on the inside of the plastic cap"*. The three conclusions were:

- *"Multiple so-called T marks alongside with U and F marks"* – According to Prof. Champod's report: *"These results are more than a 1000 times more probable if the bottle has been initially*

closed, then forcibly opened and resealed with the same cap rather than if it has been used and closed following regular instructions without any wrong doing".

- *"One or more isolated so-called T marks are observed, alongside with the expected U and F marks"* – According to Prof. Champod's report, in these cases: *"The results are neutral, meaning that they provide no more weight for one proposition versus the other".*

- *"No so-called T marks have been observed, but only U and F marks".* According to Prof. Champod's report, in these cases: *"The observations are more than 10 times more probable if they are consecutive to a normal closing of the bottle rather than if there was tampering".*

397. In respect of the *"multiple so-called T marks"*, Prof. Champod explained that his team *"never observed empirically such marks on bottles that have been regularly closed"*. He cautioned, however, that: *"given the limited number of bottles (22 in total) we examined during the development of this methodology, we do not claim that it is impossible to make such observations under the proposition of normal use of the bottle"*. Nevertheless, on the basis of the testing that had been undertaken:

> *"The nature of the marks, their shape and compatibility with the working of metallic tools at multiple locations allow us to conclude that these results are more than a 1000 times more probable if the bottle has been initially closed, then forcibly opened and resealed with the same cap than if it has been used and closed following regular instructions without any wrong doing".*

398. According to Prof. Champod, the presence of such multiple T marks *"provide very strong support for the proposition that the bottle has been tampered with".*

399. In respect of the presence of *"one or more isolated so-called T marks"* on a bottle, Prof. Champod explained that marks of this nature had not been observed in either set of tests, i.e. the marks were neither seen on bottles that had been regularly closed, nor on bottles that Prof. Champod's team had tampered with. As such, the presence of these marks *"raises the possibility of tampering but it cannot be assessed against the alleged tampering proposition"*. The observation of such isolated marks *"may suggest that another tampering method has been used, but it may also be because of some other unknown phenomenon"*. Accordingly, the existence of *"one or more isolated so-called T marks"* on a particular bottle was *"neutral"*, which meant the marks *"provide no more weight to one proposition versus the other".*

400. In respect of bottles where no *"so-called T marks"* were observed, Prof. Champod stated that while *"we do not claim that it would be impossible to carry out such a tampering process without leaving any recognizable T marks"*, on the basis of the results of the experiments, he considered that the absence of such marks was *"more than 10 times more probable if they are consecutive to a normal closing of the bottle rather than if there was tampering"*. Accordingly, the absence of any *"so-called T marks"* on a bottle *"provide[s] moderate support for the proposition that the bottle has been closed regularly, rather than for the proposition that the bottle has been forcibly opened".*

401. Prof. Champod's report dated 30 November 2017 explained that, as of that date, the examination of 127 questioned bottles plus the positive/negative controls and the single/double blind samples yielded the following results:

- All of the positive/negative controls were correctly classified.
- Of the 24 single and double blind samples, 22 were found to bear no T marks, while two were found to have isolated T marks.
- 25 (20%) of the 127 questioned bottles were found to have multiple T marks.
- 18 (14%) of the 127 questioned bottles were found to have isolated T marks.
- 84 (66%) of the 127 questioned bottles were found to have no T marks.

402. Prof. Champod went on to explain that his team had discovered that the degree of closure of a particular bottle can be measured by examining the height of the plastic cap relative to the glass shoulder of the bottle. In short, the more tightly closed the plastic cap is, the greater the distance will be between the glass shoulder and the bottom of the cap.

403. Of the 25 questioned bottles which had multiple T marks, Prof. Champod's team was able to assess the initial position of the glass shoulder at the time when the bottles were initially closed (i.e. the extent to which the bottles were closed before they were forcibly reopened) on 15 of the bottles. This was possible because the position of *"oblique"* T marks on the plastic caps *"gives the possibility of locating the position (or height relative to the basis of the cap) of the glass shoulder"*, which in turn *"is directly linked to the degree of closure"*. Since 15 of the 25 bottles with multiple T marks contained *"oblique"* T marks, it was possible for Prof. Champod's team to work out how tightly each of those bottles had been closed before they were forcibly reopened. Prof. Champod explained that the remaining 10 bottles with multiple T marks did not contain any *"oblique"* marks, meaning the initial degree of closure could not be assessed in this way. He suggested there were *"multiple reasons"* for the lack of such marks, for instance *"a variation in the way [of] work with the tools or the skill of the operator"*.

404. Prof. Champod explained that according to the analysis of the 15 bottles with oblique T marks, *"all 15 bottles have shown a state of [initial] closure below or equal to 12 clicks"*. This means that

> *"for these bottles, and if we assume that they have been re-opened as alleged, their initial state of closure was of 12 clicks or below. The majority of bottles are closed under 10 clicks. Such a limited level of closure ensured that more space is available between the plastic cap and the glass container, at the time of the potential re-opening"*.

405. Prof. Champod went on to explain that, in contrast, the 24 single and double blind bottles all showed a level of closure of 13 or more clicks: of these, two had been closed to 13 clicks; 12 had been closed to 14 clicks; and the remaining 10 had been closed to 15 clicks. Moreover, this *"high level of closure"* was observed on the 127 questioned samples *"where all the bottles were*

closed with at least 12 clicks". Specifically, two were closed to 12 clicks; four were closed to 13 clicks; 61 were closed to 14 clicks; 51 were closed to 15 clicks; and the remaining nine bottles were closed to 15+ clicks.

406. Accordingly, Prof. Champod explained that, in respect of the 15 bottles with multiple oblique T marks, the initial closure of those bottles *"was always below 12 clicks. That is a lower level of closure compared to the level (at least 13 clicks) observed on the 24 single/double blind samples (bottles chosen by the IOC from the Sochi games). Among the 127 questioned bottles, none of them were closed with less than 12 clicks"*.

407. In his report dated 30 November 2017, Prof. Champod also described the steps that had been taken in order to assure the quality of the experimentation process. In particular:

- A total of 127 *"questioned bottles"* were examined. In addition, there were 12 *"positive/negative controls"* and 24 *"single/double blind samples"*.

- The bottles to be examined were grouped into batches. Each batch contained between 36 and 54 bottles under investigation together with a number of control samples.

- The controls consisted of: (a) four bottles that had been used to develop the methodology of known status; (b) four single-blind samples; and (c) three to five double-blind samples, being bottles that came from the Sochi Games and had been selected by the IOC.

- During the examination of each batch, the identity of the single-blind bottles was *"known by the LAD, but not to the forensic examination teams"*. The identity of the single-blind samples was not revealed more widely until *"the end of the peer-review process"*.

- The identity of the double-blind samples was *"unknown to all actors except the IOC"*. The identity of those samples was not revealed until *"all the reports associated with the batch have been delivered"*.

- Each batch of bottles was first processed by the examination team and then transferred to the second team of peer-reviewers. That latter team conducted an independent assessment based on the photographs provided by the examination team.

- In respect of every bottle in respect of which *"differing conclusions"* were reached, or where the *"retained marks and associated annotations differ[ed]"*, or where additional images were required, a *"consensus meeting"* was set up to discuss the case.

408. Following the submission of his second report, Prof. Champod continued to examine further bottles from the Sochi Games. As of 15 January 2018, he had examined all 232 bottles that he was instructed by the IOC to examine. The results of that examination found that:

- 36 sample bottles had multiple T marks;

- 18 sample bottles had one or more isolated T marks; and
- 178 sample bottles had no T marks.

409. All 36 of the sample bottles that bore multiple T marks contained the samples of athletes identified as *"protected"* athletes.

410. On 17 January 2018, Prof. Champod submitted a written response to various criticisms of his methodology and conclusions contained in the Sochi Appellants' Joint Appeal Briefs. In that document, Prof. Champod stated that his team had not ignored the possibility of uncertainty regarding the provenance of particular marks. For example, Prof. Champod's reports do not suggest that the mere presence of a single T mark is evidence that a bottle has been tampered with. On the contrary, the presence of isolated T marks was assessed to be *"neutral"*, in the sense they do not support one proposition over the other.

411. In respect of the volume of empirical data used to generate the mark classification system, Prof. Champod stated even if the reopening of 11 bottles *"may seem limited at first sight"*, each bottle cap has 12 separate faces, each of which was systematically examined. As such, a total of 132 faces potentially bearing T marks were examined. At the same time, the methodology involved an analysis of 10 regularly closed sample bottles. As a result, observations of F and U marks were made on a total of 21 bottles, which equates to a total of 252 faces. Moreover, following the submission of the methodology report in July 2017, a further 10 bottles comprising a total of 120 faces, were examined for F, U and T marks. As a result, the total pool of data was sufficient to enable reliable conclusions to be drawn.

412. In response to the suggestion that the Lausanne Laboratory had failed to test any alternative hypotheses, Prof. Champod explained that the laboratory's mandate *"was not to test all possible alternatives, but only to assess if the findings (potential scratches and marks) on the inside of the plastic cap could help to discriminate (and with what strength) between the two options"*. This is precisely what the laboratory did.

413. Prof. Champod also defended the decision to carry out experiments on bottles that were closed to 11 or fewer clicks. Prof. Champod explained that, in view of the fact that the use of tools at 14 or 15 clicks left *"more marks and ultimately break[s] our tool due to the force required to lift the ring"*, the team had elected *"to concentrate our experiments on the cases where we have the highest probability of leaving a limited amount of T marks"*. The use of this *"conservative approach"* allowed his team to examine the effect of forcibly reopening bottles *"in [a] situation where it is the easiest to carry out the opening, hence maximizing the prospect of leaving a limited quantity [of] marks"*.

414. Prof. Champod explained that he did not consider that there would be any difference in terms of the T marks produced where a bottle is opened upside down compared to where a bottle is opened the right way up. The decision to reopen bottles the right way up therefore did not undermine the reliability of the conclusions he had reached. Similarly, Prof. Champod stated that long-term freezing has no visible impact on the marks recorded on the plastic cap. Nor does the presence of urine or oxidation.

415. In respect of the suggestion that his team was inadequately trained and qualified, Prof. Champod explained that all members of his team had at least a bachelor's degree or master's degree in forensic science. They all received a fully documented training programme and were trained to undertake specific tasks under the supervision of experienced forensic scientists. Decisions concerning classification of marks were discussed by at least three examiners and all stages of the examination involved the implementation of strict quality control measures. He rejected the suggestion that members of the team who carried out the examination of the bottles were insufficiently qualified.

416. At the hearing, Prof. Champod began his oral evidence by summarizing the experiments he and his team had devised and undertaken in order to investigate whether or not it was possible to identify indications that a bottle had been tampered with through observation of marks inside the plastic cap of the sample bottles.

417. Prof. Champod explained that the examination of each individual bottle had taken between 8 and 12 hours to be completed. Following that examination, Prof. Champod's team then produced a specific report for each bottle.

418. During his testimony, Prof. Champod showed the Panel the metallic tools that his team had invented in order to reopen the sample bottles and described the precise mechanics of how those tools can be used to open the bottles. He also demonstrated how it was possible to insert the metallic tools into the gap between the plastic cap and the glass in a sealed BEREG-KIT bottle.

419. In response to criticisms of his methodology by Mr. Arnold, Prof. Champod explained that his team had decided not to conduct tests on bottles that had been closed up to 15 clicks because the number of marks that metallic tools leave on bottles *"increase[s] enormously the tighter the bottle is closed"* and it becomes *"more and more difficult to re-open the bottle"* when it is closed so tightly. Indeed, with tightly closed bottles there is a risk *"that we may break the tool"* used to open the bottle. As a result, if Prof. Champod's team had conducted experiments on bottles closed up to 15 clicks then they would *"just observe more marks"*. In this respect, Prof. Champod clarified that the marks *"will be of the same nature"* as the marks observed on bottles that are closed more loosely; there will simply be a greater quantity of them since a greater degree of movement is required in order to open a tightly closed bottle. Instead, Prof. Champod's team made a deliberate decision to focus their attention on *"the most difficult area"*, namely cases where as a result of a *"lower level of closure"* it is more difficult to distinguish between a bottle that has been forcibly reopened and one that has not.

420. During the course of his oral evidence, Prof. Champod conceded that his team had *"no idea"* what tools were actually used by any individuals who tampered with the Sochi samples. He could merely state that the tools he and his team had designed were *"compatible with an opening method … using a similar process with different tools"*. He acknowledged that the marks that would be left by those different tools *"will not be exactly the same as"* the marks left by Prof. Champod's tools. Nevertheless, those marks would show movements and would be in *"positions that are alien to any marks that you make on these bottles through the regular closure"*.

421. In response to questioning by the Panel, Prof. Champod described how the technique his team had devised to open the sealed sample bottles involved the use of two metallic tools and a further piece of equipment to hold the bottles while the tools were used. Those experiments involved more than one person. Prof. Champod confirmed that he had not assessed the extent of the marks that are caused when a single individual opens a bottle without the assistance of another person.

422. In respect of the suggestion that the T marks could be caused by contamination, Prof. Champod stated that his team *"never observed any issue with contamination"* in their analysis of any of the single- or double-blind samples. In respect of the suggestion that marks could be caused by manual manipulation of the bottles by a person's hands, Prof. Champod explained that this was not something that had been considered *"because it is not expected that such a chain of events would occur on a regular basis"*. He noted, again, that if this were something that occurred on a regular basis, then it would have been expected to appear in the single- or double-blind samples, which it did not. In any event, Prof. Champod stated that even if inserting fingers into the plastic cap could produce marks, they would not appear in the manner that had been observed when tools were used to re-open the bottle. Nor would they have all of the attributes of the T marks that Prof. Champod had observed.

423. In response to questions from the Panel, Prof. Champod explained that the risk of breaking the plastic cap of the bottle is higher when a bottle is tightened to 15 clicks, since more pressure is required in order to forcibly re-open the bottle. Prof. Champod explained that his team had opened *"three to four bottles"* which had been closed to 15 clicks; however this was done at an early stage and *"with different tools"* to the tools that were ultimately used to collect the data that was used for the purposes of identifying and characterising T marks. Prof. Champod went on to confirm that he had not sought to identify any particular Sochi samples that had the type and extent of T marks that were observed on the bottles that were closed to 15 clicks.

424. Throughout his evidence, Prof. Champod reiterated that the quality assurance process that his team had established was a *"critical"* component of the testing process, since it shows that marks caused by regular closing of sample bottles cannot be confused with T marks.

(ii) Report of the Swedish National Forensic Centre

425. In relation to Prof. Champod's reports and oral testimony, the IOC also relied on a report of a technical audit undertaken by the Swedish National Forensic Centre (the "SNFC Report"). The SNFC Report set out the conclusions of a technical audit of the work undertaken by the LAD and *"a scientific and forensic review of the methodology developed with related documents and forensic reports delivered"*.

426. The SNFC Report stated that following the SNFC's review and its on-site audit of the Lausanne Laboratory, it had concluded that, *"the ESC and the LAD in cooperation have developed and implemented a method conformant with scientific and forensic requirements"*. Further, *"the statements are transparent and legible and in agreement with the requirements for forensic reporting … being robust with a conservative approach not to overestimate the findings"*.

427. The SNFC Report contained detailed observations and comments regarding the methodology employed by Prof. Champod's team. These included:

- The SNFC had validated that *"a 6-11 click closure give[s] good conditions for possible tampering"*. In contrast, a bottle closed to more clicks *"gives poor conditions for tampering making it very difficult to open the bottle without leaving multiple marks. According to information given during the audit bottles closed with 14-15 clicks have not been possible to open with the applied method without seriously damaging the cap or the tools"*.

- The SNFC Report noted that, *"the classification of a mark as a U or a T mark is difficult"* and that, *"Traces not recognised as F, U and T marks … are per se classified as T marks and may later lead to a neutral conclusion"*.

- The SNFC Report also explained that where there are *"classification discrepancies"* between the two reviewing teams or *"questionable findings"* then a *"consensus meeting"* is held to discuss those marks. All members of both teams contribute to those meetings *"with no one having a stronger voice or vote than the other"*.

428. In relation to the competence and training of members of Prof. Champod's team, the SNFC Report noted that, *"Training has consciously been restricted in time"* both as a result of *"the urgent nature of the task"* and *"the fact that the examination to be performed is limited to the identification of F, U and T marks on the inside of the bottle caps using a rather non-flexible approach of forensic examination and possible outcomes … with no need for a regular forensic toolmark training to become a regular toolmark examiner"*.

(iii) Geoffrey Arnold

429. In response to the expert evidence from Prof. Champod, the Sochi Appellants relied on expert evidence from Mr. Geoffrey Arnold, a senior consultant forensic scientist. Mr. Arnold provided a detailed expert report dated 7 January 2018. In that report, Mr. Arnold identified various criticisms of the methodology employed, and the conclusions reached, by Prof. Champod and his team.

430. At the outset of his report, Mr. Arnold explained that his report was restricted to a desk-based analysis of the Champod Reports, and that Mr. Arnold had not personally had access to any physical samples, detailed bench notes or laboratory reports. Notwithstanding those limitations, Mr. Arnold was able to provide a detailed critique of Prof. Champod's methodology and conclusions.

431. In respect of Prof. Champod's methodology, Mr. Arnold stated in his report that:

- The question posed by the IOC to Prof. Champod *"could be considered as inducing an opportunity for bias, in that it introduces the tampering process as opposed to seeking the origins of the marks"*. In addition, the IOC also requested Prof. Champod to establish whether the

evidence was *"consistent with"* tampering. In Mr. Arnold's view, the IOC's formulation therefore provides *"a biased question seeking a low standard of proof for the answer"*.

- In any event, rather than seeking to determine whether or not the marks on the sample bottles were the result of a tampering process, Prof. Champod's team sought to answer a different question, namely whether the observed marks could be associated with tampering using tools. Prof. Champod's report therefore failed to answer the question actually posed by the IOC.

- In addition, Prof. Champod had failed to investigate alternative possible explanations for the cause of the questioned marks. The mere fact that the questioned marks are *not incompatible* with alleged evidence of tampering does not mean that they were in fact the *product* of tampering. However, since Prof. Champod only tested one possible cause for the marks – namely tampering using tools – he cannot conclude that no other cause could possibly have produced marks consistent with the marks seen on the questioned bottles.

432. Mr. Arnold went on to observe that:

- The actual origins of the questioned marks and the time of their production had not been scientifically established. There was *"no conclusive scientific evidence"* regarding either the origin of those marks or the date of their creation.

- The bottles that Prof. Champod's team used to create empirical data were *"not closed according to the manufacturer's guidance (15 clicks) but to a degree that facilitated the results that they anticipated"*. This was a result of a deliberate decision by Prof. Champod, who stated that since *"too many marks were left when opening the bottles closed at 12 clicks or more, we chose to vary the state of closure between 6 and 11 in our experiments"*. According to Mr. Arnold, it followed that Prof. Champod's testing methodology was inconsistent with the two propositions that were being tested, which were both based on the bottles having been closed in accordance with *"regular instructions"*.

- Prof. Champod's analysis did not allow for a category for inconclusive marks. Nor did it make any allowance for an error rate. The existence of an additional *"inconclusive"* category would have enabled marks to be more accurately classified. Instead, however, Prof. Champod made no allowance for the possibility of any error rate or sub-category. This implied that Prof. Champod was able to classify the origin of every mark with 100% accuracy and made no allowance for marks from any other source such as contamination.

- In Mr. Arnold's opinion, the empirical data on which Prof. Champod's conclusions were based were *"clearly too limited"*. In particular, the number of bottles used to create the relevant database is a very small proportion of the total number of BEREG-KIT bottles produced.

433. In addition to these observations, Mr. Arnold expressed the view that the majority of Prof. Champod's team *"lack[ed] the necessary casework experience to conduct the scientific examinations"*. In particular, the majority of the team *"ha[d] no previous casework experience in the forensic discipline"*, while a number of them were students who had received just 15 days of training before conducting the relevant forensic examinations.

434. Furthermore, Mr. Arnold noted that the description of the *"consensus meetings"* contained in the SNFC Report *"raise[d] the concern that a majority of inexperienced practitioners could outnumber the opinions of the fewer number of experts when reaching a 'consensus'"* as to the classification of particular marks.

435. In summary, Mr. Arnold stated that the methodology employed by Prof. Champod *"relies on unknowns, presumptions and an acknowledged limited empirical database, performed by a majority of inexperienced practitioners or staff from a predominantly non-practitioner (academic or management) background"*. Accordingly, *"a degree of caution should be exercised in accepting the conclusions reached or degree of scientific strength credited to the reported conclusions"*.

436. Mr. Arnold then went on in his report to identify several *"possible alternative causes"* for the questioned marks:

- According to Mr. Arnold, it *"is not difficult to produce marks that appear 'compatible' with the questioned marks on the inner surface of the cap or the translucent ring by manipulation of the cap components"*. In this regard, Mr. Arnold explained how while handling the plastic cap of the bottle he *"noticed a tendency for the metal ring and spring to adopt an oblique angle within the cap"*. It took *"very little application from a finger to remove the metal ring from the cap"*. The movement and replacement of the metal ring *"can produce evidential marks to the translucent ring"*. Similarly, a short period of manual manipulation of the metal spring inside the cap also produced marks. Mr. Arnold stated that his examination of a Sochi bottle *"shows that it is not very difficult to create marks, which appear 'compatible' with the questioned marks on the bottles alleged to have been subject to illegal tampering"*.

- Mr. Arnold similarly described how the introduction of a particle of grit between the metal ring and plastic cap, or between one of the four glass teeth and the plastic cap, can result in marks when the cap is pushed or screwed onto the bottle. Accordingly, contamination could be an alternative explanation for the marks found on the questioned bottles. In particular, under magnification the surface of the metal ring is shown to be *"pitted and uneven"*. As a result, if a particle was introduced between the ring and the inner surface of the plastic cap it could, with sufficient size and hardness, cause the creation of striations on the plastic cap.

- Lastly, Mr. Arnold noted that there was support for the hypothesis that most of the T marks originated sometime after an initial examination was carried out by an expert in the United Kingdom in 2016. Specifically, there is *"a vast difference between the reported number of observed marks on the questioned bottles"* in the respective analyses of the UK expert who conducted the first examination, and Prof. Champod's team. Mr. Arnold

illustrated this by reference to one specific bottle, in respect of which the UK examiner had identified seven sets of marks, whereas Prof. Champod identified over 40 T marks plus F and U marks spread over all 12 sides of the bottle cap. In Mr. Arnold's opinion, this divergence suggests that there was *"a large increase in marks between the UK Expert's examination and the Champod Team's examination"*.

437. As noted above, Mr. Arnold gave evidence before the Panel alongside Prof. Champod. At the start of his oral evidence, Mr. Arnold explained Prof. Champod's report showed *"little evidence of consideration of alternative hypotheses"* that might provide *"reasonable explanations for the T marks"*. In Mr. Arnold's opinion, the alternative explanation that the T marks originated from an innocent source *"has not been properly tested"*.

