Arbitration CAS 2017/A/5444 Olga Zaytseva v. International Olympic Committee (IOC), award of 24 September 2020

Panel: Mr Jacques Radoux (Luxembourg), President; Prof. Philippe Sands QC (United Kingdom); Prof. Petros Mavroidis (Greece)

Biathlon
Doping (use of a prohibited substance or method; tampering with doping control; cover-up of and complicity in the commission of an ADRV)
Connection between use or attempted use of a prohibited method and tampering or attempted tampering with any part of doping control
Standard of proof to be met by anti-doping organizations
Consideration to be given of the restricted powers of the investigation authorities of the IOC
Underlying factual basis for an inference that an athlete has committed a particular ADRV
Standard of proof with regard to an athlete's alleged participation to an alleged doping scheme
Interpretation of Article 2.8. of the 2009 WADC
Interpretation of Article 9.1 of the IOC ADR
Justification for the imposition of a sanction of lifetime ineligibility

1. **According to art. 2.2. of the World Anti-Doping Code (WADC, in its 2009 edition), the use or attempted use of a prohibited method constitutes an Anti-Doping Rule Violation (ADRV). In this respect, the 2014 World Anti-Doping Agency (WADA) Prohibited List sets forth in point M2.1 (prohibited methods) the prohibition of 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. Art. 2.5 WADC, for its part, states that tampering or attempted tampering with any part of doping control constitutes an ADRV. More precisely, art. 2.5 WADC prohibits conduct which subverts the doping control process, but which would not otherwise be included in the definition of prohibited methods. Accordingly, the alleged swapping of urine samples has first to be examined under the framework of the specific rule of art. 2.2. WADC, rather than by reference to the more general rule of art. 2.5 WADC. Art. 2.5 WADC is only applicable insofar as it relates to acts that are not already included within the definition of prohibited methods under art. 2.2 WADC.**

2. **The standard of proof established in art. 3.1 WADC shall be whether an Anti-Doping Organization has established an ADRV to the comfortable satisfaction of a hearing panel bearing in mind the seriousness of the allegation which is made. The standard of comfortable satisfaction is a kind of sliding scale: the more serious the allegation and its consequences, the higher certainty (level of proof) a panel would require to be comfortably satisfied. The test of comfortable satisfaction must consider the circumstances of the case.**

3. Taking into account all relevant circumstances of a case includes *inter alia* to consider the nature and restricted powers of the investigation authorities of the governing bodies of sport as compared to national formal interrogation authorities. *In casu*, consideration needs to be given to the fact that 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 necessarily reflects these inherent limitations in its investigatory powers. 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 source.

4. In view of the nature of the alleged doping scheme presented *in casu* and the IOC's limited investigatory powers, the IOC may properly invite a CAS 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 a panel is comfortably satisfied about the underlying factual basis for an inference that an 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.

5. In a case of an athlete accused, *inter alia*, of participating in a conspiracy of unprecedented magnitude and sophistication, it is insufficient for the IOC merely to establish the existence of an overarching doping scheme to the comfortable satisfaction of a panel. Instead, given that, in order to be liable for conspiracy a person must have knowledge of the existence of that conspiracy and of its object, the IOC must go further and establish that the individual athlete knowingly engaged in particular conduct that involved the commission of a specific and identifiable ADRV. In other words, a panel must be comfortably satisfied that said individual athlete personally committed a specific violation of a specific provision of the WADC.

7. The first part of art. 2.8 WADC only covers the (attempted) administrations attributable to a third party rather than by an athlete himself/herself, unless it is alleged that an athlete has administered or attempted to administer a prohibited method or substance to another athlete. A precondition for the application of the the second part of art. 2.8 WADC is the existence of an ADRV under art. 2.1 to 2.7 WADC committed by another person than the one charged with a violation of art. 2.8 WADC.

8. Art. 9.1 para. 3 IOC Anti-Doping Rules (ADR) has to be interpreted as referring to the rules of the relevant international federation only with respect to *"other disciplinary action"*, while *"disqualification"* remains the full responsibility of the IOC. This interpretation of art. 9.1 para. 3 of the IOC ADR is also supported by the allocation of responsibility and jurisdiction between the IOC and the international federation with respect to Olympic Games.

9. A sanction equivalent to a lifetime period of ineligibility can only be considered justified where the seriousness of the offence was most extraordinary.

I. PARTIES

1. Mrs Olga Zaytseva (the "Athlete" or "Appellant") is a retired Russian biathlete, who won a gold medal at the Turin Olympic Winter Games 2006 as well as a gold and silver at the Vancouver Olympic Winter Games 2010. At the XXII Olympic Winter Games which took place in Sochi, Russia, in 2014 (the "Sochi Games"), the Athlete participated in six competitions and won a silver medal in the Women's 4x6 km relay on 21 February 2014.

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 AND PREVIOUS PROCEEDINGS

3. Below is a summary of the relevant facts and allegations based on the parties' written and oral submissions, pleadings and evidence adduced. Additional facts and allegations found in the parties' submissions, pleadings and evidence may be set out, where relevant, in connection with the legal discussion that follows. While the Panel has considered all the facts, allegations, legal arguments and evidence submitted by the parties in the present proceedings, it refers in its Award only to the submissions and evidence it considers necessary to explain its reasoning.

A. Background facts

1. General facts

4. The Sochi Games took place between 7 and 23 February 2014. The Russian national team enjoyed significant success at the Sochi Games as Russian athletes ended up first in the overall medal table and won a total of 33 medals including 13 gold medals.

5. Following the television broadcast, on 3 December 2014, of a documentary concerning the alleged existence of an extensive secret, a state-sponsored doping programme within the All-Russia Athletics Federation ("ARAF"), the World Anti-Doping Agency ("WADA") announced, on 16 December 2014, the appointment of an independent commission (the "Independent Commission") to investigate the allegations as a matter of urgency. The Independent Commission, composed of Mr Richard W. Pound QC, former President of WADA, Prof. Richard H. McLaren, CAS arbitrator and Professor of Law at Western University in Ontario, Canada, and Mr Gunter Younger, Head of the Cybercrime Department at Bavarian Landeskriminalamt in Munich, Germany, was required 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 [the '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* [the 'RUSADA']*"*.

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

7. 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. Prof. McLaren was directed: (i) to establish whether there had 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; (ii) to identify the *modus operandi* and those involved in such manipulation; (iii) to identify any athlete that might have benefited from those alleged manipulations to conceal positive doping test[s]; (iv) to identify if this *modus operandi* was also happening within the Moscow Laboratory outside the period of the Sochi Games; and (v) to establish whether there was any other evidence or information held by Grigory Rodchenkov.

8. On 16 July 2016, Prof. McLaren submitted his first report (the "First McLaren Report") to WADA in which he provided the following summary of his *"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 Positives Methodology (the "DPM").

    2. The Sochi Laboratory operated a unique sample swapping methodology to enable doped Russian athletes to compete at the Sochi Games.

    3. The Ministry of Sport directed, controlled and oversaw the manipulation of athletes' analytical results or sample swapping, with the active participation and assistance of the Russian Federal Security Service, the Centre of Sports Preparation of National Teams of Russia and both Moscow and Sochi Laboratories.

9. On 9 December 2016, Prof. McLaren delivered his second report (the "Second McLaren Report"), chapter 6 of which 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* [Russian Ministry of Sport]*,* [Center of Sports Preparation of National Teams of Russia]*, Moscow based Sochi Laboratory personnel, RUSADA, the Russian Olympic Organising Committee, athletes, and the* [Federal Security Services]*"*. He explained that the overall effect of the programme deprived

other competitors of a level playing field at the Sochi Games. He further 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, namely oxandrolone, methenolone and trenbolone, to aid their performance at the Sochi Games. According to Prof. McLaren, the 37 athletes on that list, the so called *"Duchess 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"*.

10. 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"* allowing the swapping of *"dirty samples"* for clean, *i.e.* drug-free, samples. In summary, according to Prof. McLaren: (i) prior to the Sochi Games, protected athletes provided clean samples of their own urine in plastic beverage bottles; (ii) those samples were delivered to the Moscow Laboratory where they were tested to ensure that they were, in fact, clean; (iii) they were then provided to the Centre of Sports Preparation of National Teams of Russia (the "CSP") and catalogued under each athlete's name in preparation for future delivery to the Federal Security Services (the "FSB"); (iv) 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.

11. The Second McLaren Report went on to describe the sophisticated arrangements that were implemented to facilitate the covert swapping of urine samples provided by protected athletes at doping control tests during the Sochi Games. These 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 (the "DCFs") 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.

12. On 19 July 2016, a Disciplinary Commission chaired by Mr Samuel Schmid (the "Schmid Commission") was appointed by the IOC Executive Board (the "IOC EB"). On 2 December 2017, the Schmid Commission delivered its report (the "Schmid Report") concerning facts in support of the disciplinary procedure that the IOC had commenced under Rule 59 of the Olympic Charter. The Schmid Commission concluded that the analysis of the documented, independent and impartial elements, including those confidentially transmitted to said commission was corroborated by forensic analysis as well as biological analysis, and confirmed of the existence of the DPM and the tampering methodology, in particular during the Olympic Winter Games Sochi 2014, as described in the Second McLaren Report. It confirmed 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. According to the Schmid Commission, Dr Rodchenkov played a key role in the development of the specific system to be operational during the Olympic Winter Games in Sochi 2014. The Schmid Commission recommended the IOC EB: (i) to take the

appropriate measures that should be strong enough to effectively sanction the existence of a systemic manipulation of the anti-doping rules and system in Russia, as well as the legal responsibility of the various entities involved (*i.e.* including uniform, flag and anthem); (ii) while protecting the rights of the individual Russian clean athletes; and (iii) to take into consideration the multiple costs incurred by the two IOC Disciplinary Commissions, in particular those linked to the investigations, the various expertise and the re-analysis of the samples of the Olympic Games.

13. On 19 July 2016, the IOC EB had appointed another Disciplinary Commission (the "IOC DC"), chaired by Prof. Denis Oswald, responsible for investigating potential Anti-Doping Rule Violations ("ADRVs") committed by individual Russian athletes at the Sochi Games. In late 2016 and in 2017, the IOC 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. The Athlete was one among these Russian athletes.

2. Specific facts related to the Athlete

14. At the Sochi Games, the Athlete took part in six biathlon competitions, namely (i) the Women's 7.5 km Sprint on 9 February 2014, in which she ranked 28th; (ii) the Women's 10 km Pursuit on 11 February 2014, in which she ranked 11th; (iii) the Women's 15 km individual on 14 February 2014, in which she ranked 15th; (iv) the Women's 12.5 km Mass Start on 17 February 2014, in which she ranked 23rd; (v) the 2x6 km Women + 2x7.5 km Men Mixed Relay on 19 February 2014, in which the Russian team ranked 4th, and (vi) the Women's 4x6 km Relay on 21 February 2014, in which the Russian team ranked 2nd.

15. Before and during the Sochi Games, urine samples were collected and analyzed by the WADA accredited laboratory in Sochi. The Athlete provided the following three urine samples: (i) 2889915, sealed on 31 January 2014, (ii) 2889850, sealed on 12 February 2014 and (iii) 2890589, sealed on 19 February 2014. Furthermore, the Athlete provided the blood sample 857617 on 31 January 2014.

16. None of these urine and blood samples tested positive for any prohibited substance.

17. On 31 October 2014, during a training camp in Tyumen, the Athlete provided the urine sample 2944514. At that time the Athlete had, according to her own submissions, already decided to retire from professional sport and dedicate her time to her family. The analysis of the A-sample revealed the presence of mixed DNA.

B. Proceedings before the IOC Disciplinary Commission

18. On 22 December 2016, the IOC DC opened a formal investigation against a number of Russian athletes identified by their respective International Federations as being potentially implicated in the doping scheme, and which were to be conducted by the IOC DC. At that stage, the Athlete was not one of the athletes against whom disciplinary proceedings had been initiated.

19. However, after a study done by Prof. Michel Burnier (University of Lausanne) of the salt content of all A-Samples collected from Russian athletes during the Olympic Winter Games Sochi 2014, results concerning the Athlete were obtained, which were, according to the IOC DC, indicative of tampering of her samples, notably that one of her samples bottle was found not only with marks indicative of tampering but also containing urine with an abnormally high level of salt.

20. On 26 October 2017, the IOC notified the Athlete, through the Russian Olympic Committee, of the commencement of disciplinary proceedings against her, which were to be conducted by the IOC DC. By the same correspondence, the IOC provided the Athlete, through her NOC, with a set of evidence specific to her case, on the basis of which the investigation was commenced. This set included the following elements: (i) the Report of the Methodology Developed for the Forensic Examination of Marks Visible on the Inside of the Plastic Caps of BEREG-KIT Bottles and their Potential Association with Tampering Activity Using Tools dated 27 July 2017 and issued by Prof. Champod (the "First Champod Report"); (ii) the information that the Athlete's B-Samples 2889915, 2889850 and 2890589 were been examined at that moment in respect of the presence of scratch marks, the results of which should be provided in due course, and the Expert Medical Report prepared by Prof Michel Burnier regarding his study of the salt content, according to which the A-Sample 2890589 had been found with an abnormally high level of salt. The Athlete, advised that the IOC had decided to proceed to a further analysis of her B-Sample 2890589, was invited to attend the opening and splitting of her B-Sample 2890589, which was scheduled to occur between 1 and 2 November 2017 at the Lausanne Laboratory. She was also asked to reply to the IOC's communication by 30 October 2017.

21. On 17 November 2017, the IOC DC provided the Athlete with another specific forensic report related to the examination of her B-Sample 2889915, according to which no T marks had been observed on the Athlete's sample. On the same day, the IOC IC provided the Athlete with the EDP received from the IP in connection with the Athlete and a dossier of evidence specific to the case including, *inter alia*, (i) the Sochi Duchess List (redacted by the IP and encoded), on which the name of the Athlete appeared; (ii) the Medal by Day List, on which the name of the Athlete also appeared and (iii) the IP Dossier sent to the IOC, containing a general summary of the investigation and specific elements related to the Athlete.

22. On 18 November 2017, the IOC informed the Athlete that the hearing of the DC would be held on 23 November 2017 and invited the Athlete to file written submissions by 22 November 2017 by 18:00.

23. On 19 November 2017, the IOC provided the Athlete and the DC with an affidavit from Prof. McLaren and an affidavit from Dr Rodchenkov.

24. On 22 November 2017, the IOC has sent an additional documentation related to a DNA analysis conducted on the Athlete's samples, according to which the Athlete's A-Sample 2944514 collected on 31 October 2014, contained mixed DNA profile from at least two females.

25. On 23 November 2017, the hearing took place before the IOC DC at the IOC Headquarter in Lausanne, Switzerland. The Athlete attended the hearing *via* videoconference and was represented by legal counsel and assisted by an interpreter.

26. On 1 December 2017, the IOC DC issued its decision against the Athlete and notified the operative part of that decision. The reasoned version of that decision (the "Appealed Decision") was rendered by the IOC DC on 22 December 2017.

27. In the Appealed Decision the IOC DC noted that it would not apply collective sanctions against the Russian athletes as was done by other sporting organisations, but would examine each case individually and only sanction athletes in respect to whom it finds that there is enough evidence of their personal implication in violations of the anti-doping rules. It highlighted however that, in all cases, even the Athlete's case, once the existence of a general scheme aimed at cheating is established, this scheme would be taken into consideration in assessing the evidence before it concerning each individual athlete.

28. Concerning the assessment of the evidence of a cover-up, the IOC DC held that this is typically either witness evidence or circumstantial evidence from which the application of the process can be inferred. The assessment of evidence of this type requires the decision making-body to make a global evaluation of all the elements at its disposal, to weigh their significance and to determine whether and how each element fits with, and corroborates, the other elements, as in a puzzle. At the end of the process, the decision making-body must be "comfortably satisfied" that the global picture presented by the available evidence corresponds to reality.

29. On the basis of the assessment of the evidence at its disposition, the IOC DC set out the conclusions that such assessment allows for the existence of a cover-up scheme and the implication of the athletes, in general. On these two aspects, the IOC DC confirmed that it found as established beyond any doubt, which also means to its comfortable satisfaction, that the cover-up scheme, which has been described in the McLaren Report based on the explanations of Dr Rodchenkov, was indeed implemented in Sochi. Regarding the implication of the athletes, and without reference to the Athlete in particular, the IOC DC considered that it was comfortably satisfied it was more probable that the *"athletes were implicated in the above scheme, either from the start or ad hoc, and they were aware thereof and participated therein"* rather than the *"scheme has been implemented, without the athletes knowing, nor participating"*.

30. The IOC DC then addressed the circumstances specific to the Athlete in light of these first findings and found that the participation of the Athlete in the doping scheme was established to its comfortable satisfaction for the same reasons that led to the conclusion of the existence of the scheme and the implications of the athletes in said scheme, and, more specifically, for the following reasons:

    (i) the Athlete was one of the athletes listed on the Duchess List. The IOC DC already drew a decisive inference from this element alone;

    (ii) two sample bottles of the Athlete featured conclusive multiple;

(iii) in addition, the salt level established in one of the samples with multiple T Marks is clearly non-physiological. The IOC DC considered that both marks and high salt level were *per se* strong and sufficient evidence of tampering. Seen in context and in conjunction, they would leave no place for any doubt. They are not just coincidental evidence but they correspond to the elements which can be expected given the *modus operandi* which is assumed to have taken place;

(iv) the Athlete would have provided clean urine for the purpose of sample swapping since she appears on a list reflecting a clean urine bank;

(v) Dr Rodchenkov further provided additional specific elements concerning the implication of the Athlete; and

(vi) the additional DNA analysis evidencing that a later sample of the Athlete collected outside of the Olympic Games has been tampered with (presence of two DNA profiles) reinforced the finding that the Athlete has been actively engaging in systematic doping activities.

31. Based on all the above elements, the IOC DC concluded that it was more than comfortably satisfied that the Athlete was a participant in, and a beneficiary of, the cover-up scheme implemented on the occasion of the Sochi Games and that the arguments raised by the Athlete did not put its assessments with regard to the Athlete's participation in the scheme into question.

32. In view of the above considerations, the IOC DC found that the Athlete committed a violation, first, of article 2.2 of the 2009 World Anti-Doping Code (the "2009 WADC") (use of a Prohibited Method - (M2) Tampering and that, subsidiarily, the same circumstances shall in any event be deemed as constitutive of a violation of article 2.5 of the 2009 WADC; second, of article 2.2 of the 2009 WADC (use of a Prohibited Substance); and third, of article 2.8. of the 2009 WADC (cover-up/complicity).

33. As a consequence of these violations, and in application of articles 7.1 and 8.1 of the IOC Anti-Doping Rules (the "IOC ADR"), the IOC DC annulled the results achieved by the Athlete during the Sochi Games with all resulting consequences (notably withdrawal of medals, diplomas, pins etc.) and disqualified all results of the Athlete. In addition, and as a consequence of this disqualification from the event, the IOC DC, in application of article 9.1 para. 2 of the IOC ADR in connection with article 11 of the 2012 IBU Anti-Doping Rules (the "IBU ADR"), annulled the results of the teams in which the Athlete participated.

34. The operative part of the Appealed Decision reads as follows:

"I. The Athlete, Olga ZAYTSEVA:

a) is found to have committed anti-doping rule violations pursuant to Article 2 of The International Olympic Committee Anti-Doping Rules applicable to the XXII Olympic Winter Games in Sochi, in 2014;

b) is disqualified from the events in which she participated upon the occasion of the XXII Olympic Winter Games in Sochi, in 2014, namely:

(i) the Women's 7.5km Biathlon Event, in which she ranked 28th;

(ii) the Women's 10km Pursuit Biathlon Event, in which she ranked 11th;

(iii) the Women's 15km Biathlon Event, in which she ranked 15th;

(iv) the Women's 12.5km Mass Start Biathlon Event, in which she ranked 23th;

(v) the Relay Mix Biathlon Event, in which she ranked 4th and for which she was awarded a diploma;

(vi) the Women's 4x6km Relay Biathlon Event, in which she ranked 2nd and for which she was awarded a silver medal, a medallist pin and a diploma;

c) has the medal, the medallist pin and the diplomas obtained in the above-mentioned events withdrawn and is ordered to return the same to the International Olympic Committee.

II. The Russian Team is disqualified from the Relay Mix Biathlon Event (…). The corresponding diplomas are withdrawn and shall be returned to the International Olympic Committee.

III. The Russian Team is disqualified from the Women's 4x6km Relay Biathlon Event (…). The corresponding medals, medallist pins and diplomas are withdrawn and shall be returned to the International Olympic Committee.

IV. The International Biathlon Union is requested to modify the results of the abovementioned events accordingly and to consider any further action within its own competence.

V. Olga ZAYTSEVA is 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 Olympic Winter Games.

VI. The Russian Olympic Committee shall ensure full implementation of this decision.

VII. The Russian Olympic Committee shall notably secure the return to the International Olympic Committee, as soon as possible, of the diplomas awarded in connection with the Relay Mix Biathlon Event to the members of the Russian Team.

VIII. The Russian Olympic Committee shall also secure the return to the International Olympic Committee, as soon as possible, of the medals, the medallist pins and the diplomas awarded in connection with the Women's 4x6km Relay Biathlon to the members of the Russian Team.

IX. This decision enters into force immediately".

III. PROCEEDINGS BEFORE THE COURT OF ARBITRATION FOR SPORT

35. On 6 December 2017, the Athlete filed her statement of appeal against the IOC with respect to the Appealed Decision in accordance with Article R47 of the Code of Sports-related Arbitration (the "Code"), Article 13 of the 2009 WADA Code and Article 11 of the IOC ADR applicable to the Sochi Games. In her Statement of Appeal, the Athlete requested that this procedure be expedited in accordance with article R52 of the Code.

36. On 4 January 2018, the Athlete informed the CAS Court Office that the Parties had found a procedural agreement according to which the present proceeding as well as those in cases CAS 2017/A/5434 and CAS 2017/A/5435 were stayed until reasoned awards were issued by the CAS in the cases CAS 2017/A/5379-5380; 5422-5433; 5436-5441 and 5445-5446 (the "Other Proceedings"), at least of reasoned awards issued in comparable cases out of the mentioned cases, or until both parties jointly request the resuming of the proceedings. The procedural agreement further provided, *inter alia*: (i) that depending on the outcome of the Other Proceedings, the Parties will decide whether it is worth to resume and continue the present proceedings; (ii) that the reasoned decision for the Athlete was issued on 22 December 2017 and that IOC had further issued a statement setting out the principles applied in its decisions. For Mrs Vilukhina and Mrs Romanova, this statement and the application of the principles set forth therein in the Appealed Decision form the basis for the appeal; (iii) that if the proceedings are resumed, the parties will nominate the same arbitrators for all three proceedings and that the CAS shall appoint the same president for all three proceedings in order for these to be conducted jointly and with a common hearing, but with three different and separate awards; (iv) that to the extent applicable and in order to avoid unnecessarily duplication of the evidentiary process, the parties shall be authorised to rely on the evidence submitted in the Other Proceedings insofar as relates to issues common to all cases, including the transcripts of examination of experts and witnesses, excluding however any elements specifically relevant to other individual athletes involved in the Other Proceedings (the anonymity which shall be protected in any event). If the IOC chooses to rely on evidence from the Other Proceedings, the corresponding evidence file shall be provided to the Appellant and her appeal brief deadline shall start to run upon receipt of such evidence file; (v) that the Parties have the right to adduce additional evidence, notably and without limitation evidence specific to the Appellant and/or to review the evidence thus provided (including re-examination of experts and witnesses to the extent reasonably needed in view of the above-mentioned objective not to unnecessarily repeat the evidentiary process).

37. On 5 December 2018, the CAS Court Office informed the Parties that the reasoned decisions in the Other Proceedings had been issued and asked the Appellant to state whether she wished to resume the proceedings.

38. On 10 December 2018, the Appellant answered that the Parties had, in all three joined proceedings, agreed on the following principles:

> *"1) The IOC requests that additional analyses be conducted on the samples of the Appellants (B-sample analysis and DNA analysis) before these arbitration procedures are resumed.*

2) The Appellants are ready to collaborate as they do believe that these analyses may constitute evidence that will confirm that they did not violate any anti-doping rule.

3) Once the results of these analyses are disclosed to the Parties, they will ask for these proceedings to be resumed".

39. On 31 May 2019, the Appellant informed the CAS Court Office that the Parties intended to resume the proceedings but had to proceed to the nominations of the arbitrators.

40. On 24 June 2019, the IOC nominated Prof. Petros Mavroidis, Professor of Law, as arbitrator in the present proceedings.

41. On 5 July 2019, the Appellant nominated Prof. Philippe Sands QC, Professor of Law and Barrister, as arbitrator.

42. On 12 July 2019, the CAS Court Office, on behalf of the President of the CAS Appeals Arbitration Division, informed the Parties that the Panel appointed to decide this appeal was constituted as follows:

President: Mr Jacques Radoux, Référendaire, European Court of Justice, Luxembourg;

Arbitrators: Prof. Philippe Sands QC, Professor of law and Barrister in London, United Kingdom;

Prof. Petros Mavroidis, Professor of law, Commugny, Switzerland.

43. On 4 September 2019, the Appellant filed her Appeal Brief.

44. On 19 November 2019, the Respondent filed its Answer.

45. On 29 November 2019, the Appellant informed the CAS Court Office that, in the light of the new evidence filed by the IOC with its Answer, the Parties had agreed to file a second round of written submissions.

46. On 27 January 2020, the Appellant filed her rejoinder and some supplementary exhibits.

47. On 21 February 2020, the Parties signed and returned the order of procedure, denoting reservations as needed.

48. On 24 February 2020, the Respondent filed its reply and submitted some new evidence.

49. On 2 and 3 March 2020, a public hearing took place at the CAS Court Office. The Panel was assisted by Mr Brent Nowicki, Managing Counsel, and joined by the following participants:

- **For the Appellant**: Mrs Olga Zaytseva, in person; Mr Yvan Henzer (Libra Law SA), main-counsel, in person; Mr Alexei Panich (Herbert Smith Freehills CIS LLP), co-

counsel, in person; Mrs Polina Podoplelova (Herbert Smith Freehills CIS LLP), co-counsel, in person; Mr Geoffrey Arnold, forensic expert, in person; Dr David Charytan, expert, in person; Prof. Irina Bobkova, expert, in person; Mr Alexander Shishkin, interpreter, in person.

- **For the Respondent**: Mr Jean-Pierre Morand (Kellerhals Carrard), lead-counsel, in person; Mr Nicolas Français (Kellerhals Carrad), co-counsel, in person; Mrs Tamara Soupiron, IOC legal counsel, in person; Prof. Christophe Champod, forensic expert, in person; Dr Michel Burnier, expert, in person.

50. The Parties had agreed to a common hearing for the proceedings in the cases CAS 2017/A/5434, 5435 and 5444, and had established a detailed timetable for said hearing allowing for each of the three athletes to have the specific aspects of their case be attributed sufficient time.

51. Although the hearing was considered public, the Parties had, under consideration of the outbreak of the COVID-19 pandemic in some parts of Europe and the imminent outbreak in Switzerland, agreed to limit the access to the hearing room to a restricted number of previously identified persons.

52. At the outset of the hearing, the Athlete, first, reiterated her objections to the composition of the Panel as already set out in her petition for challenge of Mr Radoux. The Respondent confirmed that it had no objection to the constitution of the Panel. After the pleadings of the parties, Mrs Zaytseva was given the opportunity to address the Panel. At the conclusion of the hearing, the Appellant, while reconfirming and without prejudice to her objections with respect to the appointment of Mr Radoux, joined the Respondent in confirming 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.

53. The Athlete, second, argued that the affidavits produced by the IOC did not contain Dr Rodchenkov's original signature and were, thus, forged. According the Appellant, several experts had confirmed the Appellant's initial suspicion that, *inter alia*, the signatures were mechanically inserted into the affidavits. In the present case, exceptional circumstances in the sense of Article R56 of the Code could be invoked, as this information was only received shortly before the hearing.

54. In this respect, the Panel noted that the Respondent had provided the Panel with an official certified original affidavit of Dr Rodchenkov from which it follows that none of the signatures on the affidavits submitted in the present proceeding were forged. Thus, the Panel expressly finds that the allegations raised by the Appellant are wholly unfounded.

IV. SUBMISSIONS OF THE PARTIES

A. The Athlete's submissions

55. In her Appeal brief, the Athlete requests the following relief:

i. The Decision of the IOC Disciplinary Commission in the matter of Olga Zaytseva (SML-036) dated 22 December 2017 is annulled;

ii. the IOC is ordered to pay the costs of the arbitration and the Appellants legal fees and expenses.

56. In her written submissions, the Athlete, as a preliminary point, notes that it is for the IOC to prove to the "comfortable satisfaction" of the Panel that she is guilty of an ADRV. In the present matter, where the allegations made against the Athlete are of utmost seriousness, the standard of proof should be set almost as high as the "beyond reasonable doubt" standard. In the absence of any Adverse Analytical Finding ("AAF"), the Panel can only decide to sanction the Athlete inasmuch it is convinced - by strong evidence - that she is guilty of an ADRV. Should the CAS panel have a reasonable doubt as to the guilt of the Athlete, the charges brought against her by the IOC shall be dismissed.

