



Arbitration CAS 2017/A/5045 Maria Farnosova v. International Association of Athletics Federations (IAAF) & All Russia Athletics Federation (ARAF), award of 27 July 2018

Panel: Prof. Ulrich Haas (Germany), President; Mr Michele Bernasconi (Switzerland); Mr Romano Subiotto QC (United Kingdom)

Athletics

Doping (ABP)

Version of the regulations applicable

Burden and standard of proof regarding the ADRV

Requirements to establish an anti-doping rule violation by means of an ABP

Duty to substantiate

“Beweisnotstand” and duty of cooperation

Requirement to establish a “doping scenario”

Admissibility and reliability of the intelligence provided by a witness

1. Pursuant to the legal principle of *tempus regit actum*, procedural matters of a case are governed by the regulations in force at the time of the procedural act in question. The substantive aspects of an alleged anti-doping rule violation shall be governed by the version of the applicable rules that have been in force at the time of the alleged violation.
2. The burden of proving whether an athlete has committed an anti-doping rule violation (ADRV) in the form of IAAF Rule 32.2 (2012-2013) rests upon the IAAF. In order to succeed with its request, the IAAF must convince the adjudicating body to the comfortable satisfaction of the latter, bearing in mind the seriousness of the allegation which is made that the athlete committed the ADRV. It clearly follows from the applicable provision that the applicable standard of proof is flexible. The threshold that the IAAF must meet is higher depending on the seriousness of the allegation.
3. The ABP is in principle reliable evidence of doping in general terms, provided a two-step approach is duly applied: (i) the deviations in the ABP are to be interpreted by experts called to examine various hypothesis that could explain the abnormality in the profile values and (ii) the deviations are to be set into context.
4. The duty to substantiate, and in particular the prerequisites that a party must fulfil in order to dispose of its duty to sufficiently substantiate its submissions, is intrinsically linked to the principle of party presentation and, thus, clearly a procedural question. Consequently, Article 182 of the Swiss Private International Law Act (PILA) applies in respect of the applicable law. The onus of substantiation, *i.e.* which party has the onus of presenting and submitting the facts, is in principle linked to the law applicable to the merits, because the onus of presentation follows from the burden of proof. The

burden of proof does not only allocate the risk among the parties of a given fact not being ascertained, but also allocates who bears the duty to submit the relevant facts before the court/tribunal. It is, in principle, the obligation of the party that bears the burden of proof in relation to certain facts to submit them also to the court/tribunal in a sufficient manner. The party that has the burden of proof, thus, in principle also has the burden of presenting the relevant facts to the tribunal. However, there are exceptions to the above rule. The exceptions concern – *inter alia* – cases in which a party is faced with a serious difficulty in discharging its burden of proof (“état de nécessité en matière de preuve”, “Beweisnotstand”).

5. In the context of an ABP, the anti-doping organization is confronted with an “état de nécessité en matière de preuve” or “Beweisnotstand” since by its very nature the alleged facts i.e. doping, cannot be proven by direct means. In order to discharge its burden of proof, the anti-doping organization must show – in principle – that not only the doping scenario is plausible, but that all potential explanations other than doping – have to be excluded. Such proof of “negative facts”, however, is impossible. Difficulties in proving “negative facts” result in a duty of cooperation of the contesting party who must cooperate in the investigation and clarification of the facts of the case; *e.g.* in ABP cases, the athlete must submit in detail alternative (natural) scenarios to explain the blood values. However, the above difficulties do not lead to a re-allocation of the risk if a specific fact cannot be established. Instead, this risk will always remain with the party having the burden of proof. Furthermore, in assessing and determining whether a specific fact can be established, the court must take into account whether the contesting party has fulfilled its obligations of cooperation.
6. In addition to the testing results, an anti-doping organization is required to establish a “doping scenario”. This means that even if all scenarios other than doping can be excluded on a balance of probability, this does not suffice for the adjudicating body to be comfortably satisfied that the athlete committed blood manipulation. Instead, the use of a prohibited substance or method must – in addition – be a plausible and likely explanation of the values obtained for the adjudicating body to positively assume that the athlete has doped. Such assessment must be made based on all evidence before the adjudicating body. Specifically, a significant correlation between the sporting calendar of the athlete and the variances observed in his/her blood values and the fact that the seasonal variances between winter and summer observed in the athlete’s values are opposite from what one would normally expect when looking at the reference population should be considered plausible and likely explanations of blood manipulation by the athlete.
7. Intelligence provided by a witness including recordings and transcripts showing that an athlete regularly used prohibited substances over a long period of time is reliable evidence in general.

I. PARTIES

1. Ms Maria Farnosova (the “Athlete” or “Appellant”) is a professional international middle-distance runner, specialising in 800m, based in Moscow, Russia.
2. The International Association of Athletics Federations (“IAAF” or the “First Respondent”) is the international governing body of the athletics federations worldwide, headquartered in Monaco.
3. The All Russia Athletics Federation (“ARAF” or “Second Respondent”) is the national athletics federation and governing body of Russia, a (as of 26 November 2015 suspended) member of IAAF, headquartered in Moscow, Russia.

II. FACTUAL BACKGROUND

A. The Athlete’s Sporting Results

4. The Athlete’s competitive results include:
 - Gold medal at the 2009 European Indoor Championships in Turin,
 - Gold medal at the 2010 World Indoor Championships in Doha,
 - Gold medal at the 2010 European Championships in Barcelona,
 - Gold medal at the 2011 World Championships in Daegu,
 - Gold medal at the 2012 London Olympic Games, and
 - Silver medal at the 2013 World Championships in Moscow.

B. The Athlete’s ABP

1. *The ABP in general*

5. The IAAF Athlete Biological Passport Programme (ABP) is based on a longitudinal monitoring of an athlete and is designed to be an “indirect” method of doping detection. It focuses on the effect of prohibited substances and methods on the athlete’s haematological values rather than the identification of a specific substance or method in the athlete’s sample.
6. The ABP, in principle, follows a two-step process:
 - In a first step, the athlete’s blood values are inserted into the “Adaptive Model”, which is a mathematical model designed to identify unusual or abnormal longitudinal results from athletes. It calculates the probability of a longitudinal profile of Marker values assuming that the athlete has a normal physiological condition. It identifies atypical values or profiles that warrant further attention. Atypical values correspond – according to the WADA ABP Operating Guidelines – to outliers out of the 99% range.

- In a second step, the data that has been flagged by the Adaptive Model must be interpreted by experts, in particular in light of the information provided by the athlete. The mere fact that an outlier exists is, thus, by itself no proof of doping. Instead, the data must be examined and evaluated to determine whether other (i.e. natural) causes might explain the data obtained.

2. *The ABP of the Athlete*

7. The Athlete has been in the Registered Testing Pool of the IAAF at all material times (15 August 2009 to 22 March 2015) and has been part of the ABP. The IAAF collected 28 blood samples from the Athlete in the context of the ABP. All samples were then analysed by a WADA-accredited laboratory. The Athlete's haematological values were logged into the Anti-Doping Administration & Management System ("ADAMS").

Sample No.	Date	HGB (g/dL)	RET%	OFF-score
1	15/08/2009	14.7	0.69	97.20
2	10/03/2010	15.1	0.84	96.00
3	26/07/2010	15.3	0.64	105.00
4	15/06/2011	13.9	0.67	89.90
5	17/06/2011	15.2	0.81	98.00
6	26/07/2011	14.8	0.60	101.50
7	31/08/2011	15.9	0.40	121.10
8	05/12/2011	14.3	1.41	71.80
9	27/01/2012	14.2	0.81	88.00
10	07/03/2012	15.3	1.04	91.80
11	09/05/2012	14.8	0.91	90.80
12	30/05/2012	14.9	1.02	88.40
13	07/08/2012	16.1	1.30	92.60
14	25/08/2012	15.0	1.05	88.50
15	22/10/2012	14.3	1.00	83.00
16	27/11/2012	14.6	0.78	92.68
17	14/01/2013	14.8	0.93	90.10
18	05/02/2013	14.6	1.14	81.90
19	11/03/2013	14.7	1.29	78.90
20	05/06/2013	14.4	0.64	96.00
21	13/08/2013	14.4	1.06	82.20
22	31/10/2013	14.4	1.28	76.10
23	04/12/2013	13.5	1.06	73.23
24	10/04/2014	15.0	1.47	77.30
25	02/12/2014	13.6	1.60	60.10
26	29/12/2014	13.7	1.85	55.40
27	03/02/2015	13.8	2.42	44.70
28	22/03/2015	14.4	1.64	67.20

8. Based on the Adaptive Model, the Athlete's ABP profile was flagged as abnormal at a specificity of 99% with respect to five samples: Sample 7 (upper limit for OFF-score), Sample 8 (lower limit for OFF-score, upper limit for reticulocyte%), and Sample 25-27 (all: lower limit for OFF-score, upper limit for reticulocyte%). Sample 17 was invalidated on the basis that its analysis exceeded the turnaround time of 36 hours.

9. On 14 July 2015, the ABP-Expert Panel (constituted of Dr Schumacher, Prof. D'Onofrio, and Prof. Audran) issued a joint opinion (the "First ABP-Expert Report") in which it concluded with regard to the Athlete's ABP as follows:

*"We therefore conclude that it is highly likely that a Prohibited Substance or Prohibited Method has been used and that it is unlikely that the passport is the result of any other cause. It is our unanimous opinion that considering the information available at this stage and in the absence of an appropriate physiological explanation, the likelihood of the abnormality 1 described above being due to **blood manipulation**, namely the artificial increase of red cell mass using an erythropoietic stimulant and/or **blood transfusion** is high.*

On the contrary, the likelihood of a medical condition causing the supraphysiologically increased red cell mass visible in this sample is low. Analytical shortcomings are also highly unlikely to have caused the suspicious pattern in the profile. Environmental factors such as altitude exposure are also improbable to have had a significant effect, as based on the available documentation, the athlete never sojourned at altitudes sufficient to trigger haematological changes such as observed in the relevant samples".

10. More specifically, with regard to Sample 7 and Sample 8 the ABP-Expert Panel stated:

*"The sequence of samples 7 and 8, where the athlete displays an OFF score of 121 in August 2011 (IAAF World Championships Daegu, sample 7) and more normal values in winter (sample 8). **Such constellation illustrates a supraphysiological red cell mass (high haemoglobin) with downregulated erythropoiesis (low reticulocytes) in the lead up to a major competition. It is typically observed after the use and discontinuation of an erythropoietic stimulant or the application of a blood transfusion.***

In addition to this specific abnormality, there is also a clear, consistent pattern of high haemoglobin values paired with low reticulocyte% during summer (= the competitive season) (see figure 1), which is against physiological regulation (1,2) and points towards a repetitive supraphysiological increase in red cell mass with subsequently suppressed erythropoiesis".

11. With regard to Samples 25, 26, and 27, the ABP-Expert Panel further observed as follows:

"Samples 25-27 with an obvious reticulocyte increase with low haemoglobin concentration. In the mentioned samples, the athlete displays the lowest haemoglobin paired with the highest reticulocytes of the profile (the samples are circled and highlighted with arrows in figure 1 above).

Such constellation is typically observed after blood loss, where haemoglobin concentration is low and the body increases its erythropoietic activity to counterbalance the loss, thus the increased reticulocytes.

The athlete was apparently 19-20 weeks pregnant when sample 27 was obtained. Pregnancy usually causes a drop in haemoglobin concentration due to plasma volume expansion and (possibly) an increase in reticulocytes to accommodate the blood volume for the unborn child (3-5). The timeline of haematological changes in relation to the state of the pregnancy is well defined in the scientific literature (see figure 2 from (3)) below), and matches

the profile of the athlete. Therefore, the constellation visible in the last part of the profile can be explained by a pregnancy”.

C. The Intelligence provided by the whistle-blower Ms Stepanova

12. Ms Stepanova is an elite-level Russian athlete, specialising in 800m. She was sanctioned with a two-year period of ineligibility in connection with abnormalities of her ABP (from February 2013 until February 2015). Ms Stepanova secretly audio- and video-recorded two meetings, one with Mr Kazarin (on 10 November 2014) and one with the Athlete and the Athlete’s husband (on 19 November 2014).