438. Mr. Arnold went on to explain that Prof. Champod's team and the separate UK expert had both used different improvised tools to conduct their tests on the forcible reopening of the sample bottles. Both of those separate experiments, using separate tools, showed *"a degree of consistency with the unknown marks"*. In Mr. Arnold's view this consistency *"falsifies the working hypothesis"* since it indicates that there are *"a number of sources that could, in fact, duplicate these marks and give the same consistency"*.

439. Mr. Arnold went on to explain that the process of forensic science involves examinations that are designed to identify cause and effect. In the present case, the effect, i.e. the unknown marks on the bottles, is known. Accordingly, it is necessary to work backwards to identify the cause. This process requires *"going through practical, not ideal, conditions, from how the bottles originated from a point where there was no marks until we have evidence of the marks"*. In Mr. Arnold's opinion, however, the evidence indicated that after their initial testing, Prof. Champod's team recorded unexpected results. Prof. Champod then *"adapted the parameters of his test, without adjusting the propositions, to suit the results he expected"*.

440. In particular, Mr. Arnold criticised the fact that the bottles that were used to create the benchmarks *"were not closed according to regular instructions … but to a degree facilitated to produce the anticipated results, i.e. below 12 clicks"*. Mr. Arnold considered that this *"raises a question of bias"*. Mr. Arnold also criticised the fact that there was *"no category for inconclusive marks"*. Prof. Champod's team had anticipated being able to categorise all observed marks within one of the three categories *"regardless of the fact that they may find something which is inconclusive, which should then be put into another category"*.

(iv) Alexey Bushin and Evgeniya Burova

441. The Sochi Appellants also relied on expert evidence from Mr. Alexey Bushin and Mrs. Evgeniya Burova, who are both forensic experts and members of the Russian Federal Centre of Forensic Science.

442. In a joint expert report dated 17 January 2018, Mr. Bushin and Mrs. Burova identified what they described as a series of *"major mistakes"* in Prof. Champod's forensic analysis:

443. First, Mr. Bushin and Mrs. Burova stated that Prof. Champod's analysis did not actually address the proposition set out in the methodology report.

444. Second, they considered that there was a disconnect between the experiments conducted by Prof. Champod's team, which focused on the marks caused where bottles were closed to between 6 and 11 clicks, and a situation where the bottle is closed regularly in accordance with the manufacturer's instructions to between 14 and 15 clicks.

445. Third, Prof. Champod's team did not study what would happen if a bottle filled with urine was tampered with. The data generated by Prof. Champod's experiments were based on bottles that were empty, whereas the Sochi sample bottles that were subsequently assessed by reference to that data were filled with urine.

446. Fourth, the presence of T marks merely indicates that some kind of object was potentially inserted into the space between the cap and the bottle for an unclear purpose or that a foreign body was present in that gap when the bottle was closed. Therefore, the presence of T marks does not necessarily indicate that the sample bottles were tampered with.

447. Fifth, Prof. Champod's reports do not indicate that any examination of marks on the outer surfaces of the plastic caps was undertaken. Instead, this *"very important stage of [the] examination was completely ignored"*.

448. Sixth, the reports do not state the dimensional features of the bottle examination nor the amount of space between the cap and the glass bottle under different levels of cap closure.

449. Seventh, Prof. Champod's method of examination does not permit the results of the experiment to be reliably reproduced. In particular, the appearance of marks in photographs of bottles depends on the angle of the light and the width of the plastic between the observer and the mark on the inner surface of the cap. As a result, the image of the marks in photographs can differ significantly from the reality.

450. Eighth, Prof. Champod's reports do not provide specific general and particular characteristics that can be used to distinguish F, U and T marks from one another. In this regard, it is notable that Prof. Champod's reports indicate that if one simply looks at the marks left on the grooves after the closure of the bottles, then it is not possible to distinguish between F and U marks.

451. Ninth, the content of the SNFC Report indicates that the examinations were conducted by students with limited training, rather than by professional experts. This raises serious doubts as to the reliability of the conclusions set out in the Champod Reports.

452. Tenth, all unclassified marks were automatically treated as T marks. The immediate designation as T marks of all marks that do not match known F, U and T marks *"causes confusion"*.

453. Eleventh, the Champod Reports do not explain how the spring-loaded ring in the cap of the sample bottle remains fixed in the depressed position after the tools used to open the bottle

have been removed. Nor does it explain how the spring-loaded ring subsequently returns to its initial position.

454. Twelfth, the method employed by Prof. Champod to determine the level of closure of particular bottles *"is not convincing"*. Even under ideal conditions, only 5 out of 21 bottles showed a result that roughly coincided with the correct status. The reliability of this method is therefore *"less than 25%"*. Moreover, there are a number of problems with the identification of *"oblique"* T marks, which was a key aspect of the methodology employed by Prof. Champod for determining the degree of initial closure. For example, Prof. Champod's reports do not explain how marks are defined as *"oblique"*.

455. Thirteenth, the quality control process described in the SNFC Report *"raises doubts"*. For example, the staff that carried out most of the primary classification of marks do not have expertise in this area. Moreover, it is clear from Prof. Champod's testimony before the IOC DC that he did not personally perform the full studies on the questioned samples.

456. In light of the points summarised above, Mr. Bushin and Mrs. Burova concluded in their joint expert report that the methodology employed by Prof. Champod *"do[es] not comply with the requirements of the generally accepted forensic expert methodology"* and the results produced by Prof. Champod's analysis *"do not meet the basic forensic science principles of scientific validity, objectivity, comprehensiveness and completeness of expert examinations"*.

457. Mr. Bushin and Mrs. Burova both gave evidence in a joint expert session with Prof. Champod and Mr. Arnold, before the Panel. At the outset of that testimony, Mr. Bushin stated that Prof. Champod's analysis involved a *"major inconsistency"* in that the bottles which were used to produce data regarding T marks were all closed to no more than 12 clicks, whereas ordinary usage of the sample bottles requires them to be closed fully to the maximum number of clicks. In Mr. Bushin's opinion, this constituted *"a very important problem"* in Prof. Champod's approach. Mr. Bushin also stated that Prof. Champod's reports did not contain any information regarding the size of the gap between the lid and the bottle at different gradations of closure. Mr. Bushin considered the lack of information on this to be problematic.

458. In addition, Mr. Bushin said he harboured *"a lot of doubts"* regarding the system employed by Prof. Champod for classifying the marks observed on the questioned bottles. In particular, Mr. Bushin highlighted the fact that while Prof. Champod's first report stated that all marks would be classified within three groups, it subsequently transpired that there were certain marks that did not naturally fall under any of these three categories.

459. Mrs. Burova echoed these concerns in her oral evidence. She highlighted the fact that Prof. Champod's report did not specify the precise criteria by which particular marks were allocated to one of three categories. Mrs. Burova also drew attention to the small number of bottles that had been used to generate the empirical data that underpinned the assessment of marks on the sample bottles from Sochi. She also reiterated that Prof. Champod's team had compared marks from bottles that were empty with marks that were seen on bottles that were full of urine. In her view, this failure to compare like with like was a serious methodological flaw.

c. Expert DNA evidence

(i) Dr. Vincent Castella

460. On the instruction of the IOC, Dr. Vincent Castella conducted DNA analyses on a small number of urine samples obtained from Russian athletes at the Sochi Games. Dr. Castella is the Head of the Forensic Genetics Laboratory at the University Centre of Legal Medicine in Lausanne, Switzerland. The laboratory analyses more than 20,000 DNA samples each year as part of its work in criminal and paternity cases. In addition, Dr. Castella is a lecturer in genetics at the University of Lausanne and a member of various national and international working groups.

461. On 10, 27 and 30 November 2017, Dr. Castella produced *"Report[s] on the forensic genetics analysis of biological samples"*. The last report dated 30 November 2017 explained that the DNA samples had been analysed via a process of DNA extraction, DNA amplification and capillary electrophoresis. As a result of that testing process, Dr. Castella found that:

- The Y-chromosome DNA analysis of Sample 14747161DNB, provided by a female athlete, *"contains the DNA from at least three men"*.

- The Y-chromosome DNA analysis of Sample 14890161DNB, provided by a female athlete, established a profile *"apparently from a single man"*.

462. The report dated 30 November 2017 added that, *"In accordance with the Ordinance of the Federal Department of Justice and Police on the DNA analysis laboratories (RO 363.11), the results were confirmed with at least two independent analyses"*.

463. In addition to producing those three written reports, Dr. Castella provided oral testimony before the Panel in a joint evidence session with the Athlete's DNA expert, Dr. Susan Pope.

464. At the outset of his oral testimony, Dr. Castella explained the nature of the DNA testing that he had undertaken on the samples from the Sochi Games. Dr. Castella stated that he had begun by analysing the samples for *"classical DNA markers"*. That process led to the identification of *"some"*, but *"not a lot"*, of male DNA in the samples of two female athletes. As a result, Dr. Castella then carried out further DNA analyses that specifically targeted the Y chromosome, with the objective of validating the presence of the male DNA in those samples. Dr. Castella went on to confirm that, as set out in the reports referred to above, this DNA analysis revealed that one urine sample provided by a female athlete contained *"at least three male DNAs"*, while the second sample contained *"at least one male DNA"*.

465. During his testimony, Dr. Castella was asked about the possibility of male DNA contaminating a female athlete's urine sample as a result of sexual activity between the man and woman. In response, Dr. Castella explained that if a female athlete had engaged in sexual activity with a man shortly before a urine sample was taken, then that activity could potentially result in the presence of male DNA in the sample. Dr. Castella cautioned, however, that in cases of sexual

assault it is usually difficult to detect the presence of male DNA when a sample is obtained from a woman three to five days after the alleged assault. Dr. Castella added that it was possible that there are research methods for identifying the presence of sperm in urine, but the laboratory had not undertaken such tests because they had not been directed to check for the presence of semen in any of the urine samples. In cross-examination, Dr. Castella further clarified that the reference to a timeframe of three to five days in sexual assault investigations was based on DNA samples taken from the vaginal area, rather than urine samples. Dr. Castella was *"not familiar with the time factor"* for urine samples, but *"imagine[d] that three to five [days] would be the same"*. In response to a further question, Dr. Castella confirmed that sperm contains *"a lot"* of male DNA.

466. Dr. Castella also explained that for physiological reasons female urine typically contains approximately six times more DNA than male urine. Dr. Castella went on to explain that in sample 2889760 the ratio of female DNA to male DNA was 20:1. In other words, there was 20 times more female DNA than male DNA in the sample. If that figure is then adjusted to reflect the fact that female urine contains roughly six times more DNA than male urine, it follows that the ratio of 20:1 corresponds to a mixture of approximately 70 ml of female urine and 30 ml of male urine.

467. Similarly, for sample 2889681, the ratio of female DNA to male DNA was 40:1. If that figure is adjusted to reflect the fact that there is six times more DNA in female urine than in male urine, it follows that a female-DNA/male-DNA ratio of 40:1 corresponds to a mixture of approximately 85 ml of female urine and 15 ml of male urine.

468. In cross-examination, Dr. Castella explained that the level of DNA in urine *"varies considerably"*; however, he was aware of two publications in the relevant scientific literature that supported the existence of a 6:1 ratio regarding the respective concentrations of DNA in female urine and male urine.

469. Dr. Castella added that since the two female samples contained DNA from a total of four different males, this was unlikely to be the result of contamination during the equipment manufacturing process, since contamination of that nature would be likely to involve just one other person's DNA.

470. Dr. Castella also stated that it was most unlikely that the presence of the male DNA in the female athletes' samples was the result of passing physical contact with the sample collection vessel. Dr. Castella stressed that the quantity of male DNA was sufficiently large that it was possible to detect the presence of that DNA in a urine sample of just 4 ml. In his view, in these circumstances it was very unlikely that this quantity of DNA could have been transmitted simply through physical contact with the inside of the sample collection vessel. Dr. Castella stated that, although the contamination theory *"cannot be excluded completely"*, in his personal ranking of the particular hypotheses it is *"not ranked very high"*. In contrast, the deliberate mixing of urine belonging to more than one person was a *"realistic"* hypothesis.

(ii) Dr. Susan Pope

471. In support of their case in response to the IOC's DNA evidence, the Sochi Appellants relied on an expert report produced by Dr. Susan Pope. Dr. Pope is a Fellow of the Chartered Society of Forensic Scientists. She held a number of scientific research and reporting roles at the United Kingdom's Forensic Science Service between 1987 and 2011. She is currently the Chair of the DNA Specialist Group that advises the Forensic Science Regulator on forensic DNA issues.

472. In her report dated 17 December 2017, Dr. Pope explained that she had read and reviewed the reports produced by Dr. Castella. She then proceeded to make a number of observations regarding those reports and the various means by which DNA contamination may occur.

473. Dr. Pope identified a number of *"possible causes"* that could result in a single urine sample containing the DNA of more than one person. Those possibilities include:

- Extraneous DNA was present *before* the sample was taken, i.e. a situation where there was a mixture before the sample was received at the laboratory. Dr. Pope explained that this could occur as a result of *"contact between another person and either the external vaginal area of the female providing the urine sample or the penis of the male providing the sample"*.

- DNA from another person was transferred into the sample *during* the process of obtaining the sample. In this regard, Dr. Pope explained that: *"DNA could come directly from another person or indirectly because of extraneous contaminating DNA already present in either the consumables (such as the containers) or reagents used to take and store the sample"*.

- DNA contamination occurred at the laboratory where the sample was tested. In this scenario, the sample sent to the laboratory only contained the DNA of the person who produced the urine, however the DNA of another person was introduced into the sample as a result of being *"exposed to extraneous contaminating DNA during the processes of taking small amounts for testing sampling or the testing process itself"*. According to Dr. Pope, this could be due to: (a) extraneous DNA in the reagents or consumables used to analyze the sample; (b) transfer of DNA from people involved in processing the sample; or (c) transfer of DNA from another sample being tested at the same time.

474. In addition, there are *"very rare medical reasons"* why a person may have or appear to have a small amount of a mixed DNA profile. For example, the recipient of a bone marrow transplant may have the DNA of the bone marrow donor in their blood stream, while retaining their own original DNA profile in other tissues and body fluids.

475. In respect of the possibility of DNA contamination occurring during the sample collection process, Dr. Pope explained that in order to prevent DNA contamination from occurring, a more rigorous set of precautions would need to be undertaken than the precautions that are required in order to take urine samples for the purpose of toxicology or drugs testing. This is because the presence of DNA from another source would not affect the outcome of

toxicology or drugs tests and therefore the precautions applicable to those tests are not normally geared towards eliminating the possibility of DNA contamination. Conversely, if a urine sample were taken for the main purpose of providing a DNA analysis, then *"many precautions would be in place during sampling to minimise this type of contamination"*.

476. By way of example, *"special DNA-free containers would be used to collect the urine sample. The containers used for urine samples intended for toxicology or drugs testing may be sterile, but medically sterile does not mean DNA-free … 'DNA-free' is a special grade of consumables and reagents that have been pre-treated to destroy any DNA present before use"*. Moreover, *"The people involved in collecting and sealing the urine sample would wear disposable, DNA-free gloves and masks. The DNA results obtained from the sample would be searched against an elimination DNA Database of profiles from the manufacturers or consumables and reagents and those who assisted in taking the samples, as is routine for criminal DNA results"*.

477. During her oral testimony, Dr. Pope expanded upon the points set out in her written report. Dr. Pope expressly confirmed that, on the basis of the information she had reviewed, two of the female athletes' samples showed *"multiple profiles"*, meaning the presence of more than one person's DNA in the sample.

478. She explained, however, that before any inferences can be properly drawn concerning the cause of a mixed DNA sample, it is necessary to be confident that there were no other external sources of DNA that had accidentally been introduced into the sample. In this regard, Dr. Pope explained that it was not apparent to her whether the equipment used for collecting urine samples had been deliberately treated so as to be DNA-free. She reiterated that the standard of *"sterile"* does not equate to *"DNA-free"*.

479. Dr. Pope noted the possibility of DNA contamination occurring during the process of manufacturing the equipment used to collect and store the urine sample. She referred to the infamous Phantom of Heilbronn case, where swabs that had been used to collect DNA from various crime scenes were later found to contain the DNA of a person involved in manufacturing the swabs. Dr. Pope also described the possibility of contamination occurring during the sample collection process. In this regard, she explained that unless rigorous DNA anti-contamination processes were followed, including the use of gloves and masks, then it is possible that a sample could become contaminated by (for example) a person talking over an empty sample, thereby effecting contamination via the transfer of tiny droplets of saliva.

480. During her testimony, Dr. Pope was also questioned about the possibility of a urine sample becoming contaminated by the DCO during the sample collection process. In response, Dr. Pope explained that the most effective way to exclude the DCO as a possible source of contamination is to take an elimination sample from them for comparison with the foreign DNA found in the athlete's urine sample. Even if the DCO is eliminated as a potential source of contamination, however, if an athlete had the DNA of another person on their hands during the sample collection process, then this could provide another possible source of DNA contamination.

481. In response to questioning by the Panel, Dr. Pope concurred with Dr. Castella that it is possible that sexual activity between a female athlete and a male partner may result in the presence of male DNA in a urine sample provided by the female athlete. In this regard, Dr. Pope explained that the DNA results in themselves do not assist in identifying whether the DNA found to be present is a result of any particular action. This is because, in simple terms, *"there is nothing in the DNA test that tells you what body fluids the DNA profiles were obtained from"*. Nor is it possible to infer the volume of the contaminant from the quantity of DNA found in the urine.

482. Dr. Pope added that if DNA is present in a sample collection vessel then, so long as the container is stored correctly, the presence of the DNA is likely to remain relatively stable for quite some time.

483. Dr. Pope went on to explain that, in circumstances where there is no information about whether foreign DNA in the urine samples was transmitted through urine or through DNA that was already present inside the sample collection equipment which had not been manufactured to a DNA-free standard, it is difficult to draw any conclusions about whether the *"very, very small amounts of male DNA"* found in the two mixed samples were the result of contamination or not. Dr. Pope added that the levels of male DNA in the two mixed samples were *"certainly the sorts of amounts of contamination that I have seen in forensic casework"* and, specifically, were *"in the sort of range … that I have seen in samples which have been contaminated … in the forensic laboratory"*.

484. Dr. Pope was asked whether she agreed that it is established that female urine contains about six times the concentration of DNA as male urine. In reply, Dr. Pope explained that there was *"actually very little literature on this theoretical difference"*, and that *"the number of cells any individual might shed is quite variable"*. Moreover, DNA quantification tests *"are known to vary a reasonable amount if the test is repeated"*. It follows that *"there is a lot of uncertainty in all of the figures that might be being used in this"*.

485. Dr. Pope concluded her oral testimony by returning to the subject of contamination. When asked whether it would be possible to exclude contamination as the explanation for the presence of the male DNA in the female athletes' samples, she responded that: *"If you are taking a urine sample into a cup, which may not be DNA free, and pouring it into a bottle, which may not be DNA-free"* then there is *"certainly the possibility for contamination, and from more than one person"*. She added that, *"this is something which would need to be excluded more formally before drawing strong conclusions about whether or not the samples had been mixtures of urine"*.

d. Expert evidence on sodium content

(i) Prof. Michel Burnier

486. In support of its case, the IOC also relied on expert testimony from Prof. Burnier, the Head of the Nephrology Service at University Hospital in Lausanne, Switzerland. Prof. Burnier testified orally by Skype in a joint expert session with Dr. David Charytan.

487. At the outset of his oral testimony, Prof. Burnier confirmed the accuracy of his expert report dated 5 October 2017. In that report, Prof. Burnier explained that he had been instructed by the IOC: (a) to determine *"reference values"* for various urinary analytes, namely sodium, potassium, chloride, calcium, creatinine and urine density, from samples taken from a cohort of athletes who underwent doping control tests at the Vancouver Games in 2010 (the "Vancouver samples"); and (b) to compare those reference values with the results of an analysis of urine samples obtained from a cohort of Russian athletes at the Sochi Games (the "Sochi samples"), in order to determine whether the Sochi samples were within the reference values established by the Vancouver samples. The *"goal"* of this exercise was *"to determine the "apparently" normal range based on the Vancouver data and to identify potential outliers in the [Sochi samples]"*.

488. Prof. Burnier explained that he had assessed the distribution of urinary sodium, potassium, chloride and calcium concentrations for a total of 250 samples from the Vancouver Games. In respect of each of those parameters, the distribution of values across the samples was analysed *"together with the mean, the maximum and minimum value, the standard deviation and the upper and lower 95% confidence interval"*. In addition, *"the median and the 5% and 75% and 95% percentiles were calculated"*.

489. With respect to the Vancouver samples, Prof. Burnier explained in his report that:

- For male athletes, the mean sodium excretion was 95.4 mmol/l, with a standard deviation of 49.37 mmol/l.
- The highest sodium level among the samples from male athletes was 250 mmol/l, while the lowest sodium level was 12 mmol/l.
- For female athletes, the mean sodium excretion was 67.39 mmol/l, with a standard deviation of 40.88 mmol/l.
- The highest sodium level among the samples from female athletes was 180 mmol/l, while the lowest sodium level was 11 mmol/l.

490. On the basis of these figures, Prof. Burnier explained that any samples with urinary sodium concentrations greater than 243 mmol/l for men and greater than 190 mmol/l for women would be classed as *"outliers"* on the basis that the sodium levels in such samples were more than three standard deviations above the relevant mean.

491. Prof. Burnier explained that his analysis of the Sochi samples established that:

- For male athletes, the mean urinary sodium concentration was 135.0 mmol/l, with a standard deviation of 111.48 mmol/l.
- The highest sodium level among the samples from male athletes was 843 mmol/l, while the lowest sodium level was 12 mmol/l.

- For female athletes, the mean urinary sodium concentration was 126.66 mmol/l, with a standard deviation of 131.98 mmol/l.

- The highest sodium level among the samples from female athletes was 719 mmol/l, while the lowest sodium level was 11 mmol/l.

492. According to Prof. Burnier's analysis, five of the samples from male competitors at Sochi and eight of the samples from female competitors at Sochi had sodium concentrations that were greater than three standard deviations from the respective means of the Vancouver samples. Those 13 samples were therefore all classified as *"outliers"*.

493. Prof. Burnier went on to explain that since urinary sodium concentrations are highly dependent on the concentration of the particular urine sample, it is appropriate *"to correct the values by the urinary creatinine concentration in order to cancel the volume effect"*. In this regard, however, Prof. Burnier noted that, *"there are no well-defined ranges for urinary creatinine concentrations based on spot urines as this depends on sex, age, muscle mass and urine concentrations"*. Nevertheless, an analysis of the Vancouver samples showed a *"significant"* correlation between urinary sodium, on the one hand, and urinary creatinine, on the other. This clearly showed that *"the higher the urinary creatinine concentration, the higher the urinary sodium concentration"*.

494. Prof. Burnier went on to conduct the same correlative analysis of the Sochi samples. That analysis *"showed the same correlation for the samples of Sochi"*. Importantly, however, the 13 *"outliers"* described above did not conform to that correlation. This enabled Prof. Burnier to conclude that, *"the high urinary sodium concentration [in those 13 outlying samples] is not explained by very concentrated urines as they occur in rather non-concentrated urines"*.