57. In support of her Appeal, the Athlete submits that the IOC did not only not provide any credible evidence on her supposed involvement in the so-called organised doping scheme or of her being aware of any doping scheme supposedly tailored to protect her, but did not even establish that she ever used a prohibited substance. The IOC merely relies on a speculation which is not admissible when the issues at stake are so serious and carry severe consequences for the Athlete.

58. Regarding the more specific elements on which the IOC DC relied in the Appealed Decision, the Athlete's submissions, in essence, may be summarized as follows:

1. The so-called organised doping scheme

59. The Appellant argues that it is irrelevant to attempt to demonstrate in an individual case whether or not Russia implemented a doping scheme in order to protect certain athletes. The IOC must adduce compelling evidence that the Appellant did effectively use a prohibited substance or a prohibited method, or that she was personally and deliberately involved in a doping scheme.

60. However, according to the Appellant, the IOC DC's findings based on the McLaren Reports are irrelevant as: (i) the McLaren Reports represent the views and conclusions of one person based on a compilation and reproduction of unverified witness testimonies, documents and forensic analyses; (ii) the McLaren Reports, as explicitly stated in the Second McLaren Report (page 35), were never intended as an investigation into potential ADRV's by individual athletes; (iii) Prof. McLaren has repeatedly distanced himself from his report being misused as *"evidence"* against individual athletes, for example during the hearing in the Other Proceedings; (iv) Prof. McLaren decided to make of Dr Rodchenkov's oral statements the central focus of the entirety of both of his reports. However, Dr Rodchenkov is not a reliable witness; and (v) the CAS Panels appointed in the Other Proceedings found that *"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"*.

61. The Appellant further observes that it follows from the awards in the Other Proceedings that even if an organised doping scheme existed, this would not be sufficient to establish an ADRV in an individual case. Thus, the IOC DC could not merely draw the inference that the scheme could not work without the personal implication of the athletes.

62. Finally, the Appellant notes that, according to the awards in the Other Proceedings, *"it is incumbent on the IOC to adduce particularly cogent evidence of the Athlete's deliberate personal involvement in that wrongdoing"*. As a consequence, the IOC was requested to establish that the Athlete personally committed the specific acts or omissions necessary to constitute an ADRV under each of the separate provisions of the WADC referred to in the operative part of the Appealed Decision. However, in the case at hand, there would be no persuasive evidence that the Appellant used a prohibited substance and no element that could render her guilty of having been part of an organised doping scheme.

2. Absence of any AAF

63. The Appellant recalls that, although having been tested numerous times in her career, her samples having been analysed by the best laboratories in the world and her having been subject to target testing before the Sochi Games, she has never tested positive for any prohibited substance. This would be the best evidence that she has never been implicated in any doping offense. In addition, all three samples she provided before and during the Sochi Games have been tested and retested and did not show any AAFs. Moreover, the blood samples taken between 25 February 2013 and 28 July 2013 while she was training, mainly in Ruhpolding, Germany, under supervision of Mr Wolfgang Pichler, a well-known opponent of doping, show, according to Prof. Pascal Kintz, that her levels of haemoglobin were absolutely normal and contradict the wrong accusations of Dr Rodchenkov who claims that the whole biathlon team had extremely high levels of haemoglobin – a key indicator of EPO abuse according to him – during a training camp in April 2013.

64. The Appellant further relies on the witness statement of Mr Pichler in which the latter states, *inter alia*: *"As I have worked in the field of biathlon for decades, I was able to and did compare the test results of my current athletes with the test results of my former athletes. The results of Yana Romanova and Olga Zaytseva were never suspicious. If anything suspicious had occurred, I would immediately have taken action. I have always despised doping and will always despise it. I would never have accepted any test results suggesting that the athletes were doping or any 'grey areas'. Neither the behaviour, nor the measured values, or the performances of my athletes showed any indication or suspicion of doping"*.

65. Thus, all available scientific evidence would show that the Appellant was a clean athlete as confirmed by the Appellant's coach, Mr Pichler.

3. The so-called "Duchess List"

66. As regards to the IOC DC's finding that the fact that the Appellant's name appears on the Duchess List constitutes a *"decisive inference"* that she was *"both effectively and knowingly implicated in the scheme"*, the Appellant points out, first, that there is absolutely no evidence that she effectively took the Duchess Cocktail.

67. Second, no one has ever seen the Appellant taking the Duchess Cocktail. Dr Rodchenkov having acknowledged that he never personally administered the cocktail to the athletes, nor personally witnessed any athletes taking the cocktail, his testimony constitutes mere hearsay and should, thus, be disregarded in this respect.

68. In any event, as it was found in the Other Proceedings, the mere fact of the Athlete's presence on the Duchess List was not sufficient for other panels to be comfortably satisfied that an Athlete used a prohibited substance during the Sochi Games (CAS 2017/A/5379).

69. Third, the witness statement of Mrs Rodionova strongly contradicts all of Dr Rodchenkov's allegations according to which Mrs Rodionova has been involved in the selection of the athletes to be protected, has aggregated the so-called *"Duchess List"*, was responsible to distribute the Duchess Cocktail to the coaches and athletes, was in charge to collect the clean urine and to store it in view of the Sochi Games and was the link between the athletes and the laboratory with respect to the identification of the samples provided by Russian athletes during the Sochi Games.

70. In view of the above, the mere fact that the Appellant's name appears on the Duchess List would be all but conclusive evidence that she ever used the said cocktail. In any event, there could be no evidence against her as she never committed any ADRV.

4. The marks found on the sample bottles

71. The Appellant observes that the necessary condition for the alleged doping scheme to work during the Sochi Games is not only the existence of clean urine stored in a so-called urine bank, but that the sealed Berlinger bottles containing the urine could be opened for the purpose of swapping.

72. However, after all the experimenting done by Prof. Champod, appointed by the IOC in order to find out the methodology used to open the sealed bottles, the evidence provided by the latter's reports, *i.e.* 27 July 2017, 30 November 201 and 16 July 2018 (general level) and concerning in particular the individual case of the Appellant (bottles of B-samples 2889850, 2889915 and 2890589), would not provide conclusive evidence that the Appellant's sample bottles were tampered with.

73. According to the Appellant, from a general standpoint, it follows from the report(s) established by Mr Geoffrey Arnold, that the forensic analysis carried out by Prof. Champod and his team has a serious number of flaws, *inter alia*, in regard of: (i) the threefold classification of the marks that fails to take into account the uncertainty in the origin of many marks; (ii) the too limited empirical data on which he relied; (iii) his failure to test alternative hypothesis for the origin of the marks; (iv) the fact that he did not change the initial hypothesis or consider an alternative hypothesis after that hypothesis failed; (v) the fact that he has never had any contact with Dr Rodchenkov and was thus not in a position to tell whether the tool he used in his experiment is similar to the one that was allegedly used in the doping scheme; (vi) the conditions in which the experiments were carried out by the Lausanne Laboratory as they were not comparable to

those existing during the Sochi Games when the tampering allegedly took place; (vii) the fact that he carried out the examinations of the scratch marks on the caps by using imaging techniques that can be deployed through the bottle cap instead of examining the directly the inside of the cap.

74. The Appellant notes that the panel in the Other Proceedings has also held that Prof. Champod's findings were not conclusive evidence.

75. From a more specific standpoint and with respect to her individual case, the Appellant observes that Prof. Champod and his team found no T-marks on one of her samples (sample B2889915) and concluded that it is more than ten times more probable that the sample bottle had not been tampered with. Given that it was admitted that Prof. Champod's team had never managed to open a bottle without leaving any T-marks, the absence thereof on sample B2889915 would show that, contrary to the IOC's proposition, it has not been manipulated, which would, in turn, be evidence that the Appellant was not involved in a doping scheme. Regarding the other two samples provided by the Appellant (samples B2889850 and B2890589), Prof. Champod's team found multiple T-marks while acknowledging 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. In particular, the Lausanne Laboratory expressly pointed out that these marks may be the result of a normal use of the bottles.

76. At the same time, the Appellant testifies that she always closed the Berlinger bottles to the fullest extent which means that the tampering of the samples she provided would leave marks much more visible than the ones found by Prof. Champod on these two bottles.

77. The Appellant further considers that it is established that T-marks are not caused by the use of a specific tool designed to unseal the bottles secretly and can be explained by another cause than tampering. The scenario described by Dr Rodchenkov, according to which the swapping of the urine would always take place at night, would be contradicted by the fact that some samples provided by Russian athletes were immediately analysed after their delivery to the laboratory. This has, for example, been the case for the sample 2889698, provided by Mrs Romanova, and the sample 2891822 provided by Mrs Vilukhina, both of which have, pursuant to the chain of custody, been analysed within such a short time frame leaving no time for any tampering. However, both samples bearing multiple T-marks, it has to be concluded that T-marks can be explained by another cause than tampering such as normal use.

78. In view of the above, and the fact that (i) one out of the three bottles has no marks, which establishes that there was no manipulation; (ii) Prof. Champod accepts that T-marks may be compatible with a normal use of the bottle; (iii) T-marks can effectively result from a normal use of the bottle as illustrated; (iv) the T-marks observed on the two Berlinger bottles containing the Appellant's urine are not compatible with marks that would have been left by a tool if the bottles were fully closed, like the bottles provided by the Appellant, the Appellant concludes that there is no conclusive evidence that her sample bottles were tampered with. Moreover, there would certainly be no evidence whatsoever that she herself ever tampered with any sample or had knowledge of such alleged tampering.

5. The sodium level in sample B2890589

79. The Appellant observes that the conclusion of the IOC DC that the sodium level found in sample B2890589 is *"clearly non-physiological"* and is the result of a manipulation for the purpose of adjusting the specific gravity with salt, is based on the report, dated 5 October 2017, of Prof. Burnier, former Head of the Nephrology Service at University Hospital in Lausanne, Switzerland.

80. However, according to the expert report, dated 14 August 2019, established Dr David Charytan, Chief of the Nephrology Division and Associate Professor of Medicine at New York School of Medicine, high sodium concentrations like the one at hand can be caused by a multitude of factors other than tampering. None of these factors appear to have been considered by Prof. Burnier when conducting the re-testing. Furthermore, there are serious doubts as to the reliability and accuracy of the results of the testing conducted by Prof. Burnier. Indeed:

- First, that the size of the reference population chosen by Prof. Bumier for his report was limited and likely to not be sufficiently large statistically to provide a reliable range of mean and standard deviation values. In addition, it would not be clear that the reference population of Vancouver athletes-which included athletes both from Russia and other countries - was medically, racially or dietarily representative of the Sochi athletes;

- Second, single urine samples as taken from the Appellant in the case at hand would entail considerable inaccuracy and could not be considered as a valid indicator of individual sodium intake. This is because the values for urinary analytes (including sodium) are dynamic and can vary widely depending on the physiological state of the person providing the sample;

- Third, individual physiological factors can influence the sodium concentration in a human's urine, including her/his blood pressure, possible states of dehydration (*i.e.* after a sport competition) or shock. Moreover, salt levels may be influenced by external factors such as food intake and, more generally, eating habits. The concentration in a sample may depend on whether that person had eaten prior to testing as well as on the type of food and the quantities. Furthermore, scientific studies have found that test persons from countries with traditional high-salt diets show significant higher sodium concentrations in their urine. It would therefore not be possible to report a value as *"normal"* or *"abnormal"* without knowing the physiological state, the bodyweight and the medical conditions of the individual at the time of testing;

- Fourth, in order to measure the values for outliers (*i.e.* values in excess of the 3 Standard Deviations (SD) above the Vancouver reference population mean threshold), samples had to be diluted. In this case, a measurement is taken on the diluted sample and the result multiplied by the dilution factor. However, if done inaccurately, this can introduce a substantial multiplication error. Hence, the possibility cannot be discounted that the values classified by Prof. Burnier as *"non-physiological"* are the result of errors in the dilution process.

81. As regards to the two of her samples that were not reported as outliers, the Appellant notes that this finding contradict the scenario imagined by Dr Rodchenkov according to which the samples provided by athletes from the Duchess List were systematically manipulated.

82. Concerning the sample which was classified as outlier, having a sodium concentration of 348-353 mmol/l, the Appellant argues that these urinary sodium values are within the realm of physiologically plausible values and are among the lowest of the *"outliers"* identified by Prof. Burnier. Indeed, similar concentrations of salt, *i.e.* up to 307 mmol/L would have been observed in a recent population-based cohort in Japan including 887 individuals.

83. The Appellant points out that the findings of Dr Charytan are corroborated by another expert, Prof. Irina Bobkova, Doctor of Medical Sciences, Professor of Rheumatology, Internal and Occupational Diseases Chair, Senior Research Scientist at the Research Centre, I. M. Sechenov First Moscow State Medical University (Sechenov University), according to whom the concept of *"normal value"* as far as the values of the daily and, especially, random urine volumes are concerned does not exist. As could be seen in her expert report dated 6 August 2019, she further considers that Prof. Burnier's methodology and findings are flawed in many other ways.

84. According to the Appellant, it is not conceivable that salt could have been added to her urine, as there is no proof that her samples have been tampered with and no proof that clean urine was collected beforehand for the purpose of swapping. In any event, there would be no evidence whatsoever that the she herself tampered with any sample, or that she was involved in or had knowledge of any alleged tampering.

6. The alleged clean urine bank

85. The Appellant maintains that absolutely no evidentiary weight can be given to the scenario of a clean urine bank constituted for the purpose of sample swapping. All information provided by Dr Rodchenkov in this respect would be categorically false and untrue. Not only was he never present when athletes allegedly provided clean urine, but the scenario he pictured is contradicted by (i) the statement of the Appellant, who categorically denies having provided clean urine for the purpose of sample swapping; (ii) the witness statement of Mrs Rodionova in which she clearly and unequivocally specifies that the allegations of Dr Rodchenkov are false and untrue. Her statement being corroborated by the CSP's evidence that confirms that no refrigerators or refrigerator units have been purchased for storage of the athletes' biomaterials; (iii) the fact that, in the context of the clean urine bank, a CAS Panel already concluded that only *"limited weight can be attached to this aspect of Dr Rodchenkov's testimony"* (CAS 2017/A/5379); and (iv) the inventory of the alleged clean urine bank is not reliable as some data cannot be true. In this respect, the urine provided by the Appellant on 24 October 2012, was provided in the course of the yearly medical check-up of all Russian elite athletes at the *"Burnazyan FMBA"*. This urine was on top provided at a moment in time which cannot be linked to the alleged doping scheme as, it even according to Dr Rodchenkov's scenario, at the time no one had managed to open the Berlinger bottles. Further, as the example of Mr Ustyugov proves, the latter was, given the travel arrangements he had for that day, not in a position to provide a urine sample on 5 October 2012 as he was either in a plane or completing all the necessary steps to embark. In any event, as a Panel already noted in the Other Proceedings, keeping 7 mL of clean urine is pointless as

it makes only sense to create a urine blank for later sample-swapping if there is sufficient quantity.

86. The Appellant thus concludes that no reliable evidence contradicts her statement that she never provided urine for the purpose of sample swapping.

7. The allegations of Dr Rodchenkov

87. The Appellant considers that the unsupported allegations of Dr Rodchenkov against her are not credible enough to constitute evidence against her.

88. In support of this consideration, the Appellant argues, *inter alia*, that:

- Even before becoming the source of information on which Prof. McLaren relied on in his reports, Dr Rodchenkov was not seen as a credible witness;

- Dr Rodchenkov provided his testimony to Prof. McLaren in a situation where he was facing deportation from the United States and - likely - criminal prosecution in Russia. Thus, he had an interest to tell a spectacular story which would increase his chances of being able to stay in the United States;

- Dr Rodchenkov acknowledged that he has never seen an athlete take the Duchess Cocktail, that he has never seen an athlete give a clean urine sample, that he has never seen an athlete tamper with his or her sample, that he has no evidence that athletes had sent their DCFs to Mrs Rodionova.

89. The Appellant further maintains that Dr Rodchenkov's accusations against her are contradicted by solid evidence, as every single stage of the doping scheme he described is proven wrong: the Appellant never tested positive to any of the substances of the Duchess Cocktail; Mrs Rodionova categorically denies having been part of the scheme; it is proven that her alleged assistant, Mr Kiushkin, never worked for the CSP; it is established that the CSP never purchased refrigerators to store the clean urine; it has been shown that the urine provided on 24 October 2012 by the Appellant was only collected for medical purposes; there is absolutely no evidence that the bottles containing the Appellant's urine have been manipulated – the scientific evidence establishing the contrary.

90. Furthermore, there are, according to the Appellant, many inconsistencies in Dr Rodchenkov's testimony against her:

- Testing allegedly conducted on her between 2 and 15 April 2013 cannot have shown *"extremely high levels of haemoglobin"* as she was on vacation in the Dominican Republic and could therefore not be tested. Moreover, her haemoglobin data during a contemporaneous period of time was absolutely normal as shown by the data collected by her coach, Mr Pichler;

- As proven by her whereabouts, she did not participate in the Izhevsk Russian Cup between 17 and 22 December 2013;

- She was not forced to retire in order to issues in connection with her *"abnormal Athlete Biological Passport"* ("ABP") but decided to retire because, at the age of 35, she decided to have another child. Thus, she stopped taking measures to avoid a pregnancy in November 2014, became pregnant and delivered a little boy in October 2015.

91. The Appellant adds that the serious accusation of Dr Rodchenkov against the former manager of the Russian Biathlon Union, to have purchased doping substances for a price of USD 15,000, are refuted by Mr Kushchenko himself and his driver Mr Besklinsky.

92. In view of the above it is not surprising that the Panels in the Other Proceedings did not find Dr Rodchenkov credible and did not use his testimony in order to sanction any Russian athlete in those proceedings.

8. Presence of mixed DNA profiles in one sample

93. The Appellant points out that the DNA analysis report that she received on 30 October 2017 confirms that the urine in her sample bottles B2889850, B2889915 and B2890589 was her own urine. These test 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. These findings were confirmed by further DNA analyses conducted on her B-samples. However, the IOC would refuse to recognize that its own evidence exonerates the Appellant. Rather, it would continue to refer to a purported *"conspiracy"* according to which matching DNA results constitute *"evidence"* of an unproven and undetectable swapping of samples. Thus, irrespective of whether her samples – for whatever reasons – show matching DNA or not, according to the IOC she is to be considered guilty. This would show the biased approach of the IOC.

94. In respect of her sample 2944514, collected in Tyumen on 31 October 2014, and assuming that the IOC has the authority to rely on a sample collected outside the frame of the Olympic Games, which is challenged, the Appellant argues that the fact that the expert appointed by Prof. McLaren found mixed female DNA in said sample without finding the Appellant's DNA, while the expert appointed by the IOC reached the conclusion that the sample contained a mix of female and male DNA – where the female DNA corresponds to the Appellant's DNA profile, do not only show that the first DNA analysis was of poor quality. The fact that the supplementary analyses established that the male DNA found could be attributed to the Appellant's husband, confirming thus her explanations that at the time of sample collection they were trying for a second child, shows that the IOC, alleging that she had been cheating *"until the end of her career"*, twisted the evidence in order to match a presumption of guilt.

95. In view of the above, the Appellant concludes that the evidence shows that there is absolutely no inconsistencies regarding the DNA in the three samples collected during the Sochi Games. Hence, the DNA does not show that the she was involved in a doping scheme. However,

sample 2944514, provided outside of the Sochi Games, proves that the explanations given by the Appellant were correct and are supported by convincing evidence.

9. The Laboratory Information Management System ("LIMS")

96. The Appellant considers the fact that her name allegedly appears in the LIMS of the Moscow laboratory, although certainly not good practice, is not something she can be held responsible for. In addition, she notes that, more importantly, the LIMS does not indicate that samples provided by her had ever tested positive to prohibited substances and that she was covered up by the laboratory and its former director, Dr Rodchenkov. Thus, the LIMS, and the hidden parts of the LIMS, would confirm that she never tested positive for any prohibited substances during her whole sporting career.

97. In view of the fact that the evidence produced by the IOC in relation to the LIMS has not been forensically cross-examined, that the corresponding IT data has not been submitted to the Appellant nor to the Panel and that this element was not part of the evidence submitted before the IOC DC, said evidence would not be admissible evidence in the present Appeal. In any event, the Appellant firmly contests the reliability of the evidence submitted by the IOC.

98. In her closing submissions, the Appellant observed, with regards to the context of the case, that the present case was not about the existence of the general doping scheme in Russia as the Appellant was not training in Russia and spent most of her time outside of Russia. Her case has therefore to be distinguished with the cases dealt with in the Other Proceedings. Furthermore, Mr Pichler truly believes that the Appellant is innocent as her skiing performance at the Sochi Games was poor.

99. As to the facts, the Appellant noted that the IOC's case is based on four propositions of Dr Rodchenkov, propositions which would all be wrong.

100. First, that the Duchess List is not a reliable and compelling evidence.

101. Second, all evidence would show that the Appellant did not take the Duchess Cocktail during the Sochi Games as (i) all samples were tested negative and even the retests with improved methods turned out negative, (ii) that 7 out of the 11 bottles in question in the three parallel cases (CAS 2017/A/5334, 5435 and 5444) showed no T-marks whereas the experts stated that one could not open fully closed bottles without leaving T-marks; (iii) DNA tests show that the urine in the sample bottles is from the Appellant, and (iv) the blood anti-doping test performed during the Sochi Games was negative as well. Moreover, the LIMS data is not admissible evidence because it is not part of the scope of the Appealed Decision. In any event, the LIMS data does not refer to any prohibited substance found in relation with the Appellant. Finally, Dr Rodchenkov has not seen anything: he did not distribute the Duchess Cocktail to any athlete, he has never seen the Athlete taking the Duchess Cocktail and the Athlete has never met Dr Rodchenkov.

102. Third, there is no evidence that the Appellant ever provided *"clean urine"* for the purpose of a *"clean urine bank"*. The only time that the Appellant provided urine outside of the anti-doping

tests was for official medical check-ups, like the one done on the 24 October 2012 at the Burnazyan Hospital, meaning at a time were the so-called *"magicians"* had not been able to open closed sample bottles.

103. As regards the high sodium levels, the Appellant argues that it would have been easier to add urea to a urine sample to adjust the specific gravity of the sample than sodium. Adding salt wouldn't thus make much sense. More importantly, the level of around 350 mmol/l, although high, would be plausible and surely not impossible. The Appellant's three samples had high values of salt, all above the median value of the Sochi Samples and above the 75 percentiles of the Vancouver samples. This would only show that the Appellant is fond of salt. Furthermore, in comparison to the Sochi Samples, her value would not be an outlier. In any event, on the one hand, the figures provided by Prof. Burnier should be read with caution as (i) their base on spot values; (ii) the population group of the Sochi samples is only composed of approximately 30 women, which would be too small to constitute a reliable comparative group, (iii) the spot values are affected by numerous factor such as body weight, the water intake, the salt intake, the salt excretion, the blood pressure and the dehydration of the Athlete; (iv) there can be errors in the calculation of the sodium levels found due to dilution of the samples by Prof. Burnier; (v) Prof. Burnier study of the Vancouver samples has only limited reliability as it was limited to only 250 samples whereas there were 4000 samples provided during the Vancouver Games. On the other hand, the correlation between sodium and creatinine would be very weak as such correlation could only be established for 20% of the samples. Mrs Zaytseva's case could not be compared to the cases in which the sodium levels that found were physiologically impossible.

104. Fourth, the IOC's proposition that all the sample were automatically swapped at night in the Sochi Laboratory would be wrong. All experts would agree that you cannot open a bottle without leaving marks or T- marks. However, in the three parallel cases, there would be 7 samples with no T-marks and, thus, one could not argue that the expert reports confirm that the urine in the sample bottles has been automatically swapped. When looking at the different samples of the athletes in these three parallel cases, there would not even be an indication of *"target swapping"*, *i.e.* the samples provided after competitions in which good had been achieved. In any event, the T-marks could come from anything (tool and/or the metal ring of the sample bottle), only some of the translucent plastic rings have so-called T-marks and there is no explanation as to the origins of *"isolated T-marks"*. Clearly the absence of marks on the vast majority of bottles would show that there was no tampering. Indeed, as the so-called *"magicians"* were not afraid to leave marks on the bottles, as the presence of such marks was not commonly controlled, they would, if they had to open the bottles, probably not have been very cautious and, thus, would have left marks. The fact that Prof. Champod broke many caps while trying to open them would prove that his demonstration failed as it is clear that not one cap of all the sample bottles related to the Sochi Games was broken. Thus, Prof. Champod's evidence would not be reliable and not convincing enough to sanction athletes, to deprive them of their medals and to declare them ineligible for life in the Olympic Games.

105. Finally, concerning Dr Rodchenkov's signature, the Appellant reiterated her point of view that, although Dr Rodchenkov acknowledged that he gave permission for his electronic signature to be used, there were documents on which such signature had not been used and someone else had signed on behalf of Dr Rodchenkov. Moreover, Dr Rodchenkov's last affidavit, submitted

during the hearing, would contain a contradiction and show that Dr Rodchenkov does not know himself for which affidavits his electronic signature has been used. In addition, as Dr Rodchenkov has asked, in the affidavits, the Panel to sanction the Athlete, it would be doubtful if it's possible to rely completely on the testimony of such an *"independent witness"*.

B. The Respondent's submissions

106. The Respondent requests the following relief:

i. The Appeal filed by Olga Zaytseva is dismissed.

ii. The Decision of the IOC Disciplinary Commission in the matter of Olga Zaytseva (SML 036) dated 1 December 2017 is confirmed.

iii. The IOC is granted an award for costs.

107. Considering that the evidence against the Athletes has to be examined in the context of the overarching doping conspiracy and scheme that was allegedly in place in Russia before and during the Sochi Games, the Respondent's submissions give, in a first part, a thorough overview of said doping scheme before addressing, in a second part, the Athlete's individual implication in that doping scheme. The Respondent's written submissions can be summarized as follows.

1. The overarching doping and cover-up scheme

108. As a preliminary remark, the Respondent observes that three independent investigative commissions, whose mandates endured and overlapped for a period of almost three years and involved the scrutiny of thousands of documents and forensic analysis of hundreds of athletes' samples, were satisfied that a doping and cover up scheme existed in Russia from 2011 until 2015. Furthermore, the existence of the scheme has, according to the Respondent, been admitted by, *inter alia*, the Russian Sports Minister and RUSADA.

109. The key elements of the doping scheme identified by the Respondent are the following:

110. First, the DPM, operated to protect athletes whose samples might otherwise have resulted in an AAF. Where the Initial Testing Procedure ("ITP") on a sample resulted in a presumptive AAF, well-known and elite level athletes had their initial ITP results automatically falsified and the analytical work was stopped. If the athlete was not automatically protected, the Moscow laboratory would communicate the presumptive AAF to the Russian Sports Ministry *via* a Liaison Person (usually Aleksey Velikodny). The Sports Ministry would then issue a *"Save"* or *"Quarantine"*. A Save order meant analytical work was stopped and a negative result was reported in the Anti-Doping Administration and Management System ("ADAMS"). A Quarantine order meant analytical work continued as normal. The existence and operation of the DPM is corroborated by the LIMS database obtained by WADA in December 2017. The relevant LIMS database contains the testing data for the period from January 2012 to August 2015. This data also illustrates how analytical results were not only manipulated and incorrectly reported, but how they were also used to manage the protection scheme. WADA's Intelligence and

Investigations Department carried out an investigation into the reliability of the Moscow LIMS and the McLaren Evidentiary Disclosure Package ("EDP") emails in relation to the DPM and concluded that the LIMS data is valid and that the possibility of the EDP emails being fake is so improbable that it must be rejected.

111. The Respondent adds, in this respect, that an Anti-Doping Hearing Panel of the International Biathlon Union ("IBU Panel") concluded that the EDP emails can be considered reliable evidence. The athlete in question, Mrs Glazyrina, who withdrew her appeal to CAS against her two-year ban was coached by Mr Pichler. Furthermore, in June 2019, two male biathletes were sanctioned for ADRVs based on analysis of the LIMS database from 2012 and 2014, with periods of ineligibility of four years imposed under aggravating circumstances for *"participating in an organised doping scheme"*. It would thus be puzzling that Mr Pichler states, in his witness statement, that *"I still believe that my team, which included Olga Zaytseva and Yana Romanova, did not use substances and methods prohibited by WADA"*. The above mentioned IBU Panel had thus held that Mr Pichler's evidence was *"unpersuasive and unverifiable"*.

112. Second, *"Washout Testing"* was used to determine whether performance enhancing drugs had cleared from an athlete's system prior to certain major events. This was necessary to ensure that athletes who were traveling abroad to compete – and would therefore be susceptible to being tested by foreign, independent testers – would test *"clean"*.

