Arbitration CAS 2009/A/1912 P. v. International Skating Union (ISU) & CAS 2009/A/1913 Deutsche Eisschnelllauf Gemeinschaft e.V. (DESG) v. International Skating Union (ISU), award of 25 November 2009

Panel: Prof. Massimo Coccia (Italy), President; Mr. Stephan Netzle (Switzerland); Mr Michele Bernasconi (Switzerland).

Speed skating
Doping (blood doping)
Meaning of the full power of review of the CAS
Retroactive application of new scientifically sound evidentiary methods
Longitudinal hematological profiling as a mere evidentiary method
Anti-doping proceedings without adverse analytical finding and burden of proof
Absence of adverse analytical finding and departures from the international standards for testing
Comfortable satisfaction of the Panel as standard of proof for doping cases
Chain of custody
Abnormal hematological values and establishment of a doping offence

1. **The full power of review of the CAS means that the CAS appeals arbitration procedure entails a de novo review that it is not confined to deciding whether the body that issued the appealed ruling was correct or not. The mission of CAS Panels is thus to make its independent determination as to whether the parties' contentions are inherently correct rather than to assess the correctness of the appealed decision**

2. **New scientifically sound evidentiary methods, even not specifically mentioned in anti-doping rules, can be used at any time to investigate and discover past anti-doping rule violations that went undetected, with the only constraint deriving from the eight-year time limitation and the timely initiation of disciplinary proceedings. As long as the substantive rule sanctioning a given conduct as doping is in force prior to the conduct, the resort to a new evidentiary method does not constitute a case of retrospective application of the law.**

3. **The "use" of a prohibited substance or prohibited method – not depending on an adverse analytical finding – constitutes nowadays an anti-doping rule violation exactly in the same way as it did under the old version of the WADA Code and the anti-doping regulations of the international federations.**

4. **The "longitudinal hematological profiling" constitutes evidentiary means to demonstrate the violation of the anti-doping rules and this could be utilized as evidence of a doping offence under the older versions of the WADA Code as well.**

5. **In case of a doping offence without adverse analytical finding, the federation claiming**

the violation must prove that (i) the blood samples used to acquire the athlete's hematological values and portray her profile were properly taken, (ii) there was a reliable chain of custody of the blood samples from the place of collection to the laboratory, (iii) the machine used to analyse the blood samples was a reliable equipment to record accurate hematological values, (iv) the transmission of those values to, and the storage in, the federation's data base was reliable, and (v) the hematological values of the athlete are reliable evidence of her use of a prohibited method.

6. **There is no "factual presumption" that the blood screening tests produced correct result, because, according to the CAS case law, in anti-doping proceedings other than those deriving from positive testing, sports authorities do not have an easy task in discharging the burden of proving that an anti-doping rule violation has occurred, as no presumption applies. Accordingly, the federation bears the full burden to present reasonably reliable evidence to persuade the Panel, by the applicable standard of proof, that the athlete committed a doping offence in violation.**

7. **In the absence of an adverse analytical finding (where a presumption is provided in favour of the anti-doping organization), the international federation is not mandated to follow the WADA IST and WADA ISL in order to prove the Athlete's use of a prohibited method. Any reasonably reliable practice of sample collection, post-test administration, transport of samples, analytical process and documentation would suffice. This view is confirmed, a fortiori, by the fact that, even in cases of adverse analytical findings, departures from WADA International Standards do not invalidate *per se* the analytical results, as long as the anti-doping organization establishes that such departure did not cause the adverse analytical finding.**

8. **The "comfortable satisfaction" test is well-known in CAS practice, as it has been the normal CAS standard in many anti-doping cases even prior to the WADA Code. Several awards have withstood the scrutiny of the Swiss Federal Tribunal, which has stated that anti-doping proceedings are private law and not criminal law matters and that *"the duty of proof and assessment of evidence [are] problems which cannot be regulated, in private law cases, on the basis of concepts specific to criminal law"*. The standard of proof beyond reasonable doubt is typically a criminal law standard that finds no application in anti-doping cases.**

P. ("the Athlete" or "First Appellant") is a 37-year old German speed skater whose main disciplines are 3,000m and 5,000m. P. has belonged to the world elite of speed skating since 1988.

The Deutsche Eisschnelllauf Gemeinschaft e.V. (DESG or "Second Appellant") is the national federation governing the sport of speed skating in Germany, to which P. is affiliated. The DESG is a member of the International Skating Union.

The International Skating Union (ISU or "Respondent") is an association formed under the laws of Switzerland and having its seat in Lausanne. The ISU is recognized by the International Olympic Committee as the international federation governing the sports of figure skating and speed skating worldwide.

In the period between 4 February 2000 and 30 April 2009 the Athlete underwent numerous in-competition and out-of-competition anti-doping controls. None of these controls resulted in an adverse analytical finding.

During the same period the ISU collected more than ninety blood samples from the Athlete as part of the ISU blood profiling program. In particular, from 20 October 2007 until 30 April 2009 the ISU collected twenty-seven blood samples from the Athlete, the last twelve of which were collected between January and April 2009.

The blood parameters which are measured and recorded within the scope of the Respondent's blood profiling program include *inter alia* hemoglobin, hematocrit and percentage of reticulocytes ("%retics"). Reticulocytes are immature red blood cells that are released from the bone marrow. The %retics is a sensitive hematological parameter which provides a real-time assessment of the functional state of erythropoiesis in a person's organism.

While ISU considers that the "normal" %retics values fall within the 0.4–2.4 range, some of the Athlete's blood screening results showed %retics values well above the value of 2.4 followed by a sharp decrease.

On 7-8 February 2009 the Respondent organised the 2009 ISU World Allround Speed Skating Championships in Hamar, Norway. Blood samples for screening purposes were taken from all athletes one day before the beginning of said Championships, in the morning of 6 February 2009. The Athlete's %retics value was measured at 3.49.

Following this result, the ISU collected two more tubes of blood from the Athlete, in the morning and in the afternoon of 7 February 2009. The %retics count was found to be respectively 3.54 and 3.38. On the same day, the Athlete and the DESG were informed by the ISU medical advisor Prof. Dr. Harm Kuipers ("Dr. Kuipers") that the %retics values were "abnormal". Although the values of hemoglobin and hematocrit were not such to provide a situation of "no start", the DESG communicated that P. was not taking part in the following day's races.

A few days later, on 18 February 2009, another blood sample was collected from the Athlete out-of-competition, showing a %retics of 1.37.

After reviewing the Athlete's blood profile, on 5 March 2009 the ISU filed a Statement of Complaint with the ISU Disciplinary Commission (DC). The ISU accused the Athlete of having used a prohibited substance and/or a prohibited method, i.e. some form of blood doping, which would constitute an anti-doping rule violation under Article 2.2 of the ISU Anti-Doping Rules

which entered into force on 1 January 2009 (ISU ADR) in conformity with the new version of the World Anti-Doping Code enacted by the World Anti-Doping Agency (WADA).

The ISU Disciplinary Commission allowed an extensive exchange of written submissions, and both parties filed scientific reports written by the experts of their choice. The ISU Disciplinary Commission appointed Prof. Max Gassmann of the University of Zurich as independent expert to assist it in its review of the scientific evidence. Following a hearing in Bern on 29-30 June 2009, on 1 July 2009 the ISU Disciplinary Commission issued its decision (the "Appealed Decision") ruling as follows:

> *"1. P. is declared responsible for an Anti-Doping violation under Article 2.2 of the ISU ADR by using the prohibited method of blood doping.*
>
> *2. The results obtained by P. in the 500m and 3000m races at the World Allround Speed Skating Championships on February 7, 2009, are disqualified and her points, pri[z]es and medals forfeited.*
>
> *3. A two years' ineligibility, beginning on February 9, 2009, is imposed on P.*
>
> *4. The Deutsche Eisschnelllauf-Gemeinschaft e.V. shall pay to the ISU the costs to be determined.*
>
> *5. Each party bears its own costs of proceedings".*

On 21 July 2008, the Athlete and the DESG filed with the CAS their statements of appeal against the Appealed Decision. The timeliness of the appeals filed by the Athlete and the DESG is undisputed.

On 27 July 2009, pursuant to Articles R37 and R48 of the Code of Sports-related Arbitration (the "CAS Code"), the Athlete submitted an application for provisional measures, requesting that the CAS grant in her favour with immediate effect: a) a stay of the execution of the Appealed Decision until the final decision of the CAS, or b) alternatively, the provisional eligibility to take part in all speed skating competitions sanctioned by the ISU or its members or the DESG, and in all training events organized by the DESG and its clubs, or c) *ex abundante cautela*, the provisional eligibility to participate in all training events organized by the DESG and its clubs, and to use all speed skating racing tracks for competition and training purposes, suitable for preparation for the Vancouver Olympic Winter Games of 2010.

By letter dated 31 July 2009, in light of the agreement of all parties, the CAS informed the parties that the two proceedings would be consolidated and be conducted jointly by a single Panel.

Respectively on 31 July 2009 and on 3 August 2009, the DESG and the Athlete filed their appeal briefs together with several exhibits.

On 18 August 2009, the extension of time requested by the ISU for filing its answer was granted.

On 1 September 2009, the ISU filed its answer together with the relevant exhibits. By letter dated 3 September 2009, the CAS acknowledged receipt of the Respondent's answer and advised the parties that, in accordance with Art. R56 of the CAS Code, they would in principle not be authorized to supplement their arguments, produce new exhibits or specify further evidence not mentioned in the

appeal briefs or in the answer. Considering the urgency of the matter, the Panel informed the parties that it intended to convene a hearing on 1 October 2009.

On 4 September 2009, the Panel issued an Order on Application for Provisional Measures which partially upheld the request for provisional measures filed by the Athlete. The Panel held that the Athlete had discharged the burden on her of demonstrating that a provisional measure allowing her to practice and train with the DESG and/or a club was necessary to protect her chances to qualify for the Vancouver Winter Olympic Games of 2010, although she had not demonstrated that a full stay of the Appealed Decision was needed to protect her position. Thus, the Athlete was granted leave to participate in all training sessions authorized or organized by the DESG or a club, and to use for training purposes any available speed skating racing track until the issuance of the award on the merits of the appeal.

By letter dated 4 September 2009 the CAS informed the parties that, after examining the objection raised by the Respondent as to the *locus standi* of the DESG, it had reached the conclusion that the DESG had standing to appeal and could thus legitimately take part in the arbitral proceedings, for reasons that would be explained in the award (see *infra* at paras. 10 f.).

On 11 September 2009, the Panel proposed other hearing dates and informed the parties that, as already done in other CAS cases involving scientific issues, it intended to hear the various expert witnesses summoned by the parties all together in conference format, while allowing the parties the possibility to examine and cross-examine them.

On 16 September 2009, the Athlete requested to be allowed to submit a reply to the Respondent's answer. By letter of 17 September 2009 the Respondent objected to another exchange of written submissions.

By letter dated 23 September 2009 the Panel informed the parties that, in accordance with Article R56 of the CAS Code, it would not authorize a new round of written submissions; however, the Panel issued an order that exceptionally granted the Athlete the opportunity, no later than 8 days before the hearing, *"to present any new evidence deriving from medical investigations performed on her, with comments thereto"* and *"to call at the hearing an expert witness who could give evidence specifically related to the functioning of the Advia 120 machine"*. The DESG and the Respondent would then be able to file their comments strictly limited to such new evidence no later than 3 days before the hearing.

On 14 October 2009, the Athlete filed with the CAS a submission including a brief with relevant exhibits, which was forwarded by courier to the Panel and the other parties on 15 October 2009 and received in the afternoon of the following day.

On 17 October 2009, the ISU protested that a large part of the Athlete's submission dated 14 October 2009 did not include or concern new evidence deriving from medical investigations performed on her and requested the Panel to reject the entire submission or, in the alternative, to accept only the portion of the submission which would fall within the scope of the Panel's order of 23 September 2009. The ISU also declared that, given the volume of the new documents filed by

Athlete and the time constraints, it had no time to consult its experts prior to the hearing and file a written reply before the hearing.

