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Montreal, November 30, 1984

Subject: Latest Canadian Road Race Course Measurement and Certification procedures (and more).

The enclosed documents are not the final version, but close enough to show you in which direction we are heading. I expect minor changes will be made before the final version gets printed: one of these being that we are going to explain more clearly that we want to measure the Shortest Possible Route (SPR) as done in the U.S.A. and another change will concern improving the criteria for the grading of measurers and certifiers.

The above mentioned documents should be included, once in their final version, in the revised RUN CANADA POLICY HANDBOOK which should be available to all involved in road races in Canada.

My current wish for Canadians, and Quebecers, is that someone in the track & field administration takes the decision to keep (serious) official records of road race performances, as it should have the same positive effect here as it did in the U.S.A. Only then will we be able to feel the need of validating a performance which could call for a competent measurer to do a re-measurement.

Included in this packet are:

- Documents on road race course measurement and certification
  - . Road race course measurement and certification (9 pages)
  - . Measurement procedures for a calibration course ( 6 pages)
  - . (Steel tape) calibration course measuring report (4 pages)
  - . Measuring procedures for a road race course (7 pages)
  - . Road race course measuring report (20 pages)
  - . Steel tape calibration course measuring report appraisal form (2 pages)
  - . Road race course measuring report appraisal form (4 pages)
- A proposed list of criteria for grading measurers and certifiers (3 pages)
- An article on the national practical measuring and certification clinic held July 21-22 in Ottawa (1984)

I hope you find the contents interesting. Merry Christmas and Happy New Year.

Co-Chairman of the canadian road race
course measurement and certification sub-committe

Copies sent to: Bob Baumel (US), Ted Corbitt (US), John Jewell (England), Bob Letson (US), Pete Riegel (US), Aldo Scandurra (IAAF, US), Alan Steinfeld (AIMS, US), Ken Young (NRDC, US), Sharon Clayton (CTFA, Canada)
+/ Norm Patenaude

ROAD RACE COURSE MEASUREMENT AND CERTIFICATION

By Gabriel B. Duguay and Norman Patenaude

As of May 1st, 1984

A definition of course measurement and of course certification can be found in the section titled Event Clarification of this handbook.

## INTRODUCTION

Certification of a road-running course assures a runner that the course has been accurately measured. The I.A.A.F. Guidelines for the conduct of road races booklet reads:" A course is said to be satisfactorily measured if it is measured with an accuracy of better than one part in one thousand( 1/1000 ). This results in a maximum allowable tolerance of less than 42 meters at the marathon distance, and less than 10 meters at the 10,000 meter distance." To comply with Rule 145 Paragraph 5 of the I.A.A.F. Handbook the I.A.A.F. recommends that 1/1000 of the distance be added to a course to make it ~~slightly longer~~ at least the stated distance.

Dr. Primo Nebiolo, I.A.A.F. President, London – January 1984 writes :" Whilst the élite runners at the front of every race employ tactics to seek victory, for the majority it remains a solo race against time that is of paramount importance, and for some, merely the completion of the distance. For this reason, the accuracy of the marathon course has become a vitally important question in the conduct of road races. Questions of accuracy and suspicion over measuring methods have led to the need for standardization, to avoid controversy."

## ACCURACY OF COURSE MEASUREMENT

Why does the I.A.A.F. require the measurers to add 1/1000 of the measured distance to the race course?

First, as John Sterner, Bronx New York, once said:" In any measurement, even by the most scientific methods, a certain percentage of error exists."

Second, if we maintain the two record-keeping principles that the course must be at least the stated distance, and the time must be at least as fast as the stated time, it stands to reason that the addition of a 0.1% short course prevention factor would highly reduce the possibility of having a short course.

The I.A.A.F. states:"The Allowable Tolerance of 1/1000 can be achieved through the use of the calibrated bicycle..." and later states:" The widely used Clain Jones Counter ...is the recommended counter for all bicycles."

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If a course is mesured with a calibrated bicycle, following the shortest path (ideal line of running) and a 1/1000 of the distance is added, and the measuring is done by a competent measurer who's measuring report has been analyzed by two independant certifiers, then we could reasonably assume that the course was satisfactorily measured.

A remeasurement of the course, which is called for only when a national open race best performance or world's best performance or a world's best marathon time is set, should not prove the course to be short. To be certifiable a course must be re-measured by an independant body, says the I.A.A.F. booklet.

## GENERAL

The art of road race management has become a science today. The runner of the 1980's are demanding higher quality events for their valuable dollars. This demand has forced both the amateur and the professional race director to produce better events. This includes providing certified courses, well-maintained race routes, accurate and complete race results and a total commitment to the well-being of the participants.