113. Third, the scheme was adapted to take into account the specific situation that would be in place for the Sochi Games. Given the presence of international personnel in the Sochi Laboratory, it would not be possible to manipulate the ITP results and use the DPM. Thus, the Sample Swapping Methodology was developed by the end of 2012. It involved the replacing of *"dirty"* urine with *"clean"* urine and necessitated the removing and replacing of the cap on sealed B sample bottles. By the beginning of 2013, the FSB team known as the *"magicians"* had succeeded in opening the Bereg Kit bottles without leaving any apparent marks. Also, around this time, the clean urine bank was built up by the CSP for the purposes of sample swapping at the Sochi Games. Mrs Rodionova's team, including Mr Kiushkin and Mr Velikodny, collected athletes' clean urine at training sites and during periods where the athletes' urine should have tested clean, either before the doping protocol or because the sample was collected far after their washout period.

114. According to the Respondent, the sample swapping at the Sochi Laboratory, which relied on a number of actors in order to be effective, proceeded as follows: (i) samples arrived at the Sochi Laboratory and were registered by Mr Evgeny Kudryavtsev, head of reception, storage, and aliquoting at the Sochi Laboratory; (ii) he separated the B bottles that needed to be swapped and brought them to aliquoting room with all the A samples; (iii) he passed the A and B bottles through a hole in the wall (the "Mousehole") between room number 125, where samples were aliquoted (the "Aliquoting Room"), and room number 124, where samples were swapped out (the "Operational Room"); (iv) in the Operational Room, Dr Rodchenkov and his assistant Mr Yury Chizhov prepared a *"Catch of the Day"* table with the athlete's names, code numbers, specific gravity measurements and the volumes needed to fill the A and B bottles. Officer Evgeny Blokhin retrieved the clean urine for the concerned athletes and brought it to the Operational Room; (v) he took the unopened B bottles and brought them away to be opened

by FSB agents; (vi) he returned with the opened B bottles. Mr Chizhov threw out the contents of the A and B bottles and washed out the bottles. Dr Rodchenkov checked the specific gravity of the clean urine and adjusted it for specific gravity when necessary by the addition either of salt (to increase the specific gravity) or water (to dilute the sample and reduce the specific gravity).

115. The Respondent adds that the above description of the scheme in Sochi, based on Dr Rodchenkov's testimony, is corroborated and cross-referenced by the forensic examinations carried out by different experts and is further corroborated by various other strands of evidence including urine analysis establishing the presence of physiologically impossible levels of sodium in samples; scratches and marks evidence indicating that sample bottles had been tampered with; DNA analysis which established that some samples had mixed DNA; photographic evidence provided by Dr Rodchenkov indicating the existence of the Mousehole and presence of various individuals in the laboratory; LIMS data containing the athletes' names; and the EDP which gives the general framework of the scheme. Dr Rodchenkov's testimony in relation to Sochi would also be corroborated by contemporaneous entries in his personal diary.

116. As regards to the forensic evidence, the Respondent refers, first, to the high sodium values in some samples and a series of four emails exchanged between Mr Kudryavtsev and Dr Rodchenkov dated 8 May 2015 explaining the *modus operandi* of the adjustment of the specific gravity of the samples. The forensic experts appointed by Prof. McLaren observed levels of sodium which were so high, that they were deemed to be non-physiological. These experts also reported that in a few samples the level was so low, that it could not be physiological either. The observations of extremely high levels and extremely low levels would be consistent with results which could be expected as a consequence of the adjustment of specific gravity through the addition of salt or dilution with water. The expert appointed by the IOC, *i.e.* Prof. Burnier, carried out a review of samples from athletes taken at Vancouver Games for the purpose of determining reference values for, *inter alia*, sodium urinary concentration in an elite winter sport athlete population. He then compared the levels from the Vancouver Games to the levels from Sochi for all Russian athletes. Doing that, he identified 13 samples from Russian athletes at the Sochi Games that were out of range and showed *"a very high (>99%) probability of manipulation"* by the addition of salt. He concluded that there was *"no possible natural explanation for the results obtained"* in the examined samples. Prof. Burnier's review was not limited to sodium, but included other aspects, *i.e.* osmolarity ratio and the correlation between specific gravity and creatinine levels, which also confirmed that the samples values were unlikely to be physiological. In addition, all the samples in which out of range values were observed by Prof. Burnier were samples from athletes who are not only Russian but are the Russian athletes active in those sports in relation to which, according to Dr Rodchenkov, sample swapping occurred. This would even give more weight to the forensic analysis conducted by Prof. Burnier, said analysis being incontrovertible proof that, as the Panels in the Other Proceedings concluded, all the concerned sample bottles were tampered with during the Sochi Olympics.

117. This evidence would be reinforced by, second, the scratches and marks that were found on those bottles by the forensic experts. Indeed, 11 out of 13 bottles with an abnormally high sodium level were found to bear marks sufficiently clear to draw a conclusion in regard of their opening. Prof. McLaren having appointed forensic experts with the aim to establish whether

sealed Bereg-kit bottles could be opened without breaking the seal, said experts managed indeed to open and reclose previously closed bottles. However such opening would leave marks on the bottles which they classified depending on whether, in their opinion, these marks could be the result of normal usage of the bottles (Type 1 marks) or supported an indication that the bottle had been surreptitiously reopened (Type 2 marks) using a method similar to the one they had applied. Following this first expert investigation, the IOC decided to commission a broader forensic investigation into the issue of sample bottle opening and appointed Prof. Champod to conduct this investigation. The Respondent submits that this forensic analysis (Prof. Champod's first report) 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;

- Having confirmed the possibility of opening samples, Prof. Champod then developed an examination protocol aimed at systematically identifying and recording marks found on bottles caps through microphotography of all the faces of a given bottle. The aim of the examination was first to establish a reference body of marks observed both on bottles which had been regularly used and on bottles which were subject to opening through the method they had developed. The first group was to serve as a non-distinctive background of marks left by manufacture or usage expected on a bottle used normally, while the second group served to establish marks distinctive from the one observed in the negative group on bottles which had been opened. 22 bottles were subject to opening to serve as a *"positive"* test group. Given the fact that, at this stage, the team found opening bottles fully closed at 15 clicks would be leaving marks which would be too easily distinguished, Prof. Champod decided that the opening on the bottles of this test group would be operated at a closure level of 11 clicks. This choice was meant to improve the resulting sensitivity of the method and was in that perspective logical: the marks left would be of the same type but less obvious. As such and, provided they remained distinctive from marks existing on regularly used bottles, this would thus improve the sensitivity of the method when searching for traces of potential opening;

- Prof. Champod distinguished the marks observed and classified them according to their sources in three categories: (i) *"F-mark"* when the mark shows attributes associated with the manufacturing process, (ii) *"U-mark"* when the mark shows attributes associated with normal usage of the bottle, and (iii) *"T-mark"* when the mark shows attributes associated with the use of a tool inserted between the plastic cap and the glass container. By default, any mark which could not be classified clearly would be classified as a U-mark. This meant that no mark was left unclassified and that since the presence of U-marks and F-marks had no influence on the conclusion whether it was likely that the sample was subject to surreptitious opening, the fact that an additional specific sub category of non-specified marks was not established was of no relevance, as it had no possible impact on the evaluation of the bottles;

- 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. This would provide *"very strong support"* for the proposition that those bottles had been tampered with. Bearing in mind that the examination was conducted blind on a wide group, it would be essential to note that all 36 bottles that contained multiple T-marks belonged to athletes who were part of the suspect group, *i.e.* presence on the Duchess List or participants in the same sport as athletes on the Duchess List and/or member of the Women's Hockey Team;

- No fewer than 11 out of the 13 samples found with abnormal salt levels were also found with distinctive multiple T-marks. This would reinforce considerably the fact the study is based on a valid determination of marks which, when present, do confirm that the bottles were actually opened;

- Bottles which were surreptitiously opened do not necessarily bear conclusive marks of opening. Indeed, from the only two *"salt"* samples found without concurring multiple T-marks, the one without any T-Mark was the sample with the most elevated level of sodium, namely 843 mmol/l;

- 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.

118. Following the questions raised and doubts expressed by the panels in the Other Proceedings, Prof. Champod carried out additional analysis and prepared a complementary report (the "Second Champod Report") setting out additional evidence gathered in respect of four athletes, including the Athlete. Prof. Champod and his team drew the following conclusions:

- No credible evidence was found to suggest that the T-marks documented in the questioned bottles could be due to transportation. The possibility for alternative hypotheses for the production of T-marks, including transport, was constantly assessed through the use of single and double blind samples alongside the questioned bottles;

- Bottles initially closed at 15+ clicks and containing liquid urine, can be re-opened using tools. The tools leave recognizable marks at defined locations on the inside of the plastic cap. These marks are expected regardless of the type of metallic tools used and can be distinguished from marks generating by the manufacturing process or through normal usage;

- The sample size used to study the U-marks under controlled conditions was not 11 bottles as suggested by the CAS, but 105 bottles for a total of 1,260 plastic cap faces. This sample is large enough to gain a full understanding of the marks left on the bottles following their regular closure;

- The assignment of labels to marks (F, U and T) was made adopting a conservative approach making the need for an *"inconclusive"* category redundant as any mark of disputed status would be assigned by default to the U-mark category-marks;

- The conclusions reached following the examination of marks were never meant to be per se *"conclusive evidence"* of tampering. When multiple T-marks were observed, the findings provided *"very strong support"* for the allegation of tampering, but did not aim to demonstrate *"conclusively"* that the bottle had been re-opened. If both propositions were equally likely before carrying out the examination of the potential marks, the findings would support the conclusion that the bottle was very likely tampered with, with a percentage probability above 99.9%;

- In relation to one additional bottle, the mark left by residues below the small tooth of the metal ring did not correspond to the shape of the small tooth itself, *i.e.* the cap was opened and when reclosed, the metal ring was not put back on in the same position. This would be absolute proof that certain bottles, at least, were opened.

119. In the present case, two of the Athlete's samples, samples B2889850 and B2890589, contain multiple T-marks, which according to Prof. Champod's expert report supports the conclusion that the bottles were very likely tampered with, with a percentage probability above 99.9%.

120. Seen in their specific context, the results of the examination by Prof. Champod bring evidence which can satisfy to a very high standard and certainly the one of comfortable satisfaction, the conclusion that the presence of marks attest the opening of the concerned sample bottles. In addition, there would be a convergence in respect to the DNA evidence insofar that samples found with abnormal DNA results also bore marks significative of opening according to the study performed by Prof. Champod.

121. The fourth and last element would be found in the LIMS. It appears from this documentary evidence that names of Russian athletes tested in Sochi, including in particular the name of the Appellant, are expressly mentioned in the LIMS in connection with the corresponding sample numbers. This would be the proof that the laboratory knew the names of the athletes to whom the samples belonged. The corresponding content of the LIMS is confirmed and described in the report issued by Mr Aaron Walker of WADA Intelligence and Investigations. As WADA accredited anti-doping laboratories are never supposed to know the names of the athletes who deliver samples for analysis, this documentary evidence alone would in and of itself be sufficient to establish that the laboratory process was fundamentally corrupt in Sochi in regard to the concerned samples. Moreover, this evidence would show one of the features of sample swapping, *i.e.* the communication of the identity of the athletes to the laboratory, as described by Dr Rodchenkov, did indeed happen. This element would also establish a link to the Appellant as she was one of the only parties who had access to the information needed, *i.e.* the sample number which is on the athlete's copy of the DCF. A second report by Mr Walker would show data associated with the LIMS allowing to conclude that Mr Kudryavtsev was not only directly involved in swapping, which was already demonstrated by the EDP evidence, but actively engaged in the actual faking of laboratory documents and substitution of samples to cover up the scheme in the context of the WADA investigations. The Respondent therefore submits that his testimony and in particular any document he is providing should not be given any credibility or weight.

2. The Appellant's implication in the scheme

122. As an opening point, the Respondent submits that in the present case the Panel must reach its decision looking at the existing strands of evidence which, together, form a conviction strong enough to comfortably support a conclusion that an individual athlete has been personally involved in the scheme. To do so, the Panel would have to start by asking the question whether there are indications that the Athlete may have been involved. This is notably linked with the issue of the sport in question, the presence on the Duchess List and also the personal profile of the Athlete. The first of these elements would be of contextual nature, whereas the next ones would be of an objective nature. Further, it is, according to the Respondent, evident that the objective of the scheme could not be achieved if the Athlete did not know that she was benefitting from a *"doping carte blanche"*. The effective implementation of such a system requires the active and conscious participation of the Athlete. This would be particularly true for the provision of clean urine for the clean urine bank in the form it was implemented in Sochi, for which the athletes had to deliver significant amounts of urine. Accordingly, when and once an athlete's involvement is considered as established and especially when swapping with her own urine is confirmed through presence of urine with elevated sodium level, presence of significant marks or foreign DNA, then the inference would necessarily follow that her involvement in the scheme required personal knowledge thereof and participation therein.

123. The Respondent notes that the panels in the Other Proceedings reached that exact conclusion when addressing the cases in which they accepted the evidence relating to abnormal sodium level as conclusive in regard to swapping. According to the Respondent, the same conclusion has however also to be drawn based on the presence of multiple T-marks implying, when assessed in context, that a sample was opened and swapped as one would not open a B-Sample just to leave the same urine inside. The LIMS would bring further evidence that the athletes concerned were active participants in the scheme, as they are the most likely source of the information linked to their respective sample numbers.

124. In the present matter, a first element of evidence of the Appellant's personal involvement would be found in Dr Rodchenkov's testimony and the fact that her name appears on the Duchess List. In particular, Dr Rodchenkov states that the Appellant was a protected athlete involved in the scheme and that he recalls that the Appellant had abnormal blood parameters (datapoints), which indicated an ADRV for abuse of EPO. Given that Dr Rodchenkov has no specific interest in incriminating the Appellant, his testimony should be preferred to the ones of the Appellant herself and Dr Rodionova. Even if the significance of Dr Rodchenkov's allegations with respect to the Appellant's blood values is limited, as this is not an ABP case, his allegations are not proven wrong by the expert report on her blood values provided by the Appellant. Indeed, the Appellant's Haemotological Profile from ADAMS would report no valid blood sample between 7 November 2013 and 4 August 2014 and the value of the controls which were implemented by the IBU in this period has to be considered with reservation. In any event, Dr Rodchenkov's allegation that the biathlon team was affected by doping practices has been proven correct as several athletes have failed EPO tests or were convicted for using the Duchess Cocktail substances. In relation to the list of samples purportedly from the Bumazyan FMBA hospital, the Respondent observes, *inter alia*, that: (i) it is strange that it only appears in the present proceedings before the CAS and has never before been offered as an explanation; (ii)

the volume of urine listed for a sample could indicate the amount that was left over after a prior analysis and the date indicated on the list could be the date samples were brought to the Moscow laboratory, (iii) the Appellant fails to explain how a list of urine samples allegedly collected by a hospital for the purposes of a medical check-up ended up in the possession of the Moscow antidoping laboratory.

125. A second element of evidence showing the Appellant's personal implication in the scheme would be the physiologically impossible level of sodium found by Prof. Burnier in her sample B2890589. The IOC submits that the analysis carried out by Prof. Burnier puts beyond any doubt the fact that this sample bottle was opened and tampered with by the addition of salt. The only logical explanation for the physiologically impossible sodium level would being that salt was added to adjust the specific gravity of the Appellant's sample it has to be concluded that the urine in the sample bottle that was tested, was different to the urine sample provided by the Appellant. At the doping control, *i.e.* the sample had been swapped. By comparing two of the Appellant's samples, one taken on 31 January 2014 (sample B2889915) and the second taken on 19 February 2014 (sample B2890589), Prof. Burnier could establish that although the samples had almost the same specific gravity and that the creatinine level was in good relation to the specific gravity, the sodium concentration was much higher in the February sample (B2890589), which was compatible with the addition of salt. In this respect, the Respondent holds that none of Prof. Bobokova's arguments modifies Prof. Burnier's conclusion that one of the Appellant's samples is *"highly suspect"* of manipulation as in this sample the correlation between creatinine and specific gravity is correct, but the sodium concentration is totally out of range. Moreover, this high concentration was measured in a urine sample in which the creatinine concentration is not very high at 9'559 μmol/l. With such a high sodium concentration Prof Burnier would have expected a creatinine concentration above 20'000 μmol/L. In addition, none of Dr Charytan's arguments would explain why some samples contained very high sodium concentrations, sometimes even outside of physiological possibilities. Based on the foregoing, the Respondent submits that the Panel may be comfortably satisfied that there is no physiologically sound explanation for the level of salt found in the Appellant's sample B2890589. The only logical conclusion would be that the sample was tampered with by the addition of salt.

126. The third element of evidence shoving the Appellant's personal implication in the scheme would be the multiple T-marks contained on the Appellant's samples B2889850 and B2890589. The respondent recalls that Prof. Champod's expert concludes that each of these two bottles were very likely tampered, with a percentage probability above 99,9%. Furthermore, these two samples which bear multiple T-marks were found by Prof. Champod to have had an initial closure of fewer than 15 clicks. This finding would directly implicate the Appellant as it indicates the fact that she deliberately did not close her sample bottles at sample collection to the maximum.

127. The fourth element pointing at the Appellant's personal implication in the scheme would follow from the fact that, contrary to proper practice, the Appellant's name appears in LIMS, indicating that she was to be identifiable to the Laboratory for the purposes of sample swapping. This would confirm that the doping control process was corrupted in connection with her samples

and the Appellant herself, or her support personnel, which would be the same, would be the most likely source of the information contained in the DCFs.

128. The fifth and final element identified by the Respondent in this context was the Appellant's sample number 2944514, provided on 31 October 2014, at a training camp in Tyumen, Russia, the initial analysis of which revealed the presence of mixed DNA. The Respondent stepped back from this part of its argumentation during the proceedings as its own expert reports could not exclude the possibility that the finding of mixed DNA, which belonged respectively to the Appellant and her husband, could have a natural explanation unrelated to tampering.

129. With regards to the standard of proof, the Respondent observes that the standard which is to apply in the present matter is "comfortable satisfaction", but such shall be exercised taking into consideration the particularities of the matter. The Respondent submits that the Panel shall be first comfortably satisfied that the conspiracy existed and of its substance. If the evidence sufficiently supports the fact that an athlete was effectively involved in the scheme, then the Panel should not set too high a hurdle to draw the inference that as a participant in and beneficiary of the scheme, the athlete be held accountable for it.

130. Concerning the specific ADRV's committed by the Appellant, the Respondent recalls that the IOC DC has established violations pursuant to the 2009 WADC for (i) tampering (articles 2.5 and 2.2), (ii) use (article 2.2), and (iii) cover-up/complicity (article 2.8).

131. More particularly, the Respondent notes that the definition of tampering as a Prohibited Method pursuant to the M2 Prohibited List relates to alterations of the integrity and validity of the sample, specifically including urine substitution. The actions described in this definition appear to correspond precisely to the main features of the scheme that occurred in Sochi. Indeed, in these cases, the subversion of the Doping Control process was achieved by substitution of the urine collected during the test with other urine. This substitution requires the surreptitious opening of the bottle and as such, it alters the integrity of the samples. On this basis, the Respondent submits that the present case should be considered as a violation of article 2.2 of the 2009 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 2009 WADC. The Respondent 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. The Respondent underlines that the panels in the Other Proceedings followed a similar approach. The Respondent further submits that under article 2.2 of the 2009 WADC, a violation may occur even in the absence of knowledge of the violation. Consequently, it would not be necessary to establish that the Appellant was a conscious participant in the scheme and was aware of purpose in order to establish a violation of this provision. In any event, the possibility that the Appellant was a mere unknowing participant could reliably be excluded. In conclusion, the Respondent submits that it is possible and necessary to confirm that (a) a violation of article 2.2. of the 2009 WADC is established and, subsidiarily (b) the same factual circumstances also constitute a violation of article 2.5 of the 2009 WADC.

132. According to the Respondent, the Appellant also committed an ADRV of use of a Prohibited Substance. This could be inferred from the Appellant's name on the Duchess List or her *ad hoc* protection, which may be deduced from the objective results of the forensic examinations. According to the Respondent, the protection from which the Appellant benefited allowed her to use Prohibited Substances and this protection, which was specifically in place during the Sochi Games, had the purpose of allowing the use of Prohibited Substances during that period. The urine substitution would be devoid of any sense and logic if its purpose was solely to substitute the samples of clean athletes.

133. In respect of the ADRV for cover-up/complicity, the Respondent 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 Appellant's participation in that conspiracy constituted violation of article 2.8 of the 2009 WADC. In support of this submission, the Respondent 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 own interests, participates in a conspiracy involving other athletes, commits a violation of Article 2.8 of the WADC. The respondent further notes that under article 2.8 of the 2009 WADC a person who commits *"any other type of complicity involving an anti-doping rule violation or any attempted antidoping rule violation"* commits a violation of this article. In this connection, in CAS 2008/A/1513, the panel explained that this provision *"covers violation 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"*. According to the Respondent, the complicity the Appellant engaged in certainly meets, and indeed far exceeds, the low standard deemed sufficient in the case [CAS 2008/A/1513]. The Appellant's assistance was of a repeated nature, *i.e.* athletes provided 5-7 samples of clean urine and was fundamental to the success of the sample swapping scheme. Moreover, the Appellant knew of the ADRV from a number of pieces of direct evidence as she herself provided clean urine for the urine bank, communicated information regarding the collection and failed to properly close her sample bottles. The Respondent considers that the panels in the Other Proceedings applied a standard that was higher than the one set out in the case [CAS 2008/A/1513] and holds that the Panel appointed in the present case should determine which standard is to be applied, knowing that if it was the standard [of the case CAS 2008/A/1513], the facts and evidence of this case establish to the comfortable satisfaction of the Panel that the actions of the Appellant fulfil the elements of complicity under Article 2.8 of the 2009 WADC.

134. As regards to the sanctions, the Respondent submits that, as a consequence of the ADRV's which the Appellant is alleged to have committed, her individual results for 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 are already to be automatically disqualified in application of Article 7.1 of the IOC ADR. As far as the other results are concerned, the Respondent considers that the Appellant has not demonstrated she bears no fault or negligence. Thus, the only conceivable consequence would be the

disqualification of any and all results of the Appellant at the Sochi Games, in application of Article 8.1 of the IOC ADR. The nature of the violations and the circumstances of this case would make this consequence inescapable.

135. In addition to those individual disqualifications, the results of the relay competitions in which the Appellant took part shall also be annulled in application of Articles 9.1§3 of the IOC ADR and 11 of the 2012 IBU ADR. The Respondent notes that the athletes who are conducting parallel appeal proceedings in cases 5434 and 5435 were also participants in the two relay events concerned: the Relay Mix Biathlon event (Mrs Olga Vilukhina ~ 4th place) and the Women's 4x6km Relay Biathlon (Mrs Olga Vilukhina, and Mrs Yana Romanova – 2nd place).

136. Further, the Respondent submits that the Appellant should be subjected to a lifetime ban, and should not be allowed to participate in any future editions of the Games of the Olympiad or the Winter Games. Pursuant to Article 7.3 of the IOC ADR, it had a measure of discretion in determining the appropriate 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 would correspond to Article 59§2.1 of the Olympic Charter. Admittedly, CAS jurisprudence establishes that sanctions must not be disproportionate to the offence and must always reflect the extent of the athlete's guilt. However, in the present case, the Appellant's conduct has shocked the world at large and constitutes *"the most serious example of systemic cheating in the history of Olympic sport"*, she has, as part of the institutionalised cover-up, caused severe damage to the image of the Olympic Games. It would thus be 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. The application of a measure of ineligibility would moreover be justified by the fact that the Athlete was part of a conspiracy, which infected and subverted the Olympic Games in the worst possible manner and directly affected their core values. Given the severity of the prejudice and the long-lasting harm that has been caused to the Olympic Movement, the Respondent submits that the ineligibility shall apply to all future editions of the Games of the Olympiad and Olympic Winter Games.

137. In this respect, the Respondent adds that the issue that confronts the Panel 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 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 Article 59§2.1 of the Olympic Charter. The Respondent submits that, against this backdrop, the imposition of lifetime bans is clearly supported by this disposition. Besides, in CAS 2007/A/11286-1289, a CAS Panel had concluded that the same measure applied in a context of lesser conspiracy was legitimate. The respondent further argues that the position of the panels in the Other Proceedings, according to which they were *"not required to, and did not, examine whether the ADRV committed in Sochi by the Athlete was part of a general cover up scheme orchestrated during the Sochi Games"* is inadequate in two respects: (i) if the determination of the existence of the scheme would be, as stated, at least decisively relevant to decide the length of the ineligibility, then the panels in the Other Proceedings, contrary to what they stated, were required to make a determination on an element which the Respondent submitted was essential in all respects and

(ii) the observation that there was no examination whether there was a general cover up scheme in Sochi is paradox as these panels found *a minimo* that no fewer than 12 urine samples of Russian athletes had been swapped in circumstances in which this could only occur through sophisticated surreptitious opening of sealed samples at the Olympic laboratory. The position of those panels not to consider that the above constitutes a cover-up scheme aimed at protecting Russian athletes against AAF would amount to a denial of reality. The Respondent thus encourages the Panel in the present proceeding to this matter to adopt a broader view when considering the merits of this matter.

138. As far as the length of ineligibility is concerned, the Respondent maintains that it is adequate that actual participants to such a scheme should never participate again in the Olympic Games. A reduction of the ineligibility to only one edition of the Olympic Games would not take into consideration that the present matter is not just about an individual violation and but also about an element of a far-reaching doping scheme. In any event, in the present matter, the decision to be made in this respect would have, at this stage, mainly a symbolic significance as the Appellant has effectively retired from active sport and as the Respondent retains the right to determine eligibility and accreditation to future editions of the Olympic Games.

139. Finally, concerning the consequences beyond the Olympic Games, the Respondent notes that in application of article 8.3 of the IOC ADR, the further management of the consequences of the ADRV's, and in particular the imposition of sanctions over and above those related to the Sochi Games, shall be conducted by the IBU.

140. In its closing submissions, the Respondent remarked, as a preliminary point, that Russia is still changing evidence, that Biathlon is not a different world from other sports already examined in the Other Proceedings and that it is uncontested that there have been cases of doping in Mr Pichler's team.

141. With regards to the general context of the case, the Respondent argued that although it might have been easier to influence the specific gravity of the urine by adding something else than sodium, it is obvious that adding sodium works, that it was safe as nobody normally analyses the sodium levels in the samples and that it is what was done as shown by the findings of levels that are, according to all experts, physiologically not explainable. It would thus be obvious that there was a pattern at the Sochi Games. These Games were particular insofar as all the manipulation occurred in the Sochi Laboratory. The EDP and the LIMS would show how the evidence of doping was generally suppressed. Due to the fact that at the Sochi Games there were observers in the Sochi Laboratory, the manipulation had to be done in a way to establish a doping-control free environment. That would explain why there is no correlation between results and why there is no link between medals and possible doping.

142. Regarding the evidence, the Respondent noted that Dr Rodchenkov did explain the system and his explanations turned out to be corroborated by all corresponding evidence. There would on the contrary be no proof that Dr Rodchenkov manipulated the system all alone and for his own financial benefit. It would be important to take a stand on whether or not something went badly wrong in Sochi. In the Respondent's view, the evidence clearly shows that something did go wrong. The IP and IOC started by checking the explanations given by Dr Rodchenkov, *i.e.* that

salt was added, and they found that salt was added to the samples. There would be no explanation for the salt levels found in some samples, and in particular in one of the samples of Mrs Zaytseva. A comparison with the Vancouver Samples would show that 13 of the Sochi Samples clearly stand out from the others, and this even though the very high outliers had an impact on the calculation of the average value. The IOC would have an explanation for these outliers that fits the scenario: salt was added.

143. This explanation would be corroborated by other evidence, namely scratches and marks on the sample bottle caps. In this regard, the Respondent argued that, contrary to what the Appellant has asserted, it would not have made sense for the FSB not to pay attention to not leave marks on the sample bottles as whenever you do something hidden you would try to hide it the best you can. Further, the FSB had a long time, *i.e.* more than one year, to prepare and train on how to open bottles with leaving the least possible marks. All the bottles with high sodium values and scratch marks on the caps were found within the target group indicated by Dr Rodchenkov. The same would be true for issues related to mixed DNA. The general findings would again corroborate Dr Rodchenkov's explanations.

144. The Respondent explained that the scheme was maybe not perfect, and that the people responsible for the scheme might have missed something. The EDP and, in particular, the LIMS could deliver such element. Further, as established, the sample with the highest salt level had no relevant scratch marks and, thus, it has to be concluded that salt was added, and the bottle opened to do so. The Respondent contends Mr Arnolds statement according to which all other possible origins of the scratch marks should have been tested. Further, the Respondent rejects the idea that the T-marks could have been produced by the freezing and thawing of the bottles or by an athlete playing with the metal ring of the bottles and points out that Mr Arnold has given no credible explanation for the marks in the context of the bottles in question. Moreover, the SB and DB bottles would clearly show that the T-marks could not come from normal use as they are never found on *"normal use"* bottles. Whenever T-marks are found, they are found within the group of people figuring on the Duchess List and competing within a specific sport. The Respondent highlighted again the importance of Dr Rodchenkovs' diaries and photographs of the *"mousehole"* between the Sochi Laboratory rooms.