By letter dated 19 October 2009, the CAS informed the parties that in the Panel's opinion many portions of the Athlete's submission did not comply with the Panel's instructions and Article R56 of the CAS Code. In particular, the Panel found that most of the documents filed by the Athlete were not *"new evidence deriving from medical investigations performed on her"* and that the Athlete's submission was not limited to just comments on those medical investigations but it constituted an actual "rejoinder brief". As a result, the Panel (i) ordered to strike the Athlete's submission dated 14 October 2009 from the record, with the exception of Exhibits 37, 38, 39, 42, 44 and 53 thereto, which were admitted into the case file; (ii) admitted at the hearing all the expert witnesses indicated by P. in the communications on her behalf dated 15 October 2009, with the exception of Dr. Damsgaard because he had not been indicated in the Athlete's appeal brief; (iii) in order to respect the equality of the parties, revoked the leave previously granted to the DESG and to the Respondent to file written comments on the new evidence submitted by the Athlete.

On 21 October 2009 the DESG filed a submission containing a brief and a new expert report.

On 21 October 2009 the Panel informed the parties of its further procedural determinations. The Panel: (i) confirmed its decision not to accept Dr. Damsgaard's written and oral expert opinion since it did not concern new evidence deriving from medical investigations performed on the Athlete and since the Athlete had not applied before 3 August 2009 for an extension of the deadline to file her appeal brief with a view to obtaining Dr Damsgaard's opinion; (ii) decided, considering that under Article R57 of the CAS Code *"the proceedings take place in camera"*, to reject the Appellants' requests to grant permission to attend the hearing to some interested observers; (iii) decided not to admit into the record the DESG's submission of 21 October 2009 since it was filed in violation of the Panel's order of 19 October 2009.

On 5 November 2009, the Athlete submitted a new urgent application for provisional measures with the following request:

> *"The Appellant P. shall be provisionally made eligible to take part in all World Cup speed skating competitions during the World Cup Events in Berlin and Heerenveen in November 2009 sanctioned by the International Speed Skating Union or the Deutsche Eisschnelllauf Gemeindschaft e. V.".*

Given the urgency of the request (the Berlin World Cup event was to start on 6 November 2009), the other parties were not invited to file their observations on P.'s application and the Panel determined to proceed *ex parte*. Accordingly, on 6 November 2009 the Panel issued an Order on application for provisional measures which dismissed the Athlete's request because the Athlete had failed to meet the test of irreparable harm. At the same time, pending the decision on the merits of the appeal, the Panel confirmed the provisional measures ordered on 4 September 2009 (see *supra*).

On 19 November 2009, the Athlete submitted a new urgent application for provisional measures with the following request:

> *"The Appellant P. shall be provisionally made eligible to take part in the World Cup speed skating competitions during the World Cup Event in Hamar on 21 and 22 November 2009 sanctioned by ISU".*

The ISU, invited by the CAS to file its observations on P.'s application by noon on 20 November 2009, opposed the application stating that the Athlete's harm was not irreparable. On 20 November 2009, upon review of all the information available, the Panel dismissed the Athlete's request because the Panel considered that the requirements for granting such a provisional measure were not fulfilled.

By communications faxed on 23 and 24 November 2009, the Athlete submitted an urgent application for the reopening of the hearing in order to have the opportunity to cross-examine Prof. Sottas, who had not attended the hearing of 22-23 October 2009. The reason for this application was that one of the Athlete's attorneys had apparently learned that Prof. Sottas had revised his previous opinion on the basis of the Appellants' evidence submitted on 14 October 2009 and, for that reason, the Respondent had not summoned him to the hearing. The Panel has taken into account the Athlete's application and has determined to dismiss it because, in reaching its decision, the Panel has not relied on the written expert opinion provided by Prof. Sottas.

P. requested the Panel to grant the following relief:

> *"1. The decision of the ISU Disciplinary Commission of July 1, 2009, is set aside.*
>
> *2. The Appellant is declared not responsible for an Anti-Doping-Violation under Art. 2.2 of the ISU ADR by using the prohibited method of blood doping.*
>
> *3. The 2-years ineligibility, beginning on February 9, 2009, imposed on the Appellant, is lifted.*
>
> *4. The disqualification of the results obtained by the Appellant in the 500m and 3'000m races at the World Allround Speed Skating Championships on February 7, 2009, is annulled and these results and titles achieved by her are confirmed.*
>
> *5. The Respondent is obliged to contribute to the costs of the Appellant caused by this appeal and by the proceedings of the Disciplinary Commission".*

The DESG requested the Panel to grant the following relief:

> *"1. The Appeal of the Third Party/Appellant 2 is admissible.*
>
> *2. The decision of the International Skating Union Disciplinary Commission rendered on July 1, 2009 in the matter of P. and DESG is set aside.*
>
> *3. P. is declared not responsible for an anti-doping violation under Article 2.2 of the ISU ADR by using the prohibited method of blood doping.*
>
> *4. The results obtained by P. in the 500m and 3.000m races at the World All Around Speed Skating Championships on February 7, 2009 shall remain undisturbed.*
>
> *5. No period of ineligibility is imposed on P.*
>
> *6. The Third Party/Appellant 2 is not obliged to reimburse any costs to the ISU concerning the proceedings against P.*
>
> *7. The Third Party/Appellant 2 is granted an award for costs".*

The ISU requested the Panel to grant the following relief:

"a) In respect of the Appeal of Appellant 1 the Respondent moves

1. that the appeal be rejected in full and the appealed decision be confirmed, alternatively,

2. that the Panel, prior to the hearing, using its powers granted by rule R 44.3 in connection with rule R57, appoint Prof. Alberto Zanolla of the University of Milano (or other specialist determined by the Panel) to act as expert and order Appellant 1 to undergo special medical tests and examinations to be performed by the appointed expert with the purpose to confirm or exclude a hereditary spherocytosis and its variants.

In such case the Respondent would reserve the right to amend or change the final motion in dependence on the results of the special tests.

In case that Appellant 1 would not follow the order of the Panel, the Respondent stays with the motion made in paragraph 1 above.

3. that the Appellant be ordered to bear jointly and severally with Appellant 2 the costs of the Respondent in accordance with rule R65.3.

b) In respect of Appellant 2 and provided that the Panel would not decide upon the objections made by the Respondent in the Letter filed on July 31, 2009 in a separate decision prior to the hearing, the Respondent moves

1. that the appeal as far as reliefs asked for under items 1 to 5 and 7 of the Statement of Appeal are concerned be rejected and that the relief asked for under item 6 be granted, and

2. that Appellant 2 be ordered to bear jointly and severally with Appellant 1 the costs of the Respondent in accordance with Rule R65.3".

LAW

CAS Jurisdiction

1. Article R47 of the CAS 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".

2. Article 13.2.1 of the ISU ADR reads as follows:

"In cases arising from an International Event or in cases involving International-Level Skaters, the decision of the ISU Disciplinary Commission may be appealed exclusively to CAS in accordance with the provisions applicable before such court. […]".

3. The jurisdiction of the CAS has been explicitly recognised by the parties in their briefs and in the Order of Procedure they have signed.

4. It follows that the CAS has jurisdiction over the present arbitration proceedings.

Applicable law

5. Article R58 of the CAS Code reads as follows:

"The Panel shall decide 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 Panel deems appropriate. In the latter case, the Panel shall give reasons for its decision".

6. The Panel finds that in this case the applicable regulations are all pertinent ISU rules and regulations. In view of the fact that the ISU is seated in Lausanne, Switzerland and that the parties made reference to Swiss law in their submissions, the Panel holds that Swiss law shall apply complementarily.

Merits of the Appeal

7. Pursuant to Article R57 of the CAS Code, the Panel has *"full power to review the facts and the law"*. As repeatedly stated in CAS jurisprudence, this means that the CAS appellate arbitration procedure entails a *de novo* review that it is not confined to deciding whether the body that issued the appealed ruling was correct or not. Accordingly, it is the mission of this Panel to make its independent determination as to whether the parties' contentions are inherently correct rather than to assess the correctness of the Appealed Decision (see CAS 2007/A/1394, para. 21).

8. In this case, the ISU seeks to sanction under Article 2.2 of the ISU ADR (*"Use or Attempted Use of a Prohibited Substance or a Prohibited Method"*) an athlete who has not tested positive in any of her in-competition or out-of-competition drug tests on the basis of her blood values and profile. The Panel is thus mindful that this case involves issues that have not previously had to be decided by CAS panels, although there are precedents in the United States (see the AAA award of 9 December 2004, *USADA v. Michelle Collins*).

9. Prior to dealing with the merits of the appeal, the Panel will deal with some preliminary procedural issues, such as the DESG's standing to appeal and the timeliness of the complaint filed by the ISU before its own Disciplinary Commission. Then, the Panel will examine the merits of the case both in terms of procedural and substantive issues.

A. DESG's Standing to Appeal

10. Article 12.2 of the ISU ADR reads as follows:

"Members shall be obligated to reimburse the ISU for all costs (including but not limited to laboratory fees, hearing expenses and travel) related to a violation of these ISU Anti-Doping Rules committed by a Skater or other Person affiliated with that Member".

11. Article 5.1 of the ISU Disciplinary Commission Rules of Procedures (Communication No. 1419) ("DC Rules of Procedure") includes among the parties to the proceedings before the Disciplinary Commission any *"participant in ISU activities having a personal legitimate interest if such interest may be directly affected by the proceedings or by the Decision to be rendered by the DC".*

12. Based on the above ISU provisions and in light of the DESG's risk of having to reimburse the ISU if the Athlete was eventually convicted, the ISU Disciplinary Commission stated in its procedural orders dated 9 March 2009 and 9 April 2009 that the DESG had to be granted party status in the disciplinary proceedings against the Athlete. Then, the ISU Disciplinary Commission ruled in the Appealed Decision that the DESG had to *"pay to the ISU the costs to be determined".*

13. The Respondent objects to the DESG's standing to appeal and asks the Panel to revise the ISU Disciplinary Commission's decision to grant *locus standi* to the DESG in the disciplinary proceedings. The Panel notes that the issue of standing to appeal before the CAS is governed by Article 13.2.3 of the ISU ADR, which reads as follows in the relevant part:

"13.2.3 Persons Entitled to Appeal […]

a) The Skater or other Person who is subject of the decision being appealed;

b) The other party to the case in which the decision was rendered.

[…]".

14. In the Panel's view, the ISU Disciplinary Commission correctly applied the test of *"directly affected interest"* provided by Article 5.1 of the DC Rules of Procedure, given that the DESG had at the time, and still has before the CAS, a direct interest in achieving the Athlete's acquittal in order to avoid reimbursing ISU for the costs incurred in relation to the Athlete's conviction in accordance with Article 12.2 of the ISU ADR.

15. As the DESG was correctly admitted as a party to the case in which the Appealed Decision was rendered, and as the ISU Disciplinary Commission ruled that the DESG must reimburse the ISU's costs, the Panel finds that the DESG has a clear and unrestricted right to bring an appeal before the CAS under 13.2.3 of the ISU ADR and a tangible interest to actually exert that right.

16. Therefore, the Panel dismisses the ISU's objection and determines that the DESG is entitled to appeal and stand before the CAS in the present case.

B. The Timely Filing of the Statement of Complaint by the ISU

17. Article 8.1 of the DC Rules of Procedure reads as follows:

"Complaints to the DC must be filed in writing with the ISU Secretariat within 30 days of the occurrence of the alleged disciplinary or ethical offence or within 30 days of learning about the alleged disciplinary or ethical offence, except in cases for which the ISU Anti-Doping Rules and/or Anti-Doping Procedures specifically provide for different time limits. Complaints filed later shall be dismissed" (emphasis added).

18. Article 16 of the ISU ADR reads as follows:

"No action may be commenced under these ISU Anti-Doping Rules against a Skater or other Person for a violation of an ISU Anti-Doping Rule contained in these ISU Anti-Doping Rules unless such action is commenced within eight years from the date the violation occurred".

19. The ISU charged the Athlete with an anti-doping rule violation and submitted the case to its Disciplinary Commission on 5 March 2009, by means of a "Statement of Complaint" ("Complaint"). The DESG submits that the Complaint was belated and inadmissible since the violation must have occurred – according to ISU's allegations – no later than 30 January 2009. In addition, the DESG contends that the ISU Disciplinary Commission erred in considering the Hamar tests of 6 and 7 February 2009 as the starting point for the time limit, since the ISU also makes reference to older values in order to support the doping charges against the Athlete.