1. *The meeting between Ms Stepanova and Mr Kazarin on 10 November 2014*

13. On 10 November 2014, Ms Stepanova met Mr Kazarin and secretly audio- and video-recorded the meeting. Mr Kazarin was the Athlete’s and Ms Stepanova’s coach. In the recorded conversation Mr Kazarin admits to administering Prohibited Substances to athletes, including EPO, human growth hormone (HGH), *oxandrolone*, and *primabolan*. Furthermore, the video shows that Mr Kazarin provides Ms Stepanova with a selection of pills (i.e. 15 pills of *oxandrolone*) and syringes. He instructs Ms Stepanova in the video to take these pills from 12 November to 27 November 2014. He further reassures her that despite taking the pills she will be able to pass the doping control scheduled for 10 January 2015.

2. *The meeting between Ms Stepanova, the Athlete, and the Athlete’s Husband*

14. On 19 November 2014, Ms Stepanova visited the Athlete at her home. The Athlete’s husband also participated in the conversation, which was again secretly audio- and video-recorded by Ms Stepanova.
15. In her conversation with Ms Stepanova (YS), the Athlete (MF) made the following statements with respect to her coach, her entourage, and the federation:

*MF [the Athlete]: “Yes. My Lekha [referring to her husband] is also very much against it. But what can you do? How else can you get on? **For us, the good thing is that there is a trainer**, and he ... well, touch wood ... he, I guess, when there was a disqualification, only for Rodnitskiy, because of marijuana. But he never had that, exactly ... where he would be supervising an athlete ...”.*

(...)

*MF: “That’s it, and other than that ... I mean ... he ... what gives me a sort of reassurance is he ... you see, he also works with Melnikov, yes ... from the Federation ... well, of course he has to duck and dive, do all that ... grovelling ... it’s a bit like that ... **but they protect, they give you permission, they have a way of changing dates, of when you have to undergo testing or don’t need to** ... so, that means ... in that sense you need, I don’t know, to talk to Vitalik ... It is just that if you come back, you will come back on the same level, come back into the same regime — you won’t just be doing physical training ...”.*

(...)

MF: "My *Lekha* [referring to her husband] is like that, too ... just as he was against it after the Olympics ... it was all just simply ... Unreal. The fact that all these rules had been tightened, all these ... tests and all that ... all these samples. How strongly he was against it ... How he and I fought about it initially ... Well, shit ... And I just simply ... **I convinced him, that the Federation was helping us, giving us protection, that they help the trainer, and that's the end of it. It's a sort of guarantee of our peace-of-mind, if you like ... that we can simply train and help our bodies along ...**".

(...)

MF: "Somehow, I managed to persuade him. It's all so ... **At first, it was totally ... Initially, even, I remember how I agreed, that OK, I was going to train clean for the Worlds in 13. On my own health. So ... I had to change that. Take my words back, argue ...** [inaudible] yes, of course, it is a risk ... but you have to just try to explain, you do, to Vitalik, that ... it results in different levels".

16. Furthermore, the Athlete made the following statements in relation to doping in general:

MF: "Because ... realistically ... yes, **I understand, too ... it is bad for your health, but ... on the other hand, what is so very bad? We are all ... there are no cripples, no-one has kidney problems, or liver problems. In principle, the doses we take are not horse-sized**".

17. In relation to the prohibited substances *oxandrolone* and *parabolan* the Athlete stated in her conversation with Ms Stepanova as follows:

YS: "It is just that the boss ... well, he gave me *oksik* .. and he said ... well, measured for 40 days. Shit, and now I am also ... I am afraid that it will still be detected ... I mean ...".

MF: "It is not like that, look here ... Those ... Those shot-putters, for example, it will no longer be detectable for them. For the middle-distance runners it will not be so long, because you have your metabolism, and you are thin, look at the volume you have, that is, all of it, really, with the sweating ... it will come out much faster. So, it is not definite. **For me, it all comes out in less than 20 days.** So for me, I don't know really, this is your personal ...".

YS: "Seriously? [inaudible]".

MF: "**Yeah, for me it all comes out quicker**".

YS: "And *parabolan* ... Now they are saying that it is about 30 days ... that is, for you it is only 10 days?"

MF: "Well, no, I mean ... over 10 ... well, 15 ... **about 20 or 15 days in my body it is all ... cleaned out ... It is just that I have been monitored, they watched it ... It is just that Lekha has good relations with that Grigoriy Rodchenkov. The boss said: 'Now he's sending them all down ... That Rodchenkov, everyone one of them. The slimeball'**".

18. With regard to the prohibited substance "*turinabol*" ("*turik*"), Ms Stepanova and the Athlete discussed as follows:

YS: "There is one thing I do not get, yeah ... that is, if it is a steroid passport, then I guess it is for steroids ... Steroids are pills. Pills don't raise your testosterone that high, but the steroid passport with respect to these steroids, the fact that it is [inaudible] ... artificial testosterone?"

MF: "well, yes, there are all those different plasters, gels ...".

YS: “That is, specifically that? I mean, not so much for pills ...”.

MF: “Well, yes, not so much for pills. Pills, in principle, can be caught a different way. Moreover, it is now like this ... **turik**: 90 days, yeah, and oksik is almost the same timeline, because ...”.

YS: “And how long [inaudible]?”

MF: **About 45 but, you see, all of this is the body ... It all depends on the body. You need trials ... to monitor, watch, perhaps even try doing [the tests] yourself ... But doing it yourself, that too ... as long as you don't go ... [inaudible]**”.

19. In relation to human growth hormone (HGH) the contents of the conversation between the Athlete and Ms Stepanova were as follows:

YS: “Well, I asked him, what to run on apart from these tablets? Is that really it, just pills and that's it? Well, growth hormone ... He said it was total nonsense, that it did not work at all. Like, it costs a load, and does not work at all. Sort of ... and he, like ... we won't do that”.

MF: “Well, of course, as he was saying do it two or three times per week, and that is enough. And the fact that you need to do it every time, every day, well, I don't know about that ...”.

YS: “**Well, you trained on the hormone ...**”.

MF: “**I did it but, you see, Lekha advised me, because he was drying me out. Yes, he did a good job drying me out**”.

YS: “Well, I also heard that. Well, he is the one who does the drying out, right?”.

MF: “Yes. It has to be done, well ... for about three months, but no more than four”.

YS: “And it is not detected?”

MF: “**It is detected, but it is detected, well ... three or four days ... and then, even ... that is sort of old data ... Lekha, for how long is the growth hormone detectable? Theoretically ... he says that it is detectable, detectable, they can detect it, don't take it, but nobody knows ...**”.

20. The Athlete in her conversation with Ms Stepanova also admits having taken “*testik*” (testosterone):

MF: “It [referring to oxandrolone] cannot lift it [testosterone] that much for us. My *testik* has never gone up very high. Well, I did have about three and a half, maximum ... But I never used the [inaudible] *testik*. **Well, I did use it once, and it flew up to 150 ... I was shocked ... Well, that's the last thing I need, after the next injection I'll grow a black beard and starting rasping like a man. The boss said nope, that's it, we've finished with that**”.

21. The Athlete, the Athlete's husband (Mr Farnosov), and Ms Stepanova also discussed the use and the dosage of EPO:

YS: “Well, I have to give them the last sample before the 28th of January”.

(...)

AF (Mr Farnosov): “... if you are going to give [samples], yeah ... you have to take into account that ... you need to take into account your old samples ... So, look, you had for example, blood samples, of about

125, 135, 145, specific values. That is, it is better for you to start out with the highest possible level. You understand, that will be easier for you, if you really are going to want to just train, to show high results. If you have the maximum level when you start out, that is, they won't be able to catch you out so easily ... sort of ... That is, there will be fewer precedents to catch you out. I mean, you were tested as you started again after disqualification, and you have, say, haemoglobin of 145. But it was 115 then, yes, if the next time you do a test is at the starting line somewhere, and you have 160, 115 and 160 – look at that difference ... and then 145 and 160”.

(...)

AF: “... you also need to really think it through, how to start, at what values. Because it can depend on anything. How will WADA treat you in future, you understand?”

YS: “But how can you change those values? You mean, use again? The same old Epocrin again, to force the values to change?”

AF: “Perhaps [inaudible], and take iron, and something else, too. But, you understand, you should not exceed a certain norm ... the statistical average. That is, it should not be strangely high, that is, approaching the maximum. How much is it for women, 160?”

MF: “160”.

AF: “So, then, not 160, just over 140, closer to 150. That is, a good, standard level, let's say”.

MF: “What is your level?”

YS: “140”.

AF: “Well, that is normal”.

MF: “Yes, you can help it a little bit ... with iron or something ...”.

AF: “With EPO why do people get caught? First, they are taking at the starting line ... you have just under 160, 163 or however much it is ... And then suddenly, you stop taking it, and in the autumn they come and find you, and you are at 113”.

YS: “... your low level ...”.

AF: “No, why ... not your low level. You just stop using EPO, that's all. The body needs time to start producing it normally. It has got used to you giving it Epocrin, and it does not need to produce its own. It needs time to get back producing it again, itself”.

MF: “You just have to keep using it for years”.

AF: “No, why so? A couple of months”.

AF: “You use, for example ... I'll have ... coffee ... The body gets used to anything. Shit. I dunno, how you and Vitalik should ... But, you understand, you have to be confident, that you will run well. The risks should justify it all. It is a two-edged sword”.

YS: “So, you are talking about EPO, and there are all the value there, those main four ones, I mean”.

AF: “Yes, reticulocytes, yes, yes, yes ...”.

YS: “The stimulation index ...”.

AF: “The stimulation index is calculated specifically from the reticulocytes. The reticulocytes are not specifically matured erythrocytes. That is, you put them in, and you get, for example ... That is, you did not use them, and you had a certain level of those reticulocytes ... You use it, and they immediately matured very quickly, and then, right off, you got it, there was an increase. And that is the level you usually have. So straight away, just like that ... That is, it is immediately visible. If they take some from you, your reticulocytes are above a certain level, because the body is programmed to have reticulocytes of average fluorescence that is, they sort of matured in the middle of the high fluorescence, when they already mature, they convert into erythrocytes, and low fluorescence, when they are only barely in embryonic form”.

22. In their conversation, the Athlete and Ms Stepanova also refer to their common coach, Mr Kazarin, who was apparently able to obtain a small quantity of a special alcohol-based “oxandrolone infusion”, which he allegedly used to prepare Ms Ekaterina Poistogova for the 2014 European Championships.

3. *The WADA investigation*

23. Ms Stepanova handed over the two (secret) recordings to a German journalist who then produced a documentary alleging wide-spread doping in Russian athletics. This documentary was broadcasted on 3 December 2014 on the German TV channel “ARD”.
24. Following this documentary, WADA established an Independent Commission on 16 December 2014 to investigate these allegations of wide-spread and institutionalised doping in Russia.
25. On 9 November 2015, the Independent Commission issued its Report (“WADA IC First Report”), confirming consistent and wide-spread use of performance enhancing drugs amongst Russian athletes.
26. With regard to the Athlete, the IC First Report finds as follows:

“In November 2014, Yuliya Stepanova secretly recorded a conversation between herself and Russian Olympic Gold Medalist Mariya Savinova. In the recording, Savinova discussed her use of prohibitive substances and how positive drug tests are covered up in Russia. Savinova stated:

“Well really, what should we do? How should it go differently? That is our system and in Russia that only works only with pharma My coach fortunately works with Melnikov and he helps to cover up the tests. They allow him to change the dates for the controls. Oxandrolone is very quickly out of my body out again. It takes less than 20 days. We have tested that – my husband has very good contacts to the doping control laboratory”.

(...)