145. A last important piece of evidence would be constituted by the LIMS data, data which the panels in the Other Proceedings did not have. This data would show that the doping control system on the Russian athletes at the Sochi Games was fundamentally flawed. This could leave to a removal from all the Russian results because it would show that there was a fundamental *"process failure"* as the Sochi Laboratory knew to whom the samples belonged. If the Panel were to accept that the general doping scheme existed, then the Athlete should not be considered as acting as *"individual athlete"* but as part of the scheme and the only question would, then, be if the IOC has presented evidence linking the Athlete to the scheme. The answer to that question would obviously be yes as evidence of opening or added salt would necessarily mean that the Athlete had participated by providing clean urine, not in 2012, but later, when the clean urine bank was set up. In any event, there would be no explanation of how the analysis of urine provided in a hospital would end up at the Moscow Laboratory.

146. Regarding the Athlete's case in particular, the Respondent recalled that the salt levels found in one of the Athlete's samples, the Respondent recalls that none of the Vancouver Samples showed such a high concentration of sodium, that in the study of a Japanese cohort cited by Dr Charytan, the highest value was 307 mmol/l and not 350 mmol/l, that the Athlete's intrapersonal correlation between the creatinine level and the specific gravity is revealing. Further, the Athlete testified that before the competition, *i.e.* the day she provided the sample with the highest sodium levels, she did not eat red caviar but had a normal breakfast as well as pasta and soup for lunch, which could not explain an intake of approximately 20 grams of sodium.

147. The Respondent further pointed out that the T-marks found on the Athlete's samples have not been observed on any of the SB and DB bottles and could, thus, be explained by nothing else than a forced opening of the bottles. The Respondent finally observed that the Athlete's name was found in the LIMS in relation to certain of her samples.

148. All in all, there would therefore be clear evidence of the scheme and a clear link of the Athlete to said scheme

V. EVIDENTIARY PROCEEDINGS

A. Factual evidence

149. In the present proceedings, in deference to the Other Proceedings, the Parties agreed that in connection with factual evidence, apart from the Appellant herself and Mr Pichler, no witnesses were to be heard at the hearing, so that the Panel should rely on the witness statements and affidavits provided by the different witnesses.

150. The Appellant submitted witness statements of the following individuals:

- Mr Mikhail Dmitrievich Prokohorv, the former president of the Russian Biathlon Union, who, in relation to the Affidavits of Dr Rodchenkov dated 2 November 2017 and 15 January 2018, categorically rejects the allegation that he had paid millions for the silence of people to an alleged doping of Mrs Irina Starykh. He further states that he was an outspoken critic of the existing system of Russian sport management and had appointed foreign coaches and resisted pressure from the former Minister of Sport, Mr Vitaly Mutko. He affirms that before the publication of the First McLaren Report, he had never heard the names *"Irina Rodionova"* or *"Stanislav Dimitriev"* and had never seen these people. He finally states that he is convinced that the Appellant is innocent and was not involved in the so-called *"State-Sponsored Doping Programme"*.

- Mrs Irina Rodionova, the former Deputy-Director of the CSP, who took position, in a first witness statement, *inter alia* on the different affidavits provided by Dr Rodchenkov respectively dated 6 December 2017, 2 November 2017, 5 November 2017, 5 November 2017 (in respect of Mrs Yana Romanova), 5 November 2017 (in respect of Mrs Olga Vilukhina), 18 November 2017 (in respect of Mrs Olga Zaytseva) and 15 January 2018. In this first witness statement, she stated that Dr Rodchenkov's allegations in respect of

herself were fabricated and not true. She affirmed never having been involved in the allegedly existing *"State-Sponsored Doping Programme"* that allegedly included the urine sample swapping scheme and firmly believing that there was no such programme in place. Further she states not having coordinated the use of PEDs by the athletes, not having arranged for collection of *"clean"* urine and not having distributed PEDs either. She gave a number of specific explanations on why she considered that Dr Rodchenkov's allegations were not true. In particular, she explained (i) why Dr Rodchenkov could have hard feelings against her, leading him to come up with fake stories against her, (ii) that she had never heard of the so-called *"Duchess List"* and certainly was not involved in aggregating such list, (iii) that there was a *"medals by day list"* based on the research of Canadian scientists Allinger Consulting International Inc. pertaining to the forecasts on the medal distribution at the Sochi Games, (iv) that, until the publication of the First McLaren Report, she did not know about the doping called *"Duchess Cocktail"*; (v) that she has never arranged for collection of *"clean urine"* of the athletes, has never stored it at the CSP (no storage room and no refrigerators), and certainly did not have it transferred to the FSB, (vi) that initially she had not planned on going to the Sochi Games and that, as the decision to go nonetheless was a last minute decision, she did not have an accreditation and did not stay at the Olympic village, (vii) that she only had a phone that could not receive photographs and did not have any communications with athletes from the Russian National Olympic Team; (viii) that allegations related to Mrs Zaytseva are wrong and that she never attended any meeting with Dr Rodchenkov and Mr Nagornykh to discuss the *"case"* or ABP data of Mrs Zaytseva, (ix) that, on 8 January 2015, she could not have attended the meeting in Moscow described by Dr Rodchenkov as she was , from 3 to 9 January 2014, in the *"Nord Avenue"* guest house in Krasnodar. In her second witness statement, dated 27 January 2020, Mrs Rodionova gives more additional information in relation to an affidavit of Dr Rodchenkov dated 12 November 2019, and refutes all contained therein as false and untrue, in particular, (i) that she did not and could not have any contact with Mrs Komarova from 2006 onwards; (ii) that there were no races in Oberhof (Germany) in December 2013 and that she could not prevent Mrs Glazyrina from competing at that race; and (iii) that she was never acquainted with someone called Aleksei Kiushkin and did not have an assistant of that name.

- Mr Sergey Vladimirovich Volvak, an IT specialist working at the CSP since 2013, who stated that he assisted, from 2013 onwards, Mrs Rodionova with PC-related work and performed other paperwork duties, such as preparing various documents for meetings at the CSP and meetings of the Expert Council of the Russian Ministry of Sport, as instructed by her. He further affirms that he has never seen Mrs Rodionova preparing a list of *"protected athletes"* or the *"Duchess list"*, or participating in a search for the components for the so-called *"Duchess"* cocktail, preparing and distributing the same, or arranging for the collection of *"clean"* urine, its storage in the CSP and transfer to the FSB. According to Mr Volvak's witness statement, he has never heard Mrs Rodionova saying the name of Mr Rodchenkov or mentioning the names of any prohibited substances Oral-Turinabol, Oxandrolone (Anavar), Methenolone (Primobolan), Trenbolone (Parabolan) and others, no person called Aleksei Kiushkin has ever worked with him and Mrs Rodionova at the CSP. Finally, Mr Volvak states that there were no refrigerators or other refrigerator units

in the CSP. Thus, Dr Rodchenkov's allegations about the storage of *"clean"* urine in the CSP would be false.

- Mrs I. N. Hachalova, head of human ressources at the CSP, stating that Mr Aleksei Kiushkin has never had any employment relations with the CSP.

- Mr A. M. Kravtsov, director of the CSP, stating that from1 January 2010 to 31 December 2014, no refrigerators or refrigerator units have been purchased for the storage of the athletes' biomaterials.

- Mr Evgeny Romanovich Ustyugov, a former professional Biathlete, stating that he has never given any urine samples outside standard doping control procedures, save for insignificant volume of urine given in the course of regular medical check-ups conducted twice a year. He further declared that on 5 November 2012, when according to the IBU allegations he purportedly provided *"clean"* urine, he arrived from Krasnoyarsk to Moscow in Domodedovo airport at 7.45 AM together with his wife and daughter and, immediately following the completion of necessary pre-departure procedures, he went to a training camp in Austria by flight Moscow-Vienna departed at 10.45 AM from the same airport, which would be confirmed by the relevant air tickets. He affirms that, save for a couple of hours he spent in flights and at the airport, he was in Austria on that day and could not have possibly given *"clean"* urine on the given day. Furthermore, he states that, from the practical point of view, it seems impossible to provide a urine sample in the volume of 7 ml.

- Mr Sergey Valentinovich Kushchenko, Executive Director of the Russian Biathlon Union between 2009 and June 2014 and First Vice-President of the IBU between September 2010 and September 2014, states that prior to the release of the First McLaren Report, he had known nothing either about the alleged existence of the so-called *"State-Sponsored Doping Programme"* in Russia or about the *"Duchess"* doping cocktail allegedly invented by Dr Rodchenkov. He further categorically affirms never having met with Dr Rodchenkov in his car, let alone for the purpose of acquiring PEDs for the Russian biathlon team. He further denies that his driver, Mr Oleg Alexandrovich Besklinskiy, has ever given any money to Dr Rodchenkov. Moreover, he states that although he might have seen Mrs Rodionova and Dr Rodchenkov during various meetings of the Expert Council at the Ministry of Sport of the Russian Federation or of the Russian Olympic Committee Executive Board, he never communicated with them and never discussed any matters relating to the Russian Biathlon Union. He affirms that he has never kept in touch with Dr Rodchenkov and therefore has never sent anything to him, let alone the Laboratory Documentation Packages of Mrs Ekaterina Iourieva and Mrs Irina Starykh, who secretly made their own decision to take PEDs, were caught and justly punished.

- Mr Oleg Alexandrovich Besklinsky, who worked as a driver for the Russian Biathlon Union from September 2009 to September 2014. He affirms that in the context of his work duties, he drove Mr Kushchenko from home to the office of the Russian Biathlon Union and drove him back home after work. In addition to that, he would make various trips with Mr Kushchenko in the course of the business day. He states that he has never

seen or met Dr Rodchenkov and that the latter has never been in Mr Besklinsky's car. He affirms that he did not hand over any envelopes to Dr Rodchenkov and that Mr Kushchenko never gave him the directions mentioned by Dr Rodchenkov in his affidavits.

- Mr Evgeny Kudryavtsev, who headed, from late 2012 until November 2015, a section at the Moscow Laboratory tasked with logging and recording bio samples. In this capacity he was primarily responsible for logging, aliquoting, transferring of aliquotas, measuring of urine pH, and storing bio samples and overall, for ensuring that the section functioned properly. During the Olympic Games in Sochi he was also responsible for receiving, aliquoting, transferring of aliquotas, measuring of urine pH, and storing bio samples at the Sochi Laboratory. He stated that the scheme that allegedly existed in Sochi is nothing but a figment of Dr Rodchenkov's imagination and has no basis in reality. He affirms that he was never involved in any such scheme, was not aware of any such scheme and firmly believes that no such scheme ever took place. In his witness statement, Mr Kudryavtsev gives detailed explanations to why he believes that Dr Rodchenkov is not saying the truth. In particular, the data relating to the chain of custody documents would show that, contrary to Dr Rodchenkov's assertions, first, many of the samples were processed during the day shift and, second, that many of the samples were processed within a period of less than 1,5 hours from the time they arrived to the laboratory till the time when they were sent to the analysis. This would confirm that no night complex swapping scheme that required quite substantial amount of time was possible even theoretically. According to Mr Kudryavtsev's statement, Thierry Boghossian from WADA was monitoring the work of the department quite closely, in particular the work in aliquoting room No. 125, and was present even at night shifts or would stay, like on 14, 20, 21 and 22 February 2014, until late in the night. Further, he affirms that he has never removed any B samples from the storage room, that he has never hidden any B samples in his lab coat, that the necessary equipment to cleanse bottles used for bio samples as needed in Dr Rodchenkov's scenario was not available in room No. 124 but only on the second floor of the Sochi Laboratory. Finally, he states that he does not recognize the person called Blokhin and cannot remember meeting this person or even ever seeing this person in the Sochi Laboratory.

- Mr Yuri Borisovich Chizhov, who has been the Head of the Administrative Support Section at the Moscow Laboratory since 2005 and was responsible for ensuring the proper organization and provision of administrative support services at the Sochi Laboratory during the Sochi Games. According to Mr Chizhov, representatives of WADA thoroughly examined every room in the building. 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. There was a robust physical access control system deployed 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 and a perimeter fence surrounded the laboratory and security cameras constantly monitored the

entrance. Mr Chizhov stated that Dr Rodchenkov's allegations concerning the existence of a sample-swapping scheme at the Sochi Laboratory were entirely invented and he denied ever committing any of the acts alleged by Dr Rodchenkov. He affirmed that he never swapped samples or prepared urine for such a purpose and that he never witnessed anyone else undertaking such actions. He explained that the scheme alleged by Dr Rodchenkov could, mainly for reasons linked to the above described security system, not have been implemented. Moreover, the rooms where, according to Dr Rodchenkov, 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. Mr Chizhov states that it would therefore have been impossible to empty and wash urine bottles in that room. He further refutes that a hole was drilled between the two rooms and affirms that the allegation that he had personally drilled such a hole or instructed someone to do so was simply absurd and entirely untrue. Finally, he denied playing any role in the manipulation or swapping of urine samples and insisted that the allegations concerning his involvement were baseless.

- Mr Grigory Ivanovich Krotov, who worked as Head of the Peptide Doping and Blood Test Section at the Moscow Laboratory between 2008 and July 2016 stated that the Peptide Doping and Blood Test Section at the Sochi Laboratory was located on the second floor of the laboratory and that samples were delivered to that section by a special elevator from the ground floor where they were received and aliquoted. During a day, samples were delivered in two periods from 13h00 to 18h00 and from 22h00 to 05h00. At around 03h00 each day, the section started analysing samples received at night. According to Mr Krotov, WADA staff had free access to any room of the laboratory and frequently came to the laboratory with inspections including at night time. He affirms that when working at the laboratory, including at night time, he never noticed anything strange or suspicious and never saw any people he did not know. He specifically denied having ever seen Mr Blokhin in the laboratory building. Mr Krotov further denied that the sample-swapping scheme described by Dr Rodchenkov ever existed and 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. Finally, he stated that he never saw Dr Rodchenkov at the Sochi Laboratory at nighttime.

- Mr Maxim Verevkin, who started working at RUSADA in 2009 as a DCO and had become, by 2014, the Chief Specialist of the Department of Doping Samples Collection, stated that, as part of the preparation for the Sochi Games, he was in charge of training of about 400 DCOs. At the Sochi Games, he was the manager of a doping control station. Mr Verevkin affirms that all procedures were followed properly and in accordance with applicable rules and standards. In particular, (i) upon arrival at the doping control station, the athlete presented a passport to the DCO and completed the DCFs, (ii) the athlete was

then accompanied by a DCO to the toilet, where he provided urine into a cup under the supervision of the DCO, (iii) 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; (iv) the athlete then provided the closed bottles to the DCO who ensured the bottles were closed to the maximum extent possible; (v) the athlete would then turn the two sample bottles upside down, to ensure they were properly sealed, (vi) finally, the two bottles were placed and sealed in separate plastic bags. Mr Verevkin stated that considering that the sample collection process involved the participation of the individual athlete, any representatives that accompanied him, a DCO and sometimes observers from WADA or International Federations, he believes that it was, in these circumstances, 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 further affirmed that he never saw anything like this occur at his doping control station during the Sochi Games. In addition, Mr Verevkin pointed out that the use of phones was not allowed at doping control stations and photo- and vide-recording was prohibited. According to Mr Verevkin, this rule was enforced strictly due to confidentiality concerns. Finally, he stated that there was no single instance of suspicious activity at his station, that there were no violations reported and that he received very high reviews by international observers as to how the DCOs' work at his station was organized and implemented.

- Mr Andrey Knyazev, who started working at RUSADA in 2008 as a DCO, was, during the Sochi games, the manager of a doping control station. As part of that role, he was responsible for personally supervising the DCOs who worked at his station and make sure they followed properly all procedures in accordance with applicable international rules and standards. He stated that the procedure of closing urine samples was carried out properly at all times at his station. He affirmed that he never received any complaints from anyone, including athletes, their representatives who accompanied the athletes, and international observers who visited his station several times to ensure the station operates in accordance with the WADA regulations. Mr Knyazev stated any phone and video-recording was strictly prohibited at the stations because of privacy considerations. Phones and hand-held devices were not allowed to be used by anyone, and, according to Mr Knyazev he or the DCOs would always ask anyone who took a mobile phone or smartphone out to put them away. Finally, Mr Knyazev affirmed that he never saw or evidenced any suspicious or illegal behavior at the station he supervised. All of the DCOs at his station complied with their respective duties and fulfilled their job properly, including checking that the bottles were properly closed to the fullest extent possible.

- Mr Pichler, who worked, from May 2011 until April 2014, as a coach of the Russian female biathlon team and, in particular, trained Mrs Zaytseva and Mrs Romanova, stated, *inter alia*, that he has always actively fought against doping and has never tolerated any doping, especially in my teams; that when he was offered the position of coach for the Russian female team, he accepted because he wanted to change the system in Russian biathlon; that he still believes that his team, which included Mrs Zaytseva and Mrs Romanova, did not use substances and methods prohibited by WADA; that he can only comment on Dr Rodchenkov's statements in regards to these two athletets and not in regard to Mrs Vilukhina, as she was not in his team; That he has never seen Mrs Zaytseva

and/or Mrs Romanova using substances and methods prohibited by WADA; that the values of the daily blood samples he took from these two athletes during their training did not reveal any indications that they used any such substances or methods; that these tow athletes values were comparable to the ones from other athletes he worked with during his career; that these two athletes results did not show any sign of intake of EPO, as this substance would make athletes faster without having an increase of their heart rate; that Mrs Zaytseva and Mrs Romanova won a silver medal in the 4x6 km relay at the Sochi Olympics not because of the speed of their skiing, but because of their precise shooting, which would not support Dr Rodchenkov's theory that the athletes were doping; that he truly believes that Mrs Zaytseva and Mrs Romanova are innocent and assumes that they have achieved their high results at the Sochi Games due to their perseverance, strenuous training and efforts.

At the hearing, Mr Pichler confirmed his witness statement and reiterated that he believes that the athletes that he was coaching in the Russian Team were *"clean"* and that their parameters did not show any signs of doping. He affirmed that if they had doped, he would have noticed it. Asked whether the fact that another athlete that trained with him, *i.e.* Mrs Ekatarina Glazyrina, was convicted of doping, he stated that the alleged doping practice happened when that athlete was in Russia and not under his supervision and that, in any event, he does still does not believe that she doped. He further stated that in comparison to the data he had gathered from other athletes he had trained before, the data and training performances of Mrs Romanova and Zaytseva showed nothing unusual and that he would have to lie if he were to say that he ever had any doubt that there was foul play. With regards to the non-participation of Mrs Glazyrina at the world cup races referred to by Dr Rodchenkov, he testified that during the time period referred to, they were not training in Oberhof but in Seefeld and that Mrs Glazyrina was not supposed to race in Oberhof. Indeed, they had some internal qualifications and objectives to achieve, which Mrs Glazyrina had not managed. That's why he ordered her an extra-training block. He further stated that he would be surprised if Mrs Glazyrina would have come to Ruhpolding (D) and Seefeld (AUT) to train if she had been doped as the athlete would have been under the control of WADA. He further denied ever having taken Mrs Glazyrina out of a competition. He stated that if he had known that Mrs Glazyrina had doped, he would have immediately kicked her out of the training group but that he did not have any idea about that or information in that direction. Asked whether he had produced an affidavit in the proceedings concerning Mrs Glazyrina, he stated that he had no recollection in that respect. In any event, as not competing does not does one cannot get tested, he could not understand why Mrs Glazyrina was in Seefeld if she had doped. Asked about nutrition issues, Mr Pichler acknowledged that he was not in charge of the nutrition, they part being the responsibility of a physician. He further stated that the athletes of his group were not very disciplined when it comes to questions of nutrition. He stated that he believes that there was a nutritionist in the Russian Team at the Sochi Games but that he was not in touch with that person and that does not believe that the athletes from his group have taken anything particular form that person as it was agreed that they would only take the things they were used to and not try any special or new thing. He stated that he did not monitor the salt intake of his athletes as he had a physician for that. In an answer to a question from the Panel, he acknowledged that one of his

former athletes, Mrs Sachenbacher-Stehle, had voluntarily confessed that she had doped and, thus, agreed that no matter how careful you are as a trainer, doping could happen. Moreover, he stated that he does not recall having met Mrs Rodionova and that he does not know her.

In his cross examination, he was asked about Mrs Sleptsova, and acknowledged that from beginning of Mai 2013, she was training in his group.

In response to questions from the Panel, he stated that to be a good biathlon shooter it takes talent, *i.e.* a good reaction, calmness and good mental strength, and that it would be better not to have a heartrate to close to the maximum heartrate when shooting. When asked whether he believed that EPO could help a biathlete to be better at the shooting stand as it lowers the heartbeat during the skiing effort preceding the shooting, he stated that he didn't know and had never thought of that.

151. The Athlete filed a witness statement dated 29 August 2019 in support of her appeal. In that witness statement, the Athlete summarised her career as a professional biathlete, which included winning a gold medal in the Turin Olympic Games (2006), a gold and a silver medal at the Vancouver Games (2010) and a silver medal at the Sochi Games (in 4x6km women's relay). She affirmed that the IOC's and Mr Rodchenkov's accusations against her are far-fetched, unsubstantiated and run contrary to the factual background and defy common sense and logic.

152. The Athlete stated that she has never taken substances prohibited by WADA, or their mixes, and has never used methods prohibited by WADA. She affirms that, prior to the release of the First McLaren Report and the respective coverage in the press, she knew nothing about the alleged existence of the so-called *"State-Sponsored Doping Programme"* in Russia, or about the existence of the *"Duchess"* Cocktail allegedly invented by Dr Rodchenkov, or about the existence of some *"Duchess"* list or *"Medals by day"* list. She stated, moreover, that before that, she had never heard of or seen Dr Rochenkov. The Athlete stated that during the 19 years of her career, she lived, trained and competed in many countries other than Russia, in particular she lived in Belgium (from 2006 – 2012) and Switzerland (2012-2013), and that from May 2011 until the end of the Sochi Games, she was trained by Mr Pichler and, thus, permanently trained abroad, mainly in the training camp in Ruhpolding, Germany.

153. The Athlete affirms that during the 19 years of participating in the doping test pool she underwent many doping-control tests both in Russia and abroad under the control of, *inter alia*, WADA, IBU and IOC, that all control tests were negative and that she has never been informed of any positive doping results. She further states that all anti-doping tests, including the ones done at the Sochi Games, were conducted in strict compliance with the anti-doping rules. In particular, she affirms that she would *"close the A and B bottles until a click (up to the tightest possible point) and give the bottles to the DCO for him/her to make sure that they were effectively closed",* then *"pack the bottles into small bags, which would then be placed into a plastic container and wrapped around with blue ribbon"*.

154. The Athlete further stated that she has *"never taken any photographs of the DCFs with my cellular phone"* and has *"never texted any photographs of the DCFs, let alone to Irina Rodionova, who was not a close*

acquaintance" of hers, and whose phone number she did not know. Moreover, she affirmed that when she accompanied by the team representatives during a doping control test, *"they did not take photographs of the DCFs either and did not send them anywhere"*.

155. The Athlete denied having ever given any urine samples outside standard doping control procedures, save for an insignificant volume of urine given in the course of regular medical check-ups conducted twice a year. She states that all these medical check-ups were usually conducted at Burnazyan FMBA and that on 24 October 2012, together with the entire women's national biathlon team, she underwent a medical check-up at Bumazyan FMBA, in the context of which, *inter alia*, her urine was tested, as confirmed by the testing results.

156. Moreover, the Athlete denied ever having taken EPO or having had high levels of hemoglobin. She states that contrary to Dr Rodchenkov's allegations, she did not give any blood samples for testing during between 31 March and 14 April 2013 as she was, during that period, on vacation in the Dominican Republic as shown by her boarding passes.

157. She further denied having participated in the Izhevsk Russian Championship and Cup between 17 and 22 December 2013; having any knowledge about meetings between Mrs Rodionova, Mr Nagornykh and Dr Rodchenkov during which her case would have been discussed; ever having submitted *"clean"* urine for swapping purposes, ever having had problems with her ABP, and having stopped her career for other reasons than personal circumstances.

158. The Athlete affirmed that all of her doping control tests have always been negative, that she has never violated any anti-doping rules, that she never had any problems with the ABP, that she has always stood for clean sport, that during her sport career she carefully controlled her actions, controlled her food and drink, and also controlled the medicines which she took. She stated that the unfair accusations of the IOC, based on the false statements of Dr Rodchenkov, bring discredit to her whole sport career notwithstanding the fact that she is a clean athlete and has always been for a clean sport.

159. The Athlete gave oral evidence in person at the hearing. During her oral testimony, the Athlete pointed out that her career had lasted 20 years and not, as erroneously stated in her witness statement 19 years. For the rest she confirmed and, in some respects, expanded upon the contents of her witness statement. Among other matters, the Athlete explained that:

- During her entire career there were never any issues with any of the many anti-doping tests in many different countries;

- She has never used prohibited substances and despises doping;

- She has never met, seen or had contact with Dr Rodchenkov;

- She never provided any urine samples outside of the regular anti-doping tests or the annual medical check-ups which are compulsory for members of the Russian national teams;

- She thoroughly followed the protocols when providing urine samples for anti-doping tests at competitions. Given that she was afraid that the bottles would leak, she had the habit of always closing them very tightly. The DCO's would check that the bottles very tightly closed and would close them even tighter;

- The issue about the mixed DNA found in her urine sample made her feel very uneasy and that she would have expected the laboratories to have done their job in a more professional manner than they did.

160. During cross-examination, the Athlete stated among other things that:

- She was staying and eating at the Olympic Village during the Sochi Games;

- That the day of a race like the one that took place on 19 February 2014, she would have a lunch constituted normally of soup and spaghetti;

- That she would put her finger into the cap of the sample bottles to take the red plastic ring out, but would not play with the cap as such.

161. In response to questions from the Panel, the Athlete testified, *inter alia*:

- That when she was in Russia she would not have another coach while training under Mr Pichler;

- That the urine and blood samples provided on 31 January 2014 was provided under normal circumstances on the day she arrived at the location of the Sochi Games. She had had a long and tiresome travel from Austria and that she had not trained on the day she provided those samples. She added that she had to hydrate for a long time before being able to provide the urine sample;

- That she did not exactly remember the circumstances under which she was notified that she had to undergo an anti-doping test after the mixed-relay event on 19 February 2014, but that the procedure was the usual procedure. That dehydration is an issue and that she therefore took some liquids after her leg of the relay while waiting for the other members of her team to finish the race. That this explained that when arriving at the station she could provide the urine sample quite quickly, *i.e.* 8 minutes;

- That although the team had nutrition specialists, she did not accept their views and was not willing to change her diet; that she is very fond of salted food, that she sweats a lot, that she every now and then would eat salt in spoonfuls, that during the Sochi Games, she was eating red caviar and salted fish;

- That she cannot explain why the sodium level in the sample provided on 19 February 2014 was so high;

- That she paid very close attention to her food and drinks intakes/containers, but that she did not give any thought to her salt consumption before a race except very closely before the start, *i.e.* one hour before;

- The Athlete finally confirmed that whatever she had been eating in the Olympic Village during the Sochi Games was identical to what other athletes were eating.

162. The Respondent, for its part, relied on affidavits of Prof. McLaren and Dr Rodchenkov.

163. In his affidavit, dated 11 November 2019, prepared for the cases CAS 2017/A/5434, CAS 2017/A/5435 and CAS 2017/A/5444, Prof. McLaren, as a preliminary matter, confirmed the findings set out in his Reports and observed that he was aware that these Reports would have grave consequences for individual athletes and teams. His affidavit was a supplement to the one he had prepared for the IOC DC Hearings. Prof. McLaren states that after the release of his Second Report, he and his team continued to go through the database in order to review, reassess and recover additional information. The spend time reviewing the LIMS data, the London Games retesting and Dr Rodchenkov's diaries. According to Prof. McLaren, this work has reinforced the conclusions set forth in his Reports and expanded his understanding of what went on in Russia between 2011 and 2015. He considers, first, that his findings on the existence of a generalised doping scheme in Russia have been confirmed by numerous deliberative bodies in their decisions, *inter alia* in the Other Proceedings and in CAS 2018/A/5752. In the latter case, a Russian biathlete was sanctioned based on the DPM emails confirmed by the LIMS data. Secondly, contrary to what the Athlete argues, the evidence he gathered would show that the doping manipulations were not the consequence of the actions of a small corrupt group led by Dr Rodchenkov but that the scheme was institutionally organized and run with the involvement of personnel of the Ministry of Sports. This would clearly be seen in the EDP documentation. The FSB had a twofold role in the scheme and the presence of Mr Blokhin in the Sochi Laboratory would be established by pictures taken by Dr Rodchenkov, showing Mr Blokhin and Mr Chizhov waiting for the swapping of samples to commence. Further, there would be evidence, that the CSP and Mrs Rodionova were involved in the scheme, mainly in relation of the collection of *"clean"* urine and the maintaining of the clean urine bank. Prof. McLaren states that his findings do not exclusively rely on the oral testimony of Dr Rodchenkov but are based on numerous other elements, such as the EDP documentation and the LIMS data and are confirmed, *inter alia*, by the London retests, the physiologically impossible sodium levels found in Sochi samples along with inconsistent DNA profiles and an expert report on the existence of the mousehole at the Sochi Laboratory. Prof. McLaren further developed the reasons that lead him to believe that Dr Rodchenkov is a credible and truthful witness in relation to the information he provided in the IP investigation. He adds that forensic evidence shows not only that the EDP documentation is authentic but also that is was possible to open the Berlinger bottles for the purpose of swapping. DNA evidence would incontrovertibly show that sample bottles were opened and tampered with. Prof. McLaren finally states that the new evidence he has considered since December 2016, confirms his earlier findings.