495. Prof. Burnier went on to conduct an analysis of the other urinary analytes referred to above. In respect of potassium, Prof. Burnier found that:

- For the Vancouver samples, the mean urinary potassium concentrations were 48.7 mmol/l for male and 46.76 mmol/l for female, in each case with a standard deviation of 32.2 mmol/l. Four male samples and five female samples were greater than the 95% percentile, while three of the samples *"were considered as true outliers"*, meaning they were above the 99.95% percentile. These outliers within the Vancouver samples contained *"very high urinary potassium concentrations which are rather unusual and not well explained"*.

- For the Sochi samples, the mean urinary potassium concentrations were 42.88 mmol/l for males, with a standard deviation of 28.0 mmol/l, and 43.4 mmol/l for females, with a standard deviation of 25.9 mmol/l. There were *"no significant outliers in the samples of Sochi"*.

496. With respect to urinary chloride, Prof. Burnier found that:

- For the Vancouver samples the mean urinary chloride concentrations were 93.36 mmol/l for males, with a standard deviation of 53.88 mmol/l, and 68.13 for females, with a standard deviation of 46.21 mmol/l.

- For the Sochi samples the mean urinary chloride concentrations were 120.8 mmol/l for male, with a standard deviation of 102.7 mmol/l, and 120.3 for females, with a standard deviation of 136.8 mmol/l.

- The analysis of urinary chloride concentrations *"were similar to those performed with sodium"*. In particular, the 13 sodium *"outliers"* were also *"outliers"* in respect of their respective urinary chloride concentrations.

497. With respect to urinary calcium, Prof. Burnier found that:

- There were *"no major deviations"* and the Vancouver and Sochi sample groups were *"rather similar"*.

- Ten of the Vancouver samples were, however, considered as *"possible outliers"*, meaning they were above the 99th percentile.

- After correcting for urinary creatinine, some of the Sochi samples remained above the 95th or 99th percentile, *"but it is difficult to consider them as outliers as these subjects may have had an hypercalciuria which is [a] quite common feature in the population"*.

498. With respect to specific gravity, Prof. Burnier found that:

- The normal range for specific gravity is between 1.000 and 1.035 depending on the state of hydration.

- The mean specific gravity value was *"significantly higher"* in the Sochi samples, i.e. 1.019, than in the Vancouver samples, i.e. 1.013.

- At the 0.5% level, however, *"there were no outliers identified"* in either set of samples.

499. Lastly, Prof. Burnier analysed the correlation between specific gravity and calculated urinary osmolarity, i.e. the concentration of particles in urine, based on urinary sodium, potassium, glucose and urea. For the purposes of this analysis, urinary urea concentration was fixed at 280 mmol/l for men and 180 mmol/l for women *"based on previous epidemiological data"*, although Prof. Burnier noted that this is *"probably an underestimation in athletes"*. Prof. Burnier went on to explain that:

- In the Vancouver samples *"there is an excellent correlation between the calculated osmolarity and urinary gravity"* with respect to women, while a *"similar correlation"* was found in respect of the men.

- In contrast, however, the Sochi samples *"show[ed] calculated osmolarities way above the physiological capacity of the kidney to concentrate"*. Further, there were *"clear outliers … with very high osmolarities in urines with a low gravity which suggests a discrepancy"*. Statistically, *"no correlation was found in women"* while only a *"weak correlation"* was found in respect of the men.

500. On the basis of the analysis summarised above, Prof. Burnier reached the following conclusions in his report:

501. With respect to urinary sodium concentrations, *"the values measured in Vancouver samples are relatively homogenous and without clear outliers. All values are physiologically plausible"*. In contrast, in the Sochi samples *"13 samples were completely out of range and above 3 standard deviations from the mean of Vancouver samples but also above 2 standard deviations of the mean of Sochi samples. These very high sodium concentrations are quasi incompatible with a normal sodium intake in humans"*. By way of example, *"a concentration of 845 mmol/l is equivalent to 49.7 grams of sodium chloride in one litre"*. If the person urinates only 500 ml in a 24-hour period, which is unlikely, then this would correspond to a daily sodium intake of 25g. If the person urinates 1,000 ml in a 24-hour period, then this would correspond to a daily sodium intake of 50g.

502. At the same time, the sample that contained 49.7g of sodium per litre was excreted in urine that contained only 7,666µmol/l creatinine. A normal male athlete would expect to excrete about 20,000µmol/l creatinine per day. Accordingly, to reflect this, the amount of sodium should be multiplied by a factor of 2.6, i.e. 20,000 divided by 7,666, leading to a sodium intake of 65g per day, if the subject urinates 500ml a day, and 130g per day, if the subject urinates 1,000 ml a day. In Prof. Burnier's expert opinion, *"These figures are not realistic and strongly suggest that sodium has been added in the following samples, even though in some areas of Russia and central Asia, very high sodium intake have been reported in the range of 15 to 20 g NaCl/d"*.

503. Prof. Burnier added that the hypothesis that salt was added to the 13 *"outlier"* samples *"is further supported by the observation that very high concentrations of chloride were also found in these samples … but not calcium or potassium which often follow sodium if the high sodium concentration is due to a high food consumption"*.

504. Further, as noted above, there is *"a perfect correlation"* between urinary osmolarity and specific gravity in respect of the Vancouver samples. In contrast, with respect to the Sochi samples there are *"weaker correlations and clear outliers"*. The calculated osmolarity based on sodium and potassium *"are clearly above the physiological capacity to concentrate urines"*.

505. Of the 13 *"outliers"*, a total of five were from male bobsleigh athletes, four were from female ice hockey players, three were from female skiers and one was from a female biathlete. Prof. Burnier concluded that, in respect of those 13 samples:

> *"there is a very high suspicion of manipulation with an addition of external sodium chloride to the samples"*.

506. On 16 January 2018, Prof. Burnier produced a supplementary document entitled *"Complement of analyses based on data sheet entitled: Salt data from athletes with at least one sample with high salt"*. Prof. Burnier explained in that document that, following the production of his report, he had received a *"small database of athletes having had more than one urine measurement"* which enabled him to compare the urinary sodium, potassium, calcium and creatinine levels and specific gravity of those athletes' samples across time. He went on to summarise the results of that analysis as follows.

507. The first athlete, a female cross-country skier, had been tested twice on 6 February and 17 February 2014. The comparison between these samples showed *"an enormous difference in sodium concentration of 484 mmol/l on February 17th versus 37 mmol/l on the 6th February"*. Further, the latter sample had *"a higher specific gravity (1017 vs 1010) but only half of the concentration of creatinine"*. This state of affairs was *"contradictory"* and *"confirm[ed] the manipulation"*.

508. The second athlete, a female ice hockey player, had undergone two doping control tests on 9 February and 15 February 2014. Both of those tests revealed *"a very high concentration of sodium (494 and 585 mmol/l) and chloride with low concentrations of potassium and calcium"*. The samples were very similar with *"very high specific gravity and elevated urinary creatinine concentrations"*. According to Prof. Burnier, these samples were *"compatible with a mishandling of both samples considering the high content of Na [sodium]"*.

509. The third athlete, a male bobsleigh competitor, underwent two doping control tests on 12 and 17 February 2014. There was *"an enormous difference in terms of sodium content (845 vs 62 mmol/l) between February 17th and February 12th"*. In contrast, however, the potassium concentrations in the two samples were *"comparable"*. Furthermore, the creatinine concentration in the latter sample (7,666 mmol/l) was not significantly higher than the creatinine concentration in the earlier sample (6,078 mmol/l); however, the specific gravity of the latter sample (1.028) was *"much higher"* than the specific gravity of the former sample (1.010). This state of affairs was *"contradictory"*.

510. The fourth athlete, another male bobsleigh competitor, underwent two doping control tests on 5 February and 23 February 2014. The position of this athlete was *"absolutely identical"* to that of the third athlete above. In particular, there was a *"[g]reat discrepancy"* between the two samples and *"identical urinary creatinine concentrations (about 6100 mmol/l) in both samples despite a great difference in specific gravity (1027 vs 1011)"*.

511. The fifth athlete was also a male bobsleigh competitor. Like the third and fourth athletes, he had also undergone two doping tests (in his case on 8 and 14 February 2014). There was an *"[e]normous difference"* in the sodium levels across those two tests (596 mmol/l and 91 mmol/l) and in the chloride content. Further, while the two samples had similar specific gravities (1.020 and 1.022), the creatinine concentration was four times higher in the first sample than in the second sample provided just six days later. This *"suggests a manipulation"* of the latter sample since the first sample is *"compatible with a normal concentration"*.

512. The sixth athlete was a female cross-country skier. She underwent two doping control tests on 5 February and 17 February 2014. However, there was *"no urine left for the second measurement"* and therefore no comparative analysis was possible in respect of this athlete.

513. The seventh athlete was a female biathlete. She underwent three doping control tests on 31 January, 12 February and 19 February 2014. A comparison of the first and the last of those samples shows almost the same specific gravity (1.020 and 1.024). However, while the concentration of creatinine was *"good"* in relation to the specific gravity, the sodium concentration on the 19 February (347 mmol/l) is *"much higher"* than *"most concentrated urines with a specific gravity of 1.024. This is surprising and would be compatible with added salt"*.

514. The eighth athlete was a female cross-country skier. She underwent three doping control tests on 7 February, 17 February 2014 and 19 February 2014. According to Prof. Burnier, there was *"a strong discrepancy"* between the samples. In particular, there was a *"discrepancy regarding urinary creatinine concentrations with a lower concentrations [sic] of creatinine on the 19th than on the 17th despite a higher gravity"*. This state of affairs was *"contradictory"*.

515. The ninth athlete was a male bobsleigh competitor. He underwent two doping control tests on 15 February and 23 February 2014. This athlete had *"the least difference between the two measurements"* and the high concentration of sodium in the sample dated 15 February *"was also the one closest to the normal range"*. In Prof. Burnier's opinion, *"the likelihood of a manipulation is lower"* in respect of this athlete.

516. The tenth athlete was also a male bobsleigh competitor. He underwent doping tests on the same dates as the ninth athlete. Those tests showed an *"enormous difference in sodium concentration (485 vs 66 mmol/l) and a paradoxical lower concentration of creatinine in urines on the 23rd Feb (7778 vs 11682 mmol/l) when the urine are the most concentrated (1.023 vs 1.015)"*.

517. During his oral evidence at the hearing, Prof. Burnier expanded upon these conclusions and the methodology that underpinned them.

518. Prof. Burnier began by explaining that the comparison involved a total of 250 samples from Vancouver and 250 samples from Sochi. The 250 samples from Vancouver were taken from athletes from all around the world, whereas the Sochi samples came exclusively from Russian athletes.

519. Prof. Burnier went on to explain how the levels of urine in the samples had been measured using an automatic system *"with an upper limit of 350"*. If the machine was unable to measure a particular sample, then the sample would be diluted with distilled water in order to facilitate the automated analysis.

520. In respect of the detection of outliers, Prof. Burnier employed a *"purely statistical approach"* which was based on the mean and standard deviations for the Vancouver and Sochi datasets. He explained that this statistical analysis had identified 13 samples that were *"unusual or*

abnormal" and constituted *"clear outliers"* some of which were *"incompatible with … normal physiology"*.

521. Prof. Burnier explained that at the time of his first report, he was unaware that some individuals were represented two or even three times within the Sochi samples. He was, in his words, *"completely blinded of any knowledge of the subjects"* at the time of that report. As explained above, however, he was subsequently able to compare multiple samples relating to ten of the 13 *"outliers"*. This comparison demonstrated *"enormous difference[s]"* between samples that were provided just a few days apart. In Prof. Burnier's opinion, these wide disparities tended to confirm that *"something very odd"* had occurred with those samples, which was *"very hard to understand using normal physiology"*.

522. During his oral evidence, Prof. Burnier agreed that since 250 Vancouver samples were drawn from an international population of athletes, it was likely that salt intakes were more variable in that population, as a result of diversity of dietary habits in different countries, than the sodium levels in the 250 Sochi samples which all came from athletes from a single country. He added, however, that the *"outliers"* in the Sochi samples had levels of sodium that were significantly higher than both the Vancouver samples and the remainder of the Sochi samples. In this respect, a comparison between the 13 *"outliers"* and the wider population of Russian athletes whose samples were tested within the Sochi samples showed that the *"outliers"* were several standard deviations above the mean of the Russian samples.

523. In relation to the dilution methodology that had been employed in the laboratory, Prof. Burnier explained that each urine sample was handled separately. The reliability of the dilution was *"very high"* and *"very linear"*. In addition, Prof. Burnier explained that he had reviewed the quality control system employed by the laboratory that undertook the testing. That system included quality control with respect to dilution. The laboratory was appropriately certified and Prof. Burnier was therefore confident in the suitability and reliability of the methodology.

524. Prof. Burnier went on to explain that the analysis of creatinine revealed *"physiologically contradictory"* results, with samples containing *"very concentrated urine with almost no creatinine inside"*. In particular, when urine is concentrated, one normally expects to see a concentration of both sodium and creatinine. As a result, the level of creatinine in urine usually correlates very well with the specific gravity of the urine. Consequently, if an athlete's urine samples contain more creatinine in diluted urine than in concentrated urine, this anomalous state of affairs is *"very suspicious"*.

525. In response to questions from the Panel, Prof. Burnier stated that, while high blood pressure can lead to elevated sodium levels in urine, it was extremely unlikely that healthy young athletes would have such a condition. The only other natural explanation for very high sodium concentrations would be consumption of a very high quantity of salt. In this regard, however, Prof. Burnier confirmed that it is not possible to extrapolate from a urine sample the level of salt that a person has consumed as part of their diet.

526. During the course of his oral evidence, Prof. Burnier was asked to explain why the alleged systematic substitution of urine samples might involve the addition of salt to some urine samples but not to others. In response, Prof. Burnier explained that if clean urine was collected outside of an official competition then it is likely that the individual providing the urine would be reasonably hydrated at the time when they provide the urine. As a result, their urine is likely to have a normal specific gravity, i.e. probably within the range of 1.015 to 1.020. In contrast, if an athlete is required to provide a urine sample immediately after a period of intense physical exertion, then their urine is likely to be more concentrated. It follows that, because of the difference in the specific gravity of the two samples, the more concentrated post-event urine sample could not simply be swapped with the less concentrated pre-event urine sample.

527. Since sodium is *"the major driver of osmolarity"*, in order to bring the specific gravity of the pre-event sample into line with the specific gravity of the post-event sample, it would be necessary to add salt to the pre-event sample. Prof. Burnier added that if the objective had been to ensure that the substituted urine sample matched the specific gravity of the sample that it was replacing, then it may not have occurred to the person undertaking the substitution that the later examinations of the sample would investigate not only the specific gravity – which had been successfully manipulated – but also the sodium concentration. In Prof. Burnier's words, *"they probably intended to match only the specific gravity, without taking care of what is inside of the urine"*.

528. In response to further questions from the Panel, Prof. Burnier conceded that it is difficult to draw conclusions regarding manipulation of samples from samples which have low sodium concentrations. This is because there are a number of possible physiological explanations for low sodium concentrations. For example, if a person is very dehydrated, then their kidneys will retain sodium, causing them to excrete less sodium. Prof. Burnier stated that while he had identified some diluted urine samples within the Vancouver and Sochi samples which appeared suspicious, he was unable to reach any conclusions about possible manipulation of those samples.

529. In response to questioning by the IOC's representatives, Prof. Burnier explained the significance of the fact that the 13 statistical *"outliers"* he had identified were concentrated in a handful of particular groups of athletes. In the context of an analysis of samples obtained from several hundred athletes, he considered that it *"defies … probability"* that concentrations several standard deviations above the mean would randomly cluster in the same small group of athletes.

530. Finally, in response to questioning by the Sochi Appellants' representatives, Prof. Burnier stated that Russians consume on average 1 or 2 grammes more salt per day than Europeans. He stated, however, that the higher average rate of dietary sodium consumption could not come close to explaining urine samples that had levels of sodium several hundred per cent above the mean or median sodium concentration.

(ii) Dr. David M. Charytan

531. In response to Prof. Burnier's expert evidence, the Sochi Appellants relied on expert evidence from Dr. Charytan, an Assistant Professor of Medicine at Harvard Medical School, a qualified medical doctor, and the Director of intensive care nephrology at Brigham and Women's Hospital in Boston, Massachusetts. He was heard by Skype in a joint expert session with Prof. Burnier.

532. The Sochi Appellants' representatives instructed Dr. Charytan to review Prof. Burnier's expert report and the results of the testing Prof. Burnier had undertaken. On the basis of that review, Dr. Charytan produced an expert report dated 16 January 2018, which was submitted as evidence in these proceedings.

533. At the outset of his report, Dr. Charytan explained that while Prof. Burnier had undertaken a comparative analysis of the levels of various urinary electrolytes in samples collected at the Vancouver Games and the Sochi Games, urinary electrolytes *"are not typically evaluated in this way because the values are dynamic and can vary widely depending on the physiologic state of the individual providing the sample"*. For example, a low sodium value may be normal if an individual is dehydrated or has a low blood pressure. On the other hand, a high sodium value may be appropriate if an individual has had a high salt intake. Accordingly, in Dr. Charytan's view, *"while a population range can be defined for the urinary indices tested in this report, it would be incorrect to report a value as normal or abnormal without knowing the physiologic state of the individual at the time of testing"*.

534. Dr. Charytan also noted that Prof. Burnier's report suggested that the testing equipment used to measure the sodium content of the Sochi samples had an upper detection limit of 350 mmol/l. Accordingly, in order to measure any values above that threshold, samples had to be diluted in the laboratory. Dr. Charytan explained that if this is done incorrectly then *"this can introduce a substantial multiplication error"*. In this regard, Dr. Charytan noted that, *"The methods for dilution, for assuring quality control during the dilution process, and for ensuring reproducibility of the dilution process/post dilution measurement are not reported by Dr Burnier, nor is the linearity of the assay (accuracy vs. a reference for values above the upper limit)"*. Dr. Charytan stated that it was *"unclear whether adequate measures were taken to ensure accurate measurement and prevent dilution errors when assessing high levels of urinary sodium"*. He then cited the example of one case that was measured at approximately 800 mmol/l in one sample and approximately 500 mmol/l in the paired sample. The divergence between these figures represented *"an error of approximately 38%"*.

535. In relation to Prof. Burnier's definition of an *"outlier"*, namely a value that is more than three standard deviations above or below the Vancouver mean value, and his definition of a *"possible outlier"*, namely a value that is more than two standard deviations above or below the Vancouver mean value, Dr. Charytan considered each definition was *"a reasonable definition statistically"*. He cautioned, however, that a reference population of approximately 250 athletes *"is likely to not be sufficiently large statistically to provide tight confidence intervals around these estimates of the true population mean and standard deviations"*. As a result, the figures should be treated as *"estimates that have some degree of uncertainty"*.

536. In addition, Dr. Charytan added that it was not clear whether the Vancouver athletes whose samples were used to establish reference values *"were medically, racially or dietarily representative of the Sochi athletes"*. He stated that if the differences between the two athlete populations were sufficiently large then *"this could mean that it would be inappropriate to use the mean/SD of one population to make strict inferences regarding the other population"*. In this regard, Dr. Charytan noted that the 25th percentile value of sodium and the median values in Sochi were each *"considerably higher (≈20-30%) than the values in Vancouver"*, despite the fact that neither metric is dramatically influenced by the presence of potential outliers.

537. Dr. Charytan went on to critique Prof. Burnier's conclusion that the 13 samples with sodium values greater than three standard deviations above the Vancouver mean were *"outliers"* that were likely to reflect the addition of salt to the samples. Dr. Charytan commented that:

- Assessing the ratio of urinary sodium to urinary creatinine is sometimes done in order to assess how water removal impacts the sodium concentration in the setting of acute kidney injury with low urine output. However, it is *"not standard"* to do this when low urine output is absent and a kidney is functional *"because the amount of salt filtered by a normal kidney can make this index difficult to interpret"*. Instead, it is *"generally suggested to look at the urine sodium alone in this context as the best index of salt handling for a healthy kidney"*.

- Prof. Burnier is incorrect to say that the *"outliers"* he identified were not concentrated. In fact, the *"vast majority"* of those samples had a specific gravity above 1.020, while *"many"* were above 1.025. Accordingly, the samples identified by Prof. Burnier as un-concentrated *"outliers"* were, in fact, *"very concentrated"*.

- It was *"unclear whether the Vancouver samples represent the appropriate standard for assessing normality/outliers of measured urinary sodium of athletes in Sochi"*. By way of example, a recent population-based study of 887 individuals in Japan identified a range of urinary sodium between 19 mmol/l and 307 mmol/l, with a median value of *"approximately 107 mmol/l"*. The Panel notes, however, that in the next sentence of his report Dr. Charytan referred to the median value of this cohort as *"approximately 126 mmol/l"*. The Panel assumes that either the reference to 107 mmol/l or to 126 mmol/l is erroneous; however, any error would appear to be immaterial to the point being advanced.

- Both the upper limits and the median values identified by the Japanese study were higher than the corresponding values measured in the Vancouver samples. Accordingly, if those figures were used as a guide rather than the figures from Vancouver, then *"it is likely that fewer samples would be considered outliers"*. In particular, samples with urinary sodium under 400 mmol/l might not be considered outliers.

- From a physiological perspective, it does not matter whether a sodium measurement is an outlier. In particular, while an outlying high value may be unusual on a population basis or statistical basis, *"it might still be physiologically appropriate if it is responsive to stimuli such as a low blood pressure, … or excessive salt intake"*. Accordingly, in Dr. Charytan's

opinion, *"a claim that outliers are abnormal (rather than simply unusual) is fundamentally questionable, if the claim rests solely on the basis of those values being unusual"*.

538. In addition to his comments concerning the sodium measurements, Dr. Charytan also made various other observations concerning Prof. Burnier's analysis of other urinary electrolytes. In summary:

- Dr. Charytan noted that while Prof. Burnier identified several outliers in relation to potassium values in several of the Vancouver samples, he appeared to consider those outliers to be reasonable physiological variants rather than evidence of manipulation. Dr. Charytan noted, however, that Prof. Burnier had not provided any rationale for this differential treatment.

- Dr. Charytan made a similar observation in relation to Prof. Burnier's approach to the Vancouver samples that had high urinary calcium concentrations. Prof. Burnier's treatment of those samples – namely his assertion noted that it was *"difficult"* to consider them as outliers because the subjects *"may have had a hypercalcuria"* – was *"internally inconsistent"* with his failure to take a similar approach to samples with high levels of sodium.

539. Dr. Charytan questioned various other aspects of Prof. Burnier's analysis. For example:

- Dr. Charytan said it was *"questionable"* to proceed on the assumption of zero glucose and urea of 280 mmol/l in men and 180 mmol/l in women. This approach assumes that none of the athletes had diabetes or glucose handling defects and that protein intake, which impacts urea excretion, was both constant and similar among athletes and the general population.