Ms. Mariya Savinova-Farsonova [sic] was identified in the ARD secret recordings as an athlete that was highly likely doping in athletic competition. IC investigators contacted Ms. Savinova-Farsonova [sic] via e-mail requesting to interview her regarding the allegations and statements made in the ARD documentary. Ms. Savinova-Farsonova [sic] refused to communicate with IC investigators over Skype or any other telephonic method and limited her communications to e-mail correspondence only. However, given that e-mail contact alone

would not enable IC investigators to establish the true identity behind the e-mail correspondence, communication with the athlete ceased. In the ARD secret recordings the whistleblower and coach Melnikov discussed the difference in athletics between an ‘American win’ and a ‘Russian win’. Coach Melnikov stated when a Russian wins the two questions always asked are, ‘did they try their best and what were they on?’ In relation to Ms. Savinova-Farsonova [sic], Mr. Melnikov advised the whistleblower, that ‘they poured so much into her’. Additionally, Ms. Savinova-Farsonova [sic] states [in relation to running fast], ‘there is no other way to do it, everyone in Russia is on pharma’.

Throughout these recordings, Ms. Savinova-Farsonova [sic] made various comments in relation to doping. She is heard explaining that she knows it is bad for her health, but no one has problems; and that their “dosage levels aren’t that of horses”. Later she acknowledges that the ‘washout’ periods for the drugs, oral turinabol, oxandrolone and parabolon are slower for throwers than others, because they have a slower metabolism. Ms. Savinova-Farsonova [sic] stated that when she injected testosterone, her testosterone level jumped to 150, but when she took oxandrolone her testosterone levels never got that high. In conclusion, the secret recordings show that Ms. Savinova-Farsonova [sic] has an in-depth knowledge of doping regimes, dosages, physiological effects of doping and new PEDs. WADA laboratory experts reviewed Ms. Savinova-Farsonova’s [sic] ABP profiles, which reflected that her steroid passport was normal. Conversely, her haematological passport was considered as “likely doping” by two of the three WADA laboratory experts who reviewed her ABP profiles. WADA laboratory experts specifically pointed to Ms. Savinova-Farsonova’s [sic] doping test taken during the 2011 World Championships, which they termed as very suspicious.

Based on Ms. Savinova-Farsonova’s [sic] statements and her demonstration of in-depth knowledge of doping in the ARD secret tape recordings, IC investigators believe she has breached Code article 2.2 ‘Use or Attempted Use by an Athlete of a Prohibited Substance or a Prohibited Method’. This finding is further reinforced by Mr. Melnikov’s statement that they ‘pumped so much into her’. Therefore Mariya Savinova-Farsonova [sic] is the subject of an IC sanction package that has been submitted to WADA, who forwarded it to the IAAF. The IAAF informed ARAF on 08 August 2015”.

D. The Proceedings within IAAF

27. On 4 August 2015, Ms Stepanova provided a statement to the IAAF before a notary public in Lausanne in relation to the Athlete.
28. On 7 August 2015, the IAAF charged the Athlete with violating IAAF Rule 32.2 (b) (Use or Attempted Use by an Athlete of a Prohibited Substance or a Prohibited Method) based on Ms Stepanova’s declaration. This charge was communicated by the IAAF to ARAF’s General Secretary, Mr Butov, to be forwarded to the Athlete (the “First IAAF Charge Letter”). The First IAAF Charge letter further advised the Athlete that “in accordance with Rule 37.10 [of the IAAF Rules] the IAAF has initiated an investigation into a further ground of potential anti-doping rule violation ... pursuant to the Athlete Biological Passport programme”. The First IAAF Charge Letter granted the Athlete a deadline of seven days to respond to the allegations contained in Ms Stepanova’s statement, and a further deadline until 14 August 2015 to provide an explanation for the abnormalities in her ABP.
29. By letter dated 24 August 2015, the IAAF acknowledged that the Athlete had provided no written explanation “other than a statement from RUSADA to issue a general denial of the allegations

on the person's behalf". The letter further notified the Athlete of her provisional suspension based on IAAF Rule 38.2.

30. On 7 September 2015, the Athlete requested that a hearing be held.
31. On 30 September 2015, RUSADA forwarded a statement (including annexes) of the Athlete to the IAAF. In the letter, the Athlete provided – *inter alia* – the following explanations for the abnormalities in her ABP:

"(...) From the junior age I paid a lot of attention to vitamins and minerals during the training process. During competition seasons I constantly used natural products and herbs recommended by Mr Chernov, and products dispensed in the national team: actovegin in tablets, folic acid, vitamin B12, iron supplements. (...)

During winter competition season, which I skipped, I discontinued all the vitamins and minerals for the body to have rest and not to get used to constantly high levels of vitamins and minerals. I also used acupuncture and different practices administered by Boris Aleksandrovich Chernov to improve physical and mental state.

In winter 2011 I started using altitude tent HYPOXICO.

As an experiment one year before the Olympics ... I decided to use the tent in Kislovodsk at the altitude of 1100m above sea level. I slept in the tent at the altitude 2200m above sea level, and also did exercises during the preparation period of the training camp, breathing rarefied air with Hypoxico tent from the altitude of 4000-6900m from 30 minutes to 1 hour. I also used the tent with the same scheme at the final training in Vladivostok. The results included increase of strength values, stamina and improvement of blood values. Detailed blood test couldn't be done, as only blood chemistry could be assessed at the training camp.

In 2012 before the Olympics in London and in 2013 before the World Championship in Moscow I also used the previously tested training method with altitude tent, as I achieved significant results with it. I again observed the increase of physical strength, stamina and improvement of blood values. (...)

I want to describe some specifics of my body. Since 2003 I am followed up by a gynaecologist due to polycystic ovarian syndrome. It results in certain problems: unstable menstrual cycle (from 20 to 47 days), complications during pregnancy, increased blood testosterone and DHT. You can find the consultation list of endocrinologist of FGHI 'CCH of MLA of Russian Federation' in the attachment. (...)

Also the experts have questions with regards to the 8th assay. This sample was taken upon return from the training camp in Cholpon-Ata and Karakol, Kyrgyz Republic. We trained at the centers situated at the altitude of 1630 and 2400m above sea level. (...)"

32. On 1 October 2015, RUSADA confirmed that the Athlete's statement constituted the Athlete's full explanation and that it could be forwarded to the Expert Panel.
33. On 14 November 2015, the ABP-Expert Panel issued a second opinion (the "Second ABP-Expert Report"), confirming its previous evaluation that the abnormalities in the Athlete's ABP were likely to have resulted from blood manipulation and unlikely to be the result of a normal physiological or pathological condition. The Second ABP-Expert Report states in particular that:

“In the healthy athlete without any insufficiencies, it is well proven in the scientific literature that additional supplementation or even excess of various vitamins and minerals will not cause any clinically relevant changes in the red blood cell picture. The explanations of the athlete on this topic can therefore be dismissed. (...)

It is well described that hypoxia of altitude can cause changes in markers of the athlete biological passport. However, the magnitude of such changes is generally small and will cause distinct patterns in the blood profile. Typically, reticulocytes are slightly suppressed approximately 10 days after return to sea level, paired with possible mildly elevated haemoglobin levels, leading to a slight increase in Off score. However, nowhere in the blood profile any such pattern is visible when relating the profile to the alleged use of hypoxia (‘winter of 2011 and onwards’) ... Furthermore, prerequisite for altitude related changes to occur is a sufficient duration and height of exposure. It is generally recognized that 18 days at ~2500m are required to trigger measurable changes in the red blood cell system. The athlete apparently never spent sufficient times at relevant altitude for the periods in question (sample 7-8).

Using ... artificial hypoxia can, in theory, induce the same changes than natural hypoxia. However, most of the time, the daily exposure time in the tent is too short to trigger measurable increases in erythropoiesis. This has been investigated in several scientific studies ... Intermittent hypoxic exposures, as apparently performed by the athlete, is another form of hypoxic training ... It is undisputed in the scientific literature that such form of hypoxic training will not affect any blood marker. (...)

Thrombophilia is a defect of the coagulation system of the blood which can cause prolonged bleeding due to genetically induced malfunction of one or several proteins involved in the coagulation cascade. The defect claimed by the athlete is a common polymorphism; its clinical significance is still debated. Homozygous defects will lead to prolonged bleeding times, thus might lead to lower haemoglobin levels. However, such feature is never observed in the athlete. The most suspicious tests (samples 7+8) display normal and high haemoglobin values, making any form of subclinical bleeding or blood loss unlikely. It is also unclear how this genetic abnormality (which is supposedly present all the time) might cause distinct seasonal abnormalities. (...)

The athlete claims irregular menstruation ... Interestingly, all authors attribute the observed changes mainly to hormone induced plasma volume shifts and not to variations in red cell mass itself. Thus, the variation caused by the monthly bleeding is not very important and certainly smaller than the variations that might be induced by plasma volume shifts caused by different modalities of exercise ... heavy bleeding of any origin can, theoretically, can lead to persistently low haemoglobin values, especially if iron stores are depleted. Interestingly, for the suspicious periods in the present profile, low haemoglobin values are never the problem ...”.

34. On 18 November 2015, the IAAF forwarded the Second ABP-Expert Report to the Athlete (via RUSADA). Furthermore, the letter advised the Athlete that she was now being charged with a further violation of IAAF Rule 32.2 (b) based on the abnormal ABP and that the IAAF sought to ban the Athlete for four years based on IAAF Rule 40.6 (“Pre-2015 IAAF Rules”) (the “Second IAAF Charge Letter”).
35. On 3 February 2016, the IAAF informed the Athlete (i) that ARAF’s membership had been suspended, (ii) that it took over the responsibility for coordinating the disciplinary proceedings, and (iii) that her case would be referred to the Court of Arbitration for Sport (CAS).

E. The (First-Instance Proceedings) before the CAS

36. On 4 March 2016, the First Respondent filed a Request for Arbitration with the CAS. The case was referred to a Sole Arbitrator.
37. On 7 June 2016, the Athlete filed her Answer to the Request for Arbitration.
38. On 4 November 2016, a hearing took place in Lausanne.
39. On 10 February 2017, the Sole Arbitrator rendered his decision (the “Appealed Decision”), sanctioning the Athlete with the maximum four-year period of ineligibility. The operative part of the Appealed Decision reads – *inter alia* – as follows:
- “The Court of Arbitration rules that*
1. *The claim filed on 4 March 2016 by the International Association of Athletics Federations against the All Russia Athletics Federation and Ms Mariya Savinova-Farnosova is partially upheld.*
 2. *A period of ineligibility of four years is imposed on Ms Mariya Savinova-Farnosova starting from 24 August 2015.*
 3. *All results of Ms Mariya Savinova-Farnosova from 26 July 2010 until 19 August 2013 are to be disqualified, including forfeiture of any titles, awards, medals, points and prize and appearance money.*
 4. *The costs of the arbitration, to be determined and served to the parties by the CAS Court Office, shall be borne entirely by the All Russia Athletics Federation.*
 5. *Ms Mariya Savinova-Farnosova shall bear her own costs and is ordered to pay to the International Association of Athletics Federations the amount of CHF 6,000 (six thousand Swiss Francs) as a contribution towards the legal fees and other expenses incurred in connection with these arbitration proceedings.*
 6. *The All Russia Athletics Federation shall bear its own costs.*
 7. *All other and further prayers or requests for relief are dismissed”.*
40. The Athlete was notified of the Appealed Decision on the same day.

III. THE (SECOND-INSTANCE) PROCEEDINGS BEFORE THE CAS

41. On 27 March 2017, the Athlete filed a Statement of Appeal against the Appealed Decision with the CAS in accordance with Article R47 et seq. of the Code of Sports-related Arbitration (the “Code”). In her Statement of Appeal, the Athlete nominated Mr. Michele Bernasconi as arbitrator.
42. On 31 March 2017, the Second Respondent informed CAS that it would not actively take part in the proceedings, make any submissions, or attend any hearings. It further declared that it would not object to the First Respondent’s choice of arbitrator, and that it agreed with the Appellant’s request for an extension of the deadline to submit her Appeal Brief.