164. Dr Rodchenkov prepared several affidavits for the purpose of the Other Proceedings as well as the present proceedings. Following a request from the Appellant's counsel, the Respondent provided confirmation about the authenticity of Dr Rodchenkov's signature on the submitted

affidavits. The relevant affidavits are dated: 5 November 2017 (Mrs Vilukhina); 5 November 2017 (Mrs Romanova); 18 November 2017 (Mrs Zaytseva); 15 January 2018; 12 November 2019; 22 February 2020.

165. In his affidavit dated 15 January 2018, Dr Rodchenkov gave explanations relating to the manipulation of the doping control system in Russia before, during and after the Sochi Games which he refers to as the *"Sochi Plan"*, and stated that the Sochi Plan had three objectives, namely: (i) using PEDs with a limited wash-out period. Meaning that they would be undetectable in urine after a very short period of time; (ii) 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 (iii) 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.

166. With regard to the first objective, Dr Rodchenkov described how the PED used, the so-called *"Duchess Cocktail"*, was developed and tested. According to Dr Rodchenkov, the *"Ministry of Sports, and in particular Deputy Minister Nagornykh, decided which athletes would be 'protected' from doping-control threats or problems"*. Dr Rodchenkov stated that these athletes' names were placed on an excel spreadsheet, later referred to as the *"Duchess List"*, by Mr Velikodny based on information from Mrs Rodionova. He affirmed that Mr Nagornykh had informed him that Mr Mutko, the Minister of Sport, had reviewed and approved this list. He stated that swapping of urine for athletes on the Duchess List was *"automatic"* and those athletes benefitted from *"complete blanket protection"*.

167. Concerning the second objective, Dr Rodchenkov stated, *inter alia*, that in approximately March 2013, Mrs 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. Notwithstanding the short wash-out period of the Duchess Cocktail, there was a risk of positive anti-doping tests at the Sochi Games and in order to address that risk it was necessary establish a *"bank"* of clean urine, which could be used during the Sochi Games for purpose of urine swapping. To establish such *"bank"*, according to Dr Rodchenkov, the athletes were told to collect approximately five to seven bottles or cans of clean urine prior to starting their use of the Duchess Cocktail and were also instructed to freeze their urine before sending the bottles to Mrs Rodionova in Moscow in plastic bags. Dr Rodchenkov stated that in the period between March 2013 and the Sochi Games, Mrs Rodionova or Mr Velikodny transported this supply of clean urine to Dr Rodchenkov in the Moscow Laboratory. He stated that these samples, of approximately 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 Mrs 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. 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, information that he himself then reported to Mr Nagornykh, who in turn reported it to Mr Mutko. Dr Rodchenkov acknowledges however, that he *"never observed first hand any bottles being opened or de-capped"* and that, accordingly, he did not know the *"precise method"* used by the

Magicians to open the bottles, only having seen a table with instruments that resembled a dentist's tools.

168. Dr Rodchenkov went on to give a thorough description of the four stages of the alleged swapping process.

169. According to Dr Rodchenkov, he carried out night-time urine swapping during the entire Sochi Games, although not every night.

170. 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. He also referred to a decision that was made before the Sochi Games, that DCOs the Norwegian anti-doping authorities were supposed to conduct pre-competition testing for Russian athletes and that in order to minimize the possibility of being caught *"dirty"*, it was decided that Russian skiers should try to travel to Switzerland, where RUSADA would collect the urine samples, deliver them to the Sochi Laboratory, and hide the results.

171. In this affidavit, Dr Rodchenkov further addressed the financing and execution of the Sochi Plan, making reference to the implication of, *inter alia*, Mrs Rodionova, Mr Nagornykh and Mr Mutko, gave an overview of the outcome of the Sochi Plan and described the reactions to the airing, on German television, of a documentary on the Russian state-sponsored doping.

172. Concerning the Athlete, Dr Rodchenkov stated, in his affidavit dated 5 November 2017, she was protected by the state-sponsored doping program and was, as such, included on the Duchess List used to indicate which athletes were prepared and protected during the Sochi Games. According to Dr Rodchenkov, the Athlete was, as part of the list of protected athletes, instructed to collect and freeze clean urine to use for the swapping protocol during the Sochi Games. Mrs Rodionova was, according to the protocol, supposed to deliver Mrs Zaytseva's urine to the Moscow Laboratory before the Sochi Games were Dr Rodchenkov and his team would conduct analysis to confirm that the urine was *"clean"*. The celan urine samples would then be returned to M.s Rodionova to store at the CSP until end of January 2014, when they were transported to the FSB command center in Sochi. Dr Rodchenkov, referring to his notes in his diary, stated that the Russian female biathlon team performed poorly in the 15km individual race considering *"their use of the Duchess Cocktail"*. For the rest, Dr Rodchenkov enumerated the results achieved by the Athlete.

173. In his affidavit dated 12 November 2019, Dr Rodchenkov stated that, *inter alia*, that:

- Mrs Rodionova: was an integral part of the state-sponsored doping program and, as medical doctor and coordinator of athlete doping preparations, facilitated distribution of performance enhancing substances before and during the Sochi Games; managed the process of coordinating the collection of athletes' *"clean"* urine samples, delivering them for analysis, coordinating storage of clean urine samples inside of CSP ("Clean Urine Bank"), and distributing Duchess Cocktail; was assisted in transporting the Clean Urine

Bank for use at the Sochi Games by the FSB; and himself met for the first time in 2007 when she came to the Moscow Laboratory to discuss several athletes and that, after that, he met her countless times to discuss, in particular, the doping program, doping protocols for individual athletes, and to coordinate urine swapping before, during, and after the Sochi Games; and himself met, in Moscow, generally in Mr Nagornykh's office in the Ministry of Sport or in Dr Rodchenkov's office at the Moscow Laboratory; had, before the Sochi Games, provided doping substances to Russian biathletes and that, to the best of his knowledge, she delivered the Duchess Cocktail to Mr Pichler's trainee, Ekaterina Glazyrina, who failed doping control at competitions in Izhevsk, but her results were misreported to ADAMS as negative; flew to Oberhof (Germany) to prevent Mrs Glazyrina, who did not know her urine tested positive, from competing in the IBU World Cup races; was an integral part of the doping program, its planning, and in overseeing doping control, including by sending text messages and pictures of DCFs belonging to protected athletes, and providing the daily coordination required for urine swapping and the protection of athletes; arrived in Sochi on 27 January 2014 to organize the Clean Urine Bank storage and had multiple phones, including a phone capable of taking pictures and with internet connection; and himself had met even before the Sochi Games to discuss specific athletes, for example Mrs Zaytseva and the blood parameters in her ABP.

- Mr Alexey Kisuhkin: was, to the best of Dr Rodchenkov's knowledge, employed by the CSP and was considered as one of Mrs Rodionova's assistant; delivered ampules and prohormones to the Moscow Laboratory in 2013, prepared the Duchess cocktail; delivered the Duchess cocktail to the Moscow Laboratory for a wash-out and purity study.

- Mrs Zaytseva: had, in 2013 and 2014, blood parameters which indicated an ADRV for use of EPO; had her ABS graphs and datapoints missing from ADAMS for the period between November 2013 and August 2014; and the other female biathletes cannot rely on the results of the total hemoglobin mass measurements discussed by Prof. Pascal Kintz in his report because the latter's measurements were not fully accurate as they did not include a measurement of the reticulocyte percentile, which is the basis for the drawing of two fundamental ABP graphs, Stimulation Index and Abnormal Blood Parameters Score.

- There were instances when the timing of urine samples arriving at the Sochi Laboratory deviated from the schedule he described in other affidavits. However, regardless of when the urine samples were delivered to the Sochi Laboratory, urine samples in BEREG-KIT A and B bottles were always swapped during the night as described in those other affidavits. This was also the case for the 11 urine samples samples provided by Mrs Zaytseva, Mrs Romanova, and Mrs Vilukhina out of which 2 samples were delivered during the daytime. For both samples, Sample 2889698 belonging to Mrs Romanova and Sample 28918222 belonging to Mrs Vilukhina, the timing documented in the LIMS for each part of the analysis process would be consistent with nighttime swapping and the analysis process.

- The claim of the female biathletes that they provided urine on October 24, 2012 to a hospital called Burnazyan FMBA Centre for medical testing and that is where the 2012 Inventory List, which was not the Clean Urine Bank created in 2013, is from, has to be wrong because the Moscow Laboratory and the Burnazyan FMBA Centre were two completely different entities that had no cooperation or connection. According to Dr Rodchenkov these samples were brought to the Moscow Laboratory and analyzed on that date. Even if the samples had been taken in Burnazyan, this would not matter for the purposes of what is documented in the 2012 Inventory at the Moscow Laboratory. At some point, the samples were brought to the Moscow Laboratory and analyzed as Mrs Sukhanova could only create an inventory of samples that were physically present in the Moscow Laboratory. The Moscow Laboratory would not have received any information from Burnazyan FMBA Centre regarding the names or urine sample information.

174. In his affidavit dated 22 February 2020, Dr Rodchenkov reiterates, in response to Mrs Rodionova's witness statement dated 27 January 2020, *inter alia*, that Mrs Rodionova was an integral part of the doping program and was, alongside Dr Rodchenkov and Mr Nagornykh, was a main actor in said program; that prior to 2011 he and Mrs Rodionova had met on numerous occasions to discuss the doping protocols and positive cases of certain swimmers, including Stanislava Komarova, Anastasia Ivanenko, and Anatoly Polyakov for example on 9 and 11 April 2007; that it follows from his diaries, that, for example on 6 December 2010, he met with Mrs Rodionova and Mr Nagornykh in the latter's office to discuss the necessity of a wide-scale Doping Program to guarantee success at the Sochi Games; that Mrs Rodionova went to Ruhpolding (Germany) between 26 and 29 December 2013, where Mrs Glazyrina was training to prevent the athletes from competing in the IBU World Cup races; that the claim that the urine provided by the Athlete on 24 October 2012, to Burnazyan FMBA Centre for medical testing, which is where the 2012 Inventory and sample list is from, is baseless as the Moscow Laboratory and the Burnazyan FMBA Centre were two completely different entities and had no cooperation or connection and as the Athlete offer no explanation as to why urine samples collected at the Burnazyan FMBA Centre for allegedly medical purposes would have been brought to the Moscow Laboratory; that Mr Kudryavtsev was an important actor who was integral to the urine swapping process of the Doping Program within the Sochi and Moscow Laboratory and that, as such, he had access to the official urine samples and to pretested *"clean samples"*, thus providing him the opportunity to manipulate and swap urine aliquots during the daytime, as well as assist in urine swapping in Beregkit bottles during the nighttime.

B. Forensic evidence

175. The Appellant contests the forensic evidence relied upon by the IOC in regard to the bottle opening, the only forensic evidence relevant in the present case. The Appellant relies on the expert evidence from Mr Geoffrey Arnold, a senior consultant forensic scientist. In the Other Proceedings, Mr Arnold had provided a detailed expert report dated 7 January 2018. In that report, Mr Arnold identified various criticisms of the methodology employed by the expert appointed by the IOC, Prof. Champod, and the conclusion reached by the latter and his team. In the present proceeding, Mr Arnold provided a report issued on 27 January 2020, in which he reviewed, analysed and commented on the specific reports by Prof. Champod in relation to the examination of the marks inside the plastic cap of urine bottles of Mrs Vilukhina, Mrs

Romanova and Mrs Zaytseva. For the purpose of said report, Mr Arnold referred to and commented on the two McLaren Reports, Prof. Champod's reports dated 27 July 2017, 26 September 2017, 30 November 2017, 16 July 2018, letters dated 1 December 2017 and 19 December 2017 from Prof. Champod to Mr Morand and the report by the Swedish National Forensic Center dated 1 December 2017.

176. In the summary of his report, Mr Arnold states that the recorded evidence indicates that the methodology devised by the Champod Team does not answer the question posed and that there is little evidence of consideration and no testing of alternative explanations (hypotheses). According to Mr Arnold, the degree of scientific support recorded in the reports relates only to the one stated proposition over the other and gives no scientific conclusion to the actual origins of the questioned marks. Mr Arnold affirms that the working hypothesis has failed as the recorded evidence indicates that a number of items can produce similar mark compatibility and that the alternative hypotheses, *i.e.* the possibility that the questioned marks originate from an innocent source, remains valid.

177. Mr Arnold further states that the recorded evidence indicates, *inter alia*, that: the origins of the questioned toolmarks or the time of their production have not been scientifically established; a principle element of the working hypothesis is presumption; no category for inconclusive marks has been created; there is no allowance for an error rate – like for example scratches compatible with the marks that he was able to produce by simple manipulation of the bottle components with his fingers; the number of questioned marks has increased dramatically within the chain of evidence; a degree of unvalidated evidence has been accepted as fact in order to facilitate expected results; the alternative hypotheses (the marks could be the result of sabotage, travel and handling, freezing and thawing, real life use by individual athletes, contamination, manufacturing subclass characteristics) remain valid; the reported results and conclusions are unsound; the database used was limited in size and quality; the questioned marks have been examined through the distortion of an intermediate layer; there was no direct comparison of the question marks and test marks using a comparison microscope; only one possible cause for the questioned marks was considered and tested, raising the question of bias; the adopted strategy was that of testing to prove the hypothesis rather than testing to falsify, contradicting the scientific method and inducing bias; the working hypothesis was not changed after it failed; there is no support for the assumption that the sample bottles were not closed to regular instructions; the degree of concordance accepted as evidential support is so low that numerous items can attain a similar degree of concordance to the tested; it is possible for the questioned marks to be related to normal use of the sample bottles; the interpretation and conclusions stated merely reflect the probability between two allied propositions raised and give no scientific support for the origin of the questioned marks; the allegations of Dr Rodchenkov have not been scientifically validated; and that the Champod team was not able to open fully closed sample bottles while leaving marks similar to the questioned marks.

178. According to Mr Arnold's report, the evident contradiction between the propositions and the adopted test parameters mean that testing and the associated conclusions are unsound.

179. At the hearing, Mr Arnold explained and confirmed his criticism as part of a joint expert evidence session with Prof. Champod. In particular, he reiterated his criticism that Prof.

Champod did not use falsifiers to test his hypothesis and did not agree with Prof. Champod's statement that they considered all other variables that could have caused the T-marks, for example transport, handling, contamination with particles and/or sabotage. He further testified that the metal ring of the cap can leave T-marks inside of the cap and even on the translucid plastic ring when the athlete has to handle the cap. He went on to state that Prof. Champod and his team adjusted their test parameters when reducing, to between 6 and 11 clicks, the closure of the bottles they opened which is not good scientific practise. Regarding the system developed by Prof. Champod and his team to assess the initial closure of the bottles, he stated that such test has not been scientifically reviewed and did only produce 24% of valid results. Thus, it could not be a valid scientific method. He explained that from a scientific standpoint Prof. Champod should have created a category for marks with unknown/uncertain origin. Moreover, according to Mr Arnold, the only way to properly examine a mark is by directly accessing the surface of the mark and not by observing the mark from the outside of the cap. He finally stated that whenever you place a hard object against a soft object, you'll leave a mark and that, thus, it's not possible to open a sample bottle with a tool without leaving a mark. The question whether you will find this mark would however be a different question.

180. In response to questions from the Panel, Mr Arnold stated, *inter alia*, that he could never examine the bottles himself and can therefore not make any statement in regard to the bottle(s) of the Athlete on which Prof. Champod declared to have found T-marks. He further stated that a possible correlation between that date on which the samples showing T-marks were provided and a good result in the competition that preceded the anti-doping test sample would be an important element, as a good result in a competition could lead to an athlete being full of adrenaline when providing the urine sample and thus playing more with the plastic cap of the sample bottle. He explained that freezing and unfreezing could lead to scratch marks as the ice would expand and thus move the metallic parts contained in the plastic cap as even after the 15th click, they would have room to move.

181. The Respondent, for its part, relies on forensic evidence contained in several reports established by Prof. Christophe Champod, 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. The reports dated 27 July 2017 (the "Report on the Methodology developed") and 30 November 2017 (the "Summary of the Methodology and Status Report), which had already been submitted in the Other Proceedings, have been complemented by a third report, dated 16 July 2018 (the "Complementary Report"). Concerning the Appellant's urine sample bottles, Prof. Champod established, in collaboration with the Swiss Laboratory for Doping Analyses in Lausanne, a report on the *"Examination of marks inside the plastic cap of urine sample bottles"*, in case of the Appellant bottles B2889850 and B2890589, dated 12 October 2017. Finally, in a document dated 23 February 2020, Prof. Champod responded to the methodological objections raised by Mr Arnold.

182. Concerning the Appellant, Prof. Champod noted in his report dated 12 October 2017, that on the inside of the plastic cap of bottles B2889850 and B2890589, multiple so-called T-marks have been observed as well as both U- and F-marks. The images (respectively with and without the annotations associated with the marks) were shown in figures annexed to said report. When feasible and relevant, the marks have been recorded by macroscopy. The macrophotographs

were also annexed to the report. According to that report, the multiple T-marks have been observed at locations around the cap that are in line with the positions that would be adequate to facilitate the opening of the bottle by lifting the metal ring. The faces showing T-marks were far on each side of the bottle. Further, the report reads as follows: *"*[w]*e have never observed empirically such marks on bottles that have been regularly closed. But, 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. On the other hand, these results are in line with what has been empirically observed when we tampered with test bottles"*. According to the report, the nature of the marks, their shape and compatibility with the working of tools at multiple locations allow to conclude that these results are more than 1,000 times more probable if the bottle has been initially closed, then forcibly opened and resealed with the same cap rather than if has been used and closed following regular instructions without any wrong doing. Using the verbal equivalents, this weight would correspond to the category 1,000 to 10,000. The observations would thus provide very strong support for the proposition that the bottle in question has been tampered with as alleged compared to the proposition of normal use. The strength of the observations is related to the number of marks observed on normally used bottles and an assessment of the mere possibility to create them through normal usage.

183. In his complementary report, dated 16 July 2018, Prof. Champod addressed the several issues that were raised by the panels in the Other Proceedings regarding the forensic results associated with scratches and marks observed on the inner side of the bottles' caps examined by his forensic team.

184. In summary, the supplementary analysis done by his team led Prof. Champod to the following conclusions:

- There is no credible evidence to suggest that the T-marks documented in the questioned bottles could be due to transportation, as suggested by Mr Arnold. Also, Mr Arnold's allegation that a mere manipulation of the plastic cap by the athlete could lead to marks that could be confused with T-marks is not supported by empirical evidence as shown by the U-marks observed on the single-blinds and double-blinds samples. Indeed, none of these quality control samples showed marks that could be confused with the marks we labelled as T-marks. The same argument holds for the 178 questioned bottles that were determined to have no T-marks. No observation was made on these samples that would suggest the need to revisit the two hypotheses retained in Prof. Champod's investigation (*i.e.* tampering or regular usage).

- Provided reasonable efforts and knowledge of the closing system, bottles initially closed at 15+ clicks, containing liquid urine, can be re-opened using tools. To succeed in that endeavor, one must use two tools working roughly at 180 degrees. The tools leave recognizable marks at defined locations on the inside of the plastic cap (typically on two distinct locations, on the plastic translucent ring, in the middle of the face or in the plastic groove). These marks are expected regardless of the metallic tools used and can be distinguished from the marks produced during the manufacturing process or through usage. Videos attached to the report illustrated how bottles closed at 15+ clicks containing liquid are opened without any leak in a normal position - meaning not upside down.

- The sample size used to study the U-marks under controlled conditions was not 11 bottles, as suggested by the CAS, but 105 bottles for a total 1260 plastic cap faces. This sample is large enough to gain a full understanding of the marks left on the bottles following their regular closure. The assignment of labels to marks (F, U and T) was made in a conservative way. An *"inconclusive"* category was judged to be redundant as any mark of disputed status would be assigned by default to a U-mark, indicative of the normal usage of the bottle.

- The finding of multiple T-marks on a bottle do not demonstrate *"conclusively"* that the bottles were re-opened but *"very strong support"* meaning that the findings tilt the scale in the direction of tampering: if each pan of the scale represents one of the propositions under examination, the findings weigh heavily on the side of the proposition of tampering. For example, if both pans were initially placed at the same level, assuming then that both propositions were equally likely before carrying out the examination of the potential marks, the findings would allow (with their weight of more than a thousand) to conclude that the bottle was very likely tampered with, with a percentage probability above 99.9%. Such a weight would not be sufficient to reach certainty (100%) but represents a significant shift in that direction.

- That out of the 232 controlled bottles, 36 showed multiple T-marks, 18 showed isolated T-marks and 178 showed no T-marks. The first bottles where a conclusion of multiple T-marks was reached were delivered on 6 February 2014. Then bottles associated with a conclusion of multiple T-marks or isolated T-mark(s) are distributed over the entire timeframe of the delivery period until 24 February 2014.

- That the examination of the scratch marks on the bottles B2889850 and B2890589, associated with the Athlete, gives very strong support (>1000 times) for tampering rather than normal closing. Another bottle associated of the Appellant, *i.e.* bottle B2889915 showed no T-marks which would provide moderate support for normal closure of the bottle.

- On one bottle from the Sochi Games belonging to another mandating authority than the IOC and not associated with the Appellant, there were residues on the inside of the plastic cap that could only be explained by a scenario in which (i) the bottle was closed routinely to 15 clicks with a metal ring showing a large tooth in that position, (ii) the large tooth left some residue on the inside of the cap as observed, (iii) the bottle was then opened, (iv) the metal ring was removed from its holding grooves, (v) the metal ring (or a substitute) was placed again in the cap but in a different position with regards to its teeth, and (vi) the bottle was reclosed to 15+ clicks with the metal ring showing a small tooth in that position.

185. In his response, dated 23 February 2020, to the methodological objections raised by Mr Arnold, Prof. Champod gave further explanations regarding certain elements of the developed methodology and clarified his position. In particular, he:

- Pointed out that he had put in place, prior to any examination of the questioned bottles, a systematic examination protocol that has then been put under complete and independent peer-review mechanisms during the whole examination of the questioned bottles. To give a global representation of the scope of the knowledge acquisition and commitment to quality and peer-review, a global scheme of the entire investigation of the scratches and marks has been prepared. The scheme chronologically presents the work that has been carried out by the forensic examination team and the review team from the methodology development to the delivery of the last complementary report. All these steps were enriched by input in the form of feedback from external reviewers and also the CAS. Prof. Champod then describes 5 different key steps of the whole process to recall that said process has been made in full transparency, all observations at any stage having been documented and released (evidenced, for example, by the list of appendices to the report dated 16 July 2018. He argues that Mr Arnold has not addressed this process in his report, limited himself to speculations, submissions and suppositions without any form of peer-review, nor any empirical observation on known material, produced a few tool marks in isolation and not in context (on less of a handful of caps) and without taking into account their positioning in relation to the closing system of the cap and how they distribute on multiple faces, considered only a portion of the marks in isolation and that includes the considerations of the questioned bottle at hand, quoted from Prof. Champod's reports out of context in a way to suggest bias, incompetence and scientific misconduct.

- Refuted the argument that his team lacked experience by pointing out that the members had been carefully selected by an audit team and received training on specific tasks. Overall, the team would have more knowledge on the marks, gathered under controlled conditions, than any other experts heard in the present case.

- Refuted the argument that his team did not explore any alternative hypothesis as, from the outset, starting from the first visit at Berlinger, said team strived to assess all reasonable alternatives that could lead to the production of marks on the cap, ranging from the manufacturing process to the normal closure of the bottles. The program of single-blind and double-blind controls was put into place to detect adverse findings that may lead the team to revise its method or hypotheses. The concerns expressed by the CAS panels in the Other Proceedings regarding the possibility for alternative ways to produce marks lead to a fully documented re-investigation of the matter to make sure the team had not missed anything. As shown in the Complementary Report the alternative ways suggested by Mr Arnold were simply not possible. According to Prof. Champod, the marks produced by Mr Arnold were not only made outside real-life and credible settings, typically against all DCO instructions, but were made on a single face of the cap and never considering the cap as a whole (12 adjacent faces). However, a single observation of an isolated mark would be irrelevant in the context of this investigation. Contrary to the claims by Mr Arnold, none of the marks made by him comply with the features (location, shape and distribution) that Prof. Champod's team has associated with the T-marks or U-marks. The Complementary Report would show that no contamination could have occurred. Mr Arnold merely speculates about the increase of number of marks do to transport, as no such issue was detected on the single-blinds and double-blinds

bottles. On the contrary, comparative analysis of the bottles would show that transfer from the UK expert to the Champod team did not lead to an increase of marks. Moreover, contrary to Mr Arnold's claim, the spring of the bottle would not leave enough leeway to create marks when the bottle is fully closed as there is only very limited space in the system to move once closed.

- Noted that his team did not need to identify the actual tools at the origin of the T-marks found on the bottles as no tools had actually been seized or submitted for comparison.

- Observed that the assignment of labels to marks (F, U and T) was made in a conservative way. An *"inconclusive"* category was judged to be redundant as any mark of disputed status would be assigned by default to a U-mark, indicative of the normal usage of the bottle. The way the findings associated with questioned bottles were reported encapsulates intrinsically the error rate of the technique. When in doubt regarding the classification of a mark, the class *"U-marks"* was used as a conservative option. Thus, it was, according to Prof. Champod, not necessary to introduce an inconclusive category. The blind peer-review proved that the chosen classification was robust.

- Refuted Mr Arnold's argument that the database used by Prof. Champod's team to make its empirical findings was too small to come to a reliable scientific conclusion. Indeed, all in all 105 bottles for a total of 1260 plastic cap faces have been analysed and not only 22 bottles as suggested by Mr Arnold.

- Refuted the argument that there was a lack of disclosure of evidence material as all the images from controlled experiments, questioned bottles and single-blind and double-blind controls have been delivered in Prof. Champod's reports and their appendices. In this respect, Prof. Champod pointed out that Mr Arnold only looked at a few selected images, did not offer a full re-analysis of the data submitted by Prof. Champod and focused on a single set of personal experiments made to fit the thesis he wanted to defend.

186. Prof. Champod confirmed the content of his different reports during the hearing as part of a joint expert evidence session with Mr Arnold. In particular, he pointed out that he and his team had visited the manufacturing sites and closely looked at the production process in order to understand what marks were left in the process as well as by normal usage (F- and U-marks). He explained that it took him and his team almost three months to design the tools and to manage to open closed bottles. He further explained that the SB and DB bottles which emanated from athletes that were beyond suspicion of doping, were used for checks and balances (quality regime) as they were randomly distributed amongst the other bottles. He clarified that after the CAS decisions in the Other Proceedings, in which the panels seemed to have reproached that he and his team had not opened bottles closed at 15+ clicks, they did complementary experiments in which they opened fully closed bottles (15+ clicks) containing liquids and held in an upright position. Not only did they manage to open the bottles under these conditions, but they would leave the same marks as under the previous opening conditions. He specified that all the examined SB and DB bottles were not all closed to the full extend but rather between 13 and 15 clicks. On the questioned bottles belonging to the Russian athletes, the counted closure was between 12 and 13 clicks. He went on to explain that the initial

closure of the bottles was evaluated based on the height in which the T-marks be observed in the plastic caps, knowing that, according to his observations, the more a bottle is closed, the higher up in the cap these marks will be. He explained that the marks produced by the tools he and his team used to open closed bottles are not the same than the marks observed on the questioned bottles but they are positioned, located and the same nature than the ones observed. He went on to explain that during the second visit at the manufacture of the bottles he and his team paid particular attention to a possible presence of dirt on the plastic caps that could, as alleged Mr Arnold, create T-marks, and could exclude such presence. He explained that they thus investigated other avenues for the different types of marks found on the bottles, even if they limited themselves to exploring the avenues related to a normal usage of the bottles. He specified that the marks left by Mr Arnold when playing with the metal ring inside the cap would, according to the classification used, appear as U-marks and not as T-marks. He added that the fact that the 36 bottles on which the T-marks have been found belong to a specific group of athletes should have effect on the weight attributed to the evidence by the decision-making body. Prof. Champod testified that is was possible to open a bottle without leaving T-marks. He stated that on the Athlete's sample bottles B2889850 and B2890589 there were distinct multiple T-marks observed and that on the first of these bottles there were evident T-marks on the on the translucid plastic ring.