More and more race directors recognize the need for well measured courses, because, it doesn't matter if it is a fun run or a national championship, runners of all abilities care about their time and monitor their progress through these events. David Katz, of the U.S. Road Running Technical Committee, 1984, says:

"The major ingredient needed to measure and eventually have a course certified is a meticulous and caring individual. These individuals seem to display the same basic characteristics: a desire for perfection, uncompromising when it comes to accuracy, and the ability to accept and correct mistakes. This last quality could be the downfall of many people aspiring to become expert measurers. We are human , and we do make mistakes. It is the true professional that can spot an error and correct it."

The best way to get a course measured and certified in Canada is to make use of a qualified member of the Road Course Measurement and Certification Sub-Committee. This sub-committee is affiliated with the National Officials Committee and is recognized by the Run Canada Division of the C.T.F.A. These national level measurers have been trained and tested and have the technical expertise to properly measure a road course. A qualified measurer can provide a race director with the saving of time and money with the assurance that the course will be accurately measured and certified.

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## WHO MAKES THE RULES?

The canadian measuring rules are based on the guidelines and standards given to us by the International Amateur Athletic Federation (I.A.A.F.), the governing body for all amateur sports throughout the world. The rules, standards and guidelines can be found in the I.A.A.F.'s Rule Handbook and their Development programme - Book No. 4 Guidelines for the conduct of road racing.

Ted Corbitt, often regarded as the father of long distance running in the United States, and John C. Jewell of Great Britain were the main driving force in the formation and development of the methods used by today's measurers.

The body responsible for certifying courses in Canada is the Road Course Measurement and Certification Sub-Committee of the C.T.F.A.'s National Officials Committee. For now, the sub-committee is made of Gabriel B. Duguay of Québec and Norman P. Patenaude of Ontario, but we soon hope to have a sub-committee with a representative from each province. Given the above rules, standards, and guidelines, the sub-committee has drawn up the Canadian rules and Canadian standards, taking into consideration the interpretations the I.A.A.F. Rules are given in the United States and Great Britain, the two countries that are the pionners in the Field.

## HOW TO PROCEED TO GET A COURSE CERTIFIED?

To get a course measured and certified a Race Director must first select a safe course for runners, and then arrange to get it measured by a competent measurer. (Follow the suggested steps given later in the text.) The Race Director should contact the official measurer at least three months before the race day so arrangements can be made to measure the race course in the following month or sooner. This should allow enough time for the measurer to write out his report and get it verified so the course can be certified before race day, or errors found by the certifiers can be corrected before the race is run.

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MEASUREMENT KEYS

The person in charge of the measuring should make sure that the Race Director or someone appointed by him/her is present during the measuring to make decisions as to the course route, and the start and finish points.

If possible, have someone who has run the course and who knows the shortest path taken by runners to guide the course measurer.

The Race Director or a delegated person should find out and tell the measurer how much of the road will be available to the racers; the measurer will take into consideration the shortest path possible within the available race course, taking all short cuts possible when measuring the race course.

When thinking of possibilities of short cuts, it might be helpful to imagine where the first master male or female runner would run, given the opportunity, in an all comers race.

The course is measured along the straightest line possible for a runner to run on, and stay on the course. Measuring the shortest route means that if it is possible for runners to run on dirt or grass or onto and off of sidewalks at intersections or along any part of the course, then that is where the courseshould be measured.

After measuring a race course, a good measurer would verefy the running route actually followed by the runners during the race(s). He would compare the actual route run with the measured or certified course. In case of discrepancy, where the runners took more short cuts than had been anticipated when the measurement was fone, the measurer would notify the Race Director to get the course remeasured and recertified. The measurer would also notify Run Canada's Road Race Course Measurement and Certification Sub-Committee.

The course is measured along the ideal line of running also called the shortest possible route. The actual path of any given runner is irrelevant. You might envision the shortest possible route as a string, stretched tightly along the course so that it comes within 30 centimetres( 1 foot ) of all corners, straight through S-turns, and diagonally between corners when crossing a street. The course is measured following the same route as the hypothetical string.

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## SUGGESTED STEPS IN GETTING A COURSE MEASURED AND CERTIFIED

1- Choose a course taking into consideration the safety of the runners, the desired length of the race course, etc....
In this step a scale map could prove useful.

2- Visit the course and measure it by car. This should give you a 2% to 5% or more short course.

3- Draw a preliminary sketch of the course to work with.

4- Measure the course roughly following the shortest path runners would take using the calibrated bicycle method. A rough calibration course can be measured using a 1 kilometer course measured twice with a surveyor's wheel and adding 5 meters to it.

5- Make the necessary corrections to the sketch adding important details.

6- At least three months before the race, contact a national level measurer to get the course measured.

7- The measurer will make the necessary arrangements to get the course measured and certified. The measurer could ask that some paint spots be put on the course to help identify the ideal line of running, to get a more accurate measurement. The ideal line of running to be measured is chosen by the measurer, after consulting with the Race Director.

8- Two copies of the measuring report belong to Run Canada, another one belongs to the Race Director and the original stays with the measurer.