43. On 10 April 2017, the First Respondent nominated Mr Romano Subiotto QC as arbitrator.
44. On 27 April 2017, following agreed-upon extensions of time, the Appellant filed her Appeal Brief.
45. On 10 July 2017, following agreed-upon extensions of time, the First Respondent filed its Answer in accordance with Article R55 of the Code.
46. On 14 September 2017, the CAS Court Office confirmed the appointment of the Panel in the procedure as follows: Mr Ulrich Haas (President), Mr Michele A.R. Bernasconi (Arbitrator), Mr Romano Subiotto QC (Arbitrator).
47. On 22 September 2017, the CAS Court Office informed the Parties that Ms Larissa Neumayer would assist the Panel as *Ad hoc* Clerk in this matter.
48. On 15 November 2017, the CAS Court Office sent an Order of Procedure to the attention of the Parties, which was signed and returned to the CAS Court Office by the Appellant and the First Respondent the same day.
49. On 24 November 2017, the CAS Court informed the Parties that it had not received a signed copy of the Order of Procedure by the Second Respondent and invited the latter to return a signed copy without delay.
50. A hearing took place in Lausanne on 4 December 2017. In addition to the Panel, Ms Larissa Neumayer, *Ad hoc* Clerk, and Mr Brent Nowicki, Managing Counsel to the CAS, the following persons attended the hearing on behalf of the Appellant: the Appellant in person, the Appellant's counsel, Mr Artem Patsev. On behalf of the First Representative the following persons attended the hearing: Ms Laura Gallo (IAAF Athletics Integrity Unit) and the First Respondent's counsels, Mr Ross Wenzel and Mr Nicolas Zbinden. The Second Respondent did not attend the hearing.
51. The following witnesses and experts were heard on behalf of the Appellant:
 - Dr Douwe de Boer (in person),
 - Prof. Pavel Vorobyev (via skype),
52. The following witnesses and experts were heard on behalf of the First Respondent:
 - Ms Yuliya Stepanova (via skype),
 - Dr Yorck Olaf Schumacher (in person),
 - Prof. Giuseppe D'Onofrio (via telephone), and
 - Dr Pierre Edouard Sottas (in person).
53. The Parties throughout the hearing did not raise any procedural objections and expressly

confirmed at the end of the hearing that their right to be heard and to be treated equally had been respected, as they had been given ample opportunity to present their cases and submit their arguments and answers.

IV. PARTIES' RESPECTIVE REQUESTS FOR RELIEF AND BASIC POSITIONS

54. This section of the award does not contain an exhaustive list of the Parties' contentions, its aim being to provide a summary of the substance of the Parties' main arguments. In considering and deciding upon the Parties' claims in this award, the Panel has accounted for and carefully considered all of the submissions made and evidence adduced by the Parties, including allegations and arguments not mentioned in this section of the award or in the discussion of the claims below.

A. The Appellant

55. In her Statement of Appeal (27 March 2017) and her Appeal Brief (27 April 2017), the Athlete filed the following prayers for relief:

- i. "The appeal of Ms Maria Farnosova is admissible;*
- ii. The appeal of Ms Farnosova is upheld;*
- iii. The decision rendered by the Sole Arbitrator on 10 February 2017 regarding Ms Farnosova is set aside;*
- iv. Confirm that no sanctions are imposed on Ms Maria Farnosova;*
- v. Ms Maria Farnosova is granted an award for her legal costs and other expenses pertaining to the proceedings before CAS (the Sole Arbitrator and the three-members Panel);*
- vi. The IAAF and the ARAF bear equally the costs of the arbitration".*

56. The Appellant's submissions in support of her requests may be summarized as follows:

- The case does not involve a "positive analytical result" and there is thus no reliable and strong evidence of any wrongdoing. On the contrary, the evidence presented is highly contradictory.
- IAAF Rule 38.6 (2016) provides that the Panel must first establish whether an anti-doping rule violation (ADRV) has occurred. The prosecuting authority shall bear the burden of proof to the comfortable satisfaction of the tribunal (see as well IAAF Rule 33.1 and Rule 33.2 (2016)).
- IAAF Rule 33.3 (2016) further provides that the ADRV must be established by any *reliable* means.
- According to Art. 7.5 of the World Anti-Doping Code (WADC 2015), the review of atypical or adverse ABP findings must take place in line with the "International Standard for Testing and Investigations" (ISTI) and the "International Standard for Laboratories"

(ISL). As soon as an ADRV has occurred, the Anti-Doping Organization (“ADO”) must give the Athlete notice.

- The first review-step with regard to the ABP is the application of the Adaptive Model.
- The standard of proof the IAAF is obliged to meet is the “*comfortable satisfaction*” standard, “*bearing in mind the seriousness of the allegation which is made*”. This is a standard which is significantly higher than the “*balance of probability*” standard.
- The Athlete, on the contrary, must merely meet the “*balance of probability*” standard in order to contest an ADRV.
- Considering the seriousness of the allegations made in the present case, the standard of proof upon the IAAF is much greater than a mere “*balance of probabilities*” and only slightly less than “*proof beyond a reasonable doubt*”.
- The threshold applicable in this case is comparable to the “*clear and convincing evidence*” standard of proof developed by the US jurisprudence. In order to meet this threshold, “*clear and direct evidence*” is necessary. Mere allegations are not sufficient.
- No abnormalities have been recorded in the Athlete’s ABP, if one disregards the Athlete’s blood samples provided during pregnancy. These must be excluded from the Adaptive Model. Only by including these samples, the Adaptive Model triggered a red flag in relation to the Athlete’s ABP. Thus, if applied correctly, the Athlete’s ABP does not show any abnormal values. On the contrary, the values recorded are close to the Athlete’s individual average thresholds.
- The above findings that the Athlete’s blood values are normal are corroborated by the expert opinions provided by Dr Scott and Prof. Vorobyev.
- Ms Farnosova provided RUSADA with an explanation of her alleged “*suspicious samples*”. This explanation included a medical diagnosis and, in addition, referred to her genetic dispositions.
- The Sole Arbitrator in the first-instance proceeding before CAS, when evaluating the evidence before him, stated that he was not convinced that there was “*a clear seasonal pattern*” in the Athlete’s ABP and that he missed a “*doping scenario*”. Furthermore, the Sole Arbitrator explicitly acknowledged that in the recordings provided by Ms Stepanova, the Athlete did not admit to blood doping or the ingestion of prohibited substances such as testosterone, oxandrolone, peptides, or Winstrol (Stanozolol).
- Dr Plotkin confirmed that the Athlete developed follicular hyperplasia, a precursor symptom of the Polycystic Ovarian Syndrome as well as a significant venous dilation in the small pelvis. Furthermore, Dr Plotkin pointed out that the erythropoietin level close to the reference thresholds can be explained by the excessive physical stress and physiological stimulation of the pituitary-adrenal hormone mechanism of erythropoiesis compensation linked with high-impact physical exercise.
- Dr De Boer confirmed that the Athlete’s ABP data is within the normal statistical range. He also pointed out that the fluctuation between Sample 7 and Sample 8 may be explained by several common causes and/or a combination thereof.

- Despite of the above, the Sole Arbitrator found that based on the ABP the Athlete committed repetitive ADRVs in the form of “*use of a prohibited substance or method*” in the timeframe between 26 July 2010 to 7 August 2012. Because of the recordings provided by Ms Stepanova, the Sole Arbitrator extended the above window to 19 August 2013. However, the two pieces of evidence on which the Sole Arbitrator relied (ABP data and the recorded conversation of November 2014) relate to two completely different periods of time, are not interrelated and, as a result, cannot be deemed as “corroborating” each other. Consequently, it is legally wrong to jointly consider these individual pieces of evidence. Instead, they have to be assessed individually. However, if taken individually they are not sufficient to meet the applicable standard of proof (comfortable satisfaction) and they cannot complement each other to the comfortable satisfaction of the Panel that blood doping has actually occurred.
- The IAAF has not submitted any evidence that the Athlete used erythropoiesis stimulating agents (“ESAs”) or any other forms of blood manipulation. Consequently, the Sole Arbitrator’s conclusion that the Athlete engaged in blood doping is baseless. Even if the Athlete had admitted the use of specific Prohibited Substances (other than blood doping), this could not corroborate any allegations of blood doping, especially, if the alleged “admissions” refer to completely different periods of time.
- The recorded conversation of 10 November 2014 between Ms Stepanova and Mr Kazarin is irrelevant to this case. At that time, the Appellant had stopped competing for three months due to her pregnancy. Furthermore, at the time of the conversation, the Appellant was nowhere near the Kapriz Hotel (where the recorded conversation took place). Instead, she was staying at her home in Russia (far away from the Kapriz Hotel). In addition, the Appellant never had a close relationship to either the coach or Ms Stepanova. Any relationship she had was a purely professional coach/co-competitor-relationship.
- The transcripts of the conversations and the tapes themselves may not be considered reliable evidence in any way because the essential requirements, audibility and intelligibility, are not fulfilled.
- As confirmed by the Sole Arbitrator, insofar as the conversation on 19 November 2014 referred to blood doping, EPO or the ABP, only the Athlete’s husband and Ms Stepanova were involved. The Athlete’s role in this part of the conversation, on the contrary, was very limited. The Sole Arbitrator focussed only on one sentence attributed to the Athlete, i.e. “*You just have to keep using it for years*”. From these words the Sole Arbitrator wrongly concluded that the Athlete must have been engaged in such practices. In drawing this conclusion, the Sole Arbitrator totally ignores the context, in which the Athlete made the statement, i.e. the way in which it was made and the reaction of her husband, Mr Farnosov. This context clearly shows that the Athlete was surprised of her husband’s detailed knowledge regarding EPO, its impact on the ABP and the possibilities to circumvent detection thresholds. All of this shows that in fact she was ignorant of how to apply this doping technique.
- Ms Stepanova’s witness statement cannot be considered as reliable evidence, since it only reflects her subjective opinion. Furthermore, when assessing its probative value

one must take Ms Stepanova's motives into account. Her eagerness to uncover alleged ADRVs to the IAAF is guided by benefits and advantages she expects from the IAAF. In return for providing the statement to the IAAF she was allowed to keep any prize money that she had received (and that she would have to pay back under the IAAF anti-doping rules). Furthermore, despite having committed an ADRV she was allowed to compete.

- As for the applicable law, the Appellant submits that the procedural legal framework is governed by the Code and the IAAF Rules 2016 currently in force. The substantive issues, on the contrary, shall be governed by the pre-2015 editions of the IAAF Rules (depending on the period at stake) and the WADC 2009.

B. The First Respondent

57. In its answer, the First Respondent submitted the following requests to the CAS:

- "The appeal of the Athlete is dismissed;*
- The arbitration costs be borne entirely by the Respondents. [sic!]*
- The IAAF is awarded a significant contribution to its legal costs, to be borne jointly and severally by the Respondents" [sic!].*

58. The First Respondent's submissions may be summarized as follows:

- The IAAF Rules (2016) shall provide the procedural framework for the case. The substantive aspects shall be governed by the anti-doping regulations in force at the time of the alleged violations, which occurred between 1 January 2009 and before 1 January 2015. Thus, the 2009 WADA Code as well as the 2012 IAAF Rules (Pre-2015 Rules) shall apply. On a subsidiary basis, Monegasque law shall apply.
- The conversation between Ms Stepanova and Mr Kazarin on 10 November 2014 is relevant to the case, as it proves that the Athlete's coach was systematically engaged in doping practices.
- The recordings and transcripts are authentic, reliable, and accurate. An independent translation has been provided by a CAS-appointed interpreter, which confirmed the transcript submitted by the IAAF. In an interview with WADA's Independent Commission, the Athlete also confirmed that the conversation between her and Ms Stepanova took place.
- With respect to the testosterone admission, the Athlete stated that she used testosterone on one occasion, which resulted in an increase of her testosterone levels.
- The Athlete also showed detailed knowledge about the washout periods of *parabolan*, *oxandrolone*, and *turinabol*.
- Regarding the Athlete's ABP, the irregularities are (i) Sample 7 from the 2011 World Championship (high outlier for OFF-score), (ii) Sample 8 is both a high outlier for ret% and low outlier for OFF-score, and (iii) Sample 13 from the London Olympic Games is a borderline high outlier for HGB. Moreover, the ret% sequences are abnormal.