20. The Panel notes that the DC Rules of Procedure govern all sorts of disciplinary proceedings within the ISU system, with regard to *"any violation of any material ISU disciplinary or ethical rule"* (Article 1 the DC Rules of Procedure), which basically also include anti-doping offences. It is unclear whether the exception provided *"for different time limits"* set forth by anti-doping provisions may be referred or not to the eight-year limitation period provided by Article 16.1 of the ISU ADR. The Panel finds that in the present case it needs not solve such issue as in any event, in its opinion, the ISU properly commenced the anti-doping action against P. within the thirty-day time limit prescribed by Article 8.1 of the DC Rules of Procedure.

21. The Panel in fact notes that the thirty-day time period starts on the date of *"learning about the alleged offence"*, which must be properly understood as the moment at which the ISU had reasonable suspicion of the alleged offense. Unlike allegations based on an adverse analytical finding, doping charges based on longitudinal profiling require a series of tests and evaluation of the results by the anti-doping organization's experts. For this reason, the ISU had not "learned" about the offence and was not in a position to raise charges until its medical advisors had determined that P.'s blood profile constituted – in their opinion – sufficient proof of the use of a prohibited method.

22. Although such evaluation process should in principle be expedited, in the present matter the Panel is satisfied that the Complaint was timely lodged, as it was filed within thirty days after the Hamar tests of 6-7 February 2009 and the follow-up testing of 18 February 2009. There is no evidence on file suggesting that the ISU performed these tests only in order to gain time

before filing the Complaint or with a view to *de facto* circumvent the objective of the time-limit set out in the rules" as alleged by the DESG. On the contrary, the tests performed in February 2009 lie with the core of this case and were the focus of analysis by all parties and their experts.

23. Therefore, the Panel holds that the DESG's argument must fail and that the Complaint was timely filed by the ISU in accordance with the applicable regulations. As a consequence, the proceedings before the Disciplinary Commission were legitimate and the present appellate CAS proceedings may deal with the merits of P.'s case.

C. P.'s Consent to the Procedures Followed by the ISU

24. Article 6 of the ISU ADR reads as follows in the relevant part:

"6.2 Purpose of Collection and Analysis of Samples

Samples shall be analyzed to detect Prohibited Substances and Prohibited Methods identified on the Prohibited List and other Substances as may be directed by WADA pursuant to the Monitoring Program described in Article 4.5 of the Code or to assist the ISU in profiling relevant parameters in a Skater's urine, blood or other matrix, including DNA or genomic profiling, for Anti-Doping purposes.

6.3 Research on Samples

No Sample may be used for any purpose other than as described in Article 6.2, without the Skater's written consent. Samples used (with the Skater's consent) for purposes other than Article 6.2 shall have any means of identification removed such that they cannot be traced back to a particular Skater".

25. P. argues that by submitting herself to the ISU blood profiling program she did not authorize the ISU to use her blood samples as evidence of blood doping.

26. As already mentioned, P. is affiliated to the DESG which in turn is a member of the ISU. Pursuant to Article 7 of the ISU Constitution, in order to be eligible to compete in ISU events the Athlete is obliged to comply with all ISU rules and regulations:

"1. Obligations of Members, their members and participants

Members of the ISU, their affiliated clubs, their individual members and/or all other persons claiming standing as participants in the international activities of a Member or of the ISU:

a) are bound by the ISU Statutes (see article 6, paragraph 3, b) (v) and are subject to decisions of the Congress, Council, Director General and Sports Directorate concerning all international matters; […]" (emphasis added).

27. The term *"ISU Statutes"* is defined by Article 6.3(b)(v) of the ISU Constitution as *"the ISU Constitution, ISU General & Special Regulations, ISU Technical Rules and the ISU Code of Ethics, the ISU Anti-Doping Rules and ISU Anti-Doping Procedures".* It appears clear to the Panel that any person taking part in "international activities", and thus any skater competing in ISU international races, is bound to comply with all ISU rules and regulations.

28. P. has been participating in "international activities" for more than two decades. By willingly registering for international skating competitions sanctioned by the ISU, she obviously expressed her acceptance of ISU rules and regulations, including the ISU ADR.

29. In the Panel's view, anti-doping rules are as necessary to ensure a "level playing field" as, for example, the racing rules obliging the skaters to change from inner to outer lane and vice versa when they arrive at the crossing straight. Not coincidentally, the ISU "Special Regulations & Technical Rules" for Speed Skating include both a rule on changing lanes (Rule 253.1) and a rule on doping (Rule 263) under the same heading: "Racing Rules". When they accede to competition, athletes cannot pick and choose the rules they like; accordingly, the Panel finds that P. has been at all times during her international career under an obligation to comply with all ISU regulations, including all applicable anti-doping rules.

30. In particular, the Panel is of the opinion that the Athlete consented to using her blood samples for anti-doping purposes. Indeed, the Athlete never objected to the ISU's blood profiling program and, after each sample collection, she always put her signature either on the doping control form or next to the bar code used to identify her blood sample.

31. It must be noted that the Panel was unable to find a provision imposing an obligation to the ISU to use samples collected through its blood profiling program *exclusively* for screening purposes. On the contrary, Article 6.2 of the ISU ADR expressly authorizes the ISU to use blood samples to "detect" a prohibited method and, more specifically, to create a profile from the relevant parameters in a skater's blood *"for Anti-Doping purposes"*, thus including a finding of "use" under Article 2.2 of the ISU ADR. In addition, the comment to Article 3.2 of the ISU ADR makes reference to *"conclusions drawn from the profile of a series of the Skater's blood or urine samples"* as an example of reasonably reliable means by which an anti-doping rule violation may be established.

32. In addition, the Panel observes that the following can be read in the WADA Guidelines for Blood Sample Collection of June 2008:

> *"Longitudinal hematological profiling ("the passport") may be used for antidoping purposes in accordance with Article 2.2 of the Code (Use)".*

33. Therefore, the Panel holds that the ISU is entitled to use the values of the Athlete's blood profile as evidence of an alleged anti-doping rule violation.

D. The Retroactivity Issue

34. P. argues that resorting to blood profiling to prove an anti-doping rule violation only became legally admissible on 1 January 2009, when the current versions of the WADA Code and of the ISU ADR came into force. In the Athlete's opinion, using her blood values recorded until 31 December 2008 would amount to a retroactive application of the law, forbidden by Article 18.7 of the ISU ADR and by Swiss law. To support her argument the Athlete invokes the fact

that for the first time, as of 1 January 2009, the ISU ADR expressly indicate in Article 5.3.1 that longitudinal profiling may be used to prove the use of a prohibited substance or method in violation of Article 2.2:

"Blood (or other non-urine) Samples may be used to detect Prohibited Substances or Prohibited Methods, for screening procedure purposes or for longitudinal hematological profiling (the passport). The Sample(s) will be used in accordance with the current ISU Blood Testing Communication. In these circumstances the ISU may decide, at its own discretion, which blood parameters are to be measured in the Sample(s). The Sample(s) may be used for Anti-Doping purposes in accordance with Article 2.2 of the Code" (emphasis added).

35. In this connection, the Panel notes that a reference to "longitudinal profiling", as well as to "other analytical information", is also included in the new official comment to Article 2.2 of the ISU ADR:

"As noted in Article 3 (Proof of Doping), it has always been the case that Use or Attempted Use of a Prohibited Substance or Prohibited Method may be established by any reliable means. Unlike the proof required to establish an anti-doping rule violation under Article 2.1, Use or Attempted Use may also be established by other reliable means such as admissions by the Skater, witness statements, documentary evidence, conclusions drawn from longitudinal profiling, or other analytical information which does not otherwise satisfy all the requirements to establish "Presence" of a Prohibited Substance under Article 2.1" (emphasis added).

36. The Panel observes that the official comments to the anti-doping rules are very valuable interpretive tools, in the sense that they put forward an authoritative explanation and an authentic construction of the commented rules, even if they are not rules *per se*. The above quoted comment to Article 2.2 is thus very useful in properly understanding the nature and meaning of the actual anti-doping rules. The same goes for the previously quoted comment to Article 3.2 of the ISU ADR, and even for the WADA Guidelines for Blood Sample Collection of June 2008, which are also useful interpretive resources. In the light of such interpretive means, the Panel has no hesitation in finding that the substantive anti-doping rule that the Athlete is accused of having violated is nothing else than Article 2.2 of the ISU ADR, under which the "use" of a prohibited substance or prohibited method – not depending on an adverse analytical finding – constitutes nowadays an anti-doping rule violation exactly in the same way as it did under the old version of the ISU ADR (and under even older anti-doping regulations).

37. It appears clear to the Panel that the "longitudinal hematological profiling" mentioned in Article 5.3.1 of the ISU ADR, exactly as the "other analytical information", simply constitute evidentiary means to demonstrate the violation of Article 2.2 and they could be utilized as evidence of a doping offence under the old version of the ISU ADR as well. As the above quoted official comment to Article 2.2 clarifies, *"it has always been the case"* that use of a prohibited method could be proven by any reliable evidentiary means, and longitudinal profiling and other analytical information are simply listed therein as illustration of some of the possible evidentiary means. Indeed, both the old and the new versions of Article 3.2 of the ISU ADR read as follows in the relevant part:

"Facts related to ISU Anti-Doping Rule violations may be established by any reasonably reliable means" (emphasis added).

38. Therefore, the only relevant issue is whether longitudinal blood profiling can be regarded among the "reasonably reliable means" to prove the use of a prohibited method, but its utilization for anti-doping purposes does not constitute a retroactive application of a substantive anti-doping rule. The doping offence which the Athlete is accused of and which is the subject of these proceedings is the finding of high %retics counts on 6 and 7 February 2009 followed by the sample taken on 18 February 2009 which showed a much lower %retics value of 1.37. The Athlete is not charged with an anti-doping rule violation because of high %retics values found on previous occasions. The evaluation of the Athlete's blood values collected before 31 December 2008 may help in understanding and interpreting the Athlete's blood values as found on 6, 7 and 18 February 2009 but it is strictly a question of considering the evidence on record and its scientific reliability, not involving retrospective application of any new anti-doping rule to old facts.

39. The Panel would have no hesitation in holding that new scientifically sound evidentiary methods, even not specifically mentioned in anti-doping rules, can be used at any time to investigate and discover past anti-doping rule violations that went undetected, with the only constraint deriving from the eight-year time limitation and the timely initiation of disciplinary proceedings. As long as the substantive rule sanctioning a given conduct as doping is in force prior to the conduct, the resort to a new evidentiary method does not constitute a case of retrospective application of the law. However, this is immaterial in our case because the Panel will not be adjudging the case on the basis of the blood values recorded before 31 December 2008, which will be referred to only by way of comparison to and interpretation of the values of February 2009.

40. In any event, in the Panel's view longitudinal profiling must be characterized as a mere evidentiary method which, on the basis of scientifically accepted evaluations, constitutes one of the available means for finding doping offences, even occurred before such method was mentioned in the anti-doping rules or in the official comments thereto. In this connection, the Panel is of the view that the previously mentioned Articles 5.3.1 and 6.2 of the ISU ADR (*supra* at paras. 104 and 94), expressly authorizing the ISU to use blood profiles to detect the use of a prohibited method for anti-doping purposes, must be properly understood as evidentiary, and thus procedural, rules (in support of this see: CAS 2000/A/274, paras. 73, 75 and 78, in REEB M. (ed.), *Digest of CAS Awards II*, at 405-406; CAS 2005/C/841, paras. 80-81).

41. As a result, the Panel rejects the Athlete's submission based on the retroactivity issue.

E. Burden and Standard of Proof

a) Burden of Proof

42. Pursuant to Article 3.1 of the ISU ADR the *"ISU and its Members shall have the burden of establishing that an Anti-Doping rule violation has occurred"*.

43. There is no dispute that the onus of establishing the doping charge that has been levelled against P. is on the ISU. All parties accept that the ISU bears the burden of proof in respect of its claims. Hence, the ISU must prove that (i) the blood samples used to acquire the Athlete's hematological values and portray her profile were properly taken, (ii) there was a reliable chain of custody of the blood samples from the place of collection to the laboratory, (iii) the machine used to analyse the blood samples – the Bayer Advia 120 or, in its latest evolution, Advia 2120 (the "Advia Machine") – was a reliable equipment to record accurate hematological values, (iv) the transmission of those values to, and the storage in, the ISU data base was reliable, and (v) the hematological values of P. are reliable evidence of her use of a prohibited method in violation of Article 2.2 of the ISU ADR.