- If urine sodium is very high, then physiochemically the urinary concentration must be very high. The specific gravity of the urine, which is *"an indirect surrogate measure for urine concentration"*, should also be high. Consequently, if the specific gravity of a particular sample is lower than the calculated osmolarity then there are several possibilities, namely: (a) a laboratory error in measuring the urinary sodium; or (b) an error in measurement of specific gravity. In this regard, it is notable that the *"performance characteristics of the specific gravity test at the upper end of the range are not provided"* in Prof. Burnier's report. This makes it difficult to assess the likelihood of measurement errors occurring.

- Samples with sodium of more than 600 mmol/l *"equate to values outside the range of physiologic urine concentrations"*. However, *"[w]hether such values represent laboratory error, contamination or intentional manipulation cannot be concluded from the calculations set out in the Burnier Report"*.

- Urinary values between approximately 450-600 mmol/l are *"unlikely to be physiologic"*. However, although they would be *"unusual"*, it *"would not be correct to claim that values*

between 300-450 mmol/l are physiologically impossible". In this regard, values in the lower end of this range have been observed in the Japanese study discussed above.

- Prof. Burnier's analysis is predicated on an assumption of a fixed daily excretion of creatinine of approximately 20,000 μ/day. However, since creatinine is a muscle breakdown product, it follows that the daily excretion figure *"may vary considerably in different athletes … regardless of whether it is a reliable mean for all athletes"*.

540. Dr. Charytan's report concluded by identifying the five *"most significant issues"* which, in his opinion, *"undermine"* Prof. Burnier's conclusion that the tests he undertook provided strong evidence of sample manipulation. In particular:

> *"a) There is no 'normal' range for urinary sodium. Values are therefore best interpreted within the context of what is physiologically plausible, rather than by asking what values are common or uncommon (outliers).*
>
> *b) The median concentration of urinary sodium in Sochi was higher than in Vancouver. Thus, the Vancouver samples may not provide a precise estimate of the threshold value for defining outliers in Sochi urinary sodium values.*
>
> *c) Urinary sodium values above 300 mmol/l have been seen in population- based studies. Furthermore, values between 300 to approximately 400 mmol/l are physiologically feasible. These data suggest that urinary sodium values in this range, although uncommon, can be seen in healthy humans.*
>
> *d) Assays used to measure urinary sodium had a maximal limit of 350 mmol/l. Measuring values above this threshold required dilution of the urine which has the potential to introduce significant measurement error if dilution is imprecise. Details of the dilution procedure and the quality control process are not provided.*
>
> *e) Ancillary analyses regarding urinary sodium to creatinine ratio and estimates of daily sodium intake/excretion and presentation are presented as if they are precise when in fact they are crude estimates"*.

541. Dr. Charytan gave oral evidence at the appeal hearing during the joint expert evidence session with Prof. Burnier. Dr. Charytan began his oral evidence by reiterating that there are *"no normal values"* for urinary sodium levels and other electrolytes in urine. On the contrary, there is *"an enormous range"* of potential values. As a result, experts do not seek to define general *"normal"* values since the appropriate values for an individual *"really depends on the physiologic state of the individual at the time that they were taken"*.

542. At the outset of his oral evidence, Dr. Charytan also repeated his concerns about:

- the appropriateness of seeking to use the statistical analysis of the Vancouver samples as a reliable benchmark for identifying expected normal values of the same urinary electrolytes amongst a group of Russian athletes at the Sochi Games; and

- the lack of clarity in Prof. Burnier's report regarding the methodology employed to dilute samples in the laboratory in response to the inability of the testing equipment to measure sodium values above 350 mmol/l.

543. During his oral evidence, Dr. Charytan agreed with Prof. Burnier that creatinine excretion tends to be fairly stable and does not vary much day-to-day. While it can be influenced mildly by diet, for example meat intake, the variation *"tends to be small"*. Despite this, the creatinine concentration in samples taken over the course of a day can vary quite a bit.

544. Dr. Charytan added that while it was *"generally true"* that the ratio of sodium to creatinine would be expected to vary *"within a range"*, since the two substances *"track together in general"* in urine, there are circumstances in which it is physiologically possible for a person to have a *"very high sodium and fairly low creatinine"* level or vice versa. Dr. Charytan also cautioned against placing too much weight on the existence of different levels of sodium, creatinine and specific gravity in different samples provided by the same athlete on different dates. These values *"vary physiologically, not only over the course of the day, but from day-to-day"*. Sodium levels in an individual's urine are influenced by the quantity of salt they have recently consumed. Depending on day-to-day changes in an individual's diet, it is possible for salt intake to vary by several grammes between two different days. One must therefore be *"very cautious"* when seeking to undertake that type of comparative analysis.

545. In response to a question from the Panel, Dr. Charytan explained that if a person was looking to increase the specific gravity of a particular urine sample, they could achieve that goal by adding any number of substances: for example potassium or urea. While salt is easy to obtain, many of the other possible candidates are not difficult to obtain. In his view, if one were devising a scheme to deliberately manipulate the specific gravity of urine samples, it would not have been difficult to devise a better means of achieving this than simply adding salt to urine samples.

546. During the course of his oral evidence, Dr. Charytan confirmed that, in his view, a sodium concentration above 450 mmol/l is *"difficult to explain physiologically"* while levels in the region of 700 – 800 mmol/l are *"physiologically … not plausible"*. However, the closer the level gets to 300 mmol/l, the closer one gets to a point where the level is *"unusual"* but *"physiologically plausible"*. In particular, in Dr. Charytan's opinion urine samples with sodium levels between 300 mmol/l and 400 mmol/l *"might be physiologically plausible"* irrespective of whether or not they are more than three standard deviations above the average level of the relevant population.

e. Athlete specific testimony of Dr. Grigory Rodchenkov

547. In addition to his evidence regarding the general doping and cover-up scheme, Dr. Rodchenkov also provided a separate short witness statement dated 5 November 2017 which made various allegations specifically relating to the Athlete.

548. At the outset, Dr. Rodchenkov noted that in March and April 2013, the Russian Women's Ice Hockey Team participated in the IIHF World Championships in Ottawa, Canada, where it obtained a bronze medal, which was considered a *"great success"* in Russia.

549. Dr. Rodchenkov recalled his meeting with the Men's Hockey Team coaches and doctors, as well as his opposition to giving the members of the Men's Hockey Team the Duchess Cocktail since they were *"unregulated"*, and he *"knew they would not administer the Duchess Cocktail and protocol as directed"*. However, he said that even though the Women's Ice Hockey Team had not been on the 21 January 2014 version of the Duchess List he received from Mr. Velikodny, he later found out that Ms. Rodionova had made the Women's Ice Hockey Team *"protected athletes"* and supplied them with the Duchess Cocktail.

550. Dr. Rodchenkov stated that he was concerned by this because the Women's Ice Hockey Team players' urine patterns had not been tested prior to the Sochi Games. He said he asked Ms. Rodionova if the players took diuretics and she said it was unlikely.

551. Dr. Rodchenkov said that on 1 February 2014 he saw the bottles with the clean urine of the Women's Ice Hockey Team when he visited the FSB Command Centre, which he noted in his diary.

552. On 6 February 2014, Dr. Rodchenkov recalled it was a *"difficult night"* of sample swapping because the DCOs had failed to complete the DCFs *"fully for the hockey teams. So it took us longer than it should have, and I worked until 5:30 am. I kept a note of this in the Sochi Diary"*.

553. Dr. Rodchenkov further stated that during the Sochi Games, the doctor of the Women's Ice Hockey Team, Dr. Dmitri Kondrashin, called him repeatedly because he was concerned the players would test positive for the Duchess Cocktail. Dr. Rodchenkov recalled telling Dr. Kondrashin to stop making explicit references to doping and to the athletes' names because of fears of wiretapping. He also said that Ms. Rodionova complained of receiving similar phone calls, and said that Dr. Kondrashin was close to an *"apoplectic collapse"*, a play on words in the Russian language on Dr. Kondrashin's name.

554. Dr. Rodchenkov stated that he has no specific recollections concerning the Athlete, but that he knew that: (a) Ms. Rodionova added the Women's Ice Hockey Team to the group of protected athletes; (b) that he swapped the urine for the entire Women's Ice Hockey Team; and (c) the Athlete was a member of the team.

B. The Athlete's Individual Hearing

555. According to an agreement reached by the Parties, the individual hearing of the Athlete was held as follows: introductory remarks on behalf of the Athlete, examination of the Athlete in direct, cross-examination, questions by the Panel, examination in re-direct and re-cross, and pleadings on behalf of the Athlete and by the Respondent.

1. Testimony of the Athlete

556. The Athlete filed a witness statement dated 16 January 2018 in support of her appeal. In that witness statement, the Athlete summarised her career as an elite ice hockey player for many years. She explained that she had a foreign coach from 1997-2007. She further stated that in the year prior to the Sochi Games, she had trained abroad for more than 50% of the year, and that during that period, she underwent a doping test at the IIHF World Championship in Canada in 2013. She described how she had never had a positive test result, either inside or outside of Russia.

557. The Athlete went on to describe the process that was followed with respect to her doping control tests during the Sochi Games. She recalled that these *"doping tests were conducted as usual and in line with the applicable anti-doping regulations"*. She said she could remember that, after filling the sample collection bottles, she *"fully closed the bottles, to the maximum extent possible"* and that she *"passed the bottles to the officer to check that they were properly closed to the maximum extent possible"*. She said that once DCO had checked that the bottles were closed, she put the bottles into the plastic bags, closed them, and then signed the DCFs. She stated that once she gave the samples to the DCO, she never saw or had access to the bottles again, and would not have been able to and did not tamper with them, nor did she communicate the sample numbers to anyone.

558. The Athlete stated that she did not have contact with Dr. Rodchenkov or anyone else at the Sochi or Moscow laboratories, including the DCOs who performed her doping tests at Sochi.

559. The Athlete denied that she had ever used or possessed any prohibited substance, or a *"doping 'cocktail'"*, or participated in any doping scheme. She denied having any knowledge of any attempt to tamper with doping controls and denied ever providing any samples of clean urine to be stored or frozen in a bank of clean urine ahead of the Sochi Games.

560. The Athlete stated that the IOC had not presented a single witness that had seen her using a prohibited substance and further no witness who would associate her with any of these charges (including, she said, Dr. Rodchenkov). Neither does she believe that his diary entries can be considered as evidence that she had ingested prohibited substances.

561. Further, in response to Dr. Rodchenkov's allegation that the DCFs for the hockey team were not *"fully completed"*, the Athlete stated that her DCFs were *"fully completed"* when she signed them.

562. The Athlete described her outrage and shock at being accused by the IOC of doping. She insisted that she is an honest athlete and a fair competitor, had never committed any wrongdoing and had always acted in accordance with the relevant regulations. She reiterated that she had been tested *"numerous times"* throughout her career and never tested postitive. She stated that the decision of the IOC DC was *"extremely unfair"* and stood to destroy her professional career.

563. The Athlete gave oral evidence by video at the hearing. During her oral testimony, the Athlete confirmed and expanded upon the contents of her witness statement.

564. The Athlete reiterated that she had been playing hockey professionally since 1994, when women's hockey was started in Russia. She further explained that she had taken numerous doping tests over her career and that in the period prior to the Sochi Games, she trained and competed in Europe, Russia and North America, as well as was travelling to her residence in the United States. All in all, she estimated that she was outside of Russia for 50% of 2013.

565. The Athlete expressed her surprise when she learned of the charges against her, i.e. that she had taken prohibited substances, and said that she had heard most of it on the news since she only received notice from the IOC when the charges had already been filed.

566. The Athlete insisted that no one had ever offered her a substance to rinse her mouth and that she had been asked to provide urine outside of doping tests or medical checks.

567. The Athlete went on to describe her surprise at the allegation that she had not fully closed her bottles at the doping control tests in Sochi. She recalled that she had followed the procedure. She stated that she closed the bottles *"tightly"*, so that I *"couldn't do it firmer anymore"*. She said that she could not specifically recall whether the DCO had verified whether the bottles had been closed properly, but said that she knew *"they always do"*. She said that she did not take any pictures during the testing procedure, and that the coaches required the team to turn off their phones when they enter the building and not to use the phone again until the players left the rink.

568. The Athlete described that the IOC's decision had been *"devastating"* to her, because she *"was from the roots of women's ice hockey in Russia"* and that she was very proud to have made the Sochi Olympics at the age 40. She considered this the *"greatest achievement of my life"*, and which was not due to doping or prohibited substances, but rather *"hard work"*. She stated that it was very difficult and upsetting for her to explain the allegations to her family and friends.

569. During cross-examination, the Athlete stated among other things that:

- A representative *"that tells you that you have been selected for anti-doping"* accompanied her to the doping control statement and that she was not accompanied by the team doctor. In response to a statement that her DCF indicated that the doctor was present with her, she stated *"well the doctors are usually present over there"*, but she did not remember whether the team doctor accompanied her to the doping control station.

- Neither the team doctor nor anybody else had ever given her any substance to swallow, to take in her mouth or to use that she did not understand the purpose of or that could have been a prohibited substance.

- She did not know why Dr. Kondrashin allegedly expressed concern that some members of the Women's Ice Hockey Team would test positive for a prohibited substance.

- She took copies of the DCFs with her when she left the doping control station.

- She confirmed that her DCFs from the Sochi Games listed the supplements given to her *"by the team"*, as well as some of her own medication, i.e. Advil and Ibuprofen.

- She did not have an explanation for why her samples were found to have marks indicating they had been tampered with; she reiterated that once she gave them to WADA, it is their responsibility and she cannot explain who touched them or what happened to them after that because she did not have access to the bottles anymore.

- She said that while she was aware that some of her teammates' samples had also been found to have marks of tampering on them, she could not speak for them but only for herself, and that she had never observed anyone of them *"taking anything"*.

570. In response to questions from the Panel, the Athlete confirmed that before the Sochi Games she underwent two medical tests (in August and in January) in Moscow during which she gave urine samples, but that she could not recall what, if anything, the team doctor carried with him during those tests.

2. Closing statements related to the Athlete

a. The Athlete

571. It was submitted on the Athlete's behalf that:

- There is no direct evidence that the Athlete took the Duchess Cocktail or a prohibited substance, or gave urine outside of doping tests or medical checks. She fully closed her bottles during the two doping control tests she underwent at Sochi and has not done anything else wrong. She is a successful, credible, 45-year-old athlete.

- The case against the Women's Ice Hockey Team is based on the statements of Dr. Rodchenkov, who stated that the Women's Ice Hockey Team were protected, which is *"double hearsay"* and has not been confirmed. There is no evidence that the Athlete did anything wrong.

- The IOC's case rests on the multiple T marks on the Athlete's samples; the expert report on this matter has many flaws and shortcomings, and such marks are not conclusive evidence of tampering. Thus there is not sufficient proof that her samples were tampered with.

- Further, even if it was assumed *"for the sake of argument"* that her samples had been tampered with, *"she had nothing to do with it"* as she did not take the Duchess Cocktail. The allegations that the team doctor was worried that the ice hockey players would test positive is *"something only that Dr. Rodchenkov says and that we cannot simply accept as the truth"* because *"Dr. Rodchenkov is not a truthful witness"*.

- The applicable *"standard of proof is very high because the allegations are very serious"*; the Athlete has *"an unbelemished career"* and based on the evidence the ordered sanctions cannot be maintained. It was recalled that the only evidence against the Athlete was *"marks and scratches"*, and that there was no sodium or DNA issue with regard to the Athlete.

b. The Respondent

572. The Respondent, in its closing statement, confirmed that there was not a DNA issue with relation to the Athlete, and that it was her urine that had been found in her two samples, both of which bear marks of tampering. Such marks of tampering are *"consistent with the fact that the urine which was removed by tampering was replaced by urine – clean urine provided by the Appellant"*.

573. With respect to the evidence available in the Athlete's case, the Respondent reiterated that the case against her is not built on Dr. Rodchenkov's testimony, but rather the objective evidence, i.e. the forensic examinations of the suspect marks, that when combined with Dr. Rodchenkov's testimony about the Women's Ice Hockey Team, are consistent and logical. On the contrary, Dr. Rodchenkov never said that he had knowledge of the individual players, but rather only about the team. However, he provided very specific evidence that Dr. Kondrashin was quite worried *"because apparently he knew that his members of his team were using prohibited substances"* and he *"appears also as the person chaperoning the women team players in the context of anti-doping control"*.

574. The Respondent stated that when there is tampering, there is a motive; samples are not swapped unnecessarily. In the Athlete's case, there *"is clearly an indication why it is done"*.

575. Thus, according to the Respondent, it is a sum of the individual evidence in the Athlete's case in the context of the collective evidence for the Women's Ice Hockey Team that demonstrates that the samples were swapped according to the doping scheme as described by Dr. Rodchenkov.

C. Final Pleadings

576. At the end of the joint and individual sessions of the hearing, the Parties presented their overall final pleadings.

1. The Athlete

577. At the conclusion of the hearing, the Sochi Appellants submitted that the IOC had failed to discharge the burden of proving that each individual athlete had committed an ADRV. The Athlete's closing submissions may be summarised as follows:

578. Dr. Rodchenkov, the IOC's *"crown witness"*, had admitted that: (a) he had never seen an athlete take the Duchess Cocktail; (b) he had never seen an athlete give a clean urine sample; (c) he had never seen an athlete tamper with his or her sample; and (d) he had no evidence that any athlete had sent their DCFs to Ms. Rodionova.

579. Prof. McLaren had also acknowledged that he had never seen any evidence that any of the Sochi Appellants had taken the Duchess Cocktail or otherwise personally breached doping procedures. Prof. McLaren also acknowledged that he had not been asked, nor had he attempted, to determine whether any of the Sochi Appellants had committed an ADRV.

580. Furthermore, Prof. McLaren had not spoken to any of the athletes, or other persons who were allegedly key to the doping scheme, in particular Mr. Kudryavtsev and Mr. Chizhov. Nor had he: (a) verified the authenticity of Dr. Rodchenkov's diary entries; (b) verified whether the washout periods described by Dr. Rodchenkov were true; (c) attempted to obtain telecommunications data which would have permitted him to verify whether Dr. Rodchenkov had received the messages he claimed to have received; or (d) attempted to obtain the video surveillance footage from the Sochi Laboratory.

581. The IOC and the IOC DC had relied blindly on Dr. Rodchenkov's allegations and the McLaren Report, as if the McLaren Report was a proven fact.

582. There was no evidence that any of the Sochi Appellants had done anything wrong, and the lives of innocent athletes had been destroyed.

583. Dr. Rodchenkov's motives for making the allegations were related, *inter alia*, to his personal fame and financial gains, rather than a desire to fight against doping. He was a criminal who had lied in the past, and his testimony in respect of the Sochi Games was inconsistent and had been proven wrong.

584. The IOC had decided to ignore any evidence exonerating the Sochi Appellants, including evidence gathered by the IOC itself, and adopted a *"heads I win, tails you lose"* approach, to the athletes' detriment.

585. Everything was based on inferences, and inferences are not sufficient to prove anything.

586. Dr. Rodchenkov's account of the *"Sochi Plan"*, which would necessarily have involved hundreds of corrupt people, including all the DCOs, was not credible.

587. The issue before the Panel was not what the *"plan"* was, but rather what *"actually happened"*, and whether the Sochi Appellants had anything to do with what happened.

588. The Panel must be mindful of unconscious bias against Russia and Russian athletes in general, and must focus on the evidence relating to each individual athlete.

589. The IOC bore the burden of proof, notwithstanding the effective reversal of the burden of proof by the IOC DC. The standard of proof was high, and at the *"very upper limit"* of the sliding scale to be comfortably satisfied, given the seriousness of the allegations.

590. Some procedural flaws in breach of the athletes' due process rights before the IOC DC could not be, and were not, remedied at the hearing before the CAS, for example, the IOC's refusal to permit access to the bottles analysed by Prof. Champod. This should cause the Panel to conclude that Prof. Champod's findings *"do not have much evidentiary value, because they could not be fully disputed by the appellants' experts"*.

591. Where there is no objective evidence against the accused, it is not possible to rely solely on circumstantial evidence. Drawing an analogy with CAS 2011/A/2625, there had been a serious failure to investigate and verify the allegations of Dr. Rodchenkov, in respect of the alleged implication of the Sochi Appellants. A party that does not even try to obtain relevant evidence cannot simply rely on circumstantial evidence; were it otherwise, this would amount to a reversal of the burden of proof.

592. Dr. Rodchenkov's story of what allegedly happened at the Sochi Games was inconsistent, untrue, and cannot have occurred as he claims. Dr. Rodchenkov had no first-hand knowledge of the vast majority of the alleged facts and evidence he had sought to describe. His entire story, at best, was based on the alleged stories of others; *"He, himself, has no clue what was going on"*.

593. There were numerous inconsistencies regarding what allegedly happened in the Sochi Laboratory. These included: (a) the times at which Dr. Rodchenkov received the photographs of the DCFs; (b) how he came to learn the identities of the athletes whose samples needed to be swapped; (c) his statement that he destroyed all evidence of the DCFs from his phones (and instructed others to do the same), while keeping a diary relating to the events in question; and (d) who was taking and sending the photographs of the DCFs.

594. Other aspects of Dr. Rodchenkov's story defied logic, including: (a) how the sample bottles were transported around the Sochi Laboratory – i.e. hidden in the laboratory coat of Mr. Kudryavtsev; and (b) his account of rinsing the sample bottles (in a room which had no running water) and depositing the urine into a large plastic tub and proceeding to empty the tub into a toilet, which was situated next to the main entrance and security booth of the Sochi Laboratory, on a frequent basis.

595. There was no contemporaneous evidence in support of Dr. Rodchenkov's story. His diary entries, which recorded him going to bed by midnight almost every night during the Sochi Games, prove that his whole story of nighttime swapping was fabricated.

596. Further, five witnesses who were there at the relevant time had given evidence that Dr. Rodchenkov's account was fiction; they were credible witnesses, unlike Dr. Rodchenkov.

597. The chain of custody documents proved that nearly half of all the samples in question were delivered to the Sochi Laboratory during the day, in the afternoon. This was incompatible with Dr. Rodchenkov's account of the samples being delivered to the Sochi Laboratory shortly after 01h00, for the purpose of nighttime swapping.

598. Those documents also proved that samples were often processed and sent to the third floor of the Sochi Laboratory for analysis, i.e. *"out of the swapping zone"*, long before Dr. Rodchenkov says that the swapping took place.

599. Furthermore, some of the samples with multiple T marks were processed during the day, which must mean there was no correlation between T marks and sample swapping.

600. The IOC blindly relied on the tainted investigation of Prof. McLaren. The sole purpose of the IOC's subsequent analysis, e.g. in respect of marks or scratches, sodium and DNA, was to confirm its foregone conclusion that the athletes must be guilty. Again, it was not an objective or reliable investigation.

601. There were six versions of the Duchess List before the Panel; there was possibly a seventh version of it; and an entirely different document had appeared in the film Icarus, bearing a different name. In sum, the Duchess List, or whichever version of it one wished to look at, did not constitute reliable evidence, and it most definitely did not constitute evidence from which foregone conclusions could be drawn regarding the implication of innocent athletes in the alleged plan.

