



ANNUAL REPORT 2003

Objective

The Nederlandse Commissie voor Stralingsdosimetrie (NCS, Netherlands Commission on Radiation Dosimetry) was established on the 3rd of September, 1982 with the main objective of promoting the appropriate use of radiation dosimetry, both for radiation research and for practical applications. The NCS is chaired by a board of scientists, installed in consultation with the supporting societies:

- Nederlandse Vereniging voor Radiotherapie en Oncologie (NVRO, Netherlands Society for Radiotherapy and Oncology);
- Nederlandse Vereniging voor Nucleaire Geneeskunde (NVNG, Netherlands Society for Nuclear Medicine);
- Nederlandse Vereniging voor Klinische Fysica (NVKF, Netherlands Society for Clinical Physics);
- Nederlandse Vereniging voor Radiobiologie (NVRB, Netherlands Society for Radiobiology);
- Nederlandse Vereniging voor Stralingshygiëne (NVS, Netherlands Society for Radiological Protection);
- Nederlandse Vereniging Medische Beeldvorming en Radiotherapie (NVMBR, Dutch Society Medical Imaging and Radiotherapy);
- Nederlandse Vereniging voor Radiologie (NVvR, Radiological Society of The Netherlands);
- Société Belge des Physiciens des Hôpitaux/Belgische Vereniging voor Ziekenhuisfysici (SBPH/BVZF, Belgian Hospital Physicists Association).

To pursue its aims, the NCS has the following tasks:

- participation in dosimetry standardization and promotion of dosimetry intercomparisons;
- drafting of dosimetry protocols;
- collection and evaluation of physical data related to radiation dosimetry;
- maintain or establish links with national and international organizations concerned with ionizing radiation;
- promulgate information on new developments in the field of radiation dosimetry.

The Commission's website: <http://www.ncs-dos.org/>

secretary:

ir. W. de Vries, Nederlands Meetinstituut
Dept. Radiation and Length
PO Box 654, NL-2600 AR DELFT, The Netherlands
Tel. +31 30 253 9094, Fax. +31 30 253 9095
Website: <http://www.ncs-dos.org/>
E-mail: WdeVries@NMI.nl

Board

On December 31, 2003 the members of the board of the NCS were:

Prof.dr. S. Vynckier, chairman	(SBPH/BVZF)
Dr. B.J.M. Heijmen, vice chairman	(NVRO)
Ir. W. de Vries, secretary	(NMI)
Dr. J. Zoetelief, treasurer	(NVRB)
Dr. A.J.J. Bos	(NVS)
Prof.dr. A.A. Lammertsma	(NVNG)
Drs. J.M. Schut	(NVvR)
Dr.ir. F.W. Wittkämper	(NVKF)
Mr. D. Zweers	(NVMBR)

The board of the NCS met three times in 2003, on March 3, June 16 and November 3. The main subjects raised at the board meetings were:

- monitoring the progress of activities by subcommittees;
- initiate the publication of NCS-reports;
- development of new activities.

Subcommittees

1. Subcommittee "Uniformity of Dosimetry Protocols"

The subcommittee 'Uniformiteit Dosimetrieprotocollen' has held four meetings in 2003, namely on January 8, March 31, June 16 and October 27.

The goals of the subcommittee are:

- To achieve uniformity of photon and electron dosimetry protocols, based on absorbed dose-to-water standards.
- To draft a Code of Practice (CoP) that is concise, clear, and easy to use in practice.
- To draft a CoP that applies to ionization chambers and beam qualities that are used in Belgium and the Netherlands.
- To provide recommendations for Belgian and Dutch clinical physicists in the final NCS report.

In 2003 members of the subcommittee, supported by NMI staff, started the program of measurements program in nine selected radiotherapy institutes. These radiotherapy institutes cover a range of clinical accelerator types and beam energies that is representative of those used in Belgium and in the Netherlands.

The measurement program comprises the experimental determination of k_Q beam quality correction factors for the selected high-energy photon beams and the measurement of beam quality specifiers $TPR_{20,10}$ and $\%dd(10)_x$ in these clinical beams involving the four selected types of ionization chambers and the NMI water calorimeter. These experimental k_Q factors for high-energy photon beams will become part of the new CoP. Six chambers of each ionization chamber type (manufactured by NE, PTW and Wellhöfer), in total 24 ionization chambers, have to be measured in all 9 clinical beams.