187. During his cross examination, Prof. Champod explained that the presence of a T-mark does not at such mean that a bottle has been reopened but only a likelihood. The observations of multiple T-marks would not prove that tampering occurred, but it would bring corroborative evidence to the view that such tampering took place. He testified that he and his team did their initial examinations of bottles on bottles that were directly coming out of the factory production process. He stated that the state of initial closure was only assessed for a certain number of bottles, listed in the letters he addressed to Mr Morand on 1 and 19 December 2017, and that for all other such assessment could not be made. He further testified not having succeeded to open a bottle without leaving T-marks.

188. In response to questions from the Panel, Prof. Champod testified, *inter alia*, that *"none of the bottles that haven't been reopened"*, *i.e.* the bottles closed by Prof. Champod and his team themselves (SB and DB), *"showed any mark near the marks* [they] *produced during reopening or the marks that* [they] *have seen on the questioned bottles which have been declared multiple T-marks"*. He further testified that a bottle closed to 7 clicks would not be leaking and that when closing a bottle, you would get the feeling that the bottle is closed from the 7th or 8th click onwards. He confirmed that the three types of marks (F-, U- and T-marks) can be clearly distinguished. He testified that on the bottles he and his team opened, they left T-marks on the translucid plastic ring and that they found no F- or U- marks on said rings. He added that on the questioned bottles they found numerous bottles with multiple T-marks on the translucent plastic ring. He however stated as well, that it was possible to open a bottle without leaving a T-mark on the translucid plastic ring. He explained moreover that what had been described in some reports as fibres turned out to be tear-offs of the red plastic ring that is in the cap of the sample bottle to prevent it from closing before usage and that, according to his view, this could not leave marks on the inside of the caps. Further, Prof. Champod refuted Mr Arnold's claim that freezing and unfreezing would be able to cause T-marks on the inside of the plastic caps, as the metal parts of bottle would not be able to move anymore once the bottle is closed.

189. Finally, Prof. Champod, without being contradicted by Mr Arnold stated that to examine the observed scratch marks from the inside of the cap it would have been necessary to use a device to open the bottle and that device would have impacted the cap.

C. Expert evidence on sodium level

190. Concerning the sodium level in the Appellant's samples, the latter relied on the expert evidence of Dr David M. Charytan, M.D. M.Sc., director of the Nephrology Division and Associate Professor of Medicine at New York University School of Medicine. Dr Charytan established an expert report, dated 14 August 2019, in which he reviewed, among other documents, results of testing (Letter from the Swiss Laboratory for doping analyses dated 7 November 2017) and the Expert Report by Dr Michel Burnier from October 2017 (the "Burnier Report"), updated on 19 July 2018, relating to Mrs Zaytseva's sample B2890589. He further reviewed reports by Dr Brailsford as well as a report by Dr Thomas (the "Thomas Report").

191. Regarding the Burnier Report, Dr Charytan made, *inter alia*, the following comments:

- The Burnier Report analyzes various urinary electrolytes by comparing the values of spot samples collected from athletes at the Vancouver Games with the values of spot samples collected from athletes at the Sochi Games. However, urinary electrolytes are not typically evaluated in this way because these values are and can vary widely depending on the physiologic state of the individual providing the sample.

- Specific gravity (SG) is a measure of the density of the urine. It can be measured more easily than urine osmolarity in some situations. It is generally a reasonable surrogate for osmolarity and is often used by clinicians to estimate urine osmolality. A specific gravity between 1010 and 1030 would equate to an at least moderate urinary concentration whereas values <1010 would indicate diluted urine having a concentration of <300mOsm/l.

- The Burnier Report suggests that the upper limit of sodium measurement for the assay used was 350 mmol/l. In order to measure values above this threshold, samples were diluted. In this case, a measurement is taken on the diluted sample and the result multiplied by the dilution factor. If done inaccurately, this can introduce a substantial multiplication error.

- The Burnier Report defines values of >3 SD above the Vancouver mean value as *"outliers"* and values of >2 SD above the Vancouver mean value as *"possible outliers"*. This would be a reasonable definition statistically. However, a reference population of 134 men and 111 women, on which Prof. Burnier based his findings, would likely not be sufficiently large statistically to provide tight confidence intervals around these estimates of the true population mean and standard deviations. In addition, it would not be clear that the Vancouver athletes whose samples Prof. Burnier used to establish reference values were medically, racially or dietarily representative of the Sochi athletes.

- The process of correcting the measured sodium values for urinary creatinine values in healthy individuals has been used to estimate total daily sodium intake. The ratio of urinary sodium/serum sodium to urinary creatinine/serum creatinine is sometimes used to assess how water removal impacts the sodium concentration in the setting of acute kidney injury with oliguria. In absence of oliguria (low urine output), it is generally suggested to look at the urine sodium alone as the best index of salt handling for a healthy kidney. Furthermore, dividing by the urine creatinine alone provides only a partial correction for removal of water by the kidney (with a related increase in the sodium concentration) since urine creatinine alone provides no information on how water removal in the kidney changed the concentration of creatinine after it was filtered from the blood into the urine. For example, the urine creatinine concentration will tend to be higher in individuals with a high muscle mass (creatinine comes from muscle) and lower in small individuals. Looking at the ratio of urinary and blood creatinine is necessary to account for the effect of water removal in the final urine creatinine concentration if one wants to avoid error.

- It is wrong to claim, as Prof. Burnier did in his report, that the urines of the *"outliers"* were not concentrated as the vast majority had a SG above 1020.

- It is unclear whether the Vancouver samples represent the appropriate standard for assessing normality of measured urinary sodium of athletes in Sochi. For example, in a recent population-based cohort in Japan including 887 individuals, the range of measured urinary sodium was between 19-307 mmol/l with a median value of approximately 107 mmol/l. Both the median values of this cohort and the upper limit (307 mmol/L) were higher than the median values measured in Vancouver (of 91 and 56 mmol/L in men and women, respectively). On basis of this example, samples with urinary sodium <400 mmol/l might not be considered outliers.

- Physiologically, it does not matter whether measurements of urinary sodium outliers. Although 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, volume depletion, or excessive salt intake.

- Prof. Burnier estimates the daily sodium intake on the basis of the ratio of urine sodium to urine creatinine. He concludes that very high urine sodium levels, for example of 845mmol/l, equates to unrealistically higher daily sodium intakes. This calculation assumes that there is a relatively fixed daily excretion of creatinine of roughly 20,000 μmol/day in athletes. However, creatinine being a breakdown product in muscle, the 20,000 μmol/day figure may vary considerably in different athletes regardless of whether it is a reliable mean value for all athletes.

- If the purpose of this calculation would be to provide a rough estimate of daily sodium intake it is consistent with approaches used in the literature. However, there would be a rich literature suggesting that even more sophisticated approaches/formulas used for estimating daily salt intake/excretion from a spot sample have considerable inaccuracy.

- That the formula for urine osmolarity is a widely known and used equation and the calculation relatively simple, it would be unclear why one would ever artificially try to bring the urinary sodium concentration above 300 mEq/L since levels below that value would typically be more than adequate to raise the urinary SG to any desired value. Except in cases of extremely high SGs, one would typically be able to match the specific gravity by using a final sodium concentration well below 300 mEq/L. Furthermore, this result could also be achieved by adding any number of readily available chemicals, that would be unlikely to be measured during testing of the samples. Alternatively, this could have been achieved by adding urea to the samples since urea concentrations can vary dramatically in normal physiology.

192. With regards to Prof. Burnier's complement of analyses based on data from athletes with at least one sample with high salt, Dr Charytan notes that Prof. Burnier relies on a series of assumptions to conclude that the urinary concentration of creatinine or sodium in a set of paired urinary samples taken from an individual athlete can differ only because the amount of water in the two samples has changed. Thus, urinary creatinine and sodium concentrations must universally rise or fall in parallel relative to any change in specific gravity. Conversely, a failure of the creatinine concentration to rise in step with the specific gravity in two different samples reflects tampering *via* the addition of salt or other solutes. Concerning the comparison of the Appellant's urine samples provided on 31 January 2014 and 19 February 2014 (B2889915 and B2890589) and Prof. Burnier's conclusion, that *"the concentration of creatinine is in good relation with the specific gravity but the sodium concentration is much higher (347 mmol on the Feb 19th) vs 205 mmol/l in most concentrated urines with a specific gravity of 1024. This is surprising and would be compatible with added salt"*, Dr Charytan observes that:

- This analysis entirely ignores the sample of 12 February 2014. the conclusion that the comparison of the 31 January 2014 and the 19 February 2014 samples reflects addition of salt to the latter sample is logically inconsistent with the comparative values observed in the 12 February 2014 and 19 February 2014 samples.

- Prof. Burnier ignores the possibility of error in measuring serum creatinine, sodium or specific gravity. However, errors in the measurement of specific gravity and sodium, would magnify the potential for these discrepancies.

- Prof. Burnier assumes that creatinine excretion is constant and that the ratio of creatinine concentration to specific gravity must be constant. While this would be true at steady state when diet and muscle mass are relatively constant, it may be wrong in other circumstances. In particular, creatinine is a breakdown product of muscle and may also be ingested in the form of supplements or meat. With extreme exertion the damage to muscle and thus amount of creatinine released from muscle and excreted in the urine will increase. It may similarly increase after a large meat meal or ingestion of supplements. The two samples were measured approximately 3 weeks apart and may reflect differential timing relative to recent workouts and meat intake. The, assumption that creatinine between the two samples should be identical at any given specific gravity would thus be incorrect.

- Sodium concentration can physiologically increase without proportional change in creatinine concentration. The observed values do not prove that exogenous salt was added. In fact, changes in the urine sodium concentration, urine creatinine concentration and specific gravity that do not happen in the same direction are widely recognized in clinical medicine following the administration of furosemide (a diuretic medication used to treat heart failure). In this case, the salt/sodium concentration in the urine may rise to a much greater extent than water excretion. Conversely, if dietary salt intake were very high without a large rise in water intake, a rise in urine salt/ sodium concentration, a rise in specific gravity (as a result of more sodium being added without a change in water) and no change in the creatinine concentration might be seen.

193. The Appellant further relied on the expert evidence of Prof. Irina Bobkova, Doctor of Med. Sci., Professor of the Rheumatology, Internal and Occupational Diseases Chair, Senior Research Scientist at the Research Centre, I.M. Sechenov First Moscow State Medical University (Sechenov University). In her report, prepared on 6 August 2019, she raises doubts in respect of the substantiation and credibility of the evidence provided in the Brailsford Report, the Thomas Report and the Burnier report indicating that the urine sample 2890589 of the Appellant has been tampered with. Her main arguments can be summarized as follows:

- The sodium content in urine varies within a wide range and depends on a large number of factors. There is, basically, no such thing as a concept of *"normality"* as far as the values of the daily and, especially, random urine volumes are concerned;

- A particular sodium content in the urine must be assessed, in terms of whether it is physiological or non-physiological, not by way of traditional comparison of the identified value with the conventional standards, but rather, above all, by acknowledging the reality of such sodium content and by confirming that it is physiologically consistent with a specific state of the individual under study;

- In absence of any details relating to the volume of the sodium intake, loss of salt and fluids as a result of respiration and dehydration, degree of dehydration compensation, real, as opposed to hypothetical, volume of the urine excreted, hemodynamics values and other parameters affecting the water and sodium metabolism, assessment of whether or not the value of the sodium content is physiological in a random urine sample is not appropriate;

- A number of assumptions associated with the use of random urine samples for assessment of the total daily volume of sodium excretion and uncertainty of the urine values range used in the reports of Mr Brailsford, Mr Thomas and Mr Burnier as normal raise doubts that it was reasonable to suspect that Sochi samples, including the samples of Olga Zaytseva, were not physiological;

- The values of sodium excretion in urine identified for Mrs Zaytseva (348-353 mEq/L) and the corresponding NaCl intake (14 g/day), albeit unusual, are plausible, realistically identified in healthy Russian citizens and population worldwide;

- An upper detection limit determined by means of potentiometry was equal to 350 mmol/l. In assessment of the sodium concentrations close to maximum functionality capacity of the device (*e.g.* 347-353 mmol/l for Mrs Zaytseva), it is impossible to rule out error in measurements, and the urine samples with a higher sodium concentration required dissolution also prone to probable error. No data has been provided for verification of the quality of sodium concentrations measurement in the dissolved samples;

- Sodium concentrations in urine from Vancouver athletes group accepted as reference values are unreliable for a judgment on whether the Sochi group samples are *"normal"*, given that in terms of the sodium value the Russian Olympic team, for the substantial part, rather than certain athletes with *"outlying"* values only, was different from the Vancouver athletes selected as reference group– the median and lower quartile values of the sodium in urine for the Sochi group were higher;

- It is impossible to agree with the statement that the urine is not concentrated, since almost all samples, including Mrs Zaytseva's sample, had a specific gravity of ≥1020;

- It is not obvious that the only explanation for lack of direct correspondence between the specific gravity and osmolarity of urine would be the fact that salt is added to urine externally. This inconsistency might be accounted for by the inaccuracy of the osmolarity values calculated with significant assumptions; the variability of osmolarity with any value of the specific gravity of the urine is supported by medical research papers and books;

- Urine samples of Mrs Zaytseva, taken in the periods close to the time of collection of the sample at issue, have demonstrated a vector of change in the examined values that is physiologically proper – *"a high creatinine and sodium content in concentrated urine and a low content thereof in non-concentrated urine"*, but no direct match has been identified between the urine concentration values therein has been observed either, which could also be due to the variability of the calculated osmolarity value;

- The inconsistencies between the urine concentration values (including with over 7 units in specific gravity and over 200 mmol/l in osmolarity difference), just like for Mrs Zaytseva, have not been detected in the samples in dispute from Sochi only, but also in certain samples from Vancouver without an increased sodium content;

- The urinary creatinine, without comparing it against the content of creatinine in blood, is not a precise parameter to make a judgment on the urine concentration, especially for those with well-functioning kidneys; the analysis of the correlation between the urinary sodium and urinary creatinine, resulting in an approximation only, does not add any more persuasiveness to a judgement regarding the fact that the Sochi samples in dispute show improper concentration;

- A range of chlorine, potassium and calcium changes in urine might look the same both in the event of an increased salt intake and if it is artificially added to the urine, as such, it

cannot be taken as an informative test for distinguishing between these states, which are different in terms of their *"naturalness"*.

194. The Respondent relies on expert evidence provided by Prof. Burnier in his reports dated 6 October 2017 (updated on 19 July 2018) and 31 October 2019 (Second complementary report based on Profs. Bobkova and Charytan's reports and an additional analysis of one case (B2890589) with three measurements).

195. In his updated first 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"*.

196. 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"*. With respect to these samples, the report states that: (i) 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 was 250 mmol/l and the lowest sodium level was 12 mmol/l; (ii) 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 was180mmol/l and the lowest sodium level was 11 mmol/l. On the basis of these figures, 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 SDs above the relevant mean.

197. Concerning the Sochi samples, Prof. Burnier observed that the results of his analysis were as follows: (i) 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 was 843 mmol/l and the lowest sodium level was 12 mmol/l, (ii) 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 was 719 mmol/l and the lowest sodium level was 11 mmol/l.

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

199. 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"*.

200. 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"*.

201. Prof. Burnier further conducted analysis of the other urinary analytes referred to above.

- In respect of potassium he found that: (i) for the Vancouver samples, the mean urinary potassium concentrations were 48.7 mmol/l for males and 46.76 mmol/l for females, 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"*, (ii) 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"*.

- With respect to urinary chloride, he found that: (i) 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, (ii) 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.

- With respect to urinary calcium, he 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"*.

- With respect to specific gravity, he 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.

202. Prof. Burnier also 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 males and 180 mmol/l for females *"based on previous epidemiological data"*, although Prof. Burnier noted that this is *"probably an underestimation in athletes"*. He went on to explain that (i) in the Vancouver samples *"there* [was] *an excellent correlation between the calculated osmolarity and urinary gravity"* with respect to females, while a *"similar correlation"* was found in respect of the males (ii) 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 males.

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

204. 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.

205. At the same time, the sample that contained 49.7g of sodium per liter was excreted in urine that contained only 7,666 µmol/l creatinine. A normal male athlete would expect to excrete about 20,000 µmol/l creatinine per day. Accordingly, to reflect this, the amount of salt 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"*.

206. 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"*.

207. 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"*.

208. In respect of the 13 *"outliers"*, Prof. Burnier concluded that *"there is a very high suspicion of manipulation with an addition of external sodium chloride to the samples"*.

209. In the part of his report entitled *"Complement of analyses based on data sheet entitled: Salt data from athletes with at least one sample with high salt"*, Prof. Burnier explained that, following the initial 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 ten athletes' samples across time. In respect to the Appellant, Prof. Burnier noted that 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, according to Prof. Burnier, 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"*.

210. Prof. Burnier further noted that in 9 cases of athletes for whom different samples were compared, the relationship between specific gravity and creatinine is not consistent between the samples whilst such relationship is normally consistent and stable in the urine of the same person (creatinine level and specific gravity evolve parallel). According to Prof. Burnier, the modification of the gravity *"through the addition of salt is a possible explanation for such inconsistency as such an addition would not affect urinary creatinine levels and this would explain the modification of the relationship"*.

211. In his report dated 31 October 2019, Prof. Burnier answered comments from Prof. Bobkova and Dr Charytan in relation to his own reports and provided some more analysis on the case of the Appellant.

212. In response to Prof. Bobkova's comments, Prof. Burnier, *inter alia*:

- Agreed that is difficult to extrapolate from a spot urine to a daily sodium consumption and the fact that local conditions should be considered. This would be why his analysis of data and conclusions were not based on an extrapolation of 24h sodium intake but used this extrapolation only once to illustrate what a very high sodium concentration in urine would mean in terms of physiology.

- Acknowledged that the situation at the time urine was collected is indeed an important issue as dehydration, sudation or perspiration could change the urinary sodium excretion. According to Prof. Burnier, skin sodium losses are however accompanied by a reduction in urinary sodium excretion and by no means an increase in urinary sodium excretion. In the case of the Appellant, tested after the biathlon competition, skin and perspiration losses of sodium cannot be an explanation for a very high sodium concentration found in the spot urine.

- Reiterated his view that in absence of indication on urinary volume, the creatinine concentration in urines and specific gravity are two good markers of urine concentration. He underlined that, in Russian females having participated at the Sochi Games, he had found a good correlation between urinary sodium concentration and either urinary creatinine concentration or specific gravity. From the 3 measurements of the Appellant, two would be in line with all other Russian athletes, but one sample would be really out of the correlation. This would not be explained by a methodological problem, would be very hard to justify with a rational clinical and scientific explanation and would not be explained in Prof. Bobkova's report.

- Observed that the group of Russian athletes having competed at the Sochi Games is the best comparative group that one could use for the type of analysis undertaken. Case reports cited from literature and based on a population which has nothing to do with young sport women would not be transposable.

- Agreed that the validity of the Vancouver control group can be discussed but observed that some data of the Appellant make her an outlier even among her peers.

- Argued that the daily excretion of creatinine is extremely stable in all individuals and at a similar high urine concentration urinary creatinine concentration should be very close. Indeed, in Russian female athletes, the correlation between urinary creatinine and specific gravity was strong with a r^2 at 0.637. The three measurements of the Appellant were perfectly on the regression line indicating that the 2 parameters are concordant for this athlete. This makes the outlying urinary sodium measurement even more questionable.

- Agreed that the calculation of urinary osmolality is imprecise because there was a lack of data on urea, glucose and other components of urinary osmolality. Prof. Burnier explained that he used average data from a normal population to fill the gaps. This has, according to him, reduced the likelihood of very abnormal values. He recalled that, in any event, he did not put a great weight on this parameter in his conclusions.

213. In response to Dr Charytan's comments, Prof. Burnier, *inter alia*:

- Agreed that the size of the control group could be questioned but pointed out that that there was and is no comparable dataset concerning young athletes performing winter sports available than those used in this investigation.

- Agreed that no data relating to the urinary volume was available and that to the ration between urinary creatinine excretion and urinary specific gravity is relatively constant within one individual. This would actually be the case for the Appellant in whom the 2 parameters would correlate perfectly.

- Argued that the issue of technical problems during the dilution as a cause of error is not a valid explanation for discrediting the conclusion on the outliers. As the processing was done by a highly skilled professional accredited laboratory.

- Observed that the athlete population cannot be compared with any normal population when it comes to the calculation of urinary osmolality. He added that, for his conclusions, he avoided considering extrapolation of daily sodium intake because such it is known that this is delicate and imprecise. However, one should not mix urinary sodium concentrations and 24h urinary sodium excretion in amount as these are two different parameters.

- Observed that Dr Charytan does not provide any explanation for the observation that one value of the Appellant is completely out of range.

- Noted that, in the case of the appellant, there is clearly an issue with the sample collected immediately after the competition and he confirm his conclusion of a highly suspect sample that could have been manipulated. Indeed, the sodium concentration of 347 mmol/l in the sample of 19 February 2014 is very high and not explained. Moreover, this high concentration was measured in a urine sample in which the creatinine concentration is not very high at 9559 μmol/1. With such a high sodium concentration one would have expected a creatinine concentration above 20'000 μmol/l.

214. At the hearing, Dr Charytan, Prof. Bobkova and Prof. Burnier all gave oral evidence during a joint expert evidence session. They all started by confirming the conclusions of their respective expert reports.

215. A first point that the three experts addressed was the determination of the median and the SD, knowing that the experts agreed that there would be a huge difference if the samples taken as control group had all been given by different athletes or if several of those samples had been provided by the same athletes as the variation of sodium levels within one individual would not be as important (or, in other words, *"the values would be more correlated"*) as the variation between different individuals. Prof. Burnier explained however that he took a 3 SD to identify the outliers (almost 99%), which would be a lot higher than the usually taken 2 SD (95%) and that the comparison of the athletes within Sochi samples, *i.e.* just Russian athletes, led to the same result: the suspicious samples stayed outliers even in that group. Prof. Burnier explained that when the SD for women in the Sochi samples is calculated without the outliers, then the SD would be closer to the one in Vancouver and would go down to 70 (instead of 143), meaning the 347 mmol/l would be clearly out of the range. Dr Charytan and Prof. Burnier agreed that a smaller sample group would tend to produce a higher SD.

216. The second issue that was addressed was the composition of the control population(s), *i.e.* the composition of the group of athletes having provided the Vancouver samples, to set the median values and the SD. According to Prof. Burnier, a reference group constituted of similar athletes, in similar sport and in similar competitions was probably the best control group that one could have. In this regard, Dr Charytan raised questions about (i) the comparability in respect of the composition of that group as is was composed of athletes of other nationalities and that the conditions in Vancouver where not comparable to the ones in Sochi, (ii) the reliability of the findings related to the Vancouver samples due to the small size of the control group, (iii) the comparability of the competitions the sample were taken in one and the other case, (iv) the calculation of the mean values were calculated in view of the fact raised in the previous point.

Prof. Bobkova stated that as the median values of the Vancouver samples and the Sochi Samples are very different, the Vancouver values are not relevant to assess the Sochi cases. The median values would not be influenced be the outliers. The most relevant group of comparison would be the group of Russian female athletes in Sochi. However, it would be very important to know whether the 89 Sochi samples have been provided by 89 different athletes or if athletes had provided multiple samples. It follows from the Athlete's case and the two parallel cases, that the three athletes taken together had provided 11 samples, even the most relevant group would appear to be too small.

217. The third aspect that was addressed was the question whether a sodium level of 347 mmol/l, found in one of the Athlete's samples, would be unusual or unnormal. In this regard all experts agreed that such level is physiologically possible. However, Prof. Burnier explained that the control group in the study on the general population of a Japanese cohort, referred to by Dr Charytan and Prof. Bobkova, was composed of individuals aged between 40 to 75 years, and that the distribution of the sodium values shows that there was only one individual with a sodium value of 307 mmol/l and the average was around 100 mmol/l. He was not contradicted on this point by the two other experts. Prof. Burnier went on to explain that, in general, there is difference in sodium levels between men and women, the latter having 10% to 15% lower values. Knowing that in this particular case all the athletes were eating at the Olympic village, the value of around 350 mmol/l would be very suspicious. This would even be more suspicious as the Athlete's two first samples (*i.e.* 2889915 and 2889850) showed sodium values of around 150 and 200 mmol/l and that in order to achieve such an increase in the sodium levels the Athlete would have had to eat twice as much salt than usually. Dr Charytan agreed that a level of 350 mmol/l is unusual but has been seen in studies, *i.e.* 345 mmol/l in a Chinese study. In response to a question from the Panel he stated that a level of over 400 mmol/l would be difficult to explain. Dr Charytan explained that the sodium level within one person could vary over a wide range and be explained by *"a different diet"*, *"different blood pressure"* or *"diarrhea and losses of water"*. Without any of these three causes, the variation in sodium levels to be expected could, in hospital settings, be of *"100 milliequivalents or 90 milliequivalents over the course of the day or over the course of a few hours"*. In response to that statement, Prof. Burnier explained that in his studies of healthy individuals, age 20 to 25, on a very high salt diet, he found concentrations of 250 mmol/l for people eating 15 grams of sodium, but when measured every day for one week, the fluctuation of someone with a 200 mmol/l average level would be around 50 mmol/l.

218. Prof. Bobkova explained that levels of 300 mmol/l or even closer to 400 mmol/l may be unusual but could be found in professional literature about studies conducted on the general population. She agreed that sweating has an effect on the concentration of salt in the urine. Asked whether dehydration had an effect on the sodium concentration in the urine, she stated that what was important was not only the level dehydration but how the kidney hydrodynamic was responding to that. In this respect Prof. Burnier added that as a marker for dehydration one would have the *"urine density"* and a dehydrated person would have very high urine density, *i.e.* above 1025 and closer to 1030. However, in many of the samples in which high sodium levels were found, there was a discrepancy between the amount of sodium and the actual concentration (*i.e.* density) as the kidney would not do anything incoherent.

219. The fourth point that was discussed was the difference between *"spot urine"* and 24 hours urine excretion. All experts agreed that one could not do an extrapolation of one to the another. Prof. Burnier explained that in his report he used the comparison as an *"absurd system"* to show what impossible amounts of salt would have to be eaten to achieve such sodium levels in the urine. Dr Charytan explained *"that urine is very dynamic, the values may be very responsive to the state of hydration, salt losses from sweating etc."* so that one would expect to see *"different values and possibly higher values in samples taken after a competition"* compared to values from studies like the Japanese study. Prof. Bobkova also agreed that one could not transpose values found in sport urine to the 24 hours urine excretion.

220. The fifth point that was discussed was the influence of sodium loss due to sweat during intense physical exercise on the sodium concentration in the urine. In this respect, Prof. Burnier stated that the *"if you lose more salt through the skin"*, *"then you'll excrete less in the urine"*. However, the relation between the two ways of losing salt, would be complicated and would depend on the intensity of the physical exercise, a sprint or short ski run having less impact than a marathon or a 50km ski run leading, thus, to different concentrations of sodium values in the urine. Dr Charytan agreed in principle with this statement, but explained that the results would depend on the ratio of salt losses and water losses and the amount of salt the athlete loses through sweat, knowing that if your sweat contains more water the sodium concentration in the urine would be up and that if you go on long enough to lose not just only water through sweat but sodium as well, the sodium concentration in the urine would go down as the kidneys would want to retain the salt. In this respect, Prof. Bobkova explained that it is important to know what the regular salt intake was, might it be before the competition or after, as the kidneys would try to spill out excessive salt. For patients with hypertension as for individuals in extreme situations, the kidneys might be triggered to excrete very high amounts of sodium. In response to this statement, Prof. Burnier stated that it would not make sense for an athlete to consume twice as much salt as usual before a competition and that, at the moment of providing the urine, *i.e.* one hour after a competition, the athletes have already had time to rehydrate and would certainly not be in a state of hypertension. Dr Charytan stated that Prof. Burnier comment might be true, but that one hour might not be enough time to rehydrate and have the urine that's in the bladder reflect that rehydration. In any event, the results would show a mix of what was in the bladder/urine to begin with, meaning before the athlete stated the competition. On this subject, Prof. Bobkova stated that there could be differences between athletes when it comes to the speed at which they would want to rehydrate, some athletes would not rehydrate immediately after the effort. Thus, the relative density of the provided sample might vary significantly. However, Dr Charytan and Prof. Burnier agreed that the earlier an athlete provides a urine sample is provided, the closer to the truth you would be. Further, Prof. Burnier acknowledged, that in the Vancouver Samples there were no examples similar to the Athlete's levels to be found, even not within the athletes having competed in the 50km cross-country skiing event. He added that although the median sodium values between Vancouver samples and the Sochi samples were different, *i.e.* the Sochi mean was higher, the average sodium concentration for Russian female biathlon athletes in the Vancouver samples, was 76 mmol/l, with a SD of 38.