602. More than half of the relevant sample bottles analysed by Prof. Champod did not reveal any signs of tampering.

603. The findings of Prof. Champod contradicted the story depicted by Dr. Rodchenkov, in particular his statement that the samples of protected athletes had been *"automatically"* swapped. Prof. Champod admitted that: (a) on the majority of the sample bottles of the Sochi Appellants, there were no T marks at all or only isolated T marks; but (b) neither he nor his team members had ever been able to open a bottle without leaving T marks.

604. Prof. Champod's findings and methodology were flawed. In particular: (a) he started from the proposition that the bottles had been tampered with; (b) he was not looking at possible other sources for the marks; (c) the methodology was developed on the basis of only 21 bottles; (d) his classification and categorisation of marks was not clearly defined; (e) he chose to exclude from his examination fully closed bottles (i.e. bottles closed between 12 and 15 clicks); (f)

accordingly, his report included no pictures of what kinds of marks would be left on bottles that had been fully closed; and (g) his assessment of the level of closure of the bottles was unreliable and incapable of verification.

605. By turning its focus to the *"number of clicks"* issue, the IOC had made a new allegation against the Sochi Appellants that they deliberately failed to close their sample bottles to the fullest extent, in an attempt to create a link between the alleged tampering and the individual athletes.

606. With regard to the DNA and sodium issues, these only applied to a limited number of cases.

607. As to DNA: (a) Dr. Pope had testified that there were different possible sources of contamination; (b) the IOC had disregarded such possibilities; and (c) the IOC had failed to discharge the burden of proving that the one possibility on which it relied, i.e. the intentional mixing of urine, for the purpose of urine swapping, was what actually happened.

608. As to sodium: (a) the athletes with extremely high levels did not have an explanation for those readings; (b) in such cases, any tampering that did occur happened behind the athletes' back, without their knowledge and without their intent; and (c) those athletes cannot be held responsible for tampering of which they were not a part.

609. With regard to the lifelong bans, the sanctions imposed by the IOC were manifestly disproportionate and incompatible with CAS case law and the applicable rules. The IOC was bound by the WADC; its efforts to change the WADC had been unsuccessful; and it was not permitted to introduce a change through the back door, in blatant disregard of clear CAS jurisprudence. The Olympic Charter was not above the WADC and could not be a basis for lifelong bans. In short, the IOC was not above the law.

610. In conclusion, it was submitted on behalf of the Athlete that the alleged scheme was not sufficiently proven and that there was no evidence of an individual ADRV committed by the Athlete.

611. Against this general background, the Athlete referred to her individual request for relief (*see supra* para. 51), which was forwarded in writing to the Panel in advance of the final pleadings. In addition, the Athlete requested a contribution towards her legal fees and expenses of CHF 75,000.

2. The Respondent

612. At the conclusion of the hearing, the Respondent submitted as follows:

613. The Sochi Appeals were about the implication of individual athletes in a scheme which was designed for the benefit of numerous protected athletes, with the objective of shielding them from doping control.

614. The Sochi Scheme was a conspiracy that must be viewed in its broader context, namely institutionalised doping management systematically organised by the Russian Ministry of Sport, which had at its centre (a) the Moscow Laboratory and (b) Dr. Rodchenkov.

615. A major advance occurred in 2013, with the discovery by the FSB of a methodology for opening and resealing B samples, in a manner that would not normally be detectable. This provided a specific solution to the problem posed by the presence of international observers at the Sochi Laboratory during the Sochi Games.

616. With regard to its logistics, the scheme required: (a) the preparation of urine to be swapped, i.e. the creation of a clean urine bank from urine provided by the protected athletes, stored in non-traceable containers; (b) receipt of information regarding the samples in advance of their arrival at the Sochi Laboratory, which was achieved by transmitting copies of the protected athletes' DCFs; (c) the ability to handle the urine samples upon their arrival at the Sochi Laboratory, which was achieved by the use of a mousehole between the Aliquoting Room and the Operations Room; (d) the ability to open the sample bottles, which was carried out by the so-called Magicians; and (e) where necessary, the ability to adapt the specific gravity of the replacement urine.

617. One would not organise the swapping of samples that were clean.

618. Given the quantities of clean urine required, it was very unlikely that the replacement urine had been diverted from regular processes, e.g. providing a urine sample at a regular medical check-up.

619. The CAS's review of the IOC DC's decisions was a full review, *de novo*, of both fact and law. Accordingly, there was no purpose in re-visiting procedural issues which had arisen previously; and the full and independent review process before the CAS had cured any earlier defects. The expedited procedure had been agreed between the Parties, and had presented the opportunity to bring, discuss and expand on the evidence before the CAS.

620. With regard to the bottles that had been analysed by the IOC's expert, it was not conceivable to have sent them to Russia. If there had been a request from the Sochi Appellants' expert to come and inspect the laboratory in which the bottles were kept, that request would have been granted. In any event, the Sochi Appellants were provided with extensive photographic records of the examinations undertaken by the IOC's expert.

621. With regard to the standard of proof, namely comfortable satisfaction, the IOC accepted that the evidence must be cogent, meaning clear, logical and convincing. There was no scope for the application of a criminal standard of proof in these proceedings.

622. In evaluating the evidence before it, the Panel must take into account the fact that a conspiracy is, by its nature, concealed; the parties involved will seek to use evasive means to ensure that they leave no trail of their wrongdoing.

623. The Moscow Laboratory had been subverting doping control for years, prior to the Sochi Games, and this conduct had only been uncovered thanks to a handful of whistle-blowers. In the case of the Sochi scheme, it would have remained completely hidden, but for the disclosures of Dr. Rodchenkov.

624. With regard to Prof. McLaren, it had not been his mission to conduct individual investigations. Rather, that was the job of the IOC, following on from Prof. McLaren's findings regarding the operation of the doping scheme, which were logical and consistent. It was not part of these proceedings to evaluate whether Prof. McLaren should have undertaken additional investigations in the course of his work.

625. The Panel had substantial forensic evidence before it, in respect of: (a) marks and scratches; (b) sodium; and (c) DNA. It was important to consider the various evidentary elements in perspective, rather than in isolation.

626. With regard to the sodium analysis: (a) an appropriate reference population had been used, i.e. from the Vancouver Games; (b) there were *"spectacular outliers"* at the Sochi Games, in terms of recorded sodium levels, all of which were from within the suspect group of protected athletes; (c) osmolarity and creatinine values provided further overwhelming proof that samples had been tampered with and swapped; (d) the forensic sodium analysis accorded with Dr. Rodchenkov's testimony regarding the method of adding salt to some of the replacement urine samples, in order to equalise specific gravity levels; (e) the analysis proved that it was possible to open and reseal samples; and (f) there were only 13 cases involving abnormal sodium readings because it was often not necessary to add salt to the replacement samples at all, or in substantial quantities, in order to attain a consistent specific gravity measurement.

627. With regard to the marks and scratches issue: (a) the precise method for opening the bottles, as it was applied during the Sochi Games, would never be known; (b) the FSB had devised a solution in February 2013 and the operatives had therefore had plenty of time to improve their skills prior to the Sochi Games; (c) Prof. Champod had visited Berlinger to observe what marks were possibly caused by the manufacturing process; (d) the bottles were manufactured to the highest standards, protected with a film, and protected in transit; (e) it was absurd to suggest that the marks on the bottles had been caused by dirt; (f) it was possible to distinguish between marks occurring naturally from the manufacturing process and normal use of the bottles, and marks corresponding to the analysts' use of tools to open them; (g) Prof. Champod had conducted a rigorous and scientific analysis, using double blind control bottles; (h) on the control bottles Prof. Champod never found multiple T marks; (i) the alternative hypotheses advanced by the Sochi Appellants were inherently unlikely and implausible; (j) an audit report of the SNFC had validated the methodological approach of Prof. Champod; (k) where multiple T marks were found on a bottle, it was 1,000 to 10,000 times more likely to have been tampered with; (l) the various criticisms of Prof. Champod's methodology, findings and conclusions were unwarranted; (m) it was necessary to look at the results globally, for example, 10 out of the 13 samples with high sodium levels also bore conclusive multiple T marks, which shows *"we are in the right territory there"*; whereas one of those 13 samples had *no* T marks, proving that bottles could sometimes be opened and tampered with without leaving

any marks; and (n) in conclusion, the existence of multiple T marks on sample bottles constituted very strong evidence of tampering.

628. With regard to the DNA issue, which was relevant to two cases: (a) innocent contamination of the samples was very unlikely and implausible; (b) in one of the mixed DNA cases, there was also a high sodium reading; and (c) in the other mixed DNA case, there were multiple T marks. The DNA evidence was therefore further proof of tampering.

629. With regard to Dr. Rodchenkov: (a) he was a credible witness; (b) his evidence had been consistent and coherent; and (c) on the essential points, he had been a truthful witness.

630. The contemporaneous documents were compatible with swapping.

631. One could not assume that the system overseen by Dr. Rodchenkov was perfect; it was possible that certain samples of the Sochi Appellants had gone through without being swapped.

632. The Panel should not accept the evidence of Mr. Chizhov, Mr. Kudryavtsev or Mr. Krotov, all of whom were in Russia and had *"no choice"* but to give the evidence they did. They were not credible witnesses.

633. Where Mr. Chizhov's evidence conflicted with that of Mr. Boghossian, in particular in relation to the monitoring of the camera feeds in the Sochi Laboratory, the evidence of Mr. Boghossian should be preferred.

634. With regard to the Duchess List, the original list was issued to Dr. Rodchenkov on 21 January 2014 and was subsequently modified when four snowboarders were removed from the list of protected athletes. Other than that, the original list remained unchanged.

635. In summary, it was clear from the evidence that samples had been swapped in Sochi. That swapping scheme did not operate in a vacuum; for the scheme to work, the protected athletes had to provide clean urine. It could also safely be assumed that the athletes were aware of the transmission of their DCFs. In short, the Sochi Appellants knew that they were protected athletes, and knowingly participated in the urine-swapping scheme.

636. With regard to the ADRV of tampering, once the act of urine substitution had been established, it was not necessary to demonstrate knowledge or intent on the part of the athlete.

637. With regard to the ADRV of use of a prohibited substance, the IOC DC drew an inference of use from the fact that because an athlete was protected, this allowed him or her to use the prohibited substance, i.e. the Duchess Cocktail. It was conceded that this conclusion *"may be, in general, a bit far-fetched"*.

638. With regard to the ADRV of cover-up / complicity, this was an apt way to describe what had happened in respect of the swapping scheme at the Sochi Games.

639. Finally, with regard to the issue of sanctions, what had happened in Sochi was catastrophic for the Olympic Games. The victims were the clean athletes, who had been *"deprived of their Games, of their medals"*.

640. In conclusion, the Respondent submitted that there was sufficient evidence that samples were swapped at the Sochi laboratory. The sodium evidence is conclusive in itself. There is sufficient evidence that bottles were opened. The DNA evidence has supporting value. Most athletes included on the Duchess List are implicated in one or more of the pieces of forensic evidence. The Panel has to draw its conclusions from the whole of the evidence.

641. The Respondent submitted that the urine substitution met the requirements of Article 2.2 WADC in connection with M2.1 of the Prohibited List; Article 2.5 of the WADC has only subsidiary application. Under Article 2.2 of the WADC, no knowledge or intent was necessary. The elements of Article 2.8 of the WADC, i.e. cover up and conspiracy, are also satisfied.

642. The Respondent referred to its request for relief (*see supra* para. 57), which was forwarded in writing to the Panel in advance of the final pleadings. The Respondent applied for a contribution towards the Respondent's legal fees and expenses in accordance with the general policy of CAS panels, but deferred to the Panel's discretion.

3. Closing of the Hearing

643. At the conclusion of the hearing, the Parties confirmed that they had a full and fair opportunity to make their case, and that their right to be heard had been fully respected and that they had no objections as to the manner in which the proceedings had been conducted.

VI. JURISDICTION

644. Article R47 of the Code provides as follows:

> *"An appeal against the decision of a federation, association or sports-related body may be filed with the CAS if the statutes or regulations of the said body so provide or if the parties have concluded a specific arbitration agreement and if the Appellant has exhausted the legal remedies available to him prior to the appeal, in accordance with the statutes or regulations of that body"*.

645. Article 11.2 of the IOC ADR provides as follows:

> *"Appeals from Decisions Regarding Anti-Doping Rule Violations, Consequences, and Provisional Suspensions*
>
> …

> *11.2.1 In all cases arising from the Sochi Olympic Winter Games, the decision may be appealed exclusively to the Court of Arbitration for Sport ("CAS") in accordance with the provisions applicable before such court.*
>
> *11.2.2 In cases under Article 11.2.1, only the following parties shall have the right to appeal to CAS: (a) the Athlete or other Person who is the subject of the decision being appealed; (b) the relevant International Federation and any other Anti-Doping Organisation under whose rules a sanction could have been imposed; and (c) WADA".*

646. The Respondent did not object to the application of Article 11.2 of the IOC ADR and the Parties expressly confirmed that the CAS had jurisdiction to decide this appeal at the outset of the hearing.

647. In consideration of the foregoing, the Panel rules that CAS has jurisdiction to decide this appeal. By virtue of their Procedural Agreement, the Parties agreed to refer the appeals to the CAS.

VII. ADMISSIBILITY

648. Article R49 of the Code provides as follows:

> *"In the absence of a time limit set in the statutes or regulations of the federation, association or sports-related body concerned, or of a previous agreement, the time limit for appeal shall be twenty-one days from the receipt of the decision appealed against".*

649. Article 11.5 of the IOC ADR provides that:

> *"The time to file an appeal to CAS shall be within twenty-one (21) days from the date of receipt of the decision by the appealing party".*

650. The Decision of the IOC DC with respect to the Athlete was rendered, in operative part-only form, on 11 December 2017. The IOC did not issue a fully-reasoned award in this case; rather, the reasons it relied on generally in reaching its decisions were explained in the IOC DC Principles.

651. The Athlete filed her Statement of Appeal with the CAS on 19 December 2017 and her Appeal Brief in the form of a Joint Appeal Brief and an Individual Appeal Brief was filed on 5 January 2018.

652. The Parties did not contest the admissibility of the appeals. In consideration of the foregoing, and with specific reference to the time limits set forth in the Parties' Procedural Agreement, the Panel rules that the Athlete's appeal was timely and is therefore admissible.

VIII. APPLICABLE LAW

653. Article R58 of the Code provides as follows:

> *"The Panel shall decide the dispute according to the applicable regulations and, subsidiarily, the rules of law chosen by the parties or, in the absence of such a choice, according to the law of the country in which the federation, association or sports-related body which has issued the challenged decision is domiciled or according to the rules of law, the application of which the Panel deems appropriate. In the latter case, the Panel shall give reasons for its decision".*

654. For the participants of the Sochi Games, the IOC ADR and the provisions of the Olympic Charter were mandatory and accepted by them as a condition of participation. These provisions, therefore, are *"the applicable regulations"* and constitute the law applicable to the present dispute. The application of these rules was not contested by the Parties.

655. Article 1 of the IOC ADR states:

> *"Application of the Code – Definition of Doping – Breach of the Rules*
>
> *1.1 The commission of an anti-doping rule violation is a breach of these Rules.*
>
> *1.2 Subject to the specific following provisions of the Rules below, the provisions of the Code and of the International Standards apply mutatis mutandis in relation to the Sochi Olympic Winter Games".*

656. The Preamble to the IOC ADR explains that references to *"the Code"* refer to the WADC. Therefore, according to Article 1.2 of the IOC ADR, the WADC is applicable to this appeal save to the extent that the ADR contain specific regulations dealing with particular matters.

657. More specifically, according to Article 2 of the IOC ADR, *"Article 2 of the Code applies to determine anti-doping rule violations …"*. Pursuant to this specific incorporation, for the purposes of the Sochi Games, ADRVs are defined pursuant to Article 2 of the WADC.

658. Furthermore, by virtue of Article 3.1 of the IOC ADR, the WADA Prohibited List *"in force during the Period of the Sochi Olympic Winter Games"*, i.e. the 2014 WADA Prohibited List, is also applicable. At the outset of the hearing, the Parties confirmed their agreement with respect to the applicable law.

IX. MERITS

659. The Panel wishes to point out that while it has carefully considered the entirety of the Parties' written submissions, expert reports, witness statements, and oral testimony at the hearing, it only relies below on that evidence which it deems necessary to decide this dispute.

A. Legal basis for determination of an individual ADRV

660. As set out above, the IOC ADR and the provisions of the Olympic Charter were the relevant rules applicable to the Sochi Games.

661. Before addressing the merits of the Parties' factual and legal arguments in the appeal, it is necessary to identify the provisions of those rules that define the ingredients of the specific ADRVs that the Athlete is alleged to have committed and which govern how the Panel must carry out its task of determining whether those ADRVs were in fact committed.

1. Definition of ADRVs

662. Pursuant to Article 2 of the IOC ADR, *"Article 2 of the Code* (i.e. the WADC) *applies to determine anti-doping rule violations"*.

663. Accordingly, Article 2 of the version of the WADC in force in 2014, i.e. the 2009 WADC, was specifically incorporated into the IOC ADR. Article 2 of the 2009 WADC therefore provides the definitions of the various ADRVs that the Panel must consider and apply for the purposes of this appeal.

664. Article 2 of the WADC defines *"Anti-Doping Rule Violations"*. Articles 2.1 to 2.8 then enumerate various types of ADRVs. For the purposes of the present appeal, the salient provisions are Articles 2.2, 2.5 and 2.8 of the WADC. Each of those provisions is considered, in turn, below.

665. In addition, Article 3.1 of the IOC ADR expressly *"incorporate[d] the Prohibited List … in force during the Period of the Sochi Olympic Winter Games"*. Accordingly, the 2014 WADA Prohibited List applies to the Sochi Games and contains the definitions of *"prohibited substances"* and *"prohibited methods"* that the Panel must consider and apply in this appeal.

2. Burden, standard and means of proof

666. Article 1.2 of the IOC ADR provides:

> *"Subject to the specific following provisions of the Rules below, the provisions of the Code and of the International Standards apply mutatis mutandis in relation to the Sochi Olympic Winter Games"*.

667. Article 1.2 thus provides for a general incorporation of the WADC, including the legal instruments attached thereto, save to the extent that the IOC ADR contain specific provisions dealing with the same subject matter. Since the IOC ADR do not contain any provisions governing the burden, standard and means of proof, it follows that the relevant provisions of the WADC determine the burden, standard and means of proof applicable in relation to ADRVs that are alleged to have been committed in connection with the Sochi Games.

a. Burden of proof, Article 3.1 of the WADC

668. Article 3.1 of the WADC, in its first sentence, establishes that the burden of proving an ADRV lies with the relevant anti-doping organization:

> *"The Anti-Doping Organization shall have the burden of establishing that an anti-doping rule violation has occurred".*

669. Accordingly, the IOC bears the burden of establishing that the Athlete committed an ADRV.

b. Standard of Proof, Article 3.1 of the WADC

670. The remainder of Article 3.1 of the WADC then addresses the standard of proof:

> *"The standard of proof shall be whether the Anti-Doping Organization has established an anti-doping rule violation to the comfortable satisfaction of the hearing panel bearing in mind the seriousness of the allegation which is made. This standard of proof in all cases is greater than a mere balance of probability but less than proof beyond a reasonable doubt. Where the Code places the burden of proof upon the Athlete or other Person alleged to have committed an anti-doping rule violation to rebut a presumption or establish specified facts or circumstances, the standard of proof shall be by a balance of probability, except as provided in Articles 10.4 and 10.6 where the Athlete must satisfy a higher burden of proof".*

671. The Comment to Article 3.1 of the WADC explains that the standard of proof:

> *"is comparable to the standard which is applied in most countries to cases involving professional misconduct".*

672. Pursuant to Article 3.1 of the WADC, therefore, the standard of proof applicable in these appeal proceedings requires the IOC to establish *"to the comfortable satisfaction"* of the Panel that the Athlete committed the specific alleged ADRVs.

673. This standard is expressly stated to be *"greater than a mere balance of probability but less than proof beyond reasonable doubt".* In applying this standard, the Panel is expressly required to *"bear … in mind the seriousness of the allegation which is made".*

674. CAS jurisprudence provides important guidance on the meaning and application of the *"comfortable satisfaction"* standard of proof. The extensive case law on this topic reflects the fact that the comfortable satisfaction standard *"is well-known in CAS practice, as it has been the normal CAS standard in many anti-doping cases even prior to the WADA Code"* (CAS 2009/A/1912).

675. The test of comfortable satisfaction *"must take into account the circumstances of the case"* (CAS 2013/A/3258). Those circumstances include *"[t]he paramount importance of fighting corruption of any kind in sport and also considering the nature and restricted powers of the investigation authorities of the*

governing bodies of sport as compared to national formal interrogation authorities" (CAS 2009/A/1920; CAS 2013/A/3258).

676. The gravity of the particular alleged wrongdoing is relevant to the application of the comfortable satisfaction standard in any given case. In CAS 2014/A/3625, the panel stated that the comfortable satisfaction standard is

> *"a kind of sliding scale, based on the allegations at stake: the more serious the allegation and its consequences, the higher certainty (level of proof) the Panel would require to be 'comfortable satisfied'* [sic]*".*

677. It is important to be clear, however, that the standard of proof itself is not a variable one. The standard remains constant, but inherent within that immutable standard is a requirement that the more serious the allegation, the more cogent the supporting evidence must be in order for the allegation to be found proven. As the CAS Panel explained in CAS 2014/A/3630:

> *"… the standard of proof does not itself change depending on the seriousness of the (purely disciplinary) charges. Rather the more serious the charge, the more cogent the evidence must be in support".*

c. Means of Proof, Article 3.2 of the WADC

678. As a general rule, Article 3.2 of the WADC provides:

> *"Facts related to anti-doping rule violations may be established by any reliable means, including admissions".*

679. According to the Comment to Article 3.2, an anti-doping organization:

> *"may establish an anti-doping rule violation under Article 2.2 (Use or Attempted Use of Prohibited Substance or Prohibited Method) based on the Athlete's admissions, the credible testimony of third Persons, reliable documentary evidence, reliable analytical data from either an A or B Sample … or conclusions drawn from the profile of a series of the Athlete's blood or urine Samples".*

680. Furthermore, the Comment to Article 2.2 of the WADC specifically addresses the permissible means of proving ADRVs that consist of the use of a prohibited substance or prohibited method:

> *"It has always been the case that Use or Attempted Use of a Prohibited Substance or Prohibited Method may be established by any reliable means. As noted in the Comment to Article 3.2 (Methods of Establishing Facts and Presumptions), unlike the proof required to establish an anti-doping rule violation under Article 2.1, Use or Attempted Use may also be established by other reliable means such as admissions by the Athlete, witness statements, documentary evidence, conclusions drawn from longitudinal profiling, or other analytical information which does not otherwise satisfy all the requirements to establish Presence of a Prohibited Substance under Article 2.1".*

681. In conclusion, Article 3.2 of the WADC establishes that all ADRVs except those involving the actual presence of a prohibited substance can be proven by *"any reliable means"* including, but not limited to, witness testimony and documentary evidence. In addition, an ADRV under Article 2.2 of the WADC in the form of use or attempted use of a prohibited substance or prohibited method may be established by reference to *"other analytical information which does not otherwise satisfy all the requirements to establish"* an ADRV based on presence of a prohibited substance.