During the year all beam quality specifier data and k_Q data in 8 out of nine clinical photon beams were measured. Preliminary results were presented at the EFOMP congress (Eindhoven, May 2003), the ABSDOS workshop (ARPANSA, Melbourne, August 2003), the

World Congress on Medical Physics and Bioengineering (WC2003, Sydney, August 2003) and the ESTRO Physics meeting (Geneva, September 2003).

A subgroup (Tony Aalbers, Hugo Palmans and Stefaan Vynckier) of the subcommittee had separate meetings at NPL and UCL (Brussels) on June 10 and December 17, respectively, discussing the layout and contents of the new code of practice (including the topics related to the dosimetry for high energy electron beams). The subgroup also discussed instrumentation and methods for the dosimetry of clinical electron beams, based on an absorbed dose-to-water standard.

The subcommittee intends to complete and evaluate the measurement program in 2004. It is, however, still possible that measurements in one or more clinical photon beams have to be repeated. After completion of the measurements in the radiotherapy institutes all ionization chambers will be recalibrated in the Co-60 reference beam at NMI. All experimental work has to be finished before November 2004, because the ionizing radiation standards of NMI will be moved to new premises in Delft.

A draft CoP for the dosimetry of high-energy photon beams and high-energy electron beams should be produced before the end of 2004.

Members of the subcommittee are:
Drs. A.H.L. Aalbers (chairman)
Mrs. M-T. Hoornaert
Dr. A. Minken
Dr. M.W.H. Pieksma (secretary)
Dr. H. Palmans
Prof.dr. S. Vynckier
Dr. F.W. Wittkämper

2. Subcommittee "Dose Calculations in Megavoltage Photon Beams"

There were no meetings of this subcommittee in 2003.

Members of the subcommittee are:
Dr. J.J.M. van Gasteren (chairman)
Dr. S. Heukelom
Ir. H.N. Jager
Dr. R. van der Laarse
Dr. B.J. Mijnheer
Ir. J.P.C. van Santvoort
M. Tomsej
Dr.ir. J.L.M. Venselaar
Drs. J. Welleweerd
Ir. C.F. Westermann

3. Subcommittee "Dosimetry in Radiology"

As indicated in previous NCS annual reports, a complication occurred due to a draft ICRU Report entitled "Patient Dosimetry for X-Rays Used for Medical Imaging". As agreed in 2001 between NCS and ICRU chairmen, the NCS and ICRU reports will be published approximately simultaneously. The ICRU draft Report was not accepted in 2003, most likely it will be accepted at the end of 2004 or at the beginning of 2005. The secretary of the subcommittee,

Dr. J. Geleijns (secretary), had to resign in 2003 due to other obligations.

Membership of the subcommittee:
Dr. J. Zoetelief (chairman)
Dr. J. Geleijns (secretary)
Prof.dr. J.J. Broerse
Dr. P.J.H. Kicken
Mr. W. Teeuwisse
Ir. W. de Vries
Mr. D. Zweers

4. Subcommittee "Treatment planning systems"

In 1996 the NCS installed the subcommittee Treatment Planning Systems in order to produce a report with guidelines for the quality assurance (QA) of 3-D treatment planning systems (TPS). Early 2000 most chapters of this report had been written and the existing material was made available as a pre-release on the website of the NCS (www.ncs-dos.org) in March 2000.

During 2000 and 2001 a number of colleagues sent comments after reading the material and some also gave feedback after applying the report in practice. This information was used in 2002 to improve the report and to extend some chapters. Work in progress in other subcommittees on QA of TPS, however, prompted a revision of the contents of the report. In order to be complementary a very practical report with more specific test descriptions was required, therefore a re-editing process was started and this work continued in 2003.

Members of the subcommittee are:
Dr. I.A.D. Bruinvis (chairman)
Drs. R.B. Keus
Dr. W.J.M. Lenglet
Dr. G.J. Meijer
Dr. B.J. Mijnheer
Dr. A.A. van 't Veld
Dr.ir. J.L.M. Venselaar
Drs. J. Welleweerd
Ir. E. Woudstra

5. Subcommittee "Electronic Personal Dosemeters"

The subcommittee "Electronic Personal Dosemeters" (EPD) did not meet in 2003.