44. In this respect, the Panel does not agree with the Appealed Decision's statement, in reference to the Advia Machine, that there is *"a factual presumption that the blood screening tests of the Alleged Offender produced correct result"*. Indeed, no presumption is provided in favour of the ISU when a charge is brought under Article 2.2 of the ISU ADR. As a CAS Panel stated:

"in anti-doping proceedings other than those deriving from positive testing, sports authorities do not have an easy task in discharging the burden of proving that an anti-doping rule violation has occurred, as no presumption applies" (CAS 2005/C/841 CONI, para. 84, emphasis added).

45. Accordingly, the Panel finds that the ISU bears the full burden to present reasonably reliable evidence to persuade the Panel, by the applicable standard of proof, that the Athlete committed a doping offence in violation of Article 2.2 of the ISU ADR.

46. In this connection, the Panel underscores that, as this is not a case of adverse analytical finding where a presumption is provided in favour of the anti-doping organization (see *supra* at para. 44), the ISU is not mandated to follow the WADA IST and WADA ISL in order to prove the Athlete's use of a prohibited method. Indeed, in the Panel's opinion, any reasonably reliable practice of sample collection, post-test administration, transport of samples, analytical process and documentation would suffice. This view is confirmed by the official comment to Article 2.2 of the ISU ADR:

"Unlike the proof required to establish an anti-doping rule violation under Article 2.1, Use or Attempted Use may also be established by other reliable means such as […] conclusions drawn from longitudinal profiling, or other analytical information which does not otherwise satisfy all the requirements to establish "Presence" of a Prohibited Substance under Article 2.1. For example, Use may be established based upon reliable analytical data from the analysis of an A Sample (without confirmation from an analysis of a B Sample) or from the analysis of a B Sample alone where the ISU provides a satisfactory explanation for the lack of confirmation in the other Sample" (emphasis added).

47. The Panel remarks that this view is confirmed, *a fortiori*, by the fact that, even in cases of adverse analytical findings, departures from WADA International Standards do not invalidate *per se* the analytical results, as long as the anti-doping organization establishes that such departure did not cause the adverse analytical finding (see Article 3.2.2 of the ISU ASR, as well as the identical provision of the WADA Code). As a consequence, the Appellants' contention that the ISU's departure from the WADA International Standards would impede the proof of the Athlete's violation fails.

48. The Panel also does not agree with the Appellants' contention that the WADA Draft Biological Passport Guidelines should be followed by the ISU as "minimum standards" because, as correctly pointed out by the ISU, that document is a draft which has not been finalized yet and which will not be mandatory even when it is eventually adopted.

49. The Panel is also of the opinion that the ISU does not have to prove the intent or the fault of the Athlete in using a prohibited method such as blood doping. Indeed, Articles 2.2.1 and 2.2.2 of the ISU ADR provide as follows:

"2.2.1 It is each Skater's personal duty to ensure that no Prohibited Substance enters his or her body. Accordingly, it is not necessary that intent, fault, negligence or knowing Use on the Skater's part be demonstrated in order to establish an anti-doping rule violation for Use of a Prohibited Substance or a Prohibited Method.

2.2.2 The success or failure of the 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 ISU Anti-Doping Rule violation to be committed" (emphasis added).

50. The Panel notes that the ISU ADR, exactly like the WADA Code, adopt a strict liability principle in relation to the prohibition to "use" a prohibited method or substance, whereas intent must be proven in cases of "attempted use" (which is not relevant here), as confirmed by the relevant official comment to Article 2.2.2 of the ISU ADR:

"Demonstrating the "Attempted Use" of a Prohibited Substance requires proof of intent on the Skater's part. The fact that intent may be required to prove this particular anti-doping rule violation does not undermine the strict liability principle established for violations of Article 2.1 and violations of Article 2.2 in respect of Use of a Prohibited Substance or Prohibited Method".

51. The Panel notes that an equal comment to Article 2.2.2 can be found in the version of the WADA Code in force until 31 December 2008, to which the previous ISU Anti-Doping Rules conformed.

52. Accordingly, the Panel rejects the Appellants' contention that the ISU bears the burden to also prove the Athlete's fault or intent to use blood doping.

b) Standard of Proof

53. So far as the standard of proof is concerned, the Panel will apply Article 3.1 of the ISU ADR, under which:

"The standard of proof shall be whether the ISU or its Member has established an Anti-Doping rule violation to the comfortable satisfaction of the hearing panel bearing in mind the seriousness of the allegation which is made. This standard of proof in all cases is greater than a mere balance of probability but less than proof beyond a reasonable doubt".

54. The "comfortable satisfaction" test is well-known in CAS practice, as it has been the normal CAS standard in many anti-doping cases even prior to the WADA Code (see e.g. TAS 2002/A/403-408, CAS 98/208, CAS OG/96/004). Several awards have withstood the scrutiny of the Swiss Federal Tribunal, which has stated that anti-doping proceedings are private law and not criminal law matters and that *"the duty of proof and assessment of evidence [are] problems which cannot be regulated, in private law cases, on the basis of concepts specific to criminal law"* (Swiss Federal Tribunal, 2nd Civil Division, Judgment of 31 March 1999, 5P.83/1999, c. 3.d).

55. Therefore, the Panel does not agree with the Athlete's contention that the standard of proof must be very close to "proof beyond reasonable doubt" because of the particular seriousness of the allegation against P. The standard of proof beyond reasonable doubt is typically a criminal law standard that finds no application in anti-doping cases. Obviously, the Panel is mindful of the seriousness of the allegations put forward by the ISU but, in the Panel's view, it is exactly the same seriousness as any other anti-doping case brought before the CAS and involving blood doping; nothing more, nothing less.

56. Accordingly, with regard to disputed facts the Panel will apply, without further qualifications, the normal "comfortable satisfaction" standard that is provided by the ISU ADR and that has been applied in many CAS cases concerned with allegations of blood manipulation or other serious forms of doping.

F. Blood Samples' Collection

57. The Panel has heard evidence from the Athlete and Dr. Kuipers regarding the collection of the Athlete's blood samples. Also, Dr. Jane Moran testified in detail about the ISU blood profiling procedures before the ISU Disciplinary Commission. It has remained undisputed that:

- blood samples were taken both out-of-competition and on the occasion of ISU events;
- *all* athletes who intended to participate in an ISU event would be tested one or two days before the event, usually during the morning. Depending on the number of participants, blood sample collection would take place before or after each athlete's training session. On 6 February 2009 the ISU collected a blood sample before the Athlete's morning training session;
- some of the skaters would be requested to provide a blood sample also during the days of competition; for example, on 7 February 2009 the Athlete's blood was withdrawn shortly after she had completed her race.

58. Articles 1, 2 and 6 of Communication 1520, governing the ISU procedures for blood testing, read as follows:

"1. Logistics

Skaters may be selected at random for Blood Testing by the ISU, the specialist Agency or at the request of WADA at anytime.

1.1 Selection of the Skaters.

Every Skater selected to undergo Blood Testing is obliged to report for and undergo Testing, even if the Skater has withdrawn from the competition. Failure to do so will be reported to the appointed ISU Official responsible for the event. If this is a failure to comply it will be considered a violation of the ISU Anti-Doping Rules.

1.2 Information to Team Leaders

Information about the location of the Testing will be available to Team Leaders. A communication will be provided at the event to notify all teams that Blood Testing will occur at that event. For the information of the Team Leaders, Coaches or Skaters, a notice with regard to the time of the Blood Testing will be posted on the notice board of the hotel(s). This notice will also be placed in the mailbox of each Team Leader the night before the Testing. It is the responsibility of the Team Leader to notify their team/Skaters of the place and time of the Blood Testing.

1.3 Time of Testing

Blood Testing may take place on the days prior to the first competition and/or on the competition days. Blood Testing may also be carried out post competition on any Skater, including those Skaters selected for post race Anti-Doping Testing.

1.4 Place of Testing

The location for the Blood Testing will be indicated and could be at the rink or at the Skaters' hotel depending on the logistics of the specific competition venue. The post competition Testing will be carried out in the Anti-Doping Station. The Blood Testing Station requires a separate area for the blood drawing and an additional secure area for the analysis of the blood Samples if analyzed on site.

2. Collection of Blood Samples

2.1 Blood Testing materials should be of an approved standard, determined by the ISU before the start of the season. The needles must be in sealed and sterile packaging.

2.2 A sample of blood will be taken from the forearm or the antecubital fossa. The quantity of blood taken will be up to 3.0 ml per tube.

2.3 The Skater's medical doctor may take the blood sample if requested but the procedure must be under the supervision of the Chairperson of the Blood Testing Commission.

2.4 The Skater's medical doctor is limited to 3 attempts at obtaining a sample. If the Skater's medical doctor fails to obtain a sample after 3 attempts then the phlebotomist of the Blood Testing Commission will take over. The maximum number of attempts is limited to 3 in each arm.

2.5 The samples will be given an anonymous code number.

2.6 In the case of refusal by a Skater to give a blood sample for such purpose, the ISU will forbid participation of the Skater in the present and future ISU sanctioned events until such a blood sample has been provided according to ISU procedures.

[…]

6. In-Competition Testing

6.1 At designated ISU World Cup events, ISU World Championships and other selected International Events where In-Competition Testing is organised by the ISU Medical Advisor or a specialist Agency

appointed by the ISU, all Skaters entered in the competition will have a screening blood test prior to being allowed to participate.

6.2 Other than the Skaters and their team physician/official, only the medical or administrative personnel approved by the ISU will be allowed to be present in the Blood Testing room, and will be approved to conduct Blood Tests. These personnel will be comprised of:

- ISU representative

- A Chairperson, who shall be one of the ISU Medical Advisors or in the case of unavailability, another physician approved by the Chairperson of the ISU Medical Advisors

- A physician responsible for the Blood Testing room

- One or more technicians to assist with collecting and analysing the samples

- Administration persons as necessary, as determined by the Chairperson".

59. The Panel initially notes that, although Communication 1520 came into effect on 30 July 2008, the previous Communication no. 1352 of 28 October 2005, equally entitled "ISU Procedures for Blood Testing", was substantially identical. In accordance with its rules, ISU's constant practice in the last years has been to collect blood samples from all athletes on the occasion of its events, since the hematological parameters could also be used for a "no-start" prohibition. It is thus through ISU's regulations and established practice that the Athlete knew that blood collection would take place at certain points in time during the sporting season. In addition, no issue has been raised with respect to the Athlete's notification for any of the blood samples' collection relevant in this case.

60. As regards the details of the blood sampling procedure, the ISU arranged to have blood drawing stations close to the place of residence of the athletes during an event, often at the same hotel. The Athlete would be notified either directly by the ISU or through the DESG about the exact time she had to appear at the station. After being identified through her passport or other identification document, the Athlete was asked to select one strip of three identical bar code labels. The ISU medical advisor would then scan the label and assign the number to the Athlete's name in the ISU data base with the help of a specially designed software program. The Athlete then proceeded for the blood sample collection either alone or with a DESG representative. The Athlete would choose a tube, the needle and the arm from which blood would be withdrawn. 3ml of blood were collected in the tube and one of the bar codes would be attached on the tube for sample identification purposes. Before exiting the station the Athlete was provided with a list of names and dates; she would have to attach the second bar code label next to her name and date and accordingly sign, confirming the date of the collection and that that the specific bar code belonged to her sample.

61. The Athlete argues that the phlebotomists used by the ISU at in-competition tests were not qualified for such process. The Panel does not agree with such contention. Firstly, the Panel notes that there is no record on file that the Athlete ever exercised her right under the ISU rules to have her own doctor or phlebotomist perform a blood collection (see Article 2.3), thus avoiding to have collection done by an allegedly non-qualified person. Then, the Panel finds that the evidence submitted by the ISU has established to the comfortable satisfaction of

this Panel that the sample collection was performed by technicians qualified to take blood under the direct supervision of the ISU Medical Advisor who would be present on site and would often be the one to collect the sample, as for example Prof. Kuipers did on 7 February 2009 in Hamar.

62. Moreover, the ISU has submitted many lists with bar code labels attached and side-signed by the Athlete which refer in particular to the following blood sample collections done at ISU competitions between 1 March 2007 and 7 February 2009:

- 1 March 2007, World Cup Speed Skating, Calgary, Canada;
- 6 and 7 December 2007, World Cup Speed Skating, Herenveen, the Netherlands;
- 24 January 2008, World Cup Speed Skating, Hamar, Norway;
- 8 February 2008, World Allround Speed Skating Championships, Berlin, Germany;
- 21 and 23 February 2008, World Cup Speed Skating, Herenveen, the Netherlands;
- 5 March 2008, World Single Distances Speed Skating Championships, Nagano, Japan;
- 13 November 2008, World Cup Speed Skating, Herenveen, the Netherlands;
- 8 January 2009, European Speed Skating Championships, Herenveen, the Netherlands;
- 30 and 31 January 2009, World Cup Speed Skating, Erfurt, Germany;
- 6, 7 and 7 February 2009, World Allround Speed Skating Championships, Hamar, Norway.