- The Athlete's explanations regarding those irregularities have all been dismissed (with the exception of pregnancy) in the Second ABP Expert Report.
- The Appellant's assertion, that the ABP cannot constitute evidence of doping in the absence of an outlier value is wrong. The ABP Guidelines clearly state that athletes may be prosecuted even in the absence of an outlier, in cases in which there are abnormal levels or variations (see CAS 2016/O/4464).
- The graph at Figure 2 of Dr Schumacher's and Prof. D'Onofrio's expert opinion dated 14 June 2017 (IAAF CAS Expert Report) shows, that the samples collected in-competition have a mean OFF-score of 96.4 (Samples 1-7, 12-14, 20-21), whereas the mean OFF-score of the out-of-competition samples is 83.1 (Samples 8-11, 15-16, 18-19, 22-24). Besides the clear abnormality of Sample 7, there is thus a marked and counter-physiological difference between all in-competition and out-of-competition samples.
- The three expert statements provided by the Athlete (by Prof. Vorobyev, Dr De Boer, and Dr Scott) were qualified by the IAAF CAS Expert Report as being flawed, as they include mistakes and tendentious statements in the Athlete's favour.
- The standard of comfortable satisfaction is not akin to the criminal standard (beyond a reasonable doubt).
- Either the evidence submitted by Ms Stepanova or the ABP evidence in isolation would be sufficient to establish an anti-doping rule violation.
- On the basis of aggravating circumstances, the imposed four year-ban should be upheld. In the Athlete's case, the aggravating circumstances are twofold: first, the use of Prohibited Substances on multiple occasions, and second, engaging in a doping scheme.

V. JURISDICTION

59. Art. R47 of the Code reads as follows:

An appeal against the decision of a federation, association or sports-related body may be filed with the CAS insofar as the statutes or regulations of the said body so provide or as the parties have concluded a specific arbitration agreement and insofar as the Appellant has exhausted the legal remedies available to him prior to the appeal, in accordance with the statutes or regulations of the said sports-related body.

An appeal may be filed with CAS against an award rendered by CAS acting as a first instance tribunal if such appeal has been expressly provided by the rules of the federation or sports-body concerned.

60. In the case at hand, the second paragraph of Art. R47 of the Code is pertinent.

61. Since the Second Respondent's membership with the IAAF has been suspended, there was no possibility for the ARAF to render a decision in due course. As a result, on the basis of IAAF Rule 38.3 (2016), a Sole Arbitrator, appointed by CAS, rendered the first-instance decision instead of the Second Appellant.

62. Furthermore, there are no internal remedies available to the Parties for appealing the Appealed Decision. This follows from IAAF Rule 42.3 (2016), which reads as follows:

“In cases arising from an International Competition or involving International-Level Athletes or their Athlete Support Personnel, the first instance decision of the relevant body of the Member shall not be subject to further review at national level and shall be appealed exclusively to CAS in accordance with the provisions set out below”.

63. Besides, the Panel notes that its jurisdiction has not been contested by any of the Parties to these proceedings, but instead has been explicitly recognised by all the Parties in their briefs submitted to the CAS. It follows from all of the above that the CAS has jurisdiction over the present dispute.

VI. MISSION OF THE PANEL

64. According to Art. R57 of the Code, the Panel has full power to review the facts and the law. The Panel may issue a new decision which replaces the decision challenged or annul the decision and refer the case back to the previous instance.

65. In application of the aforementioned rule, the Panel is entitled to hear the present case *de novo* (CAS 2012/A/2107). In accordance with IAAF Rule 42.1(b) (2016), the Panel will only give deference to the first instance hearing body where it is persuaded by the latter’s conclusions.

VII. ADMISSIBILITY

66. Art. R49 of the Code reads as follows:

In the absence of a time limit set in the statutes or regulation 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.

67. According to Art. R49 of the Code, a federation may derogate from the 21 day time-limit for the filing of the appeal in its statutes or regulations. IAAF Rule 42.15 (2016) provides as follows:

“Unless stated otherwise in these Rules (or the Doping Review Board determines otherwise in cases where the IAAF is the prospective appellant), the appellant shall have forty-five (45) days in which to file his statement of appeal with CAS, such period starting from the day after the date of receipt of the decision to be appealed (or where the IAAF is the prospective appellant, from the day after the date of receipt of both the decision to be appealed and the complete file relating to the decision, in English or French) or from the day after the last day on which the decision could have been appealed to the national level appeal body in accordance with Rule 42.8(b). Within fifteen days of the deadline for filing the statement of appeal, the appellant shall file his appeal brief with CAS and, within thirty days of receipt of the appeal brief, the respondent shall file his answer with CAS”.

68. The Appealed Decision was communicated to the Athlete on 10 February 2017.

69. On 27 March 2017, the Athlete filed her Statement of Appeal against the Appealed Decision with the CAS Court Office.
70. Consequently, the Appellant complied with the time limits prescribed by IAAF Rule 42.15 (2016). The Appeal was therefore filed in time.

VIII. OTHER PROCEDURAL ISSUES

1. The Legal framework of the proceedings

71. The present proceedings are governed by Art. 176 et seq. of the Swiss Private International Law Act (PILA), which apply if the seat of the arbitration is in Switzerland and at least one of the parties to the procedure was domiciled outside Switzerland at the time of the execution of the arbitration agreement.

2. Default of the Second Respondent

72. The Second Respondent did not submit an Answer and did not attend the hearing. Art. R55(2) of the Code provides as follows:

“If the Respondent fails to submit its answer by the stated time limit, the Panel may nevertheless proceed with the arbitration and deliver an award”.

73. Furthermore, Art. R57(4) of the Code states as follows:

“If any of the parties, or its witnesses, has been duly summoned and fails to appear at the hearing, the Panel may nevertheless proceed with the hearing and deliver an award”.

74. In light of the above the Panel decided – despite the Second Respondent absence in these proceedings – not only to proceed with the hearing, but also to deliver an award in the present matter.

3. The evidence provided by Dr Scott and Dr Plotkin

75. The Appellant has provided written expert opinions by Dr Scott and Dr Plotkin. Both experts were not available for questioning and cross-examination at the hearing. The parties agreed at the hearing that the expert opinions provided shall remain as documentary evidence on file and shall be assessed by the Panel as such.

IX. APPLICABLE LAW

76. According to Art. R58 of the Code, the Arbitral Tribunal decides the dispute according to the applicable regulations and 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 Court deems appropriate. In the latter case the Court shall give reasons for its decision.

77. In the case at hand, the “applicable regulations” within the meaning of Art. R58 of the Code are the rules and regulations of the IAAF. This principle is also reflected in IAAF Rule 42.22 (2012-2013) (which is identical to IAAF Rule 42.23 (2016)), which states – inter alia – as follows:

“22. In all CAS appeals involving the IAAF, CAS and the CAS Panel shall be bound by the IAAF Constitution, Rules and Regulations (including the Anti-Doping Regulations). In the case of any conflict between the CAS rules currently in force and the IAAF Constitution, Rules and Regulations, the IAAF Constitution, Rules and Regulations shall take precedence”.

78. The “rules of law chosen by the parties” within the meaning of Art. R58 of the Code that apply subsidiarily are the laws of Monaco. This follows from IAAF Rule 42.23 (2012-2013) (reflected in IAAF Rule 42.24 (2016)), which reads as follows:

“23. In all CAS appeals involving the IAAF, the governing law shall be Monegasque law and the arbitrations shall be conducted in English, unless the parties agree otherwise”.

79. Therefore, the Panel will apply primarily the IAAF’s Rules and Regulations. With regard to procedural questions the IAAF Rules (2016), i.e. the rules at the time when the appeal was filed, are applicable. With respect to the substantive issues the Panel will apply the rules and regulations in force at the relevant time, i.e. the IAAF Rules (2012-2013).

80. It also follows from the above that the IAAF regulations must be interpreted and applied in light of Monegasque law, which applies subsidiarily.

X. MERITS OF THE APPEAL

81. This case centres around two main questions, i.e.:

- (i) whether the Athlete has committed an ADRV and
- (ii) in case (i) is answered in the affirmative, what are the consequences.

A. The Anti-doping Rule-Violation (“ADRV”)

1. Legal Basis

82. The Athlete is charged with an ADRV based on IAAF Rule 32.2(b) (2012-2013). IAAF Rules 32.1 and 32.2 (2012-2013) read as follows:

“1. Doping is defined as the occurrence of one or more of the anti-doping rule violations set out in Rule 32.2 of these Anti-Doping Rules.

2. *Athletes or other Persons shall be responsible for knowing what constitutes an anti-doping rule violation and the substances and methods which have been included on the Prohibited List. The following constitute anti-doping rule violations:*

(...)

(b) Use or Attempted Use by an Athlete of a Prohibited Substance or a Prohibited Method.

(i) it is each Athlete's personal duty to ensure that no Prohibited Substance enters his 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 a Prohibited Method.

(ii) the success or failure of the Use or Attempted Use of a Prohibited Substance or Prohibited Method is not material. It is sufficient that the Prohibited Substance or Prohibited Method was Used, or Attempted to be Used, for an antidoping rule violation to be committed".

83. While the burden of proof is – according to Swiss law – a question of substantive law, the standard of proof is a question of procedural law. Consequently, the starting point to determine the law applicable to the standard of proof is Art. 182 PILA. According to Art. 182(1) PILA the “*parties may directly or by reference to rules of arbitration regulate the arbitral procedure*”. In the case at hand, the Parties have agreed on the applicability of the IAAF Rules that contain a specific provision with respect to the standard of proof. This provision is identical in the IAAF Rules (2012-2013) and the IAAF Rules (2016) and reads as follows:

*“1. The IAAF, the Member or other prosecuting authority shall have the burden of establishing that an anti-doping rule violation has occurred. The standard of proof shall be whether the IAAF, the Member or other prosecuting authority has established an anti-doping rule violation to the **comfortable satisfaction of the relevant 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.*

*2. Where these Anti-Doping Rules place the burden of proof upon the Athlete or other Person alleged to have committed an anti-doping 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 Rules 40.4 (Specified Substances) and 40.6 (aggravating circumstances) where the Athlete must satisfy a higher burden of proof”.*

84. It follows from the above that the burden of proving whether the Athlete has committed an ADRV in the form of IAAF Rule 32.2 (2012-2013) rests upon the IAAF. In order to succeed with its request, i.e. to uphold the first-instance decision of the CAS, the IAAF must convince this Panel “*to the **comfortable satisfaction ...**, bearing in mind the seriousness of the allegation which is made*” that the Athlete committed the ADRV. It clearly follows from the applicable provision that the applicable standard of proof is flexible. The threshold that the IAAF must meet is higher depending on the seriousness of the allegation.

85. The question of the admissibility of evidence is a matter of procedural law. Hence, Art. 182(1) PILA is the starting point for determining the applicable standards. Again, the Parties have agreed in the present matter on the applicability of the IAAF Rules. As a result, the IAAF Rules (2016) apply, which provide as follows in IAAF Rule 33.3 (2016):

“3. Facts related to anti-doping rule violations may be established by any reliable means, including but not limited to admissions, evidence of third Persons, witness statements, experts reports, documentary evidence, conclusions drawn from longitudinal profiling such as the Athlete Biological Passport and other analytical information. ...”.

2. The Evidence before this Panel

86. The evidence before this Panel is, in principle, twofold. It consists of

- (a) the Athlete’s blood values contained in the ABP and
- (b) the intelligence / information provided by Ms Stepanova.

a) *The Assessment of the Athlete’s ABP*

aa) Reliability of the ABP in General Terms

87. IAAF Rule 33.3 (2016) provides that an ADRV *“may be established by any reliable means”*. All experts heard at the hearing agreed that the ABP is, in principle, reliable in general terms, provided the two-step approach is duly applied, i.e. that abnormal results are interpreted and set into context. The Panel concurs with this view and refers to the numerous CAS decisions that have qualified the ABP as reliable evidence (CAS 2015/A/4006, para. 103; CAS 2016/O/4481, para. 133; CAS 2016/O/4464, para 148; CAS 2010/A/2174, para. 9.8; CAS 2010/A/2176; CAS 2010/A/2235). Furthermore, IAAF Rule 33.3 (2016) explicitly names the *“the Athlete Biological Passport”* as an example of a reliable means of evidence.

bb) The Data to be included in the Athlete’s ABP

88. The Parties agree that the data from Sample 17 is to be discarded because it was analysed after the turnaround time of 36 hours. Furthermore, the Parties agree that the data relating to Samples 25-27 should be excluded from the ABP, since they can be explained by the Appellant’s pregnancy.