Members of the subcommittee are:
Dr. A.J.J. Bos (chairman)
Mr. D. Zweers (secretary)
Dr. J.W.E. van Dijk
Dr. J. Geleijns
Ir. W. de Vries

6. *Subcommittee "Quality control of sealed betasources used in medicine"*

No report was received, although this subcommittee is finishing the draft of the NCS report on this subject.

Members of the subcommittee are:

Ir. W.J.F. Dries (chairman)

Drs. A.H.L. Aalbers

Ir. H.J. van Kleffens

Ir. R.P. Kollaard

Dr.ir. J. van der Marel

J.P.A. Marijnissen

Dr. M. Piessens

Dr.ir. D.R. Schaart

H. de Vroome

Advisory platforms

Advisory platform “radiology and nuclear medicine”

There were no requests for advice in this area.

Membership advisory platform ‘Radiology and Nuclear Medicine’:

Drs. J.G. van Unnik (chairman)
Dr. J. Geleijns (secretary)
Prof.dr. J.J. Broerse
Dr. J.A.K. Blokland
Mrs. I. van Helvoort
Dr. Ir. P.J.H. Kicken
Ir. A.H.J. Renders
Mr. W. Termorshuizen

Advisory platform “radiotherapy”

There were no requests for advice in this area.

Membership advisory platform ‘Radiotherapy’:

Prof.dr. J.J. Broerse (chairman)
Ir. W. de Vries (secretary)
Drs. E.N.J. van Lin
Mrs. F. Cavelaars
Dr. R.W. de Boer
Ir. C.F. Westermann

NCS FINANCIAL OVERVIEW 2003

NCS FINANCIAL OVERVIEW 2003

(all amounts in Euro)

	Income	Costs
	€	€
Savings-account on December 31, 2002	7751,69	
Current-account on December 31, 2002	7442,75	
Belgian current-account on December 31, 2002	594,96	
Checks and cash on December 31, 2002	60,00	
Contribution Netherlands Society for Radiology 2002	0	
Contribution Netherlands Society for Clinical Physics 2002	0	
Contribution Netherlands Society for Radiotherapy and Oncology 2002	0,00	
Contribution Netherlands Society for Nuclear Medicine 2002	0	
Contribution Netherlands Society for Radiological Protection 2002	0,00	
Contribution Netherlands Society for Radiobiology 2002	0,00	
Contribution Netherlands Society for Radiographers and Radiological Technologists 2002	0	
Belgian Hospital Physicists Association 2002	0	
Interest savings-account	165,33	
Capitalisation Belgian current-account	0,62	
Sales of NCS Reports	559,44	
Costs from lustre symposium in 2002		2863,75
Costs Chamber of Commerce		35,08
Banking costs		54,41
Banking costs Belgian account		5,17
Costs of board and subcommittees meetings		
Costs web site		306,94
Non-cashable cheques		
Cheques and cash on December 31, 2003		
Savings-account on December 31, 2003		10417,02
Current-account on December 31, 2003		2134,51
Belgian current-account on December 31, 2003		757,91
Total	16574,79	16574,79

NCS BUDGET 2004

(all amounts in Euro)

	Income	Costs
	€	€
Contributions scientific societies	3200,00	
Interest savings-account	200,00	
Sales of NCS Reports	300,00	
Contributions from others to printing costs of NCS Reports	1500,00	
Costs Chamber of Commerce		35,00
Banking costs		55,00
Costs of board and subcommittees meetings		0,00
Costs web site		400,00
Costs of printing NCS Reports		4710,00
Total	5200,00	5200,00

NCS Balance sheet 31-12-2003

	debet		credit
Savings account	€ 10.417,02		
Current account	€ 2.134,51		
Belgian current account	€ 757,91	Equity capital	€ 13.309,44
	-----		-----
	€ 13.309,44		€ 13.309,44

NCS Income and expenses 2003

Contributions:			
NVvR	€ -		
NVKF	€ -		
NVRO	€ -		
NVNG	€ -		
NVS	€ -		
NVRB	€ -		
NVRL	€ -		
SBPH/BVZF	€