682. In CAS 2005/A/884, the CAS panel referred to Article 3.2 WADC and explained that:

> *"It is important to note that this rule gives greater leeway to USADA and other anti-doping agencies to prove violations, so long as they can comfortably satisfy a tribunal that the means of proof is reliable. As a result, it is not necessary that a violation be proven by a scientific test itself. Instead, as some cases have found, a violation may be proved through admissions, testimony of witnesses, or other documentation evidencing a violation".*

683. In consideration of the provisions of the WADC and the case law set out above, the Panel identifies the following principles that must guide its assessment of the allegations and evidence in the present case:

684. First, as explained above, the onus is on the IOC to establish the existence of a relevant ADRV to the comfortable satisfaction of the Panel. This standard is higher than a mere balance of probabilities, meaning that it is insufficient for the IOC simply to establish that it is more likely than not that the Athlete committed an ADRV. At the same time, however, a criminal standard of proof is not applicable and the Panel is not required to be satisfied beyond any reasonable doubt of the Athlete's guilt.

685. Second, in considering whether it is comfortably satisfied that an ADRV occurred, the Panel will consider all the relevant circumstances of the case. In the context of the present case, the relevant circumstances include, but are not limited to, the following:

686. The IOC contends that the Athlete was part of a far-reaching conspiracy that encompassed, amongst other things, an organization of which the Russian State, including elements of its central government and national security service, has been a crucial component. The alleged doping scheme was, by its very nature, intended and designed to conceal evidence of wrongdoing to the maximum extent possible. As a result, the more successful the alleged conspiracy was at achieving its objectives, the less direct evidence of wrongdoing is likely to be available to the IOC. The absence of direct evidence, therefore, is not necessarily indicative of innocence, but may equally be indicative that serious wrongdoing has been effectively concealed.

687. The IOC is not a national or international law enforcement agency. Its investigatory powers are substantially more limited than the powers available to such bodies. Since the IOC cannot compel the provision of documents or testimony, it must place greater reliance on the consensual provision of information and evidence, and on evidence that is already in the public

domain. The evidence that it is able to present before the CAS necessarily reflects these inherent limitations in the IOC's investigatory powers. The Panel's assessment of the evidence must respect those limitations. In particular, it must not be premised on unrealistic expectations concerning the evidence that the IOC is able to obtain from reluctant or evasive witnesses and other sources.

688. In view of the nature of the alleged doping scheme and the IOC's limited investigatory powers, the IOC may properly invite the Panel to draw inferences from the established facts that seek to fill in gaps in the direct evidence. The Panel may accede to that invitation where it considers that the established facts reasonably support the drawing of the inferences. So long as the Panel is comfortably satisfied about the underlying factual basis for an inference that the Athlete has committed a particular ADRV, it may conclude that the IOC has established an ADRV notwithstanding that it is not possible to reach that conclusion by direct evidence alone.

689. At the same time, however, the Panel is mindful that the allegations asserted against the Athlete are of the utmost seriousness. The Athlete is accused of knowingly participating in a corrupt conspiracy of unprecedented magnitude and sophistication. Given the gravity of the alleged wrongdoing, it is incumbent on the IOC to adduce particularly cogent evidence of the Athlete's deliberate personal involvement in that wrongdoing. In particular, it is insufficient for the IOC merely to establish the existence of an overarching doping scheme to the comfortable satisfaction of the Panel. Instead, the IOC must go further and establish, in each individual case, that the individual athlete knowingly engaged in particular conduct that involved the commission of a specific and identifiable ADRV. In other words, the Panel must be comfortably satisfied that the Athlete *personally* committed a *specific* violation of a *specific* provision of the WADC.

690. Third, in considering whether the IOC has discharged its burden of proof to the requisite standard of proof, the Panel will consider *any* admissible *"reliable"* evidence adduced by the IOC. This includes: any admissions by the Athlete; any *"credible testimony"* by third parties; and any *"reliable"* documentary evidence or scientific evidence. Ultimately, the Panel has the task of weighing the evidence adduced by the Parties in support of their respective allegations. If, in the Panel's view, both sides' evidence carries the same weight, the rules on the burden of proof must break the tie.

B. Commission of ADRVs by the Athlete

691. In the decision under appeal, the IOC DC found that a wide-ranging and orchestrated scheme of doping and concealment of positive doping tests was conducted during the Sochi Games. On the basis of that finding, it then went on to conclude that the Athlete had personally committed various ADRVs, namely:

- violations of Article 2.2 of the WADC in the form of using a prohibited substance, i.e. the Duchess Cocktail, and using a prohibited method, i.e. urine substitution;

- a violation of Article 2.5 of the WADC, viz. tampering with any part of the doping control; and

- a violation of Article 2.8 of the WADC, viz. cover-up of and complicity in the commission of an ADRV.

692. The Athlete appeals against all of those findings.

1. Appeal Against an Operative-Part Only Award

693. In the case of the Athlete, the IOC DC rendered the operative part of its decision ("OP-only decision") on 11 December 2017. No reasoned decision was made at a later stage. In the OP-only decision, the IOC DC determined that the Athlete committed ADRVs pursuant to Article 2 of the IOC ADR, declared the Athlete *"ineligible to be accredited in any capacity for all editions for the Games of the Olympiad and the Olympic Winter Games subsequent to the Sochi Olympic Winter Games"*, and disqualified her and the Women's Ice Hockey Team from the Women's Ice Hockey Event at the Sochi Games.

694. The Panel, according to Article R57 of the Code, has the power to fully review appealed decisions *de novo*, i.e. based on what was submitted during the written proceedings and the oral hearing, no matter whether the appealed decision in question is reasoned or OP-only.

695. However, the Panel takes into account that the 39 appeal procedures of the Sochi Appellants against their respective decisions of the IOC DC are conducted in a particular format. Between 11 November and 22 December 2017, the IOC DC delivered 39 OP-only decisions, while only 13 reasoned decisions followed between 27 November and 26 December 2017. Thereafter, the IOC DC stopped issuing reasoned decisions. This conduct was due to the time constraint that the IOC was confronted with because the disputes arising from the IOC DC decisions had to be resolved by the CAS before the PyeongChang Games, more precisely before the closure of the late entry procedure available within the IOC.

696. On 19 December 2017, following the filing of 25 similar appeals by the Sochi Appellants, including the Athlete's appeal on the same date, and in anticipation of the filing of additional appeals, the Parties agreed to refer all of the Sochi Appeals to the CAS and entered into the Procedural Agreement.

697. According to that agreement, time limits for filing the Appeal Briefs and the Answers were fixed, and the hearing was scheduled to begin on 22 January 2018. The Parties agreed to a limited, though not formal, consolidation of the procedures. The Parties concerted to file Joint Appeal Briefs supplemented by Individual Appeal Briefs related to each athlete, and likewise a Joint Answer accompanied by Individual Answers. Furthermore, it was agreed that the hearing should be conducted as a Joint Hearing on common issues for all athletes and Individual Hearings for the individual aspects related to each of the athletes.

698. As the IOC DC was not able to issue reasoned decisions in time for all of the athletes, the Parties agreed that the Chairman of the IOC DC could file, by 22 December 2017, a statement outlining the principles applied in the IOC DC decisions, i.e. the "IOC DC Principles" (*see supra* para. 42).

699. On 21 December 2017, Prof. Denis Oswald, the Chairman of the IOC DC, forwarded a document titled *"The Principles followed by the IOC Disciplinary Commission to take its decisions in the Russian cases"* to the Parties and the CAS Court Office. The introductory statement of these Principles reads as follows:

> *"As requested by the parties, the chairman of the IOC Disciplinary Commission exposes hereunder the principles followed by the Commission in dealing with the Sochi Russian cases and taking its decisions. For more details, especially regarding the personal implication of the athletes, I refer to the full decisions already rendered and publicized".*

700. From the Procedural Agreement and the joint submission of the IOC DC Principles, the Panel concludes that the Parties agreed that in cases without reasoned decisions, the main reasons given in cases where full reasoned decisions were rendered, i.e the *"principles followed"* by the IOC DC, should be taken into consideration by the Panel. In the IOC DC Principles, Prof. Oswald referred to all *"Sochi Russian cases"* and the related *"decisions"* of the IOC DC. In particular *"regarding the personal implication of the athletes"*, Prof. Oswald *"refer(s) to the full decisions already rendered"*. The IOC DC Principles contain no reservations to the effect that in individual cases some of the IOC DC decisions could have been reasoned differently. The reason for refraining from issuing further reasoned decisions simply was that there was not sufficient time before the Appeal Brief was to be filed on 27 December 2017, one day after the last reasoned decision.

701. The Panel understands the title of the document, i.e. *"The Principles followed by the IOC Disciplinary Commission"*, coupled with the statements of Prof. Oswald, to the effect that the line of reasoning of the IOC DC as articulated in its reasoned decisions can be generalized as *"principles"* and transferred to the disputes where no reasoned decisions were issued.

702. Therefore, by virtue of the Procedural Agreement and the IOC DC Principles which, by implementation of the said agreement, were jointly introduced by the Parties, the Panel is invited and authorized to decide the 39 appeals irrespective of the fact that in the majority of the cases, OP-only decisions were exclusively issued and, therefore, to extrapolate the main reasons stated by the IOC DC in its reasoned decisions to the OP-only decisions related to other athletes. Hence, the Panel, in a generalized way, takes into account the reasoning found in the reasoned decisions also in the appealed OP-only decisions.

703. This understanding is confirmed by the conduct of the Parties in the proceedings before the Panel. The Parties did not make any distinction between an appeal against a reasoned or an OP-only decision in either their written submissions or in the oral hearing, including the individual hearings. The Panel also notes that the IOC's arguments in its Joint Answer Brief

of 17 January 2018, which relates to all of the 39 appeals, directly follow the line of reasoning of the IOC DC, including direct quotations, from reasoned decisions.

704. The application *mutatis mutandis* of the main reasons stated in the reasoned decisions to OP-only decisions is furthermore indicated by the high degree of congruence of the reasoned decisions. Though the facts and circumstances related to the individual athletes vary, the analysis of the 13 reasoned decisions out of the total number of 39 IOC DC decisions shows that all decisions follow the same structure and, with regard to both the scheme allegedly operating at the Sochi Games and the personal implication of the athletes, in general, and the individual athlete concerned, in particular, are identical in their wording or, at least, in their substance, except for individual factual specificities.

705. There is a clear pattern of the IOC DC's reasoning elaborated in its reasoned decisions and very succinctly summarized in the IOC DC Principles.

706. Therefore, the Panel, for the purpose of reviewing the appealed OP-only decisions, in the absence of written reasons related to particular athletes, refers to the common line of reasoning as expressed in the reasoned decisions as if the appealed OP-only decisions were reasoned in the same way as the reasoned decisions. For such purpose, in this award, indirect or literal references to the reasoning of the IOC DC are taken from the IOC DC's reasoned decision dated 27 November 2017 issued in the matter of Mr. Alexander Legkov (CAS 2017/A/5379) as an example of the IOC DC's reasoning expressed in its reasoned decisions.

2. The Panel's Approach

707. Before considering the Parties' evidence and arguments in relation to each of the alleged ADRVs, it is necessary for the Panel to make three important preliminary observations concerning the scope of the Athlete's appeal and the issues that the Panel is, and is not, required to resolve in determining that appeal:

708. First, the IOC DC's decision was based on the evidence provided to it up to the date of its decision, i.e. 11 December 2017. On the basis of that evidence, the IOC DC reached certain legal and factual conclusions as set out in the decision under appeal. In these proceedings before the CAS, however, the Panel has an express mandate under Article R57 of the Code to examine the facts and law *de novo* on the basis of the extensive written submissions and oral evidence presented to the Panel at the hearing.

709. It follows that the Panel is in a materially different position to the IOC DC. In particular, in the proceedings before the Panel, oral evidence from a number of important witnesses, including Dr. Rodchenkov, Prof. McLaren and various others, was heard for the first time. Unlike the IOC DC, the Panel was therefore able to assess the reliability and relevance of those witnesses' testimonies on the basis of an appraisal of their written and oral evidence, including their answers during examination-in-chief and cross-examination by the Parties' counsel and their responses to particular questions posed by the Panel during the hearing. The

Panel's factual findings are therefore based on a different, and wider, evidentiary foundation than was available to the IOC DC.

710. Second, the Athlete's appeal challenges: (a) the finding that she committed an ADRV during the Sochi Games; (b) her disqualification from the Sochi Games; and (c) the declaration that she is ineligible to compete in any further edition of the Winter Olympic Games or the Games of the Olympiad. Accordingly, the scope of the appeal does not require the Panel to make any determinations regarding the general existence, scope, nature or extent of a doping or cover-up scheme operating at the Sochi Games as such. The Panel is only required to consider the existence, nature and scope of such a scheme to the extent that it is necessary to do so in order to determine the specific issues that arise for determination in the Athlete's appeal.

711. Third, the Panel notes that the IOC DC was comfortably satisfied that a sample-swapping scheme existed during the Sochi Games and, on the basis of that finding, drew the inference that *"it was not possible that the athletes were not fully implicated"* and that *"the scheme could not work without the personal implication of the athletes"*. It went on to conclude that the Athlete *"was a participant in, and a beneficiary of, the cover up scheme"*. The IOC DC did not, however, clearly explain how particular acts and omissions gave rise to particular ADRV findings.

712. The Panel, however, considers that in the circumstances of this case, individual actions or omissions by the Athlete must be established to its comfortable satisfaction in order to find her guilty of a specific ADRV. The Panel does not consider it possible to conclude that the existence of a general doping and cover-up scheme automatically and inexorably leads to a conclusion that the Athlete committed the ADRVs alleged by the IOC. Instead, the Panel must carefully consider the ingredients of liability under each of the relevant provisions of the WADC that the Athlete is alleged to have contravened. It must then consider whether the totality of the evidence presented before the Panel enables it to conclude, to the requisite standard of comfortable satisfaction, that the Athlete personally committed the specific acts or omissions necessary to constitute an ADRV under each of those separate provisions of the WADC.

713. Therefore, the Panel will proceed to examine whether or not the elements of each of the relevant ADRVs exist in the present case.

3. Use of a Prohibited Substance or Method, Art. 2.2 of the WADC

714. According to Article 2.2 of the WADC, the use or attempted use of a prohibited substance or a prohibited method constitutes an ADRV. As noted above, prohibited substances and prohibited methods are defined in the applicable Prohibited List.

715. Article 2.2.1 of the WADC states:

> *"It is each Athlete's personal duty to ensure that no Prohibited Substance enters his or her body. Accordingly, it is not necessary that intent, fault, negligence, knowing Use on the Athlete's part be*

demonstrated in order to establish an anti-doping rule violation for Use of a Prohibited Substance or Prohibited Method".

716. According to the text of this provision, the mere fact that an athlete used a prohibited substance or prohibited method is *per se* sufficient. This is made clear by Article 2.2.2 of the WADC, which states:

> *"The success or failure of the Use or Attempted Use of a Prohibited Substance or Prohibited Method is not material. It is sufficient that the Prohibited Substance or Prohibited Method was Used or Attempted to be Used for an anti-doping rule violation".*

717. The rationale behind Article 2.2 of the WADC is that prohibited substances and prohibited methods, as defined by the Prohibited List, are forbidden as such independent of intent, fault, or negligence.

a. Use of a Prohibited Substance

718. During the Sochi Games, the Athlete underwent two doping control tests, on 7 and 11 February 2014. The subsequent analysis of those samples (numbers 2889676 and 2889506) did not reveal the presence of any prohibited substance.

719. This case does not involve an alleged ADRV under Article 2.1 of the WADC, i.e. presence of a prohibited substance. Thus, as explained above, the range of evidence that the Panel may examine for the purposes of considering whether the Athlete committed an ADRV is wider than under Article 2.1. Whereas the *presence* of a prohibited substance can and must be established exclusively by laboratory analysis, the *use* of a prohibited substance may be established by any reliable means, including, but not limited to, witness evidence, documentary evidence and conclusions drawn from analytical information other than proving the actual presence of prohibited substance.

720. The IOC DC concluded by inference that the Athlete had used a prohibited substance. In particular, it drew this inference from: (a) the evidence which established the existence of a general sample-swapping and cover-up scheme at the Sochi Games; (b) the presence of multiple T marks on both of the Athlete's B sample bottles from the Sochi Games; and (c) the Athlete-specific testimony of Dr. Rodchenkov, who stated that Ms. Rodionova had given the Women's Ice Hockey Team the Duchess Cocktail and alleged that he had swapped the urine of unnamed members of the Women's Ice Hockey Team. In this regard, the IOC DC explained that it

> *"consider[ed] it legitimate to draw the logical implication from the fact that the urine substitution had a purpose, which was indeed served, i.e. to hide the actual use of Prohibited Substances".*

721. In support of its case before the CAS, the IOC relies on a number of elements that it submits are indicative both of the existence of the general sample-swapping scheme and of the Athlete's individual involvement in that scheme. Those elements include: the existence and

content of the Duchess List; the testimony of Dr. Rodchenkov in relation to the existence of the alleged scheme, in general, and the alleged participation of the Athlete in that scheme, in particular; the presence of multiple T marks on a number of Russian athletes' sample bottles, including the sample bottles belonging to the Athlete; the excessively high sodium content of a number of Russian athletes' urine samples; and the presence of one or more males' DNA in the urine samples of two female Russian athletes.

722. Only some of those factors are directly applicable to the Athlete's case. In particular, the Athlete's urine samples from the Sochi Games were not found to contain abnormally high sodium levels; nor was the Athlete on the Duchess List. Accordingly, the probative weight that those two features may provide in other cases is absent here.

723. The question that this Panel must therefore determine is whether any of the evidentiary features that are present in this case are sufficient, either individually or collectively, to establish to the comfortable satisfaction of the Panel that the Athlete used a prohibited substance at the Sochi Games. To answer that question, it is necessary for the Panel to evaluate the probative value of each evidentiary feature insofar as it relates to the particular circumstances and allegations in the Athlete's individual case. The Panel should not focus its attention on whether the evidence points to the existence of a general doping and cover-up scheme at the Sochi Games, but on whether it supports a finding that the Athlete personally committed the specific ADRV of use of a prohibited substance as alleged by the IOC.

724. Therefore, the Panel proceeds to examine whether the actions allegedly taken by the Athlete are established to the comfortable satisfaction of the Panel. In undertaking that examination, the Panel examines the various alleged actions in chronological order by reference to the sequence in which they are alleged to have occurred.

(i) Provision of clean urine

725. The IOC alleges that the Athlete deliberately provided clean urine in advance of the Sochi Games in the knowledge that this would be stored in a urine bank for the purpose of facilitating the subsequent swapping of her urine at the Sochi Games.

726. The Panel accepts that if it is established to the Panel's comfortable satisfaction that the Athlete had deliberately provided clean urine for storage in a urine bank in order to facilitate subsequent swapping of her urine samples at the Sochi Games, then this would provide considerable, but not necessarily conclusive, support for a conclusion that the Athlete had subsequently used a prohibited substance. The important question, therefore, is whether the Athlete in fact provided clean urine in advance of the Sochi Games for this purpose.

727. The Panel notes that the IOC does not specify the particular date when, or location where, the Athlete is alleged to have provided clean urine for this purpose.

728. The Panel also notes that no witnesses claim to have actually seen the Athlete provide clean urine in this manner in advance of the Sochi Games.

729. Further, no physical evidence has been presented showing the specific vessel in which the clean urine from the Athlete is alleged to have been collected and stored. Nor has the Panel seen any communications sent by or to the Athlete that refer to the collection, transmission, storage or use of clean urine for the purpose of urine substitution.

730. In her written and oral evidence before the Panel, the Athlete denied that she had ever provided clean urine outside of regular doping control procedures for the purpose alleged by the IOC.

731. The Panel is therefore faced with a situation where there is no direct physical evidence or witness testimony to substantiate the IOC's allegation regarding the Athlete's provision of clean urine in this manner and for this purpose. Instead, the IOC's case is an entirely indirect and inferential one.

732. Next the Panel turns to the Athlete-specific testimony of Dr. Rodchenkov that the Women's Ice Hockey Team had been given the Duchess Cocktail before and during the Sochi Games, and that he had seen the clean urine of several members of the Women's Ice Hockey Team at the FSB Command Centre on 1 February 2014, but he could not recall the names of any of the players, specifically not the Athlete's, who had participated in this alleged scheme. The Panel concludes that limited weight can be attached to this aspect of Dr. Rodchenkov's testimony. Furthermore, Dr. Rodchenkov testified that he had no specific recollection about the Athlete.

733. Dr. Rodchenkov's statement as to the Women's Ice Hockey Team having been given the Duchess Cocktail is not corroborated by any further evidence, including forensic evidence, and does not provide any evidence concerning the Athlete's use of a prohibited substance *during* the Sochi Games.

734. In these circumstances, the Panel is not comfortably satisfied that the Athlete provided clean urine in advance of the Sochi Games for the purpose of facilitating the later substitution of her urine samples at the Sochi Games.

(ii) The Duchess List

735. The Athlete, like all of the members of the Women's Ice Hockey Team, was not named on the Duchess List, and in any event, in the circumstances, the Panel considers that the existence and content of the Duchess List does not provide any probative support for the commission of an ADRV by the Athlete.

(iii) Deliberately limited closure of the sample bottles

736. In support of its case against the Athlete, the IOC alleges that the forensic evidence establishes that both of the Athlete's B sample bottles from the Sochi Games were not fully closed (and that they were only closed between six to nine clicks) and that this was done deliberately in

order to facilitate the subsequent reopening of the bottles pursuant to the alleged sample-swapping scheme.

737. As with the allegations concerning the provision of clean urine in advance of the Sochi Games, the Panel accepts that if it is established that an athlete deliberately did not close their sample bottles fully during the doping control process, and that this was done in order to facilitate the forcible reopening of the bottles to enable their contents to be swapped, then this would provide considerable evidence that the athlete in question had used a prohibited substance. There is no point in swapping clean urine for clean urine. Accordingly, evidence that an athlete has sought to facilitate the swapping of their urine samples provides considerable, albeit not automatically conclusive, inferential evidence that the athlete has committed an ADRV of use of a prohibited substance.

738. The important question, therefore, is whether it can be established that the Athlete deliberately limited the closure of her sample bottles during the doping control process at the Sochi Games.

739. In her testimony before the Panel, the Athlete denied that she had deliberately limited the closure of her sample bottles during the doping control process at the Sochi Games. She insisted – as did all other Sochi Appellants – that she had closed the bottles to the maximum possible extent.

740. The Panel heard testimony from several individuals who oversaw the doping control process during the Sochi Games. Those individuals explained that the DCOs themselves were required to, and did, ensure that sample bottles were closed tightly after an athlete had provided their sample, thus resulting in a double check on the tightness of the sample bottles' closing.