(i) Data from private testing

89. The Parties and their respective experts disagree if and to what extent blood parameters from private testing conducted on behalf of the Athlete should be included in the ABP.

90. Prof. Vorobyev and Dr de Boer submitted that such additional data should be included in the Athlete’s ABP and argue that the testing of blood samples is no “rocket science” and that all analyses have been performed at a renowned hospital, which in itself is a sufficient guarantee that the testing results can be trusted. Prof. D’Onofrio, Dr Schumacher and Dr Sottas disagreed with these submissions. In essence they held that there are strict protocols to ensure quality control for samples to be included in the ABP in order to ensure the reliability and comparability of the data. Whether the “private samples” comply with these protocols is unknown. Furthermore, there is no guarantee that the private samples actually were provided

by the Athlete. Finally, the First Respondent's experts held that there is a danger of cherry picking, i.e. that specific (private) samples were selected for the sole purpose to help the Athlete's cause. Dr de Boer admitted that he included some, but not all data from private testing and that his selection was based on the *prima facie* reliability of the data. The First Respondent's experts, on the contrary, pointed out, that there appears to be a biased selection from the very outset, since no data from private testing was submitted by the Athlete relating to August 2011. This – according to the First Respondent's experts was surprising considering that the Athlete appeared to have been tested on a regularly basis. Such data in the vicinity of Sample 7, however, would have been particularly interesting and instructive according to the First Respondent's experts.

91. The Panel finds that only samples collected for anti-doping purposes from the Athlete and that comply with the respective protocols should be included in the ABP in order to ensure that the data is reliable and reflects the true profile of an athlete. Only standardized sample-taking and quality control ensure fair and comparable testing results, needed to establish a level playing field and to ensure the equal treatment of all athletes. Thus, the Panel is not prepared to include private tests results whose origins and conditions in which they were taken are unknown and undocumented.

(ii) Data from Sample 6

92. The Parties further disagree whether the data from Sample 6 should be included in the ABP. In particular Dr de Boer submitted that the data is peculiar and likely to be erroneous. He also pointed out that the Laboratory Documentation Package provided for Sample 6 was insufficient to verify whether the applicable protocols have been observed. Dr Schumacher, Prof. D'Onofrio, and Dr Sottas objected to Dr de Boer's findings. They agreed the data obtained for Sample 6 was unusual. However, they did not agree with Dr de Boer's conclusion that this must be due to a breach of the testing protocols. Instead, they submitted that the peculiar results backed the doping scenario advanced by them. Sample 6 was taken (only) a month before a major competition and displays an accelerated red cell production, reflected by a comparably low MCH (absolute haemoglobin content of each cell) and a MCHC (mean corpuscular haemoglobin concentration) combined with a high MCV (mean corpuscular volume of the red cell). Such pattern is observed – according to the First Respondent's experts – when erythropoiesis substances are administered, which fits the sporting calendar considering that Sample 6 was taken a month before the competition. Sample 7, which was taken at the competition, in turn displays a pattern of erythropoietic suppression, typically present after discontinuation of an erythropoietic stimulant. In addition, the First Respondent's experts state that Sample 6 is not a "key sample", because it has not been flagged by the Adaptive Model as abnormal. This is also the reason why no extensive Laboratory Documentation Package was provided for this sample. Furthermore, the First Respondent's experts submit that Samples 7 or 8 would still be abnormal with a specificity of 99.0% if one were to exclude the data from Sample 6 from the Adaptive Model.
93. The Panel notes that the Appellant never requested to be provided with the Full Laboratory Documentation Package for Sample 6 in order to corroborate her hypothesis that the results

must have been caused by a breach of the applicable protocols. Absent any such analysis, the Appellant's submissions amount to mere speculations, which do not suffice to rebut IAAF Rule 33.3(a) (2012-2013) or IAAF Rule 33.3(b) (2016) which provide that WADA-accredited laboratories are presumed to have performed the analysis in compliance with the applicable International Standards. Furthermore, there may be many explanations for the "peculiar results" obtained for Sample 6. As the First Respondent's experts have demonstrated, a plausible and possible explanation for the data obtained may be that the Athlete used doping substances and/or methods in the lead up to the competition. Be it as it may, the Panel notes that even if one were to exclude the data for Sample 6 from the Adaptive Model, Samples 7 and 8 would still be flagged as abnormal results.

cc) The Use of the Adaptive Model

94. There appears to be agreement between all experts that the Adaptive Model, in principle, can detect abnormalities in an athlete's blood parameters that might have been caused by doping. All experts further agree that, as a second step, an evaluation of the ABP by experts is necessary to interpret the data. All experts acknowledged that the Adaptive Model may not be the only model to detect abnormalities, but that it is a reliable model. Dr de Boer pointed to the fact that some other models – such as the 3G Model based on the z-score – might be similarly suited to detect abnormalities. Be it as it may, there is agreement that the Adaptive Model is an effective filter for screening an athlete's data for abnormalities.
95. Dr de Boer criticized the use of the Adaptive Model for lack of "accessibility", because it was unknown which parameters are included in it, and because also the software was unknown to process and generate the data. Dr Schumacher objected to this and referred to publications available to the scientific community in which all the details of the Adaptive Model were being discussed. According to Dr Schumacher there was no secret science behind the Adaptive Model. Dr Sottas further submitted that the algorithms used in the Adaptive Model were in the public domain, and that there is no "software" behind the ABP.
96. The Panel is unsure which consequences the Appellant would like to draw from the alleged "lack of accessibility". The Appellant and her experts have not submitted that the Appellant's right to be treated equally or that her right to be heard is being impacted by the use of the Adaptive Model. Furthermore, the Appellant has not submitted what specific data or information was needed by her (or her experts) in order to defend her case. Furthermore, as outlined above, all experts confirmed the general reliability of the Adaptive Model. To conclude, the Panel, therefore, rejects such criticism as unsubstantiated.

dd) The Degree of Specificity

97. There was some debate between the experts as to what threshold should be set in order to determine outliers when screening an athlete's blood values applying the Adaptive Model. The ABP guidelines and the First Respondent's experts used a specificity of 99.0%. It appears that Dr Scott in his expert opinion used a specificity of 99.9%. Since Dr Scott did not attend the hearing, the Panel could not inquire why he used such a (higher) threshold. Dr de Boer stated

in his testimony that he preferred the higher threshold. However, he did not state that a specificity of 99.0% was unreasonable or arbitrary to determine an outlier.

98. The Panel finds that the determination of a threshold defining a sample as abnormal is, in principle, a policy decision, since the values obtained by an initial screening of an athlete's blood parameters can never constitute by themselves an ADRV. Such data must in every single case be interpreted and assessed by a panel of experts in order to determine the possible causes of such results. A clear and evident example of this two-tier approach are Samples 25-27 obtained from the Athlete. Even though they clearly represent outliers from a statistical point of view, they were discarded as a doping scenario by the experts because the data could be clearly explained by the pregnancy of the Athlete. Thus, this Panel sees no reason to deviate from the ABP-guidelines that provide for a specificity of 99.0% in order to determine those results that shall be submitted for further review to a panel of experts.
- ee) The Abnormality of Samples 7 and 8
99. According to the First Respondent the data of Samples 7 and 8 of the Athlete are "abnormal" with a specificity of 99.0%. Sample 7 is an outlier with respect to the OFF-score and Sample 8 with respect to the reticulocyte% as well as the OFF-score. Furthermore, the First Respondent submits that the fact that there are two consecutive outliers moving into opposite directions for the OFF-score make the data obtained even more abnormal and statistically relevant. Such sequence abnormality is – according to the First Respondent's experts – highly unusual when compared to the general population reference data.
100. The Appellant's experts Prof. Vorobyev and Dr de Boer originally contested these submissions and submitted that the results obtained for Samples 7 and 8 are still within the normal range of variability. In addition, Prof. Vorobyev sees himself comforted in his view by the fact that the data for haemoglobin remained within the limits for all Samples taken in the context of the ABP. Not a single time was any of the Athlete's samples flagged with respect to the haemoglobin values.
101. The Panel notes that Dr de Boer used a different model to determine whether the Athlete's data was abnormal, i.e. the so-called z-score model. While the Adaptive Model analyses variances in light of data obtained from the general athlete population, the z-score concentrates solely on variances of the data obtained from the individual athlete. There was some doubt between the experts as to what extent the z-score model was suited to detect abnormalities and whether or not it could be manipulated by an athlete. This Panel, however, does not need to decide this issue because Dr de Boer admitted that he had committed a mistake in his calculations and that – if the calculations were performed correctly – the Athlete's data when applying the z-score instead of the Adaptive Model would still have to be qualified as abnormal. In addition, the Panel notes that both Dr de Boer and Prof. Vorobyev included the results from private testing in their analysis, which is – as previously stated – not permissible. Finally, the Panel notes that the ABP measures several blood parameters. Thus, the mere fact that the values for haemoglobin concentration remain within the "normal range" has no impact on whether or not the other data yields abnormal results or not.

- ff) Is the Data interpreted correctly
102. The ABP requires that the experts interpret the data in order to establish the possible causes for the results obtained, i.e. whether there are alternative scenarios other than doping to explain the data.
- (i) The Onus or Presentation and the Onus of Proof with respect to the alternative scenarios
103. In principle, the onus of proof that the Athlete committed an ADRV rests with the anti-doping organisation. Consequently, the onus of proof that all possible causes other than doping can be excluded is, in principle, upon the First Respondent.
104. The duty to substantiate, and in particular the prerequisites that a party must fulfil in order to dispose of its duty to sufficiently substantiate its submissions, is intrinsically linked to the principle of party presentation and, thus, clearly a procedural question (KuKo-ZPO/OBERHAMMER, 2nd ed. 2014, Art. 55 N. 12; BSK-IPRG/SCHNEIDER/SCHERRER, 3rd ed. 2013, Art. 184 N 8). Consequently, Article 182 PILA applies in respect of the applicable law.
105. In the case at hand the Parties have not agreed explicitly or implicitly to provisions regulating the question of onus of presentation. Thus, the Panel takes guidance from Swiss law, which provides that the onus of substantiation, i.e. which party has the onus of presenting and submitting the facts, is in principle linked to the law applicable to the merits, because the onus of presentation follows from the burden of proof. The burden of proof does not only allocate the risk among the parties of a given fact not being ascertained, but also allocates who bears the duty to submit the relevant facts before the court/tribunal (see also CAS 2011/A/2384&2386, no. 249). It is, in principle, the obligation of the party that bears the burden of proof in relation to certain facts to submit them also to the court/tribunal in a sufficient manner (Swiss Federal Tribunal: SFT 97 II 216, 218 E. 1). The party that has the burden of proof, thus, in principle also has the burden of presenting the relevant facts to the tribunal.
106. However, there are exceptions to the above rule. The exceptions concern – *inter alia* – cases in which a party is faced with a serious difficulty in discharging its burden of proof (“état de nécessité en matière de preuve”, “Beweisnotstand”). A cause for the latter may be that, by its very nature, the alleged fact(s) cannot be proven by direct means. This is the case whenever a party needs to prove “negative facts”.
107. According to the Swiss Federal Tribunal (SFT) in such cases of “Beweisnotstand” principles of procedural fairness demand that the other party must substantiate and explain in detail why it deems the facts submitted by the other party to be wrong (ATF 106 II 29, 31 E. 2; 95 II 231, 234; 81 II 50, 54 E 3; FT 5P.1/2007 E. 3.1; KuKo-ZGB/MARRO, 2012, Art 8 no 14; CPC-HALDY, 2011, Art 55 no 6). The SFT has described in the following manner (ATF 119 II 305, 306 E 1b) this obligation of the party (not bearing the onus of proof) to cooperate in elucidating the facts of the case:

“Dans une jurisprudence constante, le Tribunal fédéral a précisé que la règle de l’art. 8 CC s’applique en principe également lorsque la preuve porte sur des faits négatifs. Cette exigence est toutefois tempérée par les règles de la bonne foi qui obligent le défendeur à coopérer à la procédure probatoire, notamment en offrant la preuve du contraire (ATF 106 II 31 consid. 2 et les arrêts cités). L’obligation, faite à la partie adverse, de collaborer à l’administration de la preuve, même si elle découle du principe général de la bonne foi (art. 2 CC), est de nature procédurale et est donc exorbitante du droit fédéral - singulièrement de l’art. 8 CC -, car elle ne touche pas au fardeau de la preuve et n’implique nullement un renversement de celui-ci. C’est dans le cadre de l’appréciation des preuves que le juge se prononcera sur le résultat de la collaboration de la partie adverse ou qu’il tirera les conséquences d’un refus de collaborer à l’administration de la preuve”.