63. The ISU submits that, in view of the number of athletes tested the day before the competition, which can be up to 200, the use of a blood doping control form for each athlete would result in huge delays and was anyway not necessary. The Panel notes that Communication 1520 does not require the use of sophisticated doping control forms. Despite the fact that the bar code lists are not doping control forms containing detailed information about the sample collection, in light of the evidence heard at the hearing the Panel is comfortably satisfied that, for purposes of Article 2.2 of the ISU ADR, the material aspects of the process such as the date and place of the blood collection, the identification of the Athlete through her signature and of her sample through an identical bar code have been properly recorded by the ISU.

64. Further, the Panel notes that the evidence before it indicates that the requirements for blood collection set out in Communication 1520 were met. The Panel emphasizes that Communication 1520 does not encompass the requirements set out by the ISU or WADA with respect to anti-doping testing. In fact, it is clear from the wording of Communication 1520 that blood testing for screening purposes is distinguished from post-race anti-doping testing:

"1.3 Time of Testing

Blood Testing may take place on the days prior to the first competition and/or on the competition days. Blood Testing may also be carried out post competition on any Skater, including those Skaters selected for post race Anti-Doping Testing" (emphasis added).

65. In particular, the Panel is persuaded that the WADA IST and WADA ISL, to which the ISU conforms in accordance with the ISU Anti-Doping Procedures set forth by Communication No. 1547, do not apply to blood testing done for profiling purposes, given that no complex laboratory operations are needed to analyse the blood samples and record the required hematological values.

66. As a result, the Panel holds that the ISU Anti-Doping Procedures and the WADA IST and WADA ISL do not apply to blood sample collection for screening purposes and that the Athlete's respective arguments must fail.

67. Lastly, it is relevant to note that at the time of collection the Athlete has never protested against any of the blood sampling procedures performed by the ISU on her. Indeed, the bar code lists shown to the Panel had sufficient space for athletes to handwrite comments or record objections, if any, but the Athlete has always inserted her signature without further ado. Nor did the Athlete point out any material flaws in the process, aside from the fact that the tubes were allegedly not sealed when blood was withdrawn in-competition. The Panel will deal with this issue when addressing the samples' chain of custody.

68. Therefore, the Panel finds that the blood samples used to acquire the Athlete's hematological values and portray her blood profile were properly taken.

G. Chain of Custody

69. As a preliminary remark the Panel notes that Communication 1520 does not set out legal requirements for the samples' chain of custody; hence, it is the role of the Panel to decide on the basis of the evidence before it whether the chain of custody applied by the ISU and ISU-assigned persons with respect to P.'s samples is reliable.

70. It has been established by the ISU to the Panel's comfortable satisfaction that, after completion of the blood sample collection, the ISU Medical Advisor placed all the tubes in a cooled transport container. The parties agreed that the tubes were closed – not sealed – with a rubber top but the container in which they were transported, either by the ISU Medical Advisor himself or by a courier company, was sealed. When the measurement did not take place on site and transportation of the samples was required, it took place immediately after all athletes were tested and the samples were directly delivered to the laboratory.

71. The ISU has produced letters from the laboratories in Hamar (Norway), Zuiderzee (the Netherlands), Okaya (Japan), Orbassano (Italy) and Calgary (Canada) describing the steps of the laboratory internal chain of custody in very similar terms:

- the laboratory technician received the container and the ISU Doping Control Chain of Custody Form (the "ISU Form"), verified that the seal was intact and compared the security seal number on the container with the seal number listed in the ISU Form;

- the technician opened the container and confirmed that a) the number of tubes matched the number of samples listed on the ISU Form, b) the tubes were closed, and c) each tube bore a unique bar code;
- the technician then proceeded with the analysis by placing each tube into the Advia Machine for automatic screening; the rubber top of the tube was not removed at any stage of the process because the Advia Machine uses a needle that pierces the rubber top and extracts from the tube the amount of blood necessary for analysis.

72. The above laboratories have analyzed the majority of the Athlete's samples in the last two years, including the Calgary (November 2007) and Hamar (February 2009) samples, where the Athlete's values were significantly high. The Panel finds that the above-mentioned procedure demonstrates a harmonized process of handling blood samples collected by the ISU which does not leave much space for manual operations. Further, the ISU has produced 15 ISU chain of custody forms regarding, amongst others, the Athlete's samples from Hereenven and Erfurt (January 2009) and Hamar (February 2009). The data recorded in these ISU forms identify *who* and *when* was in possession of the sample between the time of collection and the time of analysis. The Panel found the record to be continuous in that respect.

73. With reference to the samples for which no ISU form has been produced, the chain of custody is reliable if the ISU can prove that the sample arrived in good order at the laboratory, it belonged to the Athlete and had not been tampered with (see CAS 2007/A/1394, pp. 31-34, which dealt with comparable circumstances). Indeed, the evidence submitted by the ISU and heard at the hearing proves beyond any doubt that the samples belonged to P., especially in view of the fact that the ISU bar codes are automatically recognised by the Advia Machine and associated with the results of the analysis.

74. P. further argues that the samples were not transported under proper cooling conditions and it is possible that they were affected by low temperatures. The Panel has heard and examined evidence that does not leave any reasonable doubts as to the transportation conditions. Indeed, the laboratories have confirmed that the sealed containers and the tubes were received in good condition and it has been shown that, when the measurement did not take place on site and a laboratory was used, the latter was situated close to the sample collection site and received the samples during the same day. In any event, the Panel heard persuasive expert evidence at the hearing explaining that a degradation of the Athlete's samples can be safely excluded because all her mean cell volume (MCV) values were at the bottom of the normal range and that any delay in the process would be in favour of the Athlete because the reticulocytes would decrease.

75. The Athlete also contends that the samples were not individually sealed and thus the ISU had not taken all necessary measures to avoid manipulation of the samples. The Panel firstly notes that the ISU forms in the relevant part read: *"If the inner containers are opened this will invalidate the chain of custody"*. No such incident has been recorded on the ISU forms or reported in whatsoever way or recalled by any witness.

76. Moreover, the analytical process followed by the laboratories does not require any person from the laboratory personnel to open the tube's top, since the sample is placed directly from the container into the analysing machine. As explained before, unlike in anti-doping testing where the laboratory (by means of a complex and costly investigation) looks for prohibited substances yielding an adverse analytical finding, in blood screening the laboratory simply measures (by means of an automated machine) certain hematological parameters. Dr. Moran pointed out, and the Panel accepts her testimony as compelling, the following:

"The tube cannot take more than 3 ml. If you wanted to add something to it, the top would have to come off. If you added a substance, that would not make the test positive. If you added a fluid that was not the specific pH of the [Athlete's] body, the cells would all be destroyed. The only thing that would not destroy the cell[s] would be saline. If you managed somehow to add saline, it would be to the advantage of the athlete, because it would cause hemodilution and lower the parameters" (emphasis added).

77. It is relevant to note that neither P. nor any of the experts or witnesses who testified before the Panel gave any clue as to *how* and *why* one could have manipulated the Athlete's anonymous samples and alter the values of the hematological parameters found by the various laboratories' Advia Machines.

78. In view of the above, the Panel holds that it is comfortably satisfied that there was a reliable chain of custody of the blood samples from the place of collection to the various laboratories using the Advia Machine.

H. The Advia Machine

79. The Panel observes that the equipment used by the ISU for almost all the analyses of the blood samples of P. (and of all other elite skaters) is the Advia Machine, a piece of diagnostic equipment nowadays manufactured by Siemens after the acquisition, in 2006 of Bayer Healthcare's diagnostic division.

80. On very few occasions, the ISU has resorted to another well-known blood sample analyser, the Sysmex, produced by the Sysmex Corporation (the "Sysmex Machine").

81. The Advia Machine is a modern laser-based hematologic analyser and is undoubtedly a piece of equipment largely used by hospitals and laboratories in Europe. About four thousand of them are currently used worldwide. All experts agreed that, in general terms, it is a reliable machine, which obviously needs to be correctly calibrated. An expert called by the Athlete (Dr. Röcker, Head of the laboratory Labor 28 in Berlin) testified at the hearing that he liked the Advia Machine, actually used on a daily basis in his own laboratory. Another Appellants' expert, Prof. Jelkmann, declared before the ISU Disciplinary Commission that *"if they* [the Advia Machines] *are used correctly, they are reliable"*.

82. The Panel understands from the evidence heard and examined that, in general, the Advia Machine tends to yield higher reticulocytes values than the Sysmex Machine. Given this difference between the two machines and the importance for blood profiling that the same

technology is always used, the Panel will disregard any Athlete's hematological values deriving from a Sysmex Machine and will only take into account values deriving from analyses performed by the Advia Machine. In this way, the Panel is comfortably satisfied that the values are all comparable between themselves, particularly because the calibration of the Advia Machine has always been done in accordance with the same protocol developed by Bayer/Siemens.

83. Indeed, the manufacturer company of the Advia Machine has developed a 47-page protocol named *"Using the Advia 120 for Sports Event"* ("Advia Sports Protocol") with the purpose of providing directions for calibrating, running and managing the Advia Machine at sports events where athletes' blood samples are to be tested. The ISU requires the collaborating laboratories to comply with the Advia Sports Protocol when measuring hematological values of blood samples collected by the ISU.

84. At the hearing the Panel heard extensive evidence submitted by Mr. Tor Tverli, a Senior Field Service Engineer for Advia hematology systems who has specialised on the Advia Machine since the latter was introduced in the late '90s. Mr. Tverli confirmed that he performed a periodic maintenance on the Advia Machine in Hamar on 20 January 2009 and that he calibrated the same machine according to the Advia Sports Protocol on 4 February 2009, two days before the Athlete was tested on the eve of the World Allround Speed Skating Championships. He had also calibrated the Advia Machine in 2008 before the ISU World Cup event in Hamar.

85. Mr Tverli explained in detail the four-hour process that he followed in order to fine-tune the parameters of the Advia Machine and ensure the accuracy of the results produced. The Advia Sports Protocol is a special procedure which entails three levels of control and numerous adjustments by using five normal blood samples. The Panel notes that it is a sophisticated process, more complex than the "standard" calibration performed for ordinary diagnostic use in laboratories or hospitals. The Panel is comfortably satisfied by the evidence given by Mr Tverli that the calibration process provided by the Advia Sports Protocol actually minimizes – if not nearly extinguishes – the risk of producing erroneous values to an adequate level.

86. Further, the Panel refers to the testimony of Ms Kjersti Skaug, a laboratory technician who operated the Advia Machine in the Hamar laboratory. Ms Skaug confirmed that a full check called *"Daily Calibration Check"*, which includes cleaning of the device and running five normal blood samples, was made without any problems both on 6 and 7 February 2009 prior to analysing the skaters' samples in Hamar. Ms Skaug also testified that the routine procedure of running all samples twice was uneventfully followed. On this particular issue Prof. Kuipers explained that running the samples twice through the Advia Machine is the practice for all ISU samples regardless of the laboratory used. The Panel notes that this is in fact a requirement set out at page 15 of the Advia Sports Protocol.

87. With respect to the analyses of P.'s other samples, the Panel underlines that the previously mentioned five laboratories who dealt with those samples confirmed in writing that they calibrated their own Advia Machines in accordance with the Advia Sports Protocol prior to

performing any blood screening on behalf of the ISU on the same dates that P.'s samples were analysed.

88. The above evidence allows the Panel to be comfortably satisfied that conclusions may be safely drawn from the blood values of P. Although Dr. Kruse, an expert called by the Appellants, insisted that "you cannot absolutely exclude errors", the Panel remarks that it has not seen or heard any relevant evidence of a specific malfunctioning of the Advia Machines used by the ISU and that no criticism has been raised towards the correctness and suitability of the Advia Sports Protocol. The Athlete's remark that the different MCHC values – MCHC is the ratio of hemoglobin to hematocrit – obtained from the two different samples taken in Hamar on 7 February 2009 (at different times) would indicate a measuring error has been convincingly rebutted by Prof. Gassmann's explanation that a 0.1 g/dl variation in hemoglobin and a 0.02 variation in hematocrit may well occur between two samples taken in the same day. The Panel has also verified that the Athlete's assertion that calibration was different between laboratories because in certain laboratories the %retics values have been constantly high is not correct since, for instance, the average value measured in Hamar 2009 was of 1.54% and the second highest value of an athlete was approximately 2.30%, as testified by Prof. Kuipers during the hearing.