741. In the circumstances, the Panel notes that there is no direct evidence that the Athlete deliberately restricted the degree of closure of her sample bottles in order to make it easier for the bottles to be forcibly reopened.

742. The Panel considered Prof. Champod's statement that it was possible through forensic examination to deduce that both of the Athlete's B sample bottles were closed to less than the maximum number of clicks. However, the Panel has regard to the evidence of the forensic experts instructed by the Sochi Appellants. In particular, the Panel notes the absence of a detailed explanation for how marks were defined as *"oblique"*, which is a designation that was a key component of Prof. Champod's methodology for determining the degree of initial closure. The Panel also notes that only a relatively small fraction of the 21 bottles tested by Prof. Champod enabled the initial degree of closure to be correctly determined.

743. In addition, the Panel also notes that Prof. Champod accepted that a sample bottle would be liable to leak if it were closed to fewer than seven clicks. Accordingly, on the IOC's hypothesis, the Athlete must have deliberately sought to close the lids of her sample bottles to around between eight and 11 clicks. In the Athlete's case, the IOC even argues that the expert estimated that the Athlete only closed her bottles to between six to nine clicks, i.e. possibly

below or at the threshold at which leakge would occur. This is a relatively small window, with little margin for error, particularly if the Athlete was attempting to hit this narrow window without arousing the suspicion of the DCOs and without making the bottles leak. The Panel does not find any support for the suggestion advanced by the IOC that DCOs at the doping control stations could potentially be involved by allowing the athletes not to fully close their sample bottles.

744. Having regard to the factors set out above, the Panel is unable to conclude to its comfortable satisfaction that the Athlete deliberately restricted the degree of closure of her B sample bottles during the doping control process at the Sochi Games.

(iv) Transmission of the Doping Control Forms

745. Pursuant to the alleged *modus operandi* described above, the IOC alleges that the Athlete or a member of her entourage deliberately communicated an image of the Athlete's DCFs from the doping control tests at the Sochi Games to the Sochi Laboratory in order to enable her urine samples to be identified for the purpose of swapping their content. Again, for the same reasons as set out above in relation to the provision of clean urine and the limited closure of sample bottles, the Panel considers that the communication of the content of a DCF to the Sochi Laboratory would, if established, provide considerable, albeit not automatically conclusive, inferential evidence of the use of a prohibited substance by the Athlete.

746. The Panel notes that there is no direct evidence before the Panel that the Athlete or any member of her entourage photographed and/or communicated the content of her DCFs to any third party.

747. During her evidence before the Panel, the Athlete denied, as did all other Sochi Appellants, that she had ever photographed or transmitted the content of her DCFs to any other person. The IOC has not adduced any witness evidence from anyone who claims to have observed the Athlete do so. Nor has the IOC presented copies of any communications allegedly sent by the Athlete or a member of her entourage that refer to, or contain an image of, the content of the Athlete's DCFs.

748. In the circumstances, the IOC's case regarding the transmission of the DCFs is based on the allegation that such transmission was a necessary step in the execution of the alleged sample-swapping scheme, and that therefore it can be reliably inferred that every athlete who participated in that scheme engaged in that activity. The Panel, however, considers that it cannot assess the Athlete's alleged transmission of the DCFs on the basis of any assumption regarding her involvement in any scheme. Instead, the Panel must consider whether the direct and/or circumstantial evidence presented by the IOC enables the Panel to conclude to its comfortable satisfaction that the Athlete or an accompanying person deliberately transmitted the information in her DCFs to a third person for the purpose of facilitating the swapping of her samples.

749. Having carefully considered the evidence presented by the Parties, and having regard to the absence of any direct evidence that the content of the Athlete's DCFs was transmitted to any third party for this purpose, the Panel is unable to conclude to its comfortable satisfaction that the Athlete committed such an act or acts.

(v) Sample swapping

750. The Respondent submitted that the following elements are indicative of sample swapping: (1) the bottle opening indicated by multiple T marks; (2) bottle opening indicated by highly elevated sodium content; and (3) bottle opening indicated by mixed DNA. Each of these elements must be considered in turn. The Panel considers that the fact that sample bottles were opened would, if established, provide considerable, albeit not conclusive, inferential evidence that urine was substituted and, as a further step of conclusion, the substituted urine contained prohibited substances.

(aa) Multiple T marks indicative of bottle opening

751. In respect of the multiple T marks on the caps of the Athlete's B sample bottles, in view of the discussion between the four forensic experts, the Panel considers that the presence of multiple T marks on the Athlete's B sample bottles is not sufficiently conclusive evidence to enable the Panel to conclude to its comfortable satisfaction that a third party attempted to, or did, open those bottles:

752. First, Prof. Champod did not seek to consider, evaluate and eliminate any explanations for the presence of multiple T marks other than (a) deliberate tampering or (b) normal usage of the sample bottles. While his report sought to evaluate the relative likelihood of these two factors as an explanation for the presence of such marks, his mandate from the IOC did not require him to identify and evaluate the likelihood of any other possible causes. This factor limits the extent to which the findings in his report can be treated as determinative proof that scratch marks on particular athletes' sample bottles were caused by tampering with tools. That limitation is reinforced by the evidence of the Athlete's forensic expert, who testified that marks of the type seen on the Athlete's sample bottles could possibly have been caused during the transportation of the sample bottles. Since that hypothesis was not investigated and evaluated in Prof. Champod's report, the Panel is unable to exclude this as a possible explanation for some or all of the multiple T marks.

753. Second, the Panel considers that there is merit in some of the Athlete's criticisms of aspects of Prof. Champod's methodology. In particular, the Panel notes that while Prof. Champod was instructed to assess the relative likelihood of marks having been caused by normal usage following closure in accordance with *"regular"* instructions, or by forcible reopening with tools, the dataset that his team created for the purpose of conducting that assessment was based almost entirely on tests carried out on sample bottles that were deliberately not closed in accordance with the manufacturer's instructions, which stated that the plastic cap should be turned *"until it moves no further"*.

754. Instead of using bottles closed to 15 clicks to generate the dataset that would form the analysis of the Athlete's sample bottles, Prof. Champod deliberately carried out the tests on bottles that were closed to 11 or fewer clicks. He explained that he did this because when his team attempted to forcibly reopen sample bottles that had been closed to 12 or more clicks, this created significant visible scratch marks and in one case actually broke the sample bottle. The Panel considers this to be a point of significance. Prof. Champod's evidence indicates that if sample bottles from the Sochi Games had been closed, as all Sochi Appellants claim they did, in accordance with *"regular"* instructions, i.e. to the maximum extent possible, then, on the basis of the reopening technique devised by Prof. Champod's team, those bottles would have contained T marks of a significantly greater number and visibility than were in fact found on those bottles. The Panel observes, therefore, that there was an apparent divergence between the hypothesis that Prof. Champod's team sought to examine and the dataset that was used for the purpose of categorising marks observed on the Athlete's sample bottles.

755. Third, the Panel notes that the tests that were carried out by Prof. Champod's team for the purpose of generating a representative dataset of marks which could then be used to help categorise marks on the Athlete's sample bottles were not carried out in identical circumstances to the circumstances in which it was alleged that bottles were forcibly reopened during the Sochi Games. In particular, whereas all of the Sochi sample bottles were filled with urine when it was alleged that they were forcibly reopened, Prof. Champod's team conducted all of their tests on empty sample bottles. Although Prof. Champod asserted that the emptiness of the bottles would have made no difference to the types of marks that were produced when the bottles were forcibly reopened, the Panel is unclear how this assertion can be confidently made in circumstances where Prof. Champod's team did not carry out any test that compared the marks made when an empty bottle was reopened with the marks made when a full bottle was reopened. Accordingly, the Panel considers that there is some merit in the Athlete's criticism that the failure to conduct tests on sample bottles that were filled with liquid reduces the probative value of the results of those tests.

756. Fourth, the Panel also notes that Prof. Champod's benchmark for what constituted normal usage marks (*"U marks"*) was based on an examination of just 11 sample bottles. While the Panel recognises that multiple faces of the plastic cap were examined on each of those bottles, the Panel nonetheless considers this to be a relatively small sample set. Since the forensic analysis sought to distinguish between marks caused by normal usage and marks caused by deliberate interference using tools, the Panel considers that the relatively small sample size is a relevant factor when assessing the overall reliability of the categorisation of particular marks.

757. Fifth, the Panel considers that there is some force in the criticism made by the Sochi Appellants' experts that Prof. Champod's tripartite categorisation of T, U and F marks implies that it is possible to allocate every observed mark to one of these three categories with 100% certainty in the correctness of that allocation, with no need for an additional category in respect of *"inconclusive"* marks. The Panel does not consider that the evidence justifies such a high level of certainty in the characterisation of all observed marks.

758. Having regard to the factors summarized above, the Panel is unable to conclude to the requisite comfortable satisfaction standard that the Athlete's B sample bottles were in fact opened on the basis of the multiple T marks. In addition, the Panel notes that marks on a bottle cannot themselves provide any direct evidence regarding the substances that were contained in the bottle when the marks were made. Finally, it has to be borne in mind that it has not been contended that the Athlete was personally involved in the actual physical reopening of any of her sample bottles.

(bb) Elevated sodium content indicative of bottle opening

759. The Panel notes that the Athlete's urine samples from the Sochi Games did not contain abnormally high levels of sodium that were identified as *"outliers"* by Prof. Burnier.

760. In the circumstances, therefore, the sodium content of the Athlete's urine samples is consistent with the Athlete's account of events and does not provide any evidentiary support for the IOC's allegation that the Athlete used a prohibited substance.

(cc) Mixed DNA indicative of bottle opening

761. The Panel notes that there is no evidence of the presence of any foreign DNA in the Athlete's urine samples from the Sochi Games.

762. The Panel further notes that the IOC submits that this supports the IOC's case that the urine provided by the Athlete during the doping control process was successfully substituted for clean urine provided by the Athlete at an earlier point in time. The Panel, however, notes that while the absence of mixed DNA from the Athlete's samples may be consistent with a successful execution of the alleged sample-swapping *modus operandi* described by the IOC, it is equally consistent with the Athlete's denial that any of her urine samples were interfered with.

763. In the circumstances, therefore, the Panel concludes that the DNA analysis of the Athlete's urine samples does not provide any evidentiary support for the IOC's allegation that the Athlete's bottles were opened.

(vi) Conclusion on the use of a prohibited substance

764. In summary, the Panel observes that: (a) there is no evidence before the Panel from any witness who claims to have observed the Athlete use a prohibited substance before or during the Sochi Games; (b) there is no direct witness or documentary evidence before the Panel that the Athlete provided clean urine for storage in a urine bank before the Sochi Games; (c) there is no direct witness or documentary evidence before the Panel that the Athlete communicated the content of her DCFs from the Sochi Games to any other person; (d) the results of the scientific analysis of the content of the Athlete's urine samples from the Sochi Games do not provide any direct evidence of the Athlete's use of a prohibited substance; (e) the forensic evidence on the record related to marks and scratches on the Athlete's B sample bottles is not

in itself conclusive of the alleged opening of the sample bottles by a third party, let alone sufficient for establishing an ADRV by the Athlete; (f) the forensic evidence on the record related to the DNA analysis of the Athlete's urine sample is not conclusive that the Athlete provided clean urine for urine swapping or that her sample was tampered with by herself or a third party; and (g) while Dr. Rodchenkov has testified that the Women's Ice Hockey Team was given the Duchess Cocktail and its members were *"protected athletes"*, the probative value of that evidence is limited for several reasons.

765. The IOC relies, *inter alia*, on the McLaren Reports, which concluded that a general doping and sample-swapping scheme existed, but refrained from expressing any view on whether and, if so, to what extent, any of the Sochi Appellants committed a particular ADRV. Based on its conviction of the existence of the scheme, the IOC infers from this alleged fact that the scheme would not have made any sense without the Athlete's and the other Sochi Appellants' active contribution. On that basis, it contends that it was not possible that the Sochi Appellants, including the Athlete, were not fully implicated in that wrongdoing.

766. As stated above, the Panel does not have to make, and thus refrains from making, a ruling on whether the scheme existed, even though it recognises that there is significant evidence that it did. But even admitting, *arguendo*, that the scheme existed, based on its conclusion that the participation of the Athlete in any of the various features of the scheme has not been proven, the Panel is not comfortably satisfied that an inference in favour of the Athlete's use of a prohibited substance can be made. The Panel is not prepared to find the Athlete guilty of an ADRV of the use of a prohibited substance without being able to identify to its comfortable satisfaction the Athlete's proven part in the alleged scheme.

767. In light of those factors, the Panel concludes that the IOC has not discharged its burden of establishing to the comfortable satisfaction of the Panel that the Athlete used or attempted to use a prohibited substance contrary to Article 2.2 of the WADC.

b. Use of a Prohibited Method

768. According to Article 2.2 of the WADC, besides the use of a prohibited substance, also the use of a prohibited method constitutes an ADRV.

(i) Prohibited method: urine substitution

769. The Panel begins by noting that M2.1 of the 2014 Prohibited List expressly defines urine substitution as a prohibited method:

> *"Chemical and physical manipulation*
>
> *[…]*

Tampering or attempting to tamper, in order to alter the integrity and validity of Samples collected during Doping Control. These include but are not limited to urine substitution and/or alteration (e.g. proteases)".

770. In respect of urine substitution, Article 2.2 of the WADC, in conjunction with M2.1 of the Prohibited List, constitutes a more specific rule in relation to the more general provision of Article 2.5 of the WADC. The relationship of Article 2.5 of the WADC is reflected in the Comment to Article 2.5 of the WADC, which explains that:

"This Article prohibits conduct which subverts the Doping Control process but which would not otherwise be included in the definition of Prohibited Methods".

771. As a result, Article 2.5 of the WADC does not apply with respect to the alleged urine substitution. Therefore, and in concurrence with the approach of the IOC DC, the Panel will proceed by examining the allegation of urine substitution under the framework of the specific rule of Article 2.2 of the WADC rather than by reference to the general rule of Article 2.5 of the WADC.

772. In the decision under appeal, the IOC DC stated that the opening of the sample bottles and the substitution of urine:

"form only the final steps in a process which actually goes well beyond that phase"

and that

"The tampering action involves all the other necessary elements of the operation, including the provision of clean urine to be substituted and the provision of information on the samples allowing the samples to be swapped and identified".

773. The IOC DC then went on to conclude that the Athlete:

"is necessarily a participant in this chain, a minimo through provision of clean urine, as this is a necessary element of urine substitution".

774. The Athlete, according to the IOC DC, therefore:

"directly takes an active part and therefore commits tampering as much as the person who actually carries out the urine substitution".

775. For the IOC DC, the conclusion of the Athlete's involvement was supported by the general proposition that the scheme could not work effectively without the participation of athletes. Accordingly, the involvement of the athletes, in general, and the Athlete, in particular, was the only possible explanation for what had occurred.

(ii) Commission of acts facilitating urine substitution

776. As a preliminary observation, the Panel notes that it is apparent from the terms of Article 2.2 of the WADC that this provision was specifically drafted in order to cover the use of a prohibited substance or a prohibited method by the athlete himself or herself. This is clear from the definition of an ADRV under Article 2.2 of the WADC, which refers to use or attempted use *"by an Athlete"*. Accordingly, Article 2.2 of the WADC is concerned with circumstances where an athlete personally uses a prohibited method. This is consistent with the definition of the majority of ADRVs in Article 2 of the WADC, which, apart from Article 2.8 of the WADC, are exclusively concerned with acts committed by the athlete or with the presence of a prohibited substance in the athlete's own body.

777. It follows that Article 2.2 of the WADC, when applied in conjunction with M2.1 of the Prohibited List, is principally intended to apply to the substitution of urine by an athlete at a doping control station.

778. The Panel notes that the IOC does not allege that any of the Sochi Appellants personally substituted their own urine, and that there is no suggestion that the Athlete personally reopened her sealed sample bottles and swapped the contents of the bottles for clean urine. Under these circumstances, the Panel considers that Article 2.2 of the WADC in connection with M2.1 of the Prohibited List requires that the Athlete must have committed an act or an omission that was intrinsically linked to the substitution of her urine in order to be guilty of the ADRV of using a prohibited method. In other words, the Athlete must have done something, or not done something, that directly contributed to the substitution of her urine sample by another person.

779. In situations of direct personal use of a prohibited method or prohibited substance, Article 2.2.1 of the WADC provides that *"it is not necessary that intent, fault, negligence or knowing use on the Athlete's part be demonstrated"* in order to establish an ADRV under Article 2.2 of the WADC. The Panel does not consider, however, that this principle of strict liability applies in an identical fashion where the Athlete is alleged to have committed an act or omission that contributed to the substitution of the Athlete's urine by another person. Were it otherwise, then any athlete who provided a urine sample as part of normal doping control procedures would automatically commit an ADRV if a third party who is entirely unconnected with the athlete, and in respect of whom the athlete has no knowledge or control, later substitutes the content of the athlete's sample. Consequently, logic and fairness both dictate that strict liability under Article 2.2 of the WADC cannot automatically extend to everything that is done to an athlete's urine sample after they have provided it in accordance with a normal doping control procedure.

780. In the Panel's view, an athlete can only be held liable under Article 2.2 of the WADC for the substitution of their urine by another person if: (a) the athlete has committed some act or omission that facilitates that substitution; and (b) they have done so with actual or constructive knowledge of the likelihood of that substitution occurring. Thus, an athlete who commits an act which contributes to the subsequent substitution of their urine sample by another person,

and who knew or ought to have known that such substitution was likely to occur, is guilty of an ADRV under Article 2.2 of the WADC.

781. The Panel, therefore, concludes that an athlete who committed an act or omission that facilitated the later substitution of their own urine sample by the Sochi Laboratory will have committed an ADRV under Article 2.2 of the WADC if he/she committed the relevant act or omission with actual or constructive knowledge that their own urine sample was likely to be substituted.

782. The IOC alleges that, pursuant to the general sample-swapping scheme described above, the Athlete: (a) provided bottles of her clean urine outside of any doping control process before the Sochi Games; (b) deliberately did not close her B sample bottles to the maximum extent during doping control tests at the Sochi Games; and (c) subsequently transmitted images of her DCFs to persons involved in the sample-swapping scheme after the doping control tests. The IOC submits that through the commission of acts (a) to (c), the Athlete knowingly facilitated the surreptitious swapping of her samples.

783. The Panel considers that if the Athlete committed one or more of these acts in the knowledge that her urine samples were likely to be substituted, then this would constitute a use or attempted use of a prohibited method for the purposes of Article 2.2 of the WADC in conjunction with M2.1 of the Prohibited List. In particular, the Panel is satisfied that (a), (b) and (c) would have been necessary in order for the Athlete's urine samples to be swapped in accordance with the urine substitution *modus operandi* described by Dr. Rodchenkov in his written and oral testimony, and put forward by the IOC as the mechanism by which dirty urine samples were allegedly replaced with clean urine samples at the Sochi Laboratory. The commission of either (a), (b) or (c), therefore, would have directly facilitated urine substitution.

784. The Panel is also satisfied that (a), (b) and (c) are self-evidently irregular actions for any athlete to undertake. It is difficult to conceive of any plausible, innocent explanation for any of these categories of acts. The Panel therefore considers that, if it is established to the comfortable satisfaction of the Panel that the Athlete committed any of these acts, then there would be a strong inference that the Athlete either knew or ought to have known that this would directly facilitate the substitution of her urine samples by another person.

785. Therefore, the Panel examines whether the actions allegedly taken by the Athlete are established to the comfortable satisfaction of the Panel in order to determine whether the Athlete committed an ADRV in the form of the use of a prohibited method. In undertaking that examination, the Panel scrutinizes the various alleged actions in chronological order by reference to the sequence in which they are alleged to have occurred.

(aa) Provision of clean urine

786. The IOC alleges that the Athlete deliberately provided clean urine in advance of the Sochi Games in the knowledge that this would be stored in a urine bank for the purpose of facilitating the subsequent swapping of her urine at the Sochi Games.

787. As stated above, the provision of clean urine outside doping control or medical investigations in commercial containers, and in sufficient quantities to create a urine bank for later sample swapping, would form an indispensable act for urine substitution alleged by the IOC. Consequently, this action would, if done with the requisite state of mind by the Athlete, be sufficient to attribute the sample swapping to the Athlete and, therefore, to establish an ADRV under Article 2.2 of the WADC in connection with M2.1 of the Prohibited List. The important question, therefore, is whether the Athlete in fact provided clean urine in advance of the Sochi Games for this purpose.

788. For the reasons set out above in relation to the alleged use of a prohibited substance, the Panel is unable to conclude to its comfortable satisfaction that the Athlete provided samples of her clean urine ahead of the Sochi Games which were then stored in a urine bank for subsequent swapping at the Sochi Games.

(bb) Duchess List

789. As noted above, the Athlete's name was not contained on the Duchess List. The existence and content of the Duchess List therefore provides no probative support for the commission of an ADRV by the Athlete.

(cc) Deliberately limited closure of the sample bottles

790. The IOC alleges that the Athlete deliberately did not fully close her B sample bottles at the doping control station and thereby knowingly facilitated the substitution of her urine at the Sochi Laboratory, which the Athlete denies.

791. As noted above, the Panel accepts, if it is established to its comfortable satisfaction that the Athlete deliberately did not fully close her sample bottles, this would constitute considerable, albeit not necessarily conclusive, evidence of urine substitution with the purpose of hiding the use of a prohibited substance.

792. For the reasons set out above in relation to the alleged use of a prohibited substance, the Panel is unable to conclude to its comfortable satisfaction that the Athlete deliberately limited the degree of closure of her B sample bottles during the doping control process.

(dd) Transmission of the DCFs

793. Pursuant to the alleged *modus operandi* described above, the IOC suggests that immediately after her doping control tests at the Sochi Games, the Athlete transmitted copies of her DCFs to a third person, who then used the information contained in the copies to identify which sample bottles at the Sochi Laboratory needed to be reopened and their contents swapped with clean urine. The Panel accepts that if it is established to its comfortable satisfaction that the Athlete did transmit copies of her DCFs to a third person, this would constitute considerable, albeit

not necessarily conclusive, evidence of urine substitution with the purpose of hiding the use of a prohibited substance.

794. For the reasons set out above in relation to the alleged use of a prohibited substance, the Panel is unable to conclude to its comfortable satisfaction that the Athlete transmitted images of her DCFs to any third person during the Sochi Games.

(iii) Sample swapping

795. The IOC submitted that the following elements are indicative of sample swapping: (1) opening of sample bottle indicated by multiple T marks; (2) opening of sample bottle indicated by highly elevated sodium content; and (3) opening of sample bottle indicated by the presence of mixed DNA within a sample. Each of these elements must be considered in turn.

796. The Panel considers that the fact that sample bottles were opened would, if established, provide considerable, albeit not automatically conclusive, inferential evidence that urine was substituted.