221. Asked by the Panel to give more details about the evolution of specific gravity of the urine in response to rehydration, Dr Charytan explained that it would be difficult to assess how long it

would take to find the result of the rehydration in the specific gravity of the urine, as such result would depend on how much urine was in the bladder before it was voided. Prof. Burnier agreed insofar that, as for the sodium levels, the longer time an athlete has to hydrate, the more diluted the sample will become. Probably after one hour the urine density in an athlete would start to decrease but it would depend on how dry/dehydrated the athlete was when starting the competition. In a situation like the one at hand, *i.e.* circumstances under which the Athlete provided sample 2890589, one hour would be sufficient to start decreasing the urine density. Prof. Bobkova agreed that the initial level of sodium intake is an important element. In the present case, the Athlete's three samples would show that she has a higher sodium intake than other Russian athletes.

222. The sixth aspect that was addressed was the creatinine levels found in the Athlete's sample and the possible conclusions to be drawn from the variations observed. Prof. Burnier stated that the amount/concentration of creatinine that an individual excretes per day (over the 24 hours) would be relatively stable, depending on muscle mass, and in the urine it would concentrate depending on the water amount and the concentration so it would go with the specific gravity observed. Dr Charytan and Prof. Bobkova confirmed that, at a steady state, the creatinine excretion would be relatively stable. All experts agreed that physical exercise and/or meal intake would have an impact on the excretion seen in a spot sample. Prof. Burnier explained that in the Athlete's case, the correlation between the urinary creatinine and the specific gravity is in the line of the general group but that the sodium levels found in one sample, *i.e.* B2890589, does not correlate as it is two times higher as in the other samples. Dr Charytan doubts whether the exercise of establishing a ratio between the different parameters makes sense as the parameters could vary in a given sample from day to day and doubts that the supposition according to which when the sodium values go up the creatinine levels should go up is correct. According to Dr Charytan there is only a weak correlation value (0.2) between the two parameters. Prof. Bobkova observed that there is a significant dispersion in the sodium/creatinine ratio found within the samples of the Russian athletes and agreed with Dr Charytan that a correlation value of 0.2 would show that only in 20% of the athlete population would be on the median line. In any event, with high sodium values, one would enter an unknown zone as one would not know how the indicator would behave. Thus, one could not talk about a leniency between the two values and there would be nothing implausible or physiologically impossible in the values found.

223. Prof. Burnier acknowledged that the correlation in question was not stone resistant but that the main argument is that, in the Athlete's three samples, *"the three points of density and creatinine (…) correlate perfectly"*, meaning that *"when the urines are concentrated, gravity increase and creatinine in the urine increase proportionally"*. However, with sodium it would be different, and the point would be that the 340 mmol/l are *"not explained by an increase in concentration of the urine"* because it would be too far away to be just explained by the concentration of the urine.

224. Asked about the comparison he had done in his report between the second and the third samples of the Athlete and the possible conclusions to be drawn if he had applied the ratio to be found between the first and the second sample to the second and third sample, *i.e.* that the third sample could have shown a sodium value of 402 mmol/l, Dr Charytan, although acknowledging that a sodium value of 402 mmol/l would be difficult to explain physiologically,

stated that in any event the correlation between sodium and creatinine is a poor correlation and that comparisons between samples don't make sense. Prof. Burnier agreed with that statement but observed that his argument was raised to counter the argument of the Athlete's experts that the 347 mmol/l found in the Athlete's third sample were just due to the concentration of the urine. This argument would however be wrong because even by just concentrating the urine value found would be completely outside the range, meaning that there must be another explanation: either the Athlete *"ate a lot more salt for the same amount of creatinine or salt was added for the same amount of creatinine"*. According to Dr Charytan, a third possibility could be that the Athlete excreted more salt.

225. Asked whether there were elements which would exclude that the sodium level of 347 mmol/l was due to the addition of salt, Dr Charytan stated that it was not possible to exclude that possibility. Although agreeing that the same reason that would have caused findings of 800 mmol/l could also have caused the finding of 350 mmol/l but reiterated his view that the latter level is physiologically possible whereas a level of 800 would not be.

226. The seventh point addressed was related to the question, raised by Dr Charytan in his report as to why, in order to adjust the specific gravity of a sample, one would have used sodium instead of other substances, easily available on the market and not commonly searched for in urine tests. Dr Charytan further stated that if sodium was added than it wasn't done very well as they massively overshot the values although it would be an easy calculation to do. Prof. Burnier objected to this that one could only state that, if done, it was not done well in only 13 samples, but one would not know if in the other samples it had been done correctly. He went on to explain that the only thing that is generally measured is the specific density, the other measurements not being usually done at all, and that they therefore had to match specific gravity.

227. Prof. Bobkova agreed with Dr Charytan that it would have been easier to add a small amount of urea to the samples if the objective was to adjust the level of specific gravity (osmolarity) without risk of being detected. Otherwise, all these manipulations look like as if they were made specifically to be uncovered. One could not call this a reasonable behaviour.

228. In response to these arguments, Prof. Burnier recalled that if, the day before a competition, an athlete would go from a daily sodium intake of 10 grams to a daily intake of 25 grams, said athlete would, except if eating pure salt, also eat calcium, potassium and other electrolytes and this intake would lead to an increase in urinary potassium. Prof. Burnier further stated that the sodium over potassium ratio in the overall Sochi samples *"is about 2 going up sometimes to 4"*. However, there would be examples with a ratio of 45, which would mean that the athlete excretes 45 times more sodium than potassium. In the Athlete's sample B2890589, the ratio would be 8, which would be *"totally unusual"* and mean that she *"would have eaten almost pure sodium with nothing else inside"*. Prof. Bobkova state that it would be difficult to explain a ratio of above 40, but the difference about to 10 would be imaginable and plausible. If you consume a lot of salty products, you could expect a higher excretion of potassium if the salt was potassium based. However, in Russia people would consume the standard cooking sodium chlorine sodium and the favoured dish of red caviar would contain a lot of sodium chlorine. In February, there would be the traditional Russian *"mardi gras"* where people would eat pancakes with red caviar - which

would lead to a very high excretion of sodium rather than potassium. Prof. Bobkova added that other possible reasons for a high sodium to potassium ratio could be dehydration or hyperaldosteronism. According to her, the Athlete did not have a low potassium level but a normal level and therefore the sodium to potassium ratio could not be a reliable argument for tampered samples. Prof. Burnier agreed that hyperaldosteronism would have an effect on the potassium excretion but pointed out, without being contradicted by the two other experts, that it would increase the potassium in the urine and, thus, decrease the ratio in question here.

VI. JURISDICTION

229. Article R47 of the Code provides, *inter alia*, as follows:

> *"An appeal against the decision of a federation, association or sports-related body may be filed with 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 the appeal, in accordance with the statutes or regulations of that body".*

230. The IOC ADR provides in article 11.2:

> *"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".*

231. The Respondent did not object to the application of Article11.2 of the IOC ADR and the Parties expressly confirmed that the CAS had jurisdiction to decide the present appeal by signing the order of procedure.

232. In the light of the foregoing, the Panel finds that CAS has jurisdiction to hear the present appeal.

VII. ADMISSIBILITY

233. 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 in a previous agreement, the time limit for appeal shall be twenty-one days from the receipt of the decision appealed against".*

234. In its relevant parts, Article 11. 5 of the IOC ADR applicable to the Sochi Games provides that *"[t]he time frame 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"*.

235. The Appellant received notification of the Appealed Decision on 27 November 2017 and filed her statement of appeal on 1 December 2017.

236. By doing so, the Appellant clearly respected the twenty-one (21) day period set out by the IOC ADR to file the appeal. Moreover, the Respondent did not object to the admissibility of this appeal.

237. In the light of the foregoing, the Panel finds that the appeal is admissible.

VIII. APPLICABLE LAW

238. Article R58 of the Code provides as follows:

> *"The Panel shall decide the dispute according to the applicable regulations and, subsidiarily, to 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"*.

239. 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. Thus, these provisions are *"the applicable regulations"* in the sense of Article R58 of the Code and constitute the law applicable to the present dispute. The application of these rules was not contested by the Parties.

240. Article 1 of the IOC ADR, entitled *"Application of the Code – Definition of Doping – Breach of Rules"*, provides:

> *"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"*.

241. 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. The applicable version of the WADC at the time of the Sochi Games was the 2009 WADC.

242. 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 [2009] WADC.

243. 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.

244. In the Appealed Decision, 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: (i) violations of Article 2.2 of the 2009 WADC in the form of using a prohibited substance, *i.e.* the Duchess Cocktail, and using a prohibited method, *i.e.* urine substitution; (ii) a violation of Article 2.5 of the 2009 WADC, viz. tampering with any part of the doping control; and (iii) a violation of Article 2.8 of the 2009 WADC, viz. cover-up of and complicity in the commission of an ADRV.

245. According to Article 2.2 of the 2009 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 2014 WADA Prohibited List.

246. Article 2.2.1 of the 2009 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, or 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".*

247. Article 2.5 of the 2009 WADC states: *"Tampering or Attempted Tampering with any part of Doping Control"* constitutes and ADRV. The Comment to this disposition reads as follows:

> *"This Article prohibits conduct which subverts the Doping Control process but which would not otherwise be included in the definition of Prohibited Methods. For example, altering identification numbers on a Doping Control form during Testing, breaking the B Bottle at the time of B Sample analysis or providing fraudulent information to an Anti-Doping Organization".*

248. The 2014 WADA Prohibited List provides, in its chapter entitled "Prohibited Methods", under point M2.1 that the following are prohibited:

> *"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)".*

249. Thus, pursuant to the comment to article 2.5 of the 2009 WADC, the alleged swapping of urine samples has, as the Respondent points out, and as the panels in the Other Proceedings have rightly held, first to be examined under the framework of the specific rule of Article 2.2. of the 2009 WADC, rather than by reference to the more general rule of Article 2.5 of the 2009 WADC (CAS 2017/A/5422).

250. The Panel concurs with the view of the panels in the Other Proceedings (CAS 2017/A/5422) according to which Article 2.5 of the 2009 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 of the 2009 WADC. Therefore, Article 2.5 of the 2009 WADC covers types of tampering other than urine substitution and of a few other methods defined under section M of the Prohibited List.

251. For these purposes, Appendix 1 to the 2009 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".*

252. Pursuant to Article 2.8. of the 2009 WADC, 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 or any Attempted anti-doping rule violation".*

253. As to the burden and standard of proof, it follows from the general incorporation of the 2009 WADC into the IOC ADR (Article 1.2) that, to the extent that the latter do not contain any specific provision dealing with these subjects, the relevant provisions of the 2009 WADC determine the burden and standard of proof. The same conclusion applies regarding the means of proof.

254. Firstly, as regards to the burden of proof, Article 3.1 of the 2009 WADC provides:

> *"The Anti-Doping Organization shall have the burden of establishing that an anti-doping rule violation has occurred".*

255. Thus, the burden of establishing that the Athlete committed an ADRV is on the IOC.

256. Secondly, as regards to the standard of proof, Article 3.1 states:

> *"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".*

257. Accordingly, the Panel notes that the relevant standard of proof is that it must be comfortably satisfied that the Athlete committed an ADRV before making a finding against the athlete. In this respect, the Panel adheres to the well-established CAS jurisprudence according to which

that 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".*

258. However, the Panel also considers that the test of comfortable satisfaction must consider the circumstances of the case and that 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 and CAS 2013/A/3258).

259. Thus, when evaluating whether it is comfortably satisfied that an ADRV has occurred, the Panel is bound to take into consideration all relevant circumstances of the case. In the context of the present case, and by analogy to the cases in the Other Proceedings, the relevant circumstances include, but are not limited, to the following:

- 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.

- 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.

- 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, *inter alia*, of participating in a conspiracy of unprecedented magnitude and sophistication. Given the gravity of the alleged wrongdoing, it is insufficient for the IOC merely to establish the existence of an overarching doping scheme to the comfortable satisfaction of the Panel. Instead, given that, in order to be liable for conspiracy a person must have knowledge of the existence of that conspiracy and of its object, the IOC must go further and establish 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 2009 WADC.

260. This leads to the third aspect, concerning the means of proof. This aspect is governed by Article 3.2 of the 2009 WADC pursuant to which: *"Facts related to anti-doping rule violations may be established by any reliable means, including admissions"*.

261. According to the Comment to Article 3.2 of the 2009 WADC:

> *"For example, 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 as provided in the Comments to Article 2.2, or conclusions drawn from the profile of a series of the Athlete's blood or urine Samples"*.

262. The Comment to Article 2.2 of the 2009 WADC reads as follows:

> *"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"*.

263. As regards to this third aspect, the Panel concludes that, when assessing whether the IOC has discharged its burden of proof to the requisite standard of proof, it 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, it is for the Panel to weigh 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 (CAS 2017/A/5422).

IX. MERITS

264. As a preliminary point, the Panel observes that the Respondent dropped, in the course of the proceedings, all allegations in relation to the mixed DNA found in the Appellant's urine sample provided on 31 October 2014 and apologized for all inconveniences caused by the initial allegations. In those circumstances, the Panel considers that it does not have to make any findings in relation to that sample.

A. The alleged Anti-Doping Rule Violations

265. As already mentioned, the IOC DC found that the Athlete had personally committed various ADRVs, namely: (i) violations of Article 2.2 of the 2009 WADC in the form of using a prohibited substance, *i.e.* the Duchess Cocktail, and using a prohibited method, *i.e.* urine substitution; (ii) a violation of Article 2.5 of the 2009 WADC, viz. tampering with any part of

the doping control; and (iii) a violation of Article 2.8 of the 2009 WADC, viz. cover-up of and complicity in the commission of an ADRV.

266. The Athlete appeals against all of the findings.

267. In its line of argument, the Respondent proceeds in two stages. First, it asks the Panel to confirm the existence of a generalised doping scheme in Russia before and during the Sochi Games, one which enabled the Athlete to participate in a doping-control free environment; second, to find a link (even contextual) between the Athlete or one of her urine samples and the generalised doping scheme which is sufficient to allow it to conclude that the Athlete has committed one or more of the alleged ADRVs.

268. Preliminarily, the Panel notes that this line of argument cannot be followed as such. Indeed, the fact that the Panel may be convinced of the existence of the generalised doping scheme in Russia before and during the Sochi Games, does not discharge the IOC of the burden of establishing, to the comfortable satisfaction of the Panel, that the Athlete has knowingly participated in the system by personally committing one or more prohibited actions. In this regard, the Panel notes that circumstantial evidence may have some probative value insofar as individual strands of evidence, which are, taken separately, not sufficient to prove that an ADRV occurred, could, when taken together, establish such ADRV to the Panel's comfortable satisfaction. However, to do so, such strands of evidence have nonetheless to be established and in a case such as the present, which concerns allegations of doping that may entail heavy sanctions for the Athlete, there must be cogent evidence establishing a personal and direct involvement of the Athlete in the commission of the relevant ADRV.

269. It is, therefore, necessary to examine whether one or more of the alleged acts are established and, in the affirmative, whether they are sufficient individually or collectively to establish the personal involvement of the Athlete to the comfortable satisfaction of the Panel. It will then be necessary to determine whether the act in question fulfils the criteria for constituting an ADRV within the meaning of Articles 2.2, 2.5 and/or 2.8 of the IOC ADR.

B. Discussion on the evidence considered by the Panel

270. Regarding the different elements of evidence submitted by the Parties, the Panel notes that while the reliability of the different elements has been at the core of the Parties arguments/pleadings - and evidently constitutes a main aspect in this appeal - the admissibility of most of the elements of evidence has not been contested. This is, however, not the case for the LIMS data of the Moscow Laboratory. Indeed, the Appellant has argued that this data is not admissible evidence in the present appeal as it was not part of the scope of the Appealed Decision.

271. In this regard, the Panel notes that, pursuant to Article R57 of the Code it *"has full power to review the facts and the law"* (para. 1) and *"has the discretion to exclude evidence presented by the parties if it was available to them or could reasonably have been discovered by them before the challenged decision was rendered"* (para. 3). It is clear from the case law of the CAS that the inherent discretion of a CAS panel to exclude certain evidence under Article R57, para. 3, of the Code should be construed in

accordance with that fundamental principle of the *de novo* power to review. Therefore, the discretion to exclude evidence should be exercised with caution, for example in situations where a party may have engaged in abusive procedural behaviour, or in other circumstances where the CAS panel might, in its discretion, consider either unfair or inappropriate to admit new evidence (CAS 2017/A/5371).

272. In the present case, it is not contested that during the proceedings before the IOC DC the evidence related to the LIMS data was not available to the Parties, including the Respondent. It is further not contested that this evidence was submitted as soon as possible, *i.e.* with the answer, and that there is no indication that the Respondent may have engaged in any abusive procedural behaviour, or in any other facts or circumstances, that would render the admission of the LIMS data as evidence to be considered as unfair or inappropriate. Further, this evidence is in line with the arguments presented by the Respondent in the proceedings before the IOC DC, and the Appellant had the opportunity to discuss the evidence in her rejoinder and during the hearing so that her right to be heard have been respected. The Panel thus admits the LIMS data as evidence in the present proceedings.

273. As for the other evidence, considering the very large scope of elements that could be admitted as evidence, the Panel does not see any ground not to take into consideration all the factual and forensic evidence submitted by the Parties. The probative value and reliability of the different elements of evidence submitted by the Parties will be assessed in relation to the different alleged actions (acts), *i.e.* (i) the provision of clean urine by the Athlete in advance of the Sochi Games, (ii) the use by the Athlete of the Duchess Cocktail; (iii) deliberate limited closure of the sample bottles by the Athlete; (iv) transmission of the DCF by the Athlete or member of his entourage to Mrs Rodionova and/or the Sochi Laboratory; (v) the LIMS, and (vi) sample swapping.

1. The providing of clean urine

274. The Panel first considers the alleged deliberate provision, by the Athlete, of clean urine in advance to the Sochi Games for the purpose of facilitating the subsequent swapping of her urine during the Sochi Games. The Panel notes that, in her written statement and in her oral evidence during the hearing, the Athlete vigorously denied ever having provided clean urine for purposes other than annual medical check-ups or regular anti-doping controls.

275. Next, the Panel observes that it is clear from Dr Rodchenkov's witness statement, that he has never seen the Athlete provide clean urine in advance of the Sochi Games. Further, Dr Rodchenkov's Athlete-specific witness statement does not contain any specific element in relation to the alleged provision of clean urine for the purpose of sample swapping except for a reference to urine samples provided on 24 October 2012. There is no other evidence, such as EDP evidence, referring to the alleged provision of clean urine by the Athlete in advance of the Sochi Games for the purpose of urine swapping.

276. Finally, the Respondent did not specify when, where and how the Athlete would have provided clean urine for the alleged *"clean urine bank"*, and acknowledged that the urine provided by the Athlete on 24 October 2012 was not provided for swapping the urine of her B-samples at the Sochi Games.

277. Thus, even if the Respondent's question on how the data of a medical check-up done at the Burnazyan Hospital could end up the Moscow Laboratory remained unanswered, the Panel concludes that there is no direct evidence that the Athlete provided clean urine in advance of the Sochi Games for the purpose of sample swapping during the Sochi Games.

2. The presence on the Duchess List and use of the Duchess Cocktail

278. According to the Respondent, the fact that the Athlete's name is on the Duchess List constitutes evidence that she was expected to use the Duchess Cocktail and was a *"protected athlete"*. This entailed according to the Respondent, that the urine samples she provided at the Sochi Games would be automatically substituted by the Sochi Laboratory.

279. As a preliminary point, the Panel holds that Mr Pichler's witness statement and testimony, although very instructive and certainly sincere, were not fully persuasive. Indeed, at the hearing it became clear that Mr Pichler's belief that *"his girls were clean"*, and that he would have noticed if one of his athletes had doped, was contradicted, first, by himself when admitting that one of his former athletes had voluntarily admitted to having doped and, second, by the undisputed fact that Mrs Galzyrina, whom he had trained during a certain period in time, has been convicted for having doped during that specific period. Thus, the Panel did not attribute any probative weight to Mr Pichler's witness statement and testimony, one way or other.

280. That said, the Panel notes, first, that except for Dr Rodchenkov's witness statement, according to which the Duchess List contains the names of the athletes that were to take the Duchess Cocktail, there is no evidence before the Panel that the Athlete took the Duchess Cocktail. It is uncontested that Dr Rodchenkov has not observed the Athlete take the Duchess Cocktail, and has not provided the Athlete with the Cocktail.

281. Moreover, unlike the *"Washout Schedules"*, which were at the heart of some cases dealt with by several other CAS panels, the Duchess List does not contain any indication as to whether or not the athletes on the list did actually take the Duchess Cocktail or any of the Prohibited Substances it was composed of. In particular, there is no evidence or other indication that any of the ingredients of the Duchess Cocktail were ever found during an ITP of one of the Athlete's urine samples.

282. The probative value of the Duchess List is further diminished when it comes to the individual culpability of the athletes, as stated by the panels in the Other Proceedings, by the fact that not all athletes sanctioned by the IOC DC in relation with the Sochi Games *"appear on the Duchess List demonstrates that, even on the IOC's case, the Duchess List is not suggested to be a fully comprehensive contemporaneous reflection of the athletes' alleged involvement in doping practices"*.

283. Further, even when read in context with the summary of the overall scratch marks found on the sample bottles of all Russian athletes, it appears that no definite conclusion can be drawn – one way or the other – as to whether any athlete on the Duchess List used the Duchess Cocktail or any of its prohibited substances before or during the Sochi Games.

284. Finally, this summary and the Duchess List, read together, do not prove to the comfortable satisfaction of the Panel the Respondent's submission, based on Dr Rodchenkov's explanation, according to which the samples of the *"protected athletes"* were automatically substituted at the Sochi Laboratory. Indeed, even if the Respondent stressed that it would be possible to open bottles without leaving any T-marks, it is significant, in the view of the Panel, that a certain number of samples bottles of athletes on the Duchess List show no – or only isolated – T-marks. According to Prof. Champod, this provides some moderate support for the view that the sample bottles have not been re-opened, or at least no particular support for one proposition versus the other.

285. In view of the above, the Panel considers that the fact that the Athlete's name is on the Duchess List is not itself sufficient for it to be comfortably satisfied that the Athlete used the Duchess Cocktail or any of its prohibited ingredients before or during the Sochi Games, so as to allow the conclusion that the urine samples she provided at the Sochi Games were to be substituted by the Sochi Laboratory.

3. The deliberate limited closure of the sample bottles

286. According to the Respondent, the deliberate limited closure of her sample bottles by the Appellant was supposed to facilitate the re-opening of said bottles in view of the substitution of her urine.

287. In this regard, the Panel notes, first, that only one of the Appellants' three samples provided at the Sochi Games is among the bottles for which Prof. Champod has evaluated the initial level of closure to have been between 6 and 12 clicks. However, this level of closure corresponds only to an *"evaluation"*, as the margin of error left by this evaluation is only an evaluation, as the valuation range seems very wide (broad) and as the upper level of said range, *i.e.* 12 clicks, is very close to the levels of closure observed on the SB and DB bottles.

288. Next, in the witness statement and in her oral evidence, the Appellant categorically denied that she did not close the sample bottles to their full extent. Lastly, in their respective witness statements, Mr Verevkin and Mr Knyazev, who were in charge of a doping control station, stated that the DCOs would make sure that the bottles closed by the athletes were closed *"to the maximum extent possible"* and that there was, thus, a double check of the full closure of the sample bottles.

289. The Panel further observes that, on the other hand, the Respondent has not submitted any direct or indirect evidence indicating that the Appellant might have deliberately closed her sample bottles to less than the fullest extent.

290. In any event, as Prof. Champod has, over the course of time and with the help of newly designed tools, managed to open bottles closed to the fullest extent, *i.e.* 15 clicks, the Panel considers that the evidence that a sample bottle was not fully closed might be a helpful element in establishing that an athlete was personally involved in the generalised doping scheme. It is not, however, in the view of the Panel, decisive when it comes to assessing whether or not the Appellant has committed an ADRV.

291. In view of the above, the Panel considers that on basis of the evidence before it, it is not comfortably satisfied that the Appellant deliberately closed her sample bottles to less than the maximum extent.

4. The transmission of the DCF by the Athlete or member of his entourage

292. As to the alleged transmission by the Appellant or a member of her entourage of the DCFs to Mrs Rodionova and/or to the Sochi Laboratory, the Panel notes, first, that in her witness statement and in her oral testimony, the Appellant firmly denied that she or a member of her entourage that accompanied her to the doping control station had communicated the DCFs or the sample numbers to Mrs Rodionova whom, on top, the Appellant affirms to never have met and to not know. Further, the Appellant also denied having communicated any information in relation to her DCFs to the Sochi Laboratory. Next, in her witness statement, Mrs Rodionova stated that while at the Sochi Games she was not in possession of a phone that could receive pictures and did not have any communication with the members of the Russian National Team and, thus with the Appellant. Finally, in their respective witness statements, Mr Verevkin and Mr Knyazev stated that the use, by the athletes or their entourage, of phones or other recording devices at the doping control stations was prohibited and that the DCOs would make sure that said prohibition was respected.

293. The Panel observes that the Respondent's arguments in support of its allegation that the Appellant herself – or her support personnel – is the most likely source of the information in relation to the identification of her sample numbers, is drawn from the witness statements of Dr Rodchenkov and based on the inference that the transmission of the information was a necessary element in the execution of the alleged sample swapping-scheme. However, in his witness statement Dr Rodchenkov did not avow having witnessed the Appellant or someone from her support personnel take pictures of the DCF's, and/or communicate the sample numbers to Mrs Rodionova or to himself. Further, Dr Rodchenkov's witness statement is not corroborated by any other direct (or indirect) evidence. Finally, the Respondent has not adduced any other evidence, might it be witness evidence or documentary evidence, likely to establish that the Appellant or a member of her entourage has communicated information in relation to her DCFs or sample numbers to Mrs Rodianova and/or the Sochi Laboratory.

294. In view of the above, the Panel considers that, on the basis of the evidence submitted by the Parties, it is not comfortably satisfied that the Appellant and/or a member from her entourage had communicated information in relation to the Appellant's DCFs to Mrs Rodianova and/or the Sochi Laboratory.

5. The LIMS

295. The Respondent refers to the LIMS data as indication that the Appellant had to be identifiable to the Laboratory for the purpose of sample swapping and as corroborating evidence showing that the whole anti-doping control process at the Sochi Games was flawed, as the Sochi Laboratory knew to which Russian athlete the samples it was testing belonged to. For the purpose of the present proceedings, the Respondent did not distinguish between the *"WADA*

LIMS" data, obtained from a whistle-blower in September 2017, and the *"Moscow LIMS"* data, provided to WADA in 2019 by RUSADA at the Moscow Laboratory. It is uncontested that the LIMS data has not been submitted to the IOC DC and that its reliability has, thus, not been the subject of any assessment in the Appealed Decision.

296. Although the Appellant has questioned the reliability of the LIMS data, the Panel considers that there is no need to decide on the matter as, in any event, it finds that, in the present case, the evidentiary weight of said data is limited and cannot materially support the Respondent's argumentation. Indeed, first, in contrast to what has been found in relation to other cases brought forward by the Respondent, *i.e.* the cases of Mrs Sleptsova and Mrs Glazyrina, the LIMS data does not contain any indication of an alleged AAF during an ITP that would, later on, have been reported as negative in ADAMS. This does clearly not sustain the Respondent's argument according to which doping is not taken for - or during a specific competition but is taken over a certain period of time before the competitions. Second, the fact that, in violation of the WADA International Standard for Testing and Investigations, the Athlete's name appears in the LIMS data cannot be attributed to the Appellant. Indeed, as the Panel already concluded above, there is no evidence that the Appellant or a member of her entourage communicated information in relation to the Appellant's DCFs to a third party. Further, it was not the Athlete's duty to manage the LIMS nor to guarantee the regularity of the testing procedures run in the Moscow and Sochi Laboratories Thus, the Athlete cannot be held liable for the shortcomings of these Laboratories.

297. In view of the above, the Panel considers that, due to its limited evidentiary weight for the present case, no conclusions may be drawn from the LIMS data in respect to the Appellant's alleged personal implication in the overarching general doping scheme.

6. The sample swapping

298. In the present case, the Respondent submits, in essence, that the scratch marks, *i.e.* multiple T-marks, found by Prof. Champod on the Appellant's sample bottles B2889850 and B2890589 and the elevated sodium levels found in the Appellant's sample B2890589 are indicative of sample swapping that occurred in the Sochi Laboratory.