108. In its decision the SFT makes it clear that difficulties in proving “negative facts” result in a duty of cooperation of the contesting party. The latter must cooperate in the investigation and clarification of the facts of the case. However, according to the Swiss Federal Tribunal, the above difficulties do not lead to a re-allocation of the risk if a specific fact cannot be established. Instead, such risk will always remain with the party having the burden of proof. Furthermore, the Swiss Federal Tribunal states that, in assessing and determining whether a specific fact can be established, the court must take into account whether the contesting party has fulfilled its obligations of cooperation.
109. The Panel finds that, in the present matter, the IAAF is confronted with a “Beweisnotstand”, because, in order to discharge its burden of proof, it must show – in principle – that not only the doping scenario is plausible, but that all potential explanations other than doping – have to be excluded to the applicable standard of proof. Such proof of “negative facts”, however, is impossible. It is for this very reason that the Athlete cannot limit herself to (simply) contesting the doping scenario, but is under an obligation to cooperate in the fact finding, i.e. must submit in detail alternative (natural) scenarios to explain the blood values. It is, thus, up to the Athlete to submit and substantiate any alternative explanations for the blood values that the Panel must balance with the doping scenario.
- (ii) The Alternative scenarios advanced by the Athlete
110. The Appellant – in application of her duty of cooperation to establish the facts of the case – has advanced different alternative scenarios. Such scenarios have changed over the course of these proceedings and may be summarized as follows:
- Explanations provided by the Athlete on 30 September 2015: The Athlete submitted that since 2008 she regularly trained in camps at high altitudes and that she paid a lot of attention to nutritional supplements, i.e. various vitamins, iron, etc. Under the supervision of Mr Chernov she also used acupuncture. During the winter competition season, she discontinued all supplements. In winter 2011, she started using the altitude tent (Hypoxico). She slept in the tent at an altitude of 2200m above sea level, exercised and breathed rarefied air from an altitude of 4000-6900m above sea level for an average of thirty minutes to one hour per day. Furthermore, she submitted that she suffered from a genetic disposition (heterozygote PAI-1, a marker of thrombophilia) and from polycystic ovarian syndrome, a hormonal profile disorder, leading to increased blood testosterone and irregular menstruation.

- Explanations provided by the Appellant's experts in their written submissions: Prof. Vorobyev outlined that the dynamics of the Athlete's haemoglobin concentration can be explained by common causes or a combination of them, such as reduced fluid intake, intense physical activity, and transient hormonal disorders. He confirmed that the polycystic ovarian syndrome may lead to an increased testosterone level. Dr de Boer added that it is impossible to establish the exact cause of the fluctuations in Sample 7 and Sample 8. It may be true that results were caused by what has been indicated in the Joint Expert Opinion. However, it was impossible to state this with the required certainty.
 - Explanations provided by the Appellant at the hearing: The Athlete disclosed that she had food poisoning five days before the World Championship in 2011 (where Sample 7 had been taken). Furthermore, she submitted that she frequently took flights from the training camp back to Moscow in the time period leading up to the competition. Each flight was more than five hours one way.
111. The IAAF contests the above explanations and has submitted expert opinions to support its submissions.
- (iii) Analysis of the Panel
112. In view of the Panel, the IAAF experts have convincingly explained that the abnormal values of Sample 7 and Sample 8 cannot be explained by common causes. The latter are already taken into account in the Adaptive Model. Thus, e.g. the reference population in the Adaptive Model contains already international athletes that frequently board long-distance flights. In addition, Dr Schumacher pointed out that several studies have monitored blood values of cabin staff engaged in frequent and, in particular, long-distance flights, which show that the impact of such exposure to low pressure in the cabin was minimal. It only led to a slight increase of the haemoglobin values. The reticulocyte% values, on the contrary, were not affected at all, since the stimulus from such flights was simply not high and long enough. The Panel, thus, concludes that frequent long-distance flights cannot explain the values obtained from Sample 7 and Sample 8.
113. The same holds true in relation to possible effects of altitude training. The latter is a common preparation method among professional athletes and thus already reflected in the choice of the reference population in the Adaptive Model. In addition, the First Respondent's experts have convincingly explained why altitude training could not possibly have caused the values observed. Hypoxia of altitude can cause changes in markers of the athlete biological passport. The magnitude of such changes is – as evidenced by the experts of the First Respondent – generally small, i.e. much smaller than the variances observed in the blood values of the Athlete. In addition, any changes are only observed in case an athlete stays at an altitude of about 2,500 m for at least 18 days. The Athlete has never submitted that she spent such lapse of time at such altitude during the relevant time. Finally, the First Respondent's experts have submitted that the reticulocytes are slightly suppressed approximately 10 days after return to sea level, paired with possible mildly elevated haemoglobin levels, leading to a slight increase in OFF-score. The Appellant has not contested these submissions. The Panel observes that

the blood profile of the Athlete moved into the exact opposite direction, showing a significantly increased OFF-score for Sample 7.

114. The Panel is equally not persuaded that the values were caused by the use of a hypoxic tent. Artificial hypoxia can, in theory, induce similar changes than natural hypoxia. As demonstrated by the First Respondent's experts (and not contested by the Appellant) the daily exposure time in the tent was too short to trigger measurable increases in erythropoiesis.
115. The ingestion of nutritional supplements such as – e.g. – vitamins or minerals cannot explain the values in Samples 7 and 8, since even if taken in high doses, nutritional supplements cannot cause any clinically relevant changes in the red blood cell picture.
116. Prof. Vorobyev submitted that food poisoning may have caused the values observed. The First Respondent's experts objected to this explanation and submitted that the reduction of fluid volume, due to vomiting and the loss of fluids, even in very severe cases only amounts to max. 10% of the blood volume. In addition, the loss of fluids mainly comes from extracellular tissue and not from the vascular system. Consequently, the loss of fluids – even if serious – does not interfere with the blood parameters at least immediately. Moreover, there was consensus between the experts at the hearing that, even in severe cases of food poisoning, the reticulocyte% would not be affected. Therefore, the Panel cannot accept food poisoning as plausible cause for the observed inconsistencies in the Athlete's ABP. This is all the more true, considering that the Athlete performed extremely well at the competition where Sample 7 was taken. It is, thus, difficult to believe that the Athlete was affected by a severe food poisoning before the sample was taken.
117. Finally, the Panel also excludes the Athlete's alleged genetic disposition and the alleged polycystic ovarian syndrome as cause for the abnormal values in the ABP. Prof. Vorobyev submits that the Athlete's mean haemoglobin values are in fact higher than average. He seems to derive from this that any outlier with regards to haemoglobin cannot be reliable. As already explained, the ABP takes intra-individual fluctuations in the reference population into account when screening the individual variances of an athlete. In addition, the Respondent's Second Joint Expert Opinion convincingly explains that certain specific features of thrombophilia (e.g. lower haemoglobin levels) have never been observed in any of the Athlete's blood samples. Thus, it is very unlikely that the Athlete is affected by a genetic disposition that appears only "selectively" affecting Sample 7 and Sample 8. As for the polycystic ovarian syndrome advanced by the Appellant, the Panel follows the First Respondent's experts according to which irregular menstruation, especially heavy menstrual bleeding, can lead to consistently low haemoglobin values. Amenorrhoea, however, may not cause an increase in haemoglobin. The latter, however, is precisely what is being observed in the Athlete's blood values. Thus, the Panel cannot accept the polycystic ovarian syndrome as a plausible explanation for the Athlete's abnormal ABP.

gg) The need for a doping scenario

118. It is a matter of debate whether the IAAF must do anything in addition to rebutting the

alternative (“natural”) scenarios submitted by the Athlete.

(i) CAS Jurisprudence

119. There appears to be a thread of CAS jurisprudence according to which an anti-doping organization is required to establish – in addition to the testing results – a “doping scenario”. In the proceeding CAS 2016/O/4464 (paras 140 *et seq.*), the Sole Arbitrator stated in this respect as follows:

“The Sole Arbitrator is mindful of the warnings expressed in legal literature that a pitfall to be avoided is the fallacy that if the probability of observing values that assume a normal or pathological condition is low, then the probability of doping is automatically high (VIRET, Evidence in Anti-Doping at the Intersection of Science and Law, 2016, p. 763, with further references to Dr Schumacher and Prof d’Onofrio 2012, p. 981; Sottas 2010, p. 121) and that it has been submitted in this context that “if the ADO is not able to produce a “doping scenario” with a minimum degree of credibility (“density”), the abnormality is simply unexplained, the burden of proof enters into play and the ADO’s case must be dismissed since there is no evidence pleading in favour of the hypothesis of “doping” any more than for another cause”. (VIRET, Evidence in Anti-Doping at the Intersection of Science and Law, 2016, p. 774).

This view has indeed also been adopted in CAS jurisprudence and the Sole Arbitrator finds that another CAS panel summarised it nicely by stating that ‘abnormal values are (for the purposes of the ABP) a necessary but not a sufficient proof of a doping violation’ (CAS 2010/A/2235, para. 86). Although such panel continued by emphasising that it is not necessary to establish a reason for blood manipulation, the panel noted the coincidence of the levels with the athlete’s racing schedule and stated the following:

“As Dr Sottas convincingly explained, in the same way as the weight of DNA evidence said to inculpate a criminal is enhanced if the person whose sample is matched was in the vicinity of the crime, so the inference to be drawn from abnormal blood values is enhanced where the ascertainment of such values occurs at a time when the Athlete in question could benefit from blood manipulation”. (CAS 2010/A/2235, para. 102)’.

The Sole Arbitrator agrees with these considerations and, as such, concludes that from the mere fact that an athlete cannot provide a credible explanation for the deviations in his or her ABP it cannot automatically be deduced that an anti-doping rule violation has been committed. Rather, the deviations in the ABP are to be interpreted by experts called to put into the balance various hypothesis that could explain the abnormality in the profile values, i.e. a distinction is made between a “quantitative” and a “qualitative” assessment of the evidence”.

(ii) The Understanding of this Panel

120. This Panel understands this CAS jurisprudence to mean the following: even if all scenarios other than doping can be excluded (on a balance of probability), this does not suffice for the Panel to be comfortably satisfied that the Athlete committed blood manipulation. Instead, the use of a prohibited substance or method must – in addition – be a plausible and likely explanation of the values obtained for the Panel to positively assume that the Athlete doped. Such assessment must be made based on all evidence before the Panel.