89. Moreover, according to evidence heard and examined by the Panel, the hematological values of all other skaters (either tested at the same event in Hamar or at previous occasions) have been consistent with a correct functioning of the Advia Machine. It would be utterly implausible and unreasonable, in the Panel's view, to assume the occurrence of analytical errors, more than once, solely in the case of P. Therefore, on the face of the evidence before it, the Panel considers that the specifications of the Advia Sports Protocol ensure that the Advia Machine produces reliable results for anti-doping purposes.

90. In this connection the Panel observes that, after all, automated hematology analysers such as the Advia Machine are constantly used by hospitals and laboratories in everyday life, with both doctors and common people assessing medical situations and taking decisions in matters of – literally – life and death in full reliance on the values shown by such kind of equipment. In view of that, it would be unreasonable, in the absence of any evidence suggesting that the hematological data recorded by the Advia Machine are untrustworthy, to disregard those data in connection with a disciplinary matter.

91. In conclusion, the Panel is comfortably satisfied that the Advia Machine is a reliable equipment and that it has been properly used on behalf of the ISU to analyse the blood samples of P. and of the other elite skaters and to record reasonably accurate hematological values.

I. Transmission and Storage of Values in the ISU Data Base

92. One of the main features of the Advia Machine used in analysing the samples of P.'s (and of all other world elite skaters) is its software, which allows the raw data produced after the

analysis to be digitally exported to a data file. Then, it is rather simple for the operator of the Advia Machine to send the data file to the ISU Medical Advisor as email attachment. As explained by Dr. Alofs, who designed and developed the structure of the ISU data base after 2005, the software used by the ISU processes the raw data and assigns the results to the respective skater on the basis of the sample's bar code. This unique bar code has already been – from the time of blood collection – linked to a specific skater and thus the ISU data base can associate the results with the name of an individual. As soon as the ISU Medical Advisor receives the results from the laboratory, he runs the program and 421 columns with analytical data, including the date and the time of analysis are automatically imported into the ISU data base. The user of the program is not authorised to access any other function than the standard data base functions offered by the program. Manual insertion of values has occurred only in a few cases where there was no raw data available from the machine used for sample screening.

93. The Panel notes that the above procedure and the ISU data base as developed by Dr. Alofs has not been questioned or challenged by the Appellants. Rather, P. contends that a) results of fourteen blood samples collected from the Athlete do not appear on the ISU data base; b) there have been eleven samples where the bar code on the doping control was not the same as on the ISU data base; c) there are discrepancies or missing data in the Athlete's values that the ISU has failed to explain.

94. Firstly, the parties agree that the ISU data base displays only values of blood samples measured within the framework of the ISU blood profiling program. Blood samples collected and analysed with a purpose of directly detecting prohibited substances in accordance with the relevant rules are not recorded in the ISU data base. The Athlete bases her argument on the doping control forms currently in her possession. However, nine out of the fourteen allegedly "missing" tests were either WADA- or IOC-mandated and the blood samples were submitted only to analysis focusing on the detection of a prohibited substance. This is evidenced from the WADA's correspondence dated 4 August 2009 and from the dates of three samples taken in connection with the 2006 Winter Olympic Games in Turin. The sample taken on 20 September 2004 is reported in the ISU database. A sample taken on 20 June 2005 was not fully analysed by the Kreischa laboratory due to overcooling of the sample during transportation; the same laboratory confirms by letter dated 24 June 2006 that the red blood cells were destroyed and the bar code was almost illegible. The sample collected on 10 October 2008 was reported initially by fax and then by email in unknown format which the ISU was not able to open until after the Complaint had been filed; the ISU submitted however that the Athlete's values on that date were normal. Lastly, the samples collected on 4 June and 27 November 2008 were not taken into account since the analysis was either not done at all or did not include the %retics values, as the evidence submitted by the ISU proves.

95. Secondly, with respect to the alleged errors in the bar codes of eleven samples, the Panel accepts the ISU's submission that in the seven older samples, when the ISU data base was still in a development phase, the ISU would simply add one or more digits to the bar code appearing on the tube for reasons of better data management: e.g. instead of #139 the ISU data base shows #2139 because the ISU would insert the digit "2" in the code as an identification for male skaters. The other four samples were given a different bar code by the

ISU than the one on the tube because the doping control officers for logistical reasons had not used the ISU bar codes at the moment of the control and the software could not read such bar codes. In view of the relevant reports prepared by the laboratory in Kreischa, which analysed all these samples, and the testimony at the hearing of Ms. Rebecca Cairns, the ISU Anti-Doping Administrator who compared and matched the sample numbers on the doping control forms and on the laboratory reports with the ISU-assigned bar codes, the Panel finds that the results of all eleven samples were properly stored in the ISU data base.

96. In any event, since all eleven samples were taken in the period between 2000-2005, the Panel notes that the ISU put forward its case before the CAS essentially relying only on tests performed from 15 November 2007 on: *"the 'series of tests' which the Medical Advisors and the ISU Medical Experts have deemed sufficient to 'draw conclusions' of artificial blood manipulation by the Appellant is limited to the tests taken on November 15, 2007 and later. Accordingly, the Respondent does not discuss again the alleged errors which relate to the period 2000-2006 […]"* (Respondent's Answer, page 25).

97. Thirdly, with respect to the proper recording of values in the ISU data base, the Panel initially points out that there was a difference in the unit of measurement of absolute reticulocyte counts on one occasion, i.e. the sample collected on 18 November 2005. No party elaborated on this issue further and the evidence on file indicates that, apart from that single case, the same measurement unit was always used by the ISU to count absolute reticulocytes. In addition, the Panel remarks that there is no issue in this case concerning the measurement unit of the %retics. Then, with respect to the fact that the MCV values are missing in the excel table for the tests occurred on 2 March 2005, 11 February 2006, 11 January 2007 and 1 March 2007, the Panel notes that those are tests on which the ISU is not relying anymore. With respect to the fact that the data concerning the absolute reticulocytes and the total cells values for 24 November 2007 (an out-of-competition test) are missing from the excel table provided by the ISU, the Panel finds this irrelevant as all other important values are present, such as hemoglobin, hematocrit and %retics.

98. Further, the Panel has been provided with detailed laboratory reports of several analyses, indicating that the %retics values reported in the ISU data base correspond most of the time to the mean value of the double (or multiple) run performed by the Advia Machine on each blood sample. It is to be noted that the double (or multiple) analytical run on the same sample is done for the sake of accuracy and reliability of the results, and thus to the benefit of the athletes. The Panel is comfortably satisfied that such mean value constitutes the suitable value to be used for an evaluation under Article 2.2 of the ISU ADR. This is particularly true for the important blood samples that were analysed and recorded on 7 February 2009 in Hamar; on that day two samples were collected and each one of them was measured four times; the mean values of each sample (3.535 and 3.3775) were inserted into the ISU data base rounded up to two decimals (3.54 and 3.38) in order to fit the software's requirements. The same level of precision is reflected – *ex multis* – in the values of the tests performed on 8, 10 and 11 January 2009 in Lelystad as well as on 15 and 17 November 2007 in Calgary. The few occasions on which the ISU recorded in its data base the value of the first or the second measurement instead of the mean value occurred in tests conducted in 2000 and 2002, and the Panel is not going to take them into consideration.

99. For the above reasons the Panel is comfortably satisfied that, with regard to P.'s hematological values recorded as of 15 November 2007, the transmission of those values to the ISU data base and the storage therein was appropriately performed and yields reliable data.

J. P.'s Hematological Values

100. A large part of this case has been devoted to the evaluation of the hematological values of P. In particular, the debate has focused on the very high %retics shown on some occasions, in particular in Hamar 2009 and the related fluctuation (see *supra*). Indeed, all experts agreed that the %retics is a very robust parameter because it cannot be influenced by artificial hemodilution – i.e. an increase in the fluid content of blood and thus in the volume of plasma, resulting in a reduced concentration of red blood cells in blood – or by other unnatural ways of reducing the values of hemoglobin, hematocrit and absolute reticulocytes. In other terms, according to the current scientific research, a cheating athlete has no way of hiding the increase in %retics deriving from blood doping.

a) Inter-individual abnormality of the Athlete's high reticulocytes percentage

101. The Panel notes that there is substantial consensus among the experts that the values of %retics around 3.5 shown by P. are abnormal in terms of inter-individual variation (i.e. in comparison with the general population in Europe as well as with other athletes). With specific reference to speed skaters, Prof. Kuipers testified that such high values of %retics found in Hamar 2009 were much higher than the highest values shown by the other skaters taking part in the same competition.

102. Indeed, some of the experts who gave evidence in this case assured that in their entire professional career they have never seen values of that kind in a healthy person, even in athletes. Prof. Kuipers testified at the hearing that out of all the %retics values obtained by the ISU from all skaters in the last decade (approximately 970 men and 680 women), the average value of female athletes is within the range of 0.47–2.31%.

103. The Panel notes that even the German laboratory chosen by the Athlete to perform some tests on her (the Labor 28 in Berlin) indicates in its analytical forms a value of 0.5–2.5 %retics as reference range (*"Referenzbereich"*).

104. The inter-individual abnormality of a reticulocytes percentage around 3.5 is confirmed by the recent scientific literature, based on the automatic counting methods (i.e. using modern equipment such as the Advia Machine, given that the old manual way of visually counting reticulocytes through microscopes used to be much less accurate). In an article recently published by Prof. Banfi, a recognized authority in this field, it is stated that *"reticulocyte concentrations <0.4% or >2.6% could be interpreted, in the general population and in athletes also, as abnormal values"* (BANFI G., *Reticulocytes in Sports Medicine*, in *Sports Med*, 2008, 38:3, 1-24).

105. The Appellants relied on the reference values found by one of their experts (Prof. Jelkmann) in a German medical handbook, the *"Taschenbuch der medizinisch-klinischen Diagnostik"* (73rd ed., 2000) by SCRIBA P.C. and PFORTE A., to argue that an upper reference value of 4.1 %retics would be acceptable for the female population. The same book indicates an upper reference value of 2.5% for the male population. However, the Panel notes that the said publication is almost ten-years old, is a general medical handbook which dedicates only a few lines to this subject, and is derived from an ancient medical publication (the original authors were born in the XIX century). In fact, the Panel finds that this publication is unreliable for the purposes of this case because its %retics reference values are based on data gathered before the introduction of the equipments allowing the automated reticulocytes counts, as persuasively clarified by Prof. d'Onofrio, a renowned hematologist who published extensively on hematological issues:

"The occasional finding of a reference upper limit of 4.1% for reticulocyte count in females, reported in Dr Jelkmann Expert's Opinion, is in open contradiction with hundreds of reports in medical literature and with daily clinical practice. If a doctor would consider normal such value in a patient, he would miss the diagnosis of severe and even deadly blood diseases. A probable explanation for this "strange range" is the fact that it refers to the pre-automation era, when reticulocytes counts were performed with the microscope and the imprecision of the method was responsible for wider reference limits (although usually not so wide). This explanation is confirmed by the fact that the text of the paragraph "2.5.8 Reticulozyten", page 45, strangely reports only manual microscope methods, which are obsolete since the mid '90s. The lack of mention of the automated flow-cytometric methods available since that time (and the only ones used in laboratories today) suggests that this paragraph is a relic of ancient times. It is like if a text on ground transportation would mention horses and bicycles, but not cars: obviously the average speed would not reflect the contemporary reality. Moreover, the great majority of literature agrees on the fact that there are no differences in reticulocytes percentages between males and females" (Prof. d'Onofrio's report dated 22 August 2009).