299. As regards the scratch marks found on sample bottles B2889850 and B2890589, the Panel carefully considered the different explanations and arguments brought forward respectively by Prof. Champod and Mr Arnold. It concludes that Prof. Champod's reports and expert evidence are, on balance, a little more persuasive than Mr Arnold's. In this regard, the Panel considers that (i) Prof. Champod's successive reports and conclusions have successfully addressed the different questions or doubts raised by the panels in the Other Proceedings, (ii) Prof. Champod and his team had and gained over the time sufficient experience to be able to give reliable evidence, (iii) that the number of bottles examined by Prof. Champod has significantly increased over time and has reached a figure which is sufficient to be considered representative, (iv) Prof. Champod and his team have managed to re-open fully closed sample bottles, containing unfrozen liquid and standing in an upright position; (v) Mr Arnold's criticism was mainly directed against Prof. Champod's methodology and tests but did not examine the found results as such, and this although the images were at his disposal; (vi) that the alternative hypothesis

evoked by Mr Arnold, in particular that the T-marks could be the result of transportation, freezing and thawing, or an athlete playing with the metal ring of the sample bottle during the anti-doping test are either proven wrong by the results found in the SB/DB test samples, unrealistic or simple contradicted by the fact that all witnesses testified that the anti-doping tests were done according to the protocol, which excludes that an athlete would be allowed to play around with a sample bottle or its cap. In addition, the Panel notes that during her testimony the Appellant confirmed that she did not play with the metallic ring in the cap but only removed the red plastic ring that prevents the closing of the still empty bottles. Moreover, on a more general level, the Panel deems that Mr Arnold's experience in the ballistic sector and his referrals to methods and conclusions originating from that sector cannot be transposed to the analyses in question in the present matter; as Prof. Champod's mission was not to establish by what tool sample bottles could have been opened but rather whether it was possible to open and reclose said bottles. Finally, Panel considers that Prof. Champod's specific expertise and qualifications prevail over Mr Arnold's.

300. If the Panel is, thus, inclined toward Prof. Champod's conclusion that the findings of multiple T-marks on a sample bottle, in the present case samples B2889850 and B2890589, provide *"very strong support for the view that the bottle has been tampered with as alleged, rather than the view that the bottle has not been re-opened"*, the fact remains that the third sample bottle attributed to the Appellant does not bear any such T-marks. This provides, in Prof. Champod's words, *"moderate support for the view that the bottle has not been re-opened"*, and tends to undermine the Respondent's argument that the Appellant's samples were systematically swapped because she was a *"protected athlete"*.

301. In the present case, one of the Appellant's sample bottles - sample B2889915 - shows no T-marks, whereas two sample bottles - sample B2889850 and B2890589 - show multiple T-marks. Thus, the Panel considers that the findings in regard to the Appellant do support the conclusion, to its comfortable satisfaction, that sample bottles B2889850 and B2890589 are likely to have been re-opened or that there was an attempt to re-open said bottles.

302. However, the Panel stresses that, in any event, it would be reluctant to conclude that a sample swapping occurred solely on the basis of circumstantial evidence that multiple scratch marks have been found on a sample bottle. Further, such conclusion would, in absence of any other evidence likely to establish an athlete's knowledge of and implication in the swapping of his or her urine, for example by having provided clean urine, not be sufficient to comfortably satisfy the Panel that such substitution could be attributed to the athlete in question.

303. As regards the elevated sodium levels found in the Appellant's sample bottle B2890589, the Panel has carefully assessed the different expert reports and evidence submitted by the Parties. It took due notice of the fact that all experts agreed that a level of urinary sodium of around 350 mmol/l was *"physiologically possible"* but was, nonetheless, *"unusual"* and also noted that there was a discussion amongst the experts on whether or not the sample in question could, on basis of the sodium levels found, be qualified as *"outlier"*. In this regard, the Panel considers that seen in the light of Prof. Burnier's explanation according to which *"the smaller the group the higher the SD"*, the 3 SD (approx. 99%) chosen by Prof. Burnier to qualify the outliers appears to more than appropriate. Thus, the Panel had to assess how this high sodium level could be explained.

304. While the Panel finds that all experts have equally high professional qualifications and experience, it finds the analysis and explanations provided by Prof. Burnier to be more persuasive than the ones given respectively by Dr Charytan and Prof. Bobkova. In particular, the Panel holds that (i) the control groups chosen by Prof. Champod, *i.e.* the Vancouver Samples and the group of Russian athletes having competed at the Sochi Games, were the most relevant control groups available; (ii) the relatively limited size of the control groups and the fact there were multiple samples from some of the athletes does not negatively affect the reliability of Prof. Burnier's findings as it was not contested that this fact impacted the calculated SD in favor of the Appellant; (iii) Dr Charytan's and Prof. Bobkova's criticism was mainly theoretical and the alternatives they submitted to explain the high sodium levels found were unrealistic as they were based on hypothesis, such as high blood pressure, heart failure, hyperaldosteronism, that were to be ruled out in the present case.

305. The Panel further finds the argument that the high sodium level in sample B2890589 could be explained by a particularly high sodium intake by the Appellant prior to providing the sample, is not convincing. Indeed, first, the Appellant testified that on the day she provided said sample she had a normal breakfast and lunch. Next, although having stated that she was fond of salt and that she would sometimes eat spoonfuls of salt, the high variation of the sodium levels observed between, on the one hand, samples B2889915 and B2889850 and, on the other hand, sample B2890589 remains, in view of what the Appellant stated to have eaten prior to providing the sample B2890589, unexplained. Finally, as Prof. Burnier highlighted without being contradicted, the high level of sodium found in sample B2890589 is not accompanied by a correlating increase of the urinary potassium values and the sodium over potassium ratio in said sample was not even alleged to be the result of hyperaldosteronism.

306. Moreover, the Panel found that the high sodium levels detected in sample 2890589 cannot be explained by a possible dehydration of the Appellant. Indeed, first, the specific gravity of the sample, *i.e.* 1.020, is not particularly high. Next, it seems highly unrealistic that a high level athlete like the Appellant would start a competition without being sufficiently hydrated and would finish dehydrated after a physical effort of approximately 16'35", which is the time it took the Appellant to complete her leg of the mixed biathlon relay event held on 19 February 2014. Finally, in reply to a question from the Panel, the Appellant acknowledged that she rehydrated as soon as possible after completing her leg of the relay in question as she was to have another race on 21 February 2014.

307. Lastly, the Panel found Prof. Burnier's explanations concerning the Appellant's intrapersonal correlation between the concentration of the urine and the creatinine levels to be an important element. In this regard, Prof. Burnier was not contradicted by the other experts when stating that this element shows as well that the sodium levels found in sample B2890589 cannot be explained by an increase in concentration of the urine.

308. In view of the above, the Panel concludes that there is no natural explanation for the high level of sodium, *i.e.* 347 mmol/l, found in the Appellants sample B2890589. It follows that the content of the urine contained in the sample bottle B2890589 cannot correspond to the content of the urine sample provided by the Appellant on 19 February 2014. No other possible explanation for this high level of sodium was provided by the Appellant, and it is uncontested

that the urine in question can be attributed to the Appellant. Accordingly, the Panel is comfortably satisfied that the high level of sodium found in the Appellant's urine sample B2890589 is likely to be the result of a deliberate manipulation of that sample.

309. The Panel further considers, on the basis of the evidence before it, that the only plausible explanation for the high level of sodium found is the manual addition of salt. The Panel notes that it is uncontested that the addition of salt to a urine sample has no concealing effects on potentially present prohibited substances. Thus, the Panel agrees with the Respondent that the only objective of such addition is likely to be to raise the specific gravity of the urine to a given level, *i.e.* the specific gravity recorded on the DCF, and that such adjustment can only be done once the level of specific gravity to be reached is known. As the addition of salt has, as already mentioned, no concealing effect, the Panel deems it improbable and implausible that the salt would have been added to the urine provided during the doping control procedure on 19 February 2014, since this would lead to a discrepancy between the specific gravity recorded on the DCF and the specific gravity of the B-sample.

310. The Panel finds however that the addition of salt to a urine sample does make sense if the urine provided during the doping control procedure on 19 February 2014 has been swapped and the specific gravity of the replacement urine has to be raised in order to match the specific gravity of the initially provided urine as recorded in the DCF. This finding is not diminished by the argument that it would have been easier and less risky to add urea to adjust the specific gravity of the urine samples, as such addition would have been undetectable. Indeed, the findings of physiologically impossible levels of sodium of more than 800 mmol/l in some of the Sochi Samples constitute irrefutable proof that the addition of salt was the technique used at the Sochi Laboratory. In addition, this technique did not, as such, entail a high risk of being discovered as the sodium levels of the urine samples are, under normal circumstances, not analysed in the context of a normal anti-doping test.

311. As to the origin of the replacement urine, the Panel recalls that it is uncontested that said urine can be attributed to the Appellant. Given that the only plausible objective of a urine substitution is to conceal the potential presence, in the replaced urine, of prohibited substances, the replacement urine had, for its part, to be *"clean"* or in other words not to contain any prohibited substance. In this connection, it appears that in order to fully achieve this objective, the replacement urine had to be properly analysed and cleared for usage. Considering that such analysis requires a certain amount of time, the Panel finds that it most likely took place before the Sochi Games. This, of course, indicates that the provision of this *"clean"* urine must have occurred before the Sochi Games. The Panel holds that this advance provision of clean urine by the Appellant cannot have taken place without the Appellant's knowledge and active cooperation. The Panel concludes that this finding is not called into question by the Appellant's blank denial, or by the fact that the Panel has concluded that there was no direct evidence for the provision of clean urine by the Appellant. Further, as the Appellant does not assert that she might have been administered prohibited substances without her knowledge, the evidence indicates that she knew, or should have known, that the urine she provided in advance to the Sochi Games was to be used for swapping the urine samples she would eventually have to provide during official doping control tests at the Sochi Games.

312. On basis of these considerations, the Panel is comfortably satisfied that, in the present case, the elevated sodium level found in the Appellant's sample B2890589 constitutes reliable evidence to support the conclusion that the urine the Appellant provided during the doping control procedure on 19 February 2014 was likely to have been deliberately swapped against clean urine that the Appellant had provided in advance to the Sochi Games; that salt was added to the replacement urine in order to adjust its specific gravity to the specific gravity of the replaced urine as recorded on the DCF of 19 February 2014; and that the Appellant was likely to have been fully aware that the urine samples that she would eventually have to provide during the official doping control procedures at the Sochi Games would be swapped against that clean urine.

C. Decision on liability

313. In view of the forgoing, the Panel still has to determine whether the established acts have to be considered as constituting an ADRV within the meaning of Articles 2.2, 2.5 and/or 2.8 of the IOC ADR.

314. The substitution of urine being, as already mentioned above, a *"prohibited method"* within the meaning of Article 2.2 of the 2009 WADC and such substitution having, in the present case, been established to the comfortable satisfaction of the Panel, the Panel is equally comfortably satisfied that the Appellant committed an ADRV under Article 2.2 of the 2009 WADC in connection with M2.1 of the 2014 Prohibited List in form of use of a prohibited method.

315. Further, as the Panel concluded that the urine substitution occurred in order to conceal the *"use"* of a prohibited substance, the Panel is comfortably satisfied that the Appellant committed an ADRV under Article 2.2 of the 2009 WADC in the form of *"use of a prohibited substance"*.

316. Thus, the Panel finds to its comfortable satisfaction, on the basis of the evidence before it, that the Appellant committed ADRVs pursuant to Article 2.2 of the 2009 WADC for use of a prohibited substance and use of a prohibited method.

317. As regards a possible ADRV pursuant to article 2.5 of the 2009 WADC (tampering or attempted tampering with any part of the doping control), the Panel recalls that Article 2.5 of the 2009 WADC only applies insofar as it relates to acts that are not already included within the definition of the prohibited methods under Article 2.2. and, thus, covers types of tampering other than urine substitution and of a few other methods defined under section M of the 2014 Prohibited List.

318. In the present case, the Panel is not comfortably satisfied that the Appellant engaged in any other actions than the ones summarised above. Having concluded that the use of a prohibited substance and the sample swapping, although not done by the Appellant herself, are covered by Article 2.2 of the 2009 WADC, the only other action established to the comfortable satisfaction of the Panel that could fall under the material scope of Article 2.5 of the 2009 WADC is the provision of clean urine for the purpose of the sample swapping. However, the Panel having found that this act must have occurred well before the Sochi Games, the provision of clean urine falls outside of the temporal scope of this disposition as determined by the notion

of *"doping control"* which, in turn, is defined in Appendix 1 to the WADC as *"from the test distribution planning through to ultimate disposition of any appeal"*.

319. Thus, the Panel does not find that the Appellant committed an ADRV of tampering under Article 2.5 of the 2009 WADC.

320. As regards a possible ADRV pursuant to Article 2.8 of the 2009 WADC, the Panel notes that the first part of this disposition expressly addresses the administration or attempted administration *"to any athlete"* of any prohibited method or prohibited substance. Thus, it is clear for the Panel that this clause only covers the administrations or attempted administrations attributable to 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. However, in the present case it is not alleged that the Appellant would have administered or attempted to administer a prohibited method or substance to another athlete. Thus, the Appellant's case does not meet the requirements of the first part of Article 2.8 of the 2009 WADC.

321. In its second part, Article 2.8 of the 2009 WADC refers to *"assisting, encouraging, aiding abetting, covering up, or any other type of complicity involving"* an ADRV or an attempted ADRV and a precondition for its application is the existence of an ADRV under Articles 2.1 to 2.7 of the 2009 WADC committed by another person than the one charged with a violation of Article 2.8. This is moreover in line with the CAS case law from which it follows, *inter alia*, that the starting point for a possible application of a disposition like Article 2.8. is that there has to be a *"third-party"* ADRV (CAS 2008/A/1513).

322. However, in the present case, no such third-party ADRV has been established. In particular, it has not been established to the Panel's comfortable satisfaction that the Appellant committed any of the acts referred to in this second part of Article 2.8, *i.e.* assisting, encouraging, aiding abetting, covering up, or any other type of complicity, in relation with the commission of an ADRV by any another athlete. Further, although it is not excluded that the Appellant might have been aware of the existence of the doping scheme allegedly operating at Sochi Games and its functioning, this has not been established.

323. As to the alleged complicity and the Respondents argument according to which the panels in the Other Proceedings have applied a higher standard than the one set out by the panel in CAS 2008/A/1513, the Panel finds, first, that the Respondent manifestly errs in implying that the Appellant committed numerous acts to *"assist an ADRV"* by providing clean urine, communicating information regarding her sample numbers and failing to completely close her sample bottles to their fullest extent. Indeed, not only are some of these acts not established to the comfortable satisfaction of the Panel, but most of all these alleged acts are not related to an ADRV committed by another athlete or a third-party. Such acts can be no means constitute an act of *"complicity"*. Second, the inference the Respondent tries to draw from the award in case CAS 2008/A/1513 rests on an erroneous reading of said award. Indeed, the question on how substantial the assistance has to be in order to be qualified as *"complicity"* is completely independent from the question whether there is a third party that has committed an ADRV pursuant to Articles 2.2 to 2.7 of the WADC. This is evidenced by the fact that the panel in

CAS 2008/A/1513, after having addressed the issue related to the required standard of substantiality, immediately held that *"[i]n any event, though, an act of assistance for the purposes of Art. 2.8 FIS ADR requires that the person concerned is aware of the anti-doping rule violation committed by another party because otherwise there is no intent to assist a third- party act in the first place"*. It is thus clear that Article 2.8 of the 2009 does not apply in a situation where an athlete covers up his/her own ADRV.

324. In the present case, the Appellant's use of a prohibited method and use of a prohibited substance cannot be considered as constituting acts by which the Appellant encouraged, assisted, or covered up, either physically or psychologically, fellow athletes to commit ADRVs. In addition, the Respondent did not submit that the Appellant engaged in any other actions that might have assisted other athletes to commit such ADRVs. Moreover, there is no evidence in front of the Panel that the Appellant assisted or encouragement to other athletes either directly or indirectly, *i.e.* through coaches or support personnel. Finally, there is no evidence that the Appellant might have cooperated with other athletes engaged in committing ADRVs on their side.

325. In view of the foregoing, the Panel is not comfortably satisfied that the Appellant committed any act or omission that knowingly assisted, encouraged or covered up the commission of an ADRV under Article 2.2 to Article 2.7 of the 2009 WADC by any other athlete. Accordingly, the Panel does not find that the Appellant committed an ADRV under Article 2.8 of the 2009 WADC.

D. Sanctions

326. The Appellant committed both an ADRV in the form of the use of a prohibited method, *i.e.* urine substitution of her sample provided on 19 February 2014 (sample number 2890589), according to Article 2.2 of the 2009 WADC, in connection with M2.1 of the 2014 WADA Prohibited List, and an ADRV under Article 2.2 of the 2009 WADC in the form of the use of a prohibited substance. The Appellant's sample 2890589 was collected after the relay mixed biathlon event in which the Russian team ranked 4th.

1. Disqualification of results

327. According to the definitions attached as Appendix 1 to the 2009 WADC, *"individual sport"* is defined as *"any sport that is not a team sport"*. In the same Appendix 1, a *"team sport"* is described as *"a sport in which the substitution of players is permitted during a competition"*. Pursuant to these definitions, the 2009 WADC and, through its incorporation into the IOC ADR, the IOC ADR only knows two kinds of sports: individual and team sports. As biathlon is not covered by the above definition of a team sport, it has to be considered as an individual sport in the sense of the IOC ADR.

328. Pursuant to Article 7.1 of the IOC ADR:

"A violation of these Rules in Individual Sports in connection with Doping Control automatically leads to Disqualification of the Athlete's results in the Competition in question, with all other consequences, including forfeiture of any medals, points, and prizes".

329. As the Appellant's sample 2890589 was collected after she had competed in the relay mixed biathlon event, her result achieved in that competition is automatically disqualified according to Article 7.1 of the IOC ADR.

330. According to Article 8.1 of the IOC ADR:

"An anti-doping rule violation occurring during or in connection with the Sochi Olympic Winter Games may lead to Disqualification of all of the Athlete's results obtained at the Sochi Olympic Winter Games with all consequences, including forfeiture of medals, points, and prizes, except as provided in Article 8.1.1".

331. Said Article 8.1.1 of the IOC ADR reads as follows:

"If the Athlete establishes that he or she bears No Fault or Negligence for the violation, the Athlete's results in the Competitions (for which the Athlete's results have not been automatically Disqualified as per Article 7.1 hereof) shall not be Disqualified unless the Athlete's results in Competitions other than the Competition in which the anti-doping rule violation occurred were likely to have been affected by the Athlete's anti-doping rule violation".

332. Apart from the relay mixed biathlon event in which the Appellant competed, she also competed in the Women's 7.5 km Sprint on 9 February 2014, the Women's 10 km Pursuit on 11 February 2014, the Women's 15 km individual on 14 February 2014, the Women's 12.5 km Mass Start on 17 February 2014 and the Women's 4x6 km Relay on 21 February 2014.

333. In the present case, the Appellant did not submit that she bore no fault or negligence in the ADRV established in connection with her competition of 19 February 2014 in the sense of Article 8.1.1 of the IOC ADR. Thus, said disposition, which would allow her other results obtained during the Sochi Games, to be maintained, does not apply. Hence, the results the Appellant achieved at the Sochi Games, *i.e.* her individual results obtained, *"may"* be disqualified.

334. According to article 8.1 of the IOC ADR, it lies within the discretion of the IOC and its competent bodies to make the determination on whether or not to disqualify the Appellant's results in the events mentioned in para. 332. Even though, according to Article R57 of the Code, the Panel has *"the full power to review the facts and the law"*, the Panel does not find that the IOC DC, in its appealed decision, exceeded the scope of its discretion.

335. The Panel therefore rules that the results achieved by the Appellant in the Women's 7.5 km Sprint, the Women's 10 km Pursuit, the Women's 15 km individual, the Women's 12.5 km Mass Start and the Women's 4x6 km Relay competitions are disqualified with all resulting consequences.

336. However, the disqualification of the Appellants individual results might have consequences for the relay teams she competed with in the mixed relay event and the women's 4x6km relay event.

Indeed, Article 9 of the IOC ADR provides for the consequences of individual ADRVs like the ones in the case at hand committed by team members to the team and distinguishes between *"team sports"* and *"sports which are not team sports but where awards are given to teams"*. As already mentioned, biathlon is not to be considered as a team sport.

337. In its part applicable to biathlon, Article 9.1 para. 3 of the IOC ADR provides:

> *"In sports which are not Team Sports but where awards are given to teams, if one or more team members have committed an anti-doping rule violation during the Period of the Sochi Olympic Winter Games, the team may be subject to Disqualification, and/or other disciplinary action as provided in the applicable rules of the relevant International Federation".*

338. According to that rule, in order to trigger consequences to a team, it is sufficient that one member of a team committed an ADRV during the period of the Sochi Games. This condition is fulfilled in the present case.

339. As regards the question whether Article 9.1 para. 3 refers to the rules of the IBU for the possible disqualification of the whole team, the Panel adheres to the reasoning set out in the award in case CAS 2017/A/5422, according to which this Article has to be interpreted as referring to the rules of the relevant IFs only with respect to *"other disciplinary action"*, *inter alia* because of the comma positioned before *"and/or other disciplinary action"*. Thus, the Panel considers that Article 9.1. para. 3 of the IOC ADR refers to the rules of the IBU only in respect of the *"other disciplinary action"* while *"disqualification"* remains the full responsibility of the IOC.

340. The Panel further agrees with the award in case CAS 2017/A/5422 that this interpretation of Article 9.1 para. 3 of the IOC ADR, according to *"the wording of the rule"* and considering *"the meaning of the rule, looking at the language used, and the appropriate grammar and syntax"* is supported by the allocation of responsibility and jurisdiction between the IOC and the IBU with respect to Olympic Games. The disqualification from the entire Olympic Games for reasons of an ADRV, in general, and the Sochi Games, in particular, is the exclusive prerogative of the IOC whereas the imposition of *"other disciplinary action"* falls under the responsibility of the IBU.

341. Article 9.1 para. 3 of the IOC ADR states that the disqualification of a team may be imposed if *"one or more members"* of the team has committed an ADRV *"during the period of* [Sochi Games]*"*. Thus, in contrast to Articles 7.1 and 8.1 of the IOC ADR, Article 9.1 al. 3 of the IOC ADR does not distinguish between the disqualification of results obtained in the competition on the occasion of which the ADRV occurred, and the disqualification of results otherwise achieved during the Sochi Games. Therefore, as the Appellant competed in the mixed relay event and the 4x6 km women's relay event, Article 9.1 para. 3 of the IOC ADR allows the disqualification of the results achieved by the respective teams in both competitions.

342. For the sake of completeness, the Panel observes that the application of the IBU rules in the case at hand would not lead to a different solution. In this regard, Article 11.1 of the 2012 IBU Anti-Doping Rules provides that *"[i]f a member of a relay team is found to have committed a violation of these Anti-Doping Rules during a competition, the relay team will be disqualified from the competition with all consequences, including forfeiture of all medals, points and prizes"*. As this disposition only refers to an

ADRV committed during *"a competition"* and does not specify that the ADRV at stake must have occurred in the competition the team took part in, it can be concluded that a disqualification in application of Article 11.1 is not limited to the results obtained in the competition on the occasion of which the ADRV occurred.

343. Finally, the Panel notes that according to article 9.1 para. 3 of the IOC ADR, the relevant results *"may"* be disqualified and that it lies within the discretion of the IOC and its competent bodies to make the determination of whether or not to disqualify the team results in the mixed relay event and the 4x6km women's relay event. In this regard, and even though, according to Article R57 of the Code, it has *"the full power to review the facts and the law"*, the Panel does not find that the IOC DC, in its appealed decision, exceeded the scope of its discretion.

344. In view of the foregoing, the Panel rules that the results achieved by the Russian teams of which the Appellant was a member at the Sochi Games, *i.e.* the Russian Relay Mixed Biathlon Team and the Russian Women's 4x6 km Relay Biathlon Team, are disqualified, with all resulting consequences, in particular the withdrawal of the medals, the medallist pins and the diplomas.

2. Ineligibility for future editions of the Olympic Games

345. Article 7.3 of the IOC ADR provides:

> *"The Disciplinary Commission or the IOC Executive Board, as the case may be, may declare the Athlete, as well other Persons concerned, temporarily or permanently ineligible for editions of the Games of the Olympiad and the Winter Olympic Games subsequent to the Sochi Olympic Winter Games".*

346. In the Appealed Decision, the IOC DC noted that a declaration of ineligibility in application of Article 7.3 corresponds to an application of Article 59 para. 2.1 of the Olympic Charter, which provides for the possibility of temporarily ore permanent ineligibility *"in case of any violation of the Olympic Charter, of the World Anti-Doping Code, or any other decision or applicable regulation issued by the IOC or any IF or NOC, including but not limited to the IOC Code of Ethics, or any applicable public law or regulation, or in case of any form of misconduct".*

347. Based on these provisions, and considering that the Appellant's individual ADRVs *"were part of a conspiracy, which infected and subverted the Olympic Games in the worst possible manner"*, the IOC DC declared the Appellant *"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 Olympic Winter Games".*

348. In the present case, the Appellant did not challenge the validity of Article 7.3 of the IOC ADR. Further, the Appellant does not question the non-applicability of the sanctions provided for in the 2009 WADC and the jurisdiction of the IOC DC to sanction violations of the IOC ADR at the Sochi Games.

349. Thus, the Panel can limit itself to the verification of the adequacy of the length of the ineligibility imposed on the Appellant by the IOC DC.

350. In this regard, the Panel, first, notes the CAS constant case law with respect to the matter of the discretionary powers that the decision-making bodies of sports associations enjoy and the scope and extent of the CAS power to review their exercise. Such case law consistently allows for the wide exercise of such powers which is to be restrained by CAS only in extreme cases. For instance, the CAS Panel in case CAS 2017/A/5401 has recalled that: *"In this latter respect, this Panel agrees with the CAS jurisprudence under which the measure of the sanction imposed by a disciplinary body in the exercise of the discretion allowed by the relevant rules can be reviewed only when the sanction is evidently and grossly disproportionate to the offence"*.

351. The Panel further recalls that according to constant CAS jurisprudence a sanction equivalent to a lifetime period of ineligibility can only be considered justified where the seriousness of the offence was most extraordinary (CAS 2008/A/1513, CAS 2016/O/4504 and CAS 2016/A/4480).

352. In the present case, the Panel concluded that it is comfortably satisfied that the Appellant committed an ADRV pursuant to Article 2.2 of the 2009 WADC for use of a prohibited method and use of a prohibited substance. At the same time, the Panel also concluded that it was not comfortably satisfied that the Appellant committed further ADRVs such as tampering under Article 2.5 or covering-up/complicity under Article 2.8 of the 2009 WADC. Thus, although the Panel has no doubts that the alleged doping scheme was operational during the Sochi Games and was implemented at the Sochi Laboratory, this did not have an impact on the findings against the Appellant. Indeed, the Panel did not conclude that the Appellant played another role in the alleged doping scheme than the one of an athlete driven by her own interest.

353. However, in absence of any evidence that the Appellant was a central element of the alleged doping scheme or had a particular responsibility within that scheme, the impact of the alleged doping scheme on the Olympic Games cannot, contrary to what the IOC DC has held in the Appealed Decision be taken into consideration when assessing the appropriate length of a sanction to be imposed. In the present case, it is thus clear that the ineligibility to be accredited in any capacity for all future Olympic Games imposed on the Appellant is evidently and grossly disproportionate.

354. This finding is not put into question by the fact that in case CAS 2008/A/1513, the Panel found that a lifetime Olympic ineligibility was an appropriate sanction, as the ADRV at stake in that case cannot be compared to the ones the Appellant is found guilty.

355. […].

356. Therefore, the Panel rules that the Appellant is ineligible to be accredited in any capacity in one edition of the Olympic Winter Games subsequent to the Sochi Games, *i.e.* the Olympic Winter Games 2018 in PyeongChang.

ON THESE GROUNDS

The Court of Arbitration for Sport rules that:

1. The appeal filed by Mrs Olga Zaytseva on 6 December 2017 against the decision of the International Olympic Committee Disciplinary Commission dated 1 December 2017 is partially upheld.

2. Paragraph I (a) of the Decision rendered by the International Olympic Committee Disciplinary Commission dated 1 December 2017 is modified as follows:

   I. The Athlete, Olga ZAYTSEVA:

   a) is found to have committed an anti-doping rule violation pursuant to the International Olympic Committee Anti-Doping Rules applicable to the XXII Olympic Winter Games in Sochi, Russia, in connection with the World Anti-Doping Code.

3. Paragraph V of the Decision rendered by the International Olympic Committee Disciplinary Commission dated 1 December 2017 is annulled and replaced as follows:

   V. Olga ZAYTSEVA is declared ineligible to be accredited in any capacity for the next edition of the Olympic Winter Games subsequent to the Sochi Olympic Winter Games (i.e. PyeongChang 2018).

4. All other rulings contained in the Decision rendered by the International Olympic Committee Disciplinary Commission dated 1 December 2017 are maintained.

5. (…).

6. (…).

7. All other motions or prayers for relief are dismissed.