(aa) Multiple T marks indicative of bottle opening

797. The caps of both of the Athlete's B sample bottles revealed multiple T marks in the classification established by Prof. Champod. According to the IOC, this forensic result evidences that the Athlete's bottles were surreptitiously opened, and that the only purpose of the opening of the bottles was to substitute the urine collected at the doping control station with clean urine of the Athlete.

798. As stated above in relation to the use of a prohibited substance, the presence of multiple T marks does not satisfy the Panel that the Athlete's bottles were opened.

(bb) Elevated sodium content indicative of bottle opening

799. The IOC alleges that pursuant to the alleged sample-swapping scheme, where there was a marked divergence between the specific gravity of the clean urine in the urine bank and the specific gravity of the dirty urine that was to be replaced, a quantity of sodium would be added to the clean urine in order to adjust the specific gravity of the clean urine so that it matched the specific gravity of the dirty urine. The objective of this was to ensure that the urine substitution was concealed and to avoid arousing the suspicion that would have arisen if there were noticeable changes to the specific gravity of the urine in the sample bottles.

800. As stated above, the Athlete's urine samples did not reveal abnormally high levels of sodium and, therefore, no conclusion can be drawn from the sodium level of the Athlete's urine in relation to bottle opening.

(cc) Mixed DNA indicative of bottle opening

801. As noted above in relation to the use of a prohibited substance, the Athlete's urine samples from the Sochi Games were not found to contain the DNA of any other individuals. Accordingly, the DNA content of the Athlete's urine samples is consistent with the Athlete's account of events and does not provide any evidentiary support for the IOC's allegation that the Athlete used a prohibited method of urine substitution.

802. As stated above, in the absence of mixed DNA in the Athlete's samples, no conclusion can be drawn in relation to bottle opening.

(dd) Testimony of Dr. Rodchenkov specific to the Athlete

803. In respect of Dr. Rodchenkov's statement that he could recall having seen urine in the urine bank at the FSB Command Centre belonging to members of the Women's Ice Hockey Team on 1 February 2014, the Panel notes that the records in Dr. Rodchenkov's diary do not contain any allegation concerning any member of the Women's Ice Hockey Team, let alone the Athlete. Dr. Rodchenko testified that he had no specific recollection about the Athlete. Accordingly, Dr. Rodchenkov's statement, as well as his allegation that the members of the Women's Ice Hockey Team were given the Duchess Cocktail by Ms. Rodionova, is a bare assertion which is uncorroborated by any contemporaneous documentary evidence.

804. As such, the probative weight of this evidence is limited. The Panel is therefore unable to conclude on the basis of this evidence that the Athlete committed an ADRV.

(iv) Absence of direct evidence

805. In short, therefore, there is no direct evidence that establishes either: (i) that the Athlete provided clean urine with the knowledge that this would be used for the purpose of urine substitution; (ii) that she did not fully close the sample bottles; or (iii) that she transmitted images of her DCFs to facilitate urine substitution. Against this backdrop, the Panel must consider the remaining evidence in order to determine whether, notwithstanding the complete absence of any direct evidence that the Athlete knowingly facilitated the substitution of her urine samples, the Panel can nonetheless comfortably conclude that she must have done so.

806. The Panel accepts that, for the reasons outlined above, the nature of the alleged scheme is such that the more successful the participants in the scheme were in carrying out and concealing the sample-swapping scheme, the less direct evidence of those individuals' participation in the scheme is likely to be available. Accordingly, the absence of direct evidence does not necessarily entail the absence of wrongdoing. Nonetheless, the Panel is bound to apply faithfully the standard of proof enshrined in the WADC.

(v) Conclusion

807. As set forth above, in its analysis of the Athlete's alleged use of a prohibited substance, the Panel examined each of the individual features of the alleged scheme with a view to determining whether these features, if proven by direct or circumstantial evidence, would constitute, individually or collectively, an ADRV involving the use of a prohibited substance by the Athlete.

808. These same features would have arguably also constituted a use of a prohibited method as stated above. As the Panel has explained in relation to the Athlete's alleged use of a prohibited substance, however, in order to be comfortably satisfied that the Athlete has committed an ADRV of use of a prohibited method, it is insufficient merely to establish the existence of a general sample-swapping scheme; rather, the Panel must be comfortably satisfied that the Athlete was personally and knowingly implicated in particular acts that formed part of, and facilitated the commission of, the substitution of her urine within that scheme.

809. Since the Panel has come to the conclusion that, in the Athlete's case, none of the IOC's factual allegations have been proven to the Panel's comfortable satisfaction, the Panel concludes that it must reach the same conclusion regarding the Athlete's alleged use of a prohibited method as the Panel has reached in relation to her alleged use of a prohibited substance.

810. Applying the required standard of proof, the Panel is compelled to conclude that the IOC has not discharged the burden of establishing that the Athlete used a prohibited method for the purposes of Article 2.2 of the WADC. In particular, the Panel concludes that the probative value of the circumstantial evidence is insufficient to overcome the absence of direct evidence that the Athlete committed an ADRV of use of a prohibited method.

811. Consequently, for the reasons set out above, the Panel does not find that the Athlete committed an ADRV under Article 2.2 of the WADC in connection with M2.1 of the Prohibited List.

4. Tampering, Article 2.5 of the WADC

812. Article 2.5 of the WADC provides that

> *"tampering or attempted tampering with any part of doping control"*

constitutes an ADRV. No further definitional elements are provided for in that provision.

813. The Comment to Article 2.5 of the WADC explains:

> *"This Article prohibits conduct which subverts the Doping Control process but which would not otherwise be included in the definition of Prohibited Methods".*

814. As explained above, urine substitution is a prohibited method under Article 2.2 of the WADC in connection with M2.1 of the Prohibited List. Accordingly, Article 2.5 of the WADC is only applicable insofar as it relates to acts that are not already included within the definition of prohibited methods under Article 2.2 WADC. Therefore, Article 2.5 of the WADC covers types of tampering other than urine substitution and a few other methods defined under section M of the Prohibited List.

815. For these purposes, Appendix 1 to the WADC provides the following definition of *"Tampering"*:

> *"Altering for an improper purpose or in an improper way; bringing improper influence to bear; interfering improperly; obstructing, misleading or engaging in any fraudulent conduct to alter results or prevent normal procedures from occurring; or providing fraudulent information to an Anti-Doping Organization".*

816. Further, Appendix 1 provides the following definition of *"Doping Control"*:

> *"All steps and processes from test distribution planning through to ultimate disposition of any appeal including all steps and processes in between such as provision of whereabouts information, Sample collection and handling, laboratory analysis, therapeutic use exemptions, results management and hearings".*

817. Having found that the urine substitution falls exclusively under Article 2.2 of the WADC, the Panel does not have to determine whether those features which are arguably indispensable parts of urine substitution, i.e. provision of clean urine, incomplete closing of the sample bottles, and transmitting copies of the DCFs, are equally covered by Article 2.2 of the WADC and thus exempt from a finding of tampering according to Article 2.5 of the WADC, since in any event the Panel, in the context of Article 2.2 of the WADC, was not convinced that any of the actions allegedly taken by the Athlete have been proven to its comfortable satisfaction.

818. The IOC DC did not even examine whether or not there existed any act required for the commission of tampering under Article 2.5 of the WADC. Instead, the IOC DC, in its appealed decision, without any further explanation ruled that:

> *"subsidiarily, the same circumstances shall in any event be deemed as constitutive of a violation of art. 2.5 of the 2009 WADC".*

819. In general terms, for the Panel, it is a misconception of the relationship between Article 2.2 of the WADC and Article 2.5 of the WADC, to conclude that, if the requirements of Article 2.2 of the WADC are met, the requirements of Article 2.5 of the WADC automatically are met, too. To the contrary, if the elements of Article 2.2 concerning a prohibited method are fulfilled, as the Comment to Article 2.5 of the WADC clarifies, recourse to Article 2.5 of the WADC is not available.

820. Accordingly, the Panel does not find that the Athlete committed an ADRV of tampering under Article 2.5 of the WADC.

5. Cover-up, Complicity, Article 2.8 of the WADC

821. Article 2.8 of the WADC provides that the following conduct shall constitute an ADRV:

> *"Administration or Attempted administration to any Athlete In-Competition of any Prohibited Method or Prohibited Substance, or administration or Attempted administration to any Athlete Out-of-Competition of any Prohibited Method or any Prohibited Substance that is prohibited Out-of-Competition, or assisting, encouraging, aiding, abetting, covering up or any other type of complicity involving an anti-doping rule violation or any Attempted anti-doping rule violation".*

a. Scope of application

(i) Administration of a prohibited method to an athlete

822. The initial clause of this provision prohibits the *"administration … to any Athlete … of any Prohibited Method or Prohibited Substance"*. This therefore covers the administration of a prohibited method to an athlete by a third party, rather than the administration of a prohibited method or substance by the athlete himself/herself, unless it is alleged that the athlete has administered or attempted to administer a prohibited method or substance to another athlete. The administration of a prohibited method or substance by an athlete on himself/herself constitutes a use of a prohibited method or substance, which would fall under Article 2.2 of the WADC, rather than under Article 2.8.

(ii) Complicity in an ADRV committed by a third person

823. The second element of Article 2.8 of the WADC covers

> *"assisting, encouraging, aiding, abetting, covering up, or any other type of complicity involving"* an ADRV.

Liability under this element of Article 2.8 of the WADC is necessarily conditional upon the existence of a freestanding ADRV under Articles 2.1 to 2.7, which the individual charged with violating Article 2.8 of the WADC either *"assist[ed], encourage[d], aid[ed], abet[ed], cover[ed] up"* or was otherwise *"complicit"* in.

824. Therefore, a violation of Article 2.8 of the WADC cannot be committed in isolation. Rather, it is parasitic upon the existence of one or more freestanding ADRVs under Articles 2.1 to 2.7. The gravamen of the ADRV under Article 2.8 is the deliberate facilitation of the commission or concealment of another type of ADRV, i.e. an ADRV falling under one or more of Articles 2.1 to 2.7, committed by another person, i.e. someone other than the person charged with an ADRV under Article 2.8.

(iii) CAS jurisprudence

825. This analysis is confirmed by the award of the CAS panel in the *"Torino"* cases (CAS 2007/A/1286; CAS 2007/A/1288; CAS 2007/A/1289), which was relied on by the IOC in the present case.

826. During the XX Winter Olympic Games in Torino in 2006, three Austrian cross-country skiers were accommodated, together with their coaches and team doctors, outside the Olympic Village in a dedicated house. At the house they used equipment and substances that they brought with them in order to control and, if necessary, lower their haemoglobin levels by saline infusions. Saline infusions are a prohibited method under Article 2.2.

827. The athletes, the coaches and/or doctors all fully cooperated with one another and were aware of what the others were doing. Some of the athletes physically assisted other athletes in administering the infusions. Some of the athletes admitted their involvement in these activities.

(aa) Physical, psychological assistance

828. In its award, the *Torino* panel considered the interpretation of Article 2.8 (paras. 62 *et seq.*). According to the panel, Article 2.8 *"captures any form of complicity"*. The first part of Article 2.8 (*"administration … to any athlete"*), however, *"is limited to actions with respect to athletes"*, i.e. a situation where a third person acts in relation to an athlete. The panel concluded:

> *"… the first part of Article 2.8 may be fulfilled in the physical sense where, for example, the athlete physically assists a fellow athlete or support staff member by providing equipment to him or her that is necessary for the administration of that Prohibited Method. That physical assistance would also almost inevitably be a violation of the second part of Article 2.8"*.

829. The *Torino* panel also included *"psychological assistance"* as a possible act capable of giving rise to a violation of Article 2.8:

> *"In the absence of proof of physical assistance, a violation of Article 2.8 can also be established by what might be termed 'psychological assistance'. Psychological assistance would be any assistance that was not physical assistance such as, for example, any action that had the effect of encouraging the violation"*.

830. It follows that under the first part of Article 2.8, an athlete cannot assist himself/herself, either physically or psychologically, in committing an ADRV.

831. According to the *Torino* panel, the second part of Article 2.8 (*"assisting … or any other type of complicity involving an anti-doping rule violation …"*):

> *"is intended to be very broad and to cover any ADR violation by any person bound by the ADR, including a coach or a support staff member, and is not limited to the ADR violations of fellow athletes"*.

832. In the context of the *Torino* award, the second part of Article 2.8 covers both: (a) actions by third persons who are bound by the provisions of the anti-doping rules taken in relation to an ADRV committed by an athlete; and (b) actions of physical or psychological assistance taken by an athlete in order to assist or encourage ADRVs committed by fellow athletes.

(bb) Horizontal, vertical complicity

833. Based on that interpretation of Article 2.8 of the WADC:

> *"The Panel must therefore consider whether or not each of the Athletes assisted, encouraged … the … violations of his fellow Appellants in such a way as to contribute to causing his fellow Appellants' … violations. The IOC has proven to the Panel's comfortable satisfaction that each Appellant met these standards. The facts outlined above demonstrate a broad pattern of cooperation and common activity, with the other athletes and with the coaches, in the [ADRV]".*

834. The *Torino* panel stated that it had been argued that under the second part of Article 2.8 the assistance must have related directly to the commission of an ADRV by another athlete, a concept the panel labelled as *"horizontal complicity"*. The panel rejected that argument and established an element called *"vertical complicity"*:

> *"… in the light of the plain language of the second part of Article 2.8, which does not refer to athletes only, an athlete can violate Article 2.8 also through 'vertical complicity', by which an athlete engages in an ADR violation that is facilitated by a coach or support staff, in circumstances where that coach or support staff also similarly facilitated the ADR violations of other athletes. In such situation, an athlete may not positively know which other athletes are also engaging in ADR violations, but by his or her common utilization of the coach or support staff for improper means, an athlete is complicit in the ADR violations of those other athletes and also of the coach or support staff. In this context, the Panel observes that although 'complicity' is likely to involve some degree of knowledge on the part of the persons alleged to be complicit, it is not necessary that that person knew all of the people involved or all of the Prohibited Methods being used …".*

835. However, the *Torino* situation must be distinguished from the alleged scheme in the present case.

b. Commission of cover-up/complicity, Article 2.8 of the WADC

836. First, the Panel concludes that as the Athlete did not herself commit an ADRV under 2.2 or 2.5, she cannot assist or encourage the commission of her own ADRV under the second part of Article 2.8.

837. Second, the issue under Article 2.8 is therefore whether the Athlete did assist her entourage, etc. with the commission of ADRVs by other athletes allegedly involved in the scheme. While it is possible that the Athlete was aware of the doping scheme allegedly operating at the Sochi Games and how it operated, this has not been proven to the comfortable satisfaction of the Panel.

838. In any event, mere participation in the scheme in the Athlete's own interest would not be sufficient to constitute assistance and encouragement in an ADRV committed by other athletes, even through the involvement of coaches, team doctors, etc. The situation in the *Torino* case was totally different: there, the athletes fully and knowingly cooperated among themselves and with the coaches, etc.

839. In this regard, the Panel notes that there is a material difference between the wording of Article 2.8 of the 2009 WADC and the cognate provision of Article 2.9 of the 2015 WADC. Article 2.9 of the 2015 version of the WADC makes the second alternative of Article 2.8 of the 2009 WADC a separate ADRV, and expressly includes *"conspiring"*, besides *"complicity"* within the definition of that ADRV. Furthermore, Article 2.9 of the 2015 WADC clarifies that the ADRV must have been committed *"by another person"*. Also, this provision demonstrates that *"complicity"* according to Article 2.8 of the 2009 WADC as an independent ADRV, as together with *"conspiracy"* under Article 2.9 of the 2015 WADC, is conditional upon a separate ADRV committed by a third person.

840. Under the 2009 WADC, according to Article 10.6 WADC, a *"conspiracy"* may be considered as aggravating circumstances in cases of ADRVs *"other than violations of Articles 2.7 … and 2.8 …"* WADC. The IOC did not, however, assert the existence of aggravating circumstances in this respect.

841. In regard to the above, the Panel notes that, while an athlete who commits an ADRV pursuant to a doping scheme may be said to have *"conspired"* with the other participants of the scheme by committing that ADRV, the commission of that ADRV by the athlete does not itself fall within the present definition of *"assisting, encouraging, aiding, abetting, covering up, or any other type of complicity"*. Article 2.8 of the WADC does not capture a situation where an athlete covers up his/her own ADRV.

842. For the reasons set out above, the Panel is not comfortably satisfied that the Athlete committed an ADRV under Article 2.2 or 2.5 of the WADC. For similar reasons, the Panel is not comfortably satisfied that the Athlete committed any act or omission that knowingly facilitated the commission of an ADRV by any other athlete. The fact that, according to the IOC, many members of the Women's Ice Hockey Team had samples with multiple T marks and/or abnormal sodium concentrations does not provide sufficient evidence to establish complicity in the sense of Article 2.8 of the WADC. The Panel does not consider that there is sufficiently cogent and probative evidence to enable it to comfortably conclude that the Athlete assisted, encouraged, aided, abetted, covered up or was otherwise complicit in any ADRV under Article 2.2 to Article 2.7 of the WADC committed by other athletes.

843. Accordingly, the Panel does not find that the Athlete committed an ADRV under Article 2.8 of the WADC.

C. Sanctions

844. For the reasons set out above, the Panel is not comfortably satisfied that the Athlete committed an ADRV under Article 2.2, 2.5 or 2.8 of the WADC. Since the Panel has not made any finding of an ADRV against the Athlete, it follows that no sanction shall be applied in the Athlete's case.

D. Due Process Violations

845. Since the Panel is not comfortably satisfied that the Athlete committed an ADRV under Articles 2.2, 2.5 or 2.8 of the WADC, it therefore sets aside the findings and sanctions imposed against the Athlete by the IOC DC and all individual results earned by the Athlete upon the occasion of the Sochi Games are reinstated, with all resulting consequences.

846. In light of those findings, the Panel does not consider it necessary to consider the Athlete's submissions concerning the alleged violations of her due process rights during the proceedings before the IOC DC. Having departed from the findings and sanctions of the IOC DC, the Panel takes the view that no useful purpose would be served by determining whether the overturned findings and sanctions were the product of a procedure that failed to respect the Athlete's due process rights.

847. The Panel therefore makes no findings on this issue in the context of the Athlete's appeal.

X. CONCLUSIONS

848. Having thoroughly considered the submissions of the Parties, the written evidence as well as the oral evidence and testimonies provided at the six-day hearing, the Panel, for the reasons set out above, finds that the Respondent has not discharged its burden of proving to the Panel's comfortable satisfaction that the Athlete committed an ADRV during the Sochi Games. The Panel was unable to find the commission of either an ADRV in the form of the use of a prohibited substance under Article 2.2 of the WADC, or in the form of the use of a prohibited method, i.e. urine substitution, pursuant to Article 2.2 of the WADC in connection with M2.1 of the WADA 2014 Prohibited List, or an ADRV in the form of tampering in accordance with Article 2.5 of the WADC, or an ADRV in the form of cover-up of or complicity in an ADRV under Article 2.8 of the WADC.

849. In reaching these conclusions, the Panel wishes to underscore what it has *not* decided in this appeal. The Panel has *not* made a ruling on whether and to what extent the alleged doping scheme during the Sochi Games existed and how it operated even though it recognizes that there is significant evidence that it was in place and worked. Moreover, the Panel did *not* consider it possible to conclude that the existence of a general doping and cover-up scheme, even if established, would inexorably lead to a conclusion the Athlete committed the ADRVs alleged by the IOC.

850. What the Panel, in the appeal of an individual athlete against the finding of various ADRVs, *did decide* is simply this: for all of the reasons outlined in this award, the evidence presented before the Panel does not justify the conclusion to the comfortable satisfaction of the Panel that the Athlete, through acts or omissions, individually committed any of the alleged ADRVs.

851. Accordingly, the Panel concludes that the Athlete's appeal against the OP-only decision of the IOC DC rendered on 11 December 2017 shall be upheld and the appealed decision set aside.

852. The Appellant's individual results obtained during the Sochi Games, if any, shall be reinstated with all corresponding consequences. However, the result obtained by the Russian Women's Ice Hockey team at the Sochi Games remain disqualified because three members of that team were found to have committed an ADRV (CAS 2017/A/5474; CAS 2017/A/5471; CAS 2017/A/5470; heard in partial consolidation with this case).

XI. COSTS

853. Article 65.1 of the Code reads as follows:

> *"This Article applies to appeals against decisions which are exclusively of a disciplinary nature and which are rendered by an international federation or sports-body. In case of objection by any party concerning the application of the present provision, the CAS Court Office may request that the arbitration costs be paid in advance pursuant to Article R64.2 pending a decision by the panel on the issue".*

854. Article R65.2 of the Code provides as follows:

> *"Subject to Articles R65.2, para. 2 and R65.4, the proceedings shall be free. The fees and costs of the arbitrators, calculated in accordance with the CAS fee scale, together with the costs of CAS are borne by CAS.*
>
> *Upon submission of the statement of appeal, the Appellant shall pay a non-refundable Court Office fee of Swiss francs 1,000.-- without which CAS shall not proceed and the appeal shall be deemed withdrawn. […]".*

855. Article R65.3 of the Code provides:

> *"Each party shall pay for the costs of its own witnesses, experts and interpreters. In the arbitral award and without any specific request from the parties, the Panel has discretion to grant the prevailing party a contribution towards its legal fees and other expenses incurred in connection with the proceedings and, in particular, the costs of witnesses and interpreters. When granting such contribution, the Panel shall take into account the complexity and the outcome of the proceedings, as well as the conduct and financial resources of the parties".*

856. The present arbitration procedure is therefore free, except for the CAS Court Office fee of CHF 1,000 paid by the Appellant, which is retained by the CAS. As a result, the only point for

the Panel to decide is whether the *"prevailing party"* is to be granted *"a contribution towards its legal fees and other expenses incurred in connection with the proceedings"*.

857. In this regard, the Panel notes that this appeal was part of a procedurally consolidated, global appeal involving 39 athletes. In this regard, the Panel does not consider the costs on an individual basis, but on the whole, as applied to all 39 appeals. The Panel recognises the cooperation and professionalism of both Parties in handling these cases, and notes the efficient manner in which these Parties worked. Indeed in many aspects, the costs of the procedure, i.e. transcription, etc., were shared between the Parties. As a result, the Panel determines that each Party should bear its own legal and other costs associated with this procedure.

ON THESE GROUNDS

The Court of Arbitration for Sport rules that:

1. The Appeal filed by Ekaterina Pashkevich on 19 December 2017 against the Decision of the International Olympic Committee Disciplinary Commission dated 11 December 2017 is upheld.

2. The Decision rendered by the International Olympic Committee Disciplinary Commission dated 11 December 2017 is set aside.

3. All individual results earned by Ekaterina Pashkevich, if any, upon the occasion of the XXII Olympic Winter Games in Sochi, Russia are reinstated, with all resulting consequences.

4. This Award is pronounced without costs, except for the Court Office fee of CHF 1,000 (one thousand Swiss Francs) paid by Ekaterina Pashkevich, which is retained by the CAS.

5. Each party shall bear their own costs and other expenses incurred in connection with this arbitration.

6. All other motions or prayers for relief are dismissed.