106. The Panel remarks that no expert contradicted at the hearing this forceful explanation provided by Prof. d'Onofrio.

107. Therefore, the Panel is comfortably satisfied that the %retics values of 3.49, 3.54 and 3.38 shown by the Athlete in Hamar on 6 and 7 February 2009 constitute abnormal values in inter-individual terms, i.e. in comparison with both the general population in Europe and other elite speed skaters.

b) Intra-individual abnormality of the Athlete's high reticulocytes percentage

108. The Panel must also evaluate the high %retics values shown by the Athlete in Hamar on 6 and 7 February 2009 in terms of intra-individual variation. Indeed, one of the main arguments of the Appellants and their experts has been that P. has naturally high %retics values and that, therefore, they cannot be compared to those of the general population nor to those of the other skaters (a view that the Respondent's experts consistently refuted).

109. In this respect, in order to establish an acceptable longitudinal blood profile for the Athlete, the Panel takes into account the last seventeen %retics values recorded by the athlete prior to 6 February 2009, i.e. all the values recorded between the Calgary World Cup event of 17 November 2007 – when the Athlete also had an abnormal value of 3.75, which is the only other time that the ISU data base recorded an Athlete's %retics above 3.0 – and the said Hamar World Allround Speed Skating Championships of February 2009.

110. On the basis of the scientific evidence heard and examined in this case, the Panel is of the opinion that seventeen tests taken in a period of fifteen months is a more than acceptable basis to establish an individual longitudinal profiling of %retics for P. In this respect the Panel takes comfort from the fact that Section 4.2 of the WADA Draft Biological Passport Guidelines, even though certainly not applicable as such to the present case, provides that three tests would be an acceptable starting point to establish an individual biological passport:

"The sensitivity of the passport increases with the number of tests. In particular, the intra-individual variations can be reduced to an acceptable level after the collection of three initial values. Thus, the sensitivity of the passport is vastly improved when the number of tests per Athlete is higher than three and constant testing is encouraged" (emphasis added).

111. The Panel notes that the mean value of %retics recorded by the Athlete through those seventeen tests is 2.10, that is quite high (and, according to the Respondent's experts, very suspicious in itself, considering that there are laboratories where the upper reference value is 2,0) but still within a relatively normal range. The maximum value shown in those seventeen tests is 2.84 (on 24 January 2008, on the occasion of the Hamar World Cup event of that season) and the minimum value is 1.27 (on 6 December 2007, on the occasion of the Heerenveen World Cup event of that season).

112. Interestingly, the Panel notes that very similar values appear by checking the values shown by the analyses performed (upon request by the Athlete herself and without the ISU's involvement) on the Athlete's blood samples by the laboratory of the Athlete's choice (Labor 28 of Berlin) in various tests between 21 July 2009 and 29 September 2009, (twelve with an Advia Machine and eight with a Sysmex Machine). Indeed, taking into account for obvious reasons of comparability only the test performed by means of the Advia Machine, the Athlete's mean value of %retics through those twelve tests is 2.1, with a maximum value of 2.9 and a minimum value of 1.2. Accordingly, even though there is no guarantee that the Athlete's blood was not affected by any artificial stimulation of the red blood cell production when both above sets of values were gathered, the Panel is of the opinion that, to the benefit of the Athlete, the mean value of 2.1 might be safely taken into consideration as a basis for comparison of the Athlete's %retics values recorded in Hamar on 6 and 7 February 2009.

113. Taking into account the scientific evidence heard and examined, the Panel is persuaded that even in comparison with her own individual %retics values, the values recorded by the Athlete in February 2009 in Hamar (3.49, 3.54 and 3.38) are abnormal. Indeed, considering, on the basis of Prof. Banfi's research on this subject, that *"the critical difference (a difference, calculated from analytical and biological intraindividual variability, which is higher than the one physiologically expected and is related to external factors) for reticulocyte data can be calculated from 24.1% to 36.1%"* (Prof. d'Onofrio's

expert report of 25 May 2009, quoting Prof. Banfi's 2008 publication cited *supra* at para. 104), %retics values of 3.49, 3.54 and 3.38%, starting from the Athlete's said mean value of 2.10, are certainly above a maximal critical difference of 36.1% (which would bring about a maximum acceptable value of 2.85).

114. Even in terms of intra-individual fluctuation, the Panel notes that the Athletes variations in %retics from 1.74 on 8 January 2009 to 3.49 on 6 February 2009 (that is +100.6% in less than a month) and then down again to 1.37 on 18 February 2009 (that is -60.7% in less than two weeks) are also striking. Indeed, on the basis of the scientific evidence heard and examined, the Panel takes the view that such variations are also abnormal. The Panel observes that even the Appellants acknowledge that when there is EPO abuse the %retics value sharply decreases; yet, the Appellants argue that it should decrease below 0.50 to prove blood manipulation and that a decrease to 1.37 is insufficient evidence. In this respect, the Panel is of the opinion that the Appellants cannot have it both ways: if they argue that the Athlete's %retics values are naturally very high, then also the low level post-EPO %retics values must be expected to be higher than normal (and thus a decrease from around 3.50 to 1.37 is clearly abnormal). This was confirmed by Prof. Gassmann in his expert report of 28 August 2009:

"the Appellant's % reticulocytes values are often expressed around 2%, which represents the upper physiological range. Accordingly, a possible drop of this value following any potential use of an ESA [Erythropoietic Stimulating Agent] might be not as prominent as expected. Moreover, as mentioned [...], it is theoretically possible to prevent a prominent drop of reticulocytes via treatment with low doses of an ESA".

115. In addition, the Panel notes that an article published in 1999, and quoted by some of the experts who gave evidence before this Panel (AUDRAN M. et al., *"Effects of erythropoietin administration in training athletes and possible indirect detection in doping control"*, in *Med Sci Sports Exerc*, 1999, 31, 639-645), shows that in the authors' experiment the lowest reticulocytes count occurred twenty-five days after discontinuation of erythropoietin injections, while the Athlete's 1.37 value was recorded only eleven days after the collection of the Hamar samples and, thus, a couple of weeks after the suspected blood manipulation.

116. The Athlete also submits that if the high %retics counts were the result of blood manipulation, e.g. the exogenous application of rEPO, this should have been followed by the positive finding of rEPO in her urine samples or in elevated hemoglobin or hematocrit values in her blood samples, and only an elevated hemoglobin value rather than a high %retics count would bring the intended (but prohibited) effect of increased oxygen transportation. As explained by various experts during the proceedings, EPO stands for erythropoietin, which is a glycoprotein hormone that controls erythropoiesis, or red blood cell production. The Panel remarks that it is uncontested that none of the tests which were performed on P. ever revealed the presence of a prohibited substance. However, on the basis of the evidence examined, the Panel notes that the presence of exogenous rEPO can normally be detected by an anti-doping test only for a couple of days after the treatment, and in no case after four days. When an increased red blood cell production is identified by a high %retics count, the rEPO which may have triggered the increased production of red blood cells is likely to already have disappeared. Therefore, not only a simultaneous adverse analytical finding for rEPO is not a necessary consequence of finding high %retics values but, in fact, it would be a rather

extraordinary occurrence. The Panel is also aware of sophisticated dosage plans which provide for the frequent administration of very small dosages of rEPO, which makes it increasingly difficult to detect it in urine samples at all. Hence, the Panel does not consider the absence of a positive finding of rEPO to be evidence which could exclude blood manipulation.

117. As to hemoglobin values, the persuasive expert evidence provided by Prof. d'Onofrio shows that hemoglobin values can be rather stable if an individual is treated with moderately high doses of rEPO. In particular, Prof. d'Onofrio makes reference to the research carried out by Audran et al. on voluntary subjects treated with rEPO – later confirmed by the research of Robinson et al. (2006) – where the %retics values increased significantly while changes in hemoglobin were quite small (no more than 10%), with a variation pattern very similar to or inferior than that observed in the Athlete's blood. For instance, the Athlete's hemoglobin went from 13.9 on 13 November 2008 to 15.3 on 18 December 2008 (+10%), from 14.3 on 4 February 2007 to 16.1 on 1 March 2007 (+12,5%), from 13.9 on 14 December 2006 to 15.1 on 11 January 2007 (+8.6%). Prof. d'Onofrio also makes reference to an experiment of autologous transfusion published by Prof. Damsgaard, where after blood reinfusion the hemoglobin increased only by 8%. As a result, the Panel finds that the absence of elevated hemoglobin values does not impair the finding of the abnormal %retics counts.

118. The Panel also notes that all experts acknowledged that, as confirmed by several laboratory tests, the hemoglobin and hematocrit levels may be manipulated quickly and effectively by quite simple methods of hemodilution, whereas the %retics count is very robust and remains unaffected by such methods. As testified by Prof. Kuipers and Dr. Stray-Gundersen, there are easily-operated machines that athletes may use to constantly check and keep under control the levels of hemoglobin and hematocrit, thus avoiding the no-start sanctions connected with high values of those blood parameters.

119. Therefore, after having heard the expert testimonies, the Panel does not consider the absence of elevated hemoglobin or hematocrit values to be conclusive evidence which would exclude blood manipulation.

120. As a result, the Panel holds that the ISU satisfied the burden on it to establish to the comfortable satisfaction of the Panel that the Athlete's %retics peaks of February 2009 were abnormal.

c) Explanations for the Athlete's abnormally high reticulocytes percentage

121. The ISU's case is straightforward. The Athlete's abnormally high %retics values in Hamar are due to the exogenous stimulation of her erythropoiesis or, in other words, the artificial stimulation of her body's capacity to produce red blood cells that carry oxygen to muscles and organs, with the evident purpose of reducing fatigue and attaining an unfair advantage over her competitors. In short, blood doping. According to the ISU, any other explanation is unreasonable.

122. On the other hand, the Appellants put forward multifarious explanations, such as physical stress due to cold temperature, altitude, physical stress due to intense exercise, foot pressure due to ice skates and blades, unequal distribution of the tests throughout the year, bleeding, and an infection incurred in January 2009, before the Hamar event.

123. With regard to cold temperature, the Panel notes that the publication quoted by Prof. Jelkmann makes reference to *"arctic winter field operation studies on healthy members of Navy forces [engaged in] outdoor activities"* (emphasis added) at a temperature of -17°, and even in such extreme conditions the maximum recorded value of %retics was 2.6. As a matter of course, the Athlete has never been exposed to arctic outdoor conditions given that top speed skating rinks (including the one in Hamar) are conveniently indoor. As to altitude, suffices to say that Hamar's altitude is utterly inconspicuous (125m) and that none of the samples taken from the Athlete during 2008 and 2009 was collected at a higher altitude than 325m, which no scientific study deems to be significant in connection with the hematological values considered here.

124. The Panel remarks that the other skaters' %retics values would have been equally affected by such alleged conditions, but it did not occur; the same goes for the foot pressure justification and for the unequal distribution of the tests throughout the year. Obviously all skaters use tight ice skates and blades and all of them are mostly tested during the competitions season, but these situations did not cause any remarkable blood values.

125. With regard to physical stress due to intense exercise, the most recent studies seem to contradict this justification, because they only show minimal increases of the %retics after very acute exercise – e.g. from 0.8 to 1.3 after a cycling ultra-marathon of 1600km (sic) – and even cases in which the %retics decreased or remained unchanged (see Banfi 2008, already quoted *supra* at para. 104). In any event, the Panel notes that even the tests performed by Dr. Röcker on P. during and after some training sessions – upon the Athlete's request, and without the ISU's involvement or any other external control – fall short of supporting the Appellants' argument. In fact, such tests do not show %retics values as elevated as those recorded in Hamar, given that the Athlete's maximum post-exercise value was 2.8 (measured with an Advia Machine). In the light of these findings, even the Appellants' argument that one of the tests in Hamar was done less than two hours after skating – in contrast to the collection timing suggested by the rules of other international federations and by the WADA Draft Biological Passport Guidelines – becomes irrelevant (also because the very high %retics value of 6 February 2009 derived from a sample collected prior to skating; see *supra* at para. 0).

126. As to the infection that the Athlete allegedly suffered in January 2009, the Panel notes that recent scientific studies contradict such explanation. Prof. D'Onofrio has credibly pointed out and quoted recent scientific articles showing that infections suppress reticulocytes count. With regard to bleeding, scientific studies indicate "massive bleeding" as a possible cause of a %retics increase, whereas the Panel has not seen or heard any factual evidence proving that the Athlete ever suffered any massive bleeding in the days before the Hamar races of February 2009 (and such an incident would have anyway hindered her successful participation in those races). As to the possibility of excessive menstrual bleeding, the medical examination

performed by Prof. Schrezenmeier (see *infra* at para. 130 indicated that the Athlete's menstrual bleeding was regular and that there was no evidence of "hypermenorrhea".