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## REFERENCES

I.A.A.F. Rukes Handbook 1984 (Available from Run Canada)

I.A.A.F. Guidelines for the conduct of road racing 1984 (Available from Run Canada)

N.R.D.C.(U.S.A.) Certified Road Running Courses- 1984 edition

NRDC NEWS- January 1984- Aecuracy of road course measurement and record-keeping requirements

(Available from N.R.D.C. P.O.Box 42888, Tucson AZ 85733)

Ted Corbitt- Measurement keys- 1983

John C. Jewell, England- Notes on the measurement of roads for athletic events June 1961

Road Runners Club of America Handbook- 1984

G.B. Duguay- Etapes suggérées dans le mesurage- 1980

## HISTORY OF MEASURING AND CERTIFICATION IN CANADA

It all started with the 1972 Olympic Marathon Trials held in Montreal, where the course had been measured once with the instrument that was considered the best at the time: the surveyor's wheel. It was a surprise when no Canadians were able to qualify for the 1972 Olympics and the analysis of the kilometer time splits revealed the course to be too long by a kilometer. Norman Ratenaude and Ron Wallingford had placed 4th and 11th respectively in these trials. During that year, Norman, the unofficial National Marathon Statistician, had been trying to compile an up-to-date official all-time marathon ranking list, but it soon became apparent that the statistical time results had no value without a list of accurately measured courses. Norman then organized the initial Canadian Course Measurement Program based mostly on international correspondance with Ted Corbitt (U.S.A.) and a little with John Jewell (Great Britain). With the help of Ron Wallingford, then C.T.F.A. Technical Co-ordinator, Norman proposed a road course measurement policy to C.T.F.A. in 1972. In 1974, C.T.F.A. finally accepted in their rules that all marathons, national championships and international road running and walking events be certified prior to competition.

Bob Lazenby measured the first Canadian certified course which was the 1974 National Marathon Championships held in Kitchener, Ontario. Bob later joined efforts with Norman to form the first course measurement sub-committee. At the 1975 Boston Marathon, on Norman's initiative, a group of people including Ted Corbitt and Gabriel Duguay met to form the first Canadian Road Runners Club and discuss road course

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measuring. Gabriel Duguay, a runner himself, was dissatisfied with the non-existent road measuring standards in Québec in 1974, and had been encouraged by Michel Rose to establish national and international contacts to develop a program for the Québec Road Runners Association.

In early 1976, Bob Lazenby suggested the evaluation of measuring reports, which had been done by Ted Corbitt up to now, be handled in Canada only. That summer, Norman and Ron Wallingford took care of the measurement of the Olympic Games Marathon, using the calibrated bicycle method. At the 1979 Commonwealth Games Trials, the first Canadian course measuring meeting was held at which Gabriel was nominated to replace retiring Bob Lazenby. In 1979, Gabriel translated all of Ted Corbitt's measuring documents (with Ted's authorization), and mailed them to the 77 Québec road race directors, in 1980. In that year Norman started to attend the Run Canada meetings to update the measuring rules and have a section on course measurement included in the Run Canada Policy Handbook. Since then, Gabriel has given four provincial measuring clinics to form 30 measurers and three course certifiers in Québec. He has also measured 125 courses, two of which international level events were certified by Ted Corbitt.

In January of 1984, Norman and Gabriel got together with C.T.F.A.'s Technical Director, Tom MacWilliam to propose a plan for the development of qualified measurers and certifiers in Canada. The purpose of the plan was to standardize the work done by all the existing measurers and certifiers, improve the measuring and reporting of important road race measurements, increase the number of people on the road course measurement and certification sub-committee, bring the Canadian Road Course Measurement Program level to an acceptable international level and encourage more people to measure and certify road race courses. Through Fitness and Amateur Sports funding, apart from the goodwill of the measurers and certifiers, a first practical national measuring and certification clinic will be held in Ottawa July 21-22. Each province has delegated a representative to form the basis of their measuring and certification program. Sharon Clayton, C.T.F.A.'s Special Projects Manager coordinated the efforts of all interested parties to make the clinic happen.

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# RUN CANADA CERTIFICATION REQUIREMENTS
## 1984-1985

Above provincial certification requirements, Run Canada requires that for an international road race, a national championship road race or a trial road race; and all events offering "Sponsorship Awards".

1- The course is measured by a national/international level measurer, recognized by Run Canada.

2- The course must have at least three (3) valid measurements.

3- The measuring report is typewritten.

4- The measuring report includes an elevation map of all the course. (if available)

5- There is a detailed description with accompanying sketches to show where the course was measured.

6- A scale map of the course is supplied with the measuring report.

7- All the questions in the measuring report have been answered adequately.

8- The certification is approved by two (2) national/international level certifiers, the two being from different provinces. One of the certifiers can be from the host province.

## DEFINITIONS

Road course certification:

a review of the measuring report to ensure that the course has been measured in compliance with the CTFA rules/policies in effect at the time and that the course is verified as being the distance advertized through the issuance of a certificate

Road course measurement:

is the actual measuring of a course in accordance with the CTFA rules/policies in effect at the time