(iii) The Position of the Parties

121. The IAAF submits that the doping scenario is a plausible and likely explanation and bases the assumption on the following facts:
- blood manipulation is manifest in endurance sport and in Russian athletics;
 - there are correlations between the sporting calendar and the variances of the blood values of the Athlete;
 - there are seasonal variations of the blood values of the Athlete that are incompatible with the variances observed within the reference population;
 - the recordings of Ms Stepanova indicate that the Athlete was likely to have used blood doping;
 - the Athlete's coach (Mr. Kazarin) is known for administrating doping substances.
122. The Appellant contests these submissions by the IAAF and submits in particular that the doping scenario is neither plausible nor can it be ascertained with a sufficient degree of certainty because:
- the Athlete's haemoglobin values never exceeded the limits of the Adaptive Model; and
 - the mean haemoglobin concentrations varied only a little from winter to summer

(iv) Analysis of the Panel

123. The Panel finds that all evidence on file points in the direction that blood manipulation by the Athlete is the only remaining and – when assessed individually – also the only plausible and likely explanation for the Athlete's abnormal blood values. Blood manipulation is common in endurance sport. Contrary to what the Appellant submits there is a significant correlation between the sporting calendar of the Athlete and the variances observed in her blood values. This results from a comparison of the in-competition with the out-of-competition testing results. These variances observed support the doping scenario, i.e. that the Athlete submitted to blood manipulation in preparation for the competitions. Further evidence that the variances have no “natural” cause is the fact that the seasonal variances between winter and summer observed in the Athlete's values are opposite from what one would normally expect when looking at the reference population. In addition, the intelligence provided by Ms Stepanova, which will be analysed in more detail below, clearly shows that the Athlete was embedded, moved and acted in a doping infested environment (husband and coach) that had in-depth knowledge of the effects of blood doping and the detection mechanisms of the ABP. The Appellant's argument that the haemoglobin values always stayed within the normal reference range does not contradict the above finding. Haemoglobin is only one of the parameters that is measured in the context of the ABP. The fact that the haemoglobin value stays within the normal range does not off-set the abnormality of the other values observed in Samples 7 and 8. Finally, also the values obtained for Sample 6 (discussed above) support the doping scenario when interpreted in light of the findings for Samples 7 and 8. As a result, and based on all the evidence available to this Panel, it is convinced with the required degree of proof that a doping

scenario is the only possible cause of the Athlete's abnormal blood values.

hh) Conclusion with respect to the ABP

124. With regard to the Athlete's ABP (Sample 7 and Sample 8) the Panel finds that the Athlete engaged in blood doping/manipulation.

b) *The Intelligence provided by Ms Stepanova*

aa) Admissibility and Reliability of the Intelligence

125. Before this Panel – unlike before the first-instance proceedings – the Athlete has not contested the admissibility of the recordings. For the sake of good order, the Panel would like to state that the recordings are admissible evidence and refers insofar to the grounds exposed in the first-instance proceedings to which it fully adheres.

126. The Panel furthermore finds that the recordings and transcripts are reliable in general terms. There is no disagreement that the recordings are genuine, i.e. that the conversation took place, that the Athlete, her husband and Ms Stepanova participated in the conversation and that the conversation was recorded by Ms Stepanova. There is disagreement in part between the Parties whether the translation submitted by the First Respondent truly captures the contents of the conversation. The Appellant has submitted a translation that deviates partly from the translation provided by the First Respondent. The Panel, nevertheless, bases its findings on the recordings provided by the First Respondent as these recordings have already been used in other CAS proceedings, in which they were translated by an independent translator appointed by the CAS. This translation – at least for the relevant parts – is congruent with the translation provided by the First Respondent.

127. The Athlete also argues that it is not entirely clear from the recordings which quotes must be attributed to which person. Although it is true that most of the time one cannot see what person is speaking, it is nevertheless easy to attribute the voice to the individual persons taking part in the conversation, specifically with regard to the passages forming the basis of this decision.

bb) Assessment of the evidence

128. The Panel notes that the Athlete has changed her defence strategy considerably over time. In the beginning she contested the admissibility of the recording in these proceedings and tried to trivialize her statements that have been recorded by Ms Stepanova. Today, the latter strategy is only pursued in part. Thus, e.g. the Athlete tries to play down her statement that "*everyone is on pharma*". She submits that, when using the word "pharma", she did not refer to "pharmaceuticals" (i.e. prohibited substances). Instead, she intended to refer to "*... medication that can be bought over the counter, like nutritional substances*". The latter, however are not forbidden, even though they can only be purchased in pharmacies in Russia. She further explained that anabolic steroids are prohibited in Russia and, thus, not available over the counter.

Consequently, when she referred to “pharma” she could not have possibly intended to mean steroids. The purpose of her quote was to make the point that in today’s competitive world an athlete cannot succeed without nutritional supplements like magnesium or vitamins.

129. The Athlete’s explanations do not make any sense. The Panel is satisfied that, when using the word “pharma”, the Athlete was referring indeed to prohibited substances, and not e.g. to magnesium. This is also corroborated by the context of the conversation in which the word was used by her. The Athlete immediately after saying that “*all of us are on pharma*”, adds that it is taken “*at the expense of your health*”. She then goes on to explain, that “*the good thing is that there is a trainer*” to protect the athletes and that there has only been one disqualification because of marijuana. It is, thus, obvious that the Athlete was talking about prohibited substances when referring to “pharma”. In addition, the Athlete’s explanations are contradicted by her new version of events. According thereto when talking to Ms Stepanova she wanted to set her up. The Athlete submitted in the hearing that Ms Stepanova had been her fiercest competitor and that she wanted to get rid of her by inciting her to dope. It was for this sole reason that she discussed doping practices with Ms Stepanova, hoping that she would embrace these practices and be caught by the authorities and excluded permanently from sporting competitions. This version does not only contradict the Athlete’s previous tactics whereby she tried to downplay the meaning of her recorded statements. In addition, the Panel is not prepared to follow the Appellant’s explanations. If the Athlete truly wanted to encourage Ms Stepanova to dope in order to get rid of her, why did she not come clean with this story right from the beginning? Instead, the Athlete’s whole defence strategy appears to be some kind of moving target adapting constantly and swiftly to her adversary’s level of knowledge. Such procedural behaviour lacks any credibility and is self-serving.

cc) Conclusion

130. It follows from the information and intelligence provided by Ms Stepanova that the Athlete regularly used prohibited substances over a long period of time.

B. The Appropriate Period of Ineligibility

131. Since the Athlete was never notified of any commencement of disciplinary proceedings in between the various ADRVs, they must all be treated together as a first infraction. This follows from IAAF Rule 40(7)(d)(i) (2012-2013), which reads as follows:

“For the purposes of imposing sanctions under Rule 40.7, an anti-doping rule violation will only be considered a second violation if it can be established that the Athlete or other Person committed the second anti-doping rule violation after the Athlete or other Person received notice pursuant to Rule 37 (Results Management) or after reasonable efforts were made to give notice of the first anti-doping rule violation; if this cannot be established, the violations shall be considered together as one single first violation and the sanction imposed shall be based on the violation that carries the more severe sanction; however, the occurrence of multiple violations may be considered as a factor in determining aggravating circumstances (Rule 40.6)”.

1. The applicable Legal Framework for a first infraction

132. IAAF Rule 40.6 (2012-2013) provides as follows:

“If it is established in an individual case involving an anti-doping rule violation other than violations under Rule 32.2(g) (Trafficking or Attempted Trafficking) and Rule 32.2(h) (Administration or Attempted Administration) that aggravating circumstances are present which justify the imposition of a period of Ineligibility greater than the standard sanction, then the period of Ineligibility otherwise applicable shall be increased up to a maximum of four (4) years unless the Athlete or other Person can prove to the comfortable satisfaction of the hearing panel that he did not knowingly commit the anti-doping rule violation.

a) Examples of aggravating circumstances which may justify the imposition of a period of Ineligibility greater than the standard sanction are: the Athlete or other Person committed the antidoping rule violation as part of a doping plan or scheme, either individually or involving a conspiracy or common enterprise to commit anti-doping rule violations; the Athlete or other Person used or possessed multiple Prohibited Substances or Prohibited Methods or used or possessed a Prohibited Substance or Prohibited Method on multiple occasions; a normal individual would be likely to enjoy performance-enhancing effects of the anti-doping rule violation(s) beyond the otherwise applicable period of Ineligibility; the Athlete or other Person engaged in deceptive or obstructing conduct to avoid the detection or adjudication of an anti-doping rule violation. For the avoidance of doubt, the examples of aggravating circumstances referred to above are not exclusive and other aggravating factors may also justify the imposition of a longer period of Ineligibility”.

2. The Position of the Parties

133. The Athlete has not contested the applicability of IAAF Rule 40.6 (2012-2013) and has not made any submissions as to the length of the period of ineligibility. The Appellant only submitted that there was no evidence of any intentional wrongdoing by her. The First Respondent, on the contrary, submits that the Athlete acted intentionally and points to two aggravating factors that are relevant for determining the period of ineligibility, i.e. that prohibited substances were used by the Athlete on multiple occasions and that she was engaged in a doping plan and scheme.

3. Analysis of the Panel

134. Based on the reliable evidence before it, there can be no doubt that the Athlete acted intentionally when using the prohibited substances. Furthermore, the Panel acknowledges that the doping case at hand is indeed very severe. Not only has the Athlete ingested different prohibited substances on multiple occasions, but was also engaged in a sophisticated doping scheme, supported – *inter alia* – by her coach, Mr Kazarin (see CAS 2016/A/4480). Her persistent doping practice has caused serious damage not only to all other athletes, who were deprived of their medals, but also to the reputation of athletics in general. Bearing in mind all aggravating circumstances and in view of the lack of any mitigating circumstances submitted by the Appellant, the Panel must confirm the period of ineligibility of four years.

4. Commencement of the Period of Ineligibility

135. IAAF Rule 40.10 (2012) (similarly to IAAF Rule 40.11 (2016)) provides, as a general rule, that the period of ineligibility shall start on the date of the Panel's decision (IAAF Rule 40.11 (2016), however, fixes the starting date on the date of the "final" decision). IAAF Rule 40.10 (b) (2012) also provides that the Athlete receives credit for any provisional suspension previously imposed on her. Deviating from the general rule above, the previous instance – applying the "fairness exception" – fixed the starting date of the period of ineligibility on the date of the provisional suspension (24 August 2015). In the present case, the Athlete has not submitted that the previous instance erred when fixing the starting point of the period of ineligibility. Similarly, also the Respondent sought to uphold the first-instance decision in this regard. Thus, the Panel confirms the first-instance decision also in this respect. Accordingly, the period of ineligibility shall start on 24 August 2015, with credit given for any period of ineligibility already served.

C. Disqualification

136. With regard to the sanction of disqualification, the Panel notes that Athlete has failed to appeal the first-instance decision insofar. This issue has been specifically addressed in the hearing. Thus, the Panel being bound to the Parties' respective prayers for relief must uphold the Appealed Decision insofar.

D. Proportionality

137. The principle of proportionality is part of the *ordre public* and must be observed by this Panel independently of the Parties' prayers of relief and submissions. In the case at hand the Panel observes that the Athlete is sanctioned in the case at hand with:

- a period of ineligibility of four (4) years and
- a disqualification of all competitive results from 26 July 2010 to 26 August 2013.

138. The combined effects of such sanction are severe, considering that its effective length is close to seven years and that the ADRV in question is a "first violation". However, it must also be kept in mind that disqualification and ineligibility serve different purposes. Disqualification is intended to reinstall a level playing field, i.e. to neutralize the illegal advantage obtained by an athlete in competition over his or her competitor. The period of ineligibility, in contrast, serves as a deterrent for the athlete concerned and for all other potential offenders. Thus, disqualification and period of ineligibility cannot be simply added together when assessing the overall proportionality of the sanction. The more competitions have been distorted, the longer the period of disqualification must be in order to prevent that harm is being done to the (undoped) competitors.

139. In the case at hand, the Panel finds that the overall effects of the sanction are still proportionate considering the specificities of the case. The Athlete has distorted multiple high-level competitions, damaged numerous other athletes and has breached the applicable rules

on many occasions using multiple different substances and did so in full knowledge of the circumstances. The overall integrity of athletics has suffered heavily from the Athlete's behaviour. Such behaviour, thus, warrants a serious sanction. Therefore, the Panel finds that in light of the specific circumstances of this case the boundaries of public policy are not trespassed, even though technically speaking this is a first ADRV. Considering this conclusion, all other prayers and requests submitted shall be dismissed.

ON THESE GROUNDS

The Court of Arbitration for Sport rules:

1. The Appeal filed by Maria Farnosova on 27 March 2017 against the International Association of Athletics Federations and the All Russia Athletics Federation concerning the decision issued by the Court of Arbitration of Sport dated 10 February 2017 is dismissed.
2. The decision issued by the Court of Arbitration for Sport dated 10 February 2017 is upheld.
3. (...).
4. (...).
5. All other or further claims are dismissed.