127. In short, the Panel has not found the above mentioned justifications, nor the few others that the Appellants have thrown in during the proceedings, to be convincing. The Panel finds them to be unsubstantiated or scientifically unsound or insufficient to explain the magnitude of the Athlete's abnormal %retics values of 6 and 7 February 2009. In addition, the Appellants' multifarious explanations imply that all of a sudden a perfectly fit athlete incurred all sorts of unlikely situations and misfortunes that in some way affected her blood values; it appears to the Panel too an astonishing coincidence to be reasonably credible.

128. However, a plausible explanation of the Athlete's high %retics values has been put forward. Indeed, there has been consensus among the experts that the Athlete's abnormal %retics values might be due not only to illicit blood manipulation but also to a congenital blood disease. The high MCHC values sometimes recorded by the Athlete have been mentioned by Professors Jelkmann, Gassmann and Heimpel as an indication of a potential hematological abnormality. In particular, both the Appellants' and the Respondent's experts have mentioned the possibility of a blood anomaly known as "hereditary spherocytosis". This is a congenital hemolytic anemia with an estimated prevalence of 1:2000 in Europe and North America, according to what was explained in particularly persuasive terms by Prof. d'Onofrio, whose hematological expertise appears to the Panel to be very reliable in light of his impressive curriculum, of his many publications specifically devoted to this subject and of his oral evidence at the hearing. The fact itself that Prof. d'Onofrio put forward such an explanation in his written reports appears to be, in the Panel's eyes, as a sign of his *bona fide* attitude in these proceedings and thus of his particular credibility as an expert witness.

129. Indeed, in his written reports submitted prior to the hearing Prof d'Onofrio stated that some tests should have been performed on the Athlete in order to verify whether a hereditary spherocytosis could be found, *"such as serum EPO, birilubin, Coombs test, serum transferring receptor, red cell enzymes and SDS-PAGE electrophoresis"* (Prof. d'Onofrio's report of 22 August 2009). The same was advocated by Prof. Gassmann, who wrote prior to the hearing that *"a medical examination of the Appellant including intense blood analysis is necessary. Tests should incorporate several serum parameters that allow monitoring for hemolysis. An additional non-invasive analysis of organs can also be used. For example, chronic hemolysis leads to enlargement of the spleen (splenomegaly). Such an intense medical examination is a standard procedure for a hematologist and should not take longer than a month"* (Prof. Gassmann's report of 28 August 2009).

130. The Panel observes that the suggested medical examination and tests (which had not been performed at the time of the hearing before the ISU Disciplinary Commission), and some more, were eventually performed in Ulm (Germany) by Prof. Dr. Hubert Schrezenmeier, an expert hematologist chosen by the Athlete, with a view to finding out whether genetic or acquired disorders of the red blood cell formation were detectable. According to the testimony of Dr Lutz (DESG's medical doctor) before the ISU Disciplinary Commission, Prof. Schrezenmeier is considered to be *"one of the leading hematologists in Germany"*. Interestingly, Prof. Schrezenmeier is the only expert, of all those who gave written or oral evidence in these

proceedings, who actually examined the Athlete in depth from a medical point of view. On the basis of the evidence on file, the medical examination and the tests were particularly accurate, to the point that some of the tests were performed by a specialized institute of the University of Bristol (United Kingdom). Prof. Schrezenmeier's final report, dated 30 July 2009, was submitted to the Panel and to the other parties only a few days before the hearing.

131. Prof. Schrezenmeier – who was not called by the Appellants to be examined at the hearing – reported that the physical conditions of the Athlete were excellent, that all organs and values were normal, and that no hemolysis or blood-related pathology could be detected. Prof. Schrezenmeier also carried out a family anamnesis and reported that within the Athlete's family *"there are no known problems of hematopoiesis"* and *"no accumulation of specific diseases"*. Prof. Schrezenmeier put forward *inter alia* the following conclusions:

"Abdomen: soft cover of abdominal momentum, no pain when palpitated, no "Defense tension", no applicable resistance. Liver: 12 cm in the "MCL". Spleen: also no palpitation when "inspiration". Kidney: "deposit" free.

Ultrasound of the Abdomen [...] non-existance of an enlarged liver. Spleen appears in its size and shape inconspicuous.

In the overall hemoglobin analysis normal diagnosis, no hemoglobinopathy, specifically no indication of an unstable hemoglobin in line with a Hemolysis. […]

Overall the diagnosis gives no indication of a hereditary spherocytosis.

[...] Overall it resulted in a normal activity of erythrocyte enzymez.

[…] the further examinations as stated above give no indication of a illness change in the frame of a membrane pathology, hemoglobinopathy or enzyme defect of the erythrocytes. An acquired disorder of the erythrocytes […] could not be detected […].

Also there was no indication of antibodies against erythrocyte antigens in the sense of an immune hemolysis" (Prof. Schrezenmeier's report of 30 July 2009, translated from German, emphasis added).

132. The report sent by the University of Bristol's International Blood Group Reference Laboratory to Prof. Schrezenmeier on 9 September 2009 – and attached to the latter's report – presents a summary of the *"results from erythrocyte membrane protein analysis"* performed on the Athlete's blood sample and state that there *"is no evidence to suggest that P. has abnormal red cell cytoskeleton"*.

133. Prof. d'Onofrio could for the first time take a look at Prof. Schrezenmeier's documentation on the day of the hearing and declared to the Panel that he was pleased to see that all the tests that he had advised the Athlete to undertake had been performed. Prof. D'Onofrio remarked that, as is evident even to a layman reading the above quoted Prof. Schrezenmeier's clear-cut language, the examinations and tests performed by Prof. Schrezenmeier gave no indication whatsoever of the existence of a hereditary spherocytosis or of a membrane pathology or of any other genetic or acquired blood disorder. Even the manual and ultrasound examinations of the kidneys, of the liver and, particularly, of the spleen – an organ which according to Prof. Gassmann would have been affected by a chronic hemolysis – gave no signs of anomalies.

134. Answering a question posed by the Panel, Prof. d'Onofrio stated that at this point there are no other tests or examinations to be performed on the Athlete and that the hypothetical hereditary spherocytosis might be looked for only by examining the Athlete's relatives. However, he also added that even if such examination of the Athlete's relatives yielded no positive results, in theory there could still be a minuscule possibility that a totally asymptomatic, inconsequential and undetectable mild hereditary spherocytosis existed. In short, Prof. d'Onofrio conveyed to the Panel his strong conviction that Prof. Schrezenmeier's report confirmed to the upmost degree his opinion that the Athlete's values derived from blood doping.

135. Prof. Heimpel, one of the experts appointed by the Athlete, after reviewing Prof. Schrezenmeier's report acknowledged that, even if the MCHC values pointed in the direction of hereditary spherocytosis, no genetic or acquired blood anomalies had been found:

"Results of physical examination including abdominal ultrasound and routine clinical chemistry were normal. There were no abnormal findings for osmotic resistance, EMA-test, red cell enzymes, anti red cell autoantibodies, SDS-Page of erythrocyte membranes, GPI deficiency (PNH). [...] Up to now, no definite diagnosis of the type of the red cell or red cell membrane abnormality could be made" (Prof. Heimpel's report of 7 October 2009, emphasis added).

136. The Panel also notes that Prof. Gassmann, who during and after the ISU Disciplinary Commission's proceedings had maintained that there was a fair possibility of a blood disorder in the sense of a mild and compensated spherocytosis – in fact, he was quoted and called to be heard as an expert witness also by the Appellants –, modified his position after seeing Prof. Schrezenmeier's report. Prof. Gassmann declared at the hearing that on the basis of the new evidence deriving from Prof. Schrezenmeier's medical examination and tests, he was now persuaded that the only reasonable explanation of the Athlete's high %retics was blood manipulation.

137. In the Panel's opinion, the evidence provided by Prof. Schrezenmeier is the decisive element of this case, because his expert report essentially excludes that the Athlete has been suffering from any detectable blood disease. In particular, the Panel notes that Prof. Schrezenmeier states with the utmost clarity*: "Overall the diagnosis gives no indication of a hereditary spherocytosis"* (see *supra* at para. 131). Not even the family anamnesis has given any sign of a hereditary blood anomaly (see *supra* at para. 1310). In addition, even the remote possibility mentioned by Prof. d'Onofrio would be inconsistent with the anomalous fluctuations of the Athlete's %retics values.

138. The Panel finds that, once the possibility of a blood disease has been safely excluded, the various explanations put forward by the Athlete for those high values of %retics do not withstand scientific scrutiny.

139. In particular, the Panel is of the view that the written and oral expert evidence provided by Prof. Dame about the use of algorithms to detect a possible genetic mutation is not conclusive, both because such genetic mutation affects a large part (between 34% and 50%,

depending on the experts) of the female population and because his studies are related to analyses done in human embryonic kidney cells and to EPO concentrations in the eye's vitreous body, which are far too remote, in terms of causal link, from the abnormal %retics values shown by P. Indeed, Prof. Dame himself concludes his report stating that *"the open questions, which may have been raised by my investigations, will require to my opinion appropriate model systems, including transgenic mouse lines. Their development will require a tremendous work and a time interval of about two years or even longer"*. In other terms, Prof. Dame himself says that his scientific research yields questions rather than answers; accordingly, the Panel finds such research fascinating but cannot find any concrete indication that could specifically help the Athlete's case.

140. As a result, in exercising its discretion to consider the evidence submitted by the parties, the Panel, bearing in mind the seriousness of the allegation, and based on all the considerations made above, finds that the ISU has discharged its burden of proving to the comfortable satisfaction of the Panel that the abnormal values of %retics recorded by P. in Hamar on 6 and 7 February 2009, and the subsequent sharp drop recorded on 18 February 2009, cannot be reasonably explained by any congenital or subsequently developed abnormality. The Panel finds that they must, therefore, derive from the Athlete's illicit manipulation of her own blood, which remains the only reasonable alternative source of such abnormal values.

141. Considering that, under Item M1 (*"Enhancement of Oxygen Transfer"*) of the applicable Prohibited List, *"Blood doping, including the use of autologous, homologous or heterologous blood or red blood cell products of any origin"* is a prohibited method, the Panel holds that P. committed a doping offence in violation of Article 2.2 of the ISU ADR.

K. Sanctions

142. Under Article 10.2 of the ISU ADR, the sanction for a first offence consisting of the use of a prohibited method in violation of Article 2.2 of the ISU ADR is the Athlete's ineligibility for two years.

143. Under Article 10.1 of the ISU ADR *"An Anti-Doping rule violation occurring during or in connection with an Event may upon the decision of the ISU Disciplinary Commission, lead to Disqualification of all of the Skater's results obtained in that Event […]with all Consequences, including forfeiture of all medals, points and prizes"*.

144. As a consequence, the Panel upholds the sanctions already imposed by the Appealed Decision and holds that the Athlete is liable for the full two-year period of ineligibility, starting as of 8 February 2009, and for the disqualification of her results at the Hamar World Allround Speed Skating Championships of February 2009, with consequent forfeiture of all medals, points and prizes obtained by her on that occasion. In relation with the starting date of the suspension, the Panel notes that there is a minor inconsistency between the main part of the Appealed Decision (see para. 40) and its ruling, as different starting dates of the period of ineligibility are referred to. Based on Article 10.9.4 of the ISU ADR, and considering that the Athlete agreed

not to compete on 8 February 2009, the starting date of the period of ineligibility shall be that day, i.e. 8 February 2009, and not the following day as mistakenly ruled by the Appealed Decision, which must thus be modified accordingly.

145. For all the above reasons, the Panel holds that P.'s and the DESG's appeals must be dismissed.

146. The above conclusion, finally, makes it unnecessary for the Panel to consider the other requests or motions submitted by the parties to the Panel. Accordingly, all other motions or prayers for relief are rejected.

The Court of Arbitration for Sport rules:

1. The appeals of P. and of the Deutsche Eisschnelllauf Gemeinschaft e.V. against the decision dated 1 July 2009 of the Disciplinary Commission of the International Skating Union are dismissed.

2. The decision dated 1 July 2009 of the Disciplinary Commission of the International Skating Union is upheld, with the following modification as set out in para. 3.

3. P. is declared ineligible for two years as of 8 February 2009.

4. The results obtained by P. on 7 February 2009 at the ISU World Allround Speed Skating Championships are disqualified, with related forfeiture of any medals, points and prizes.

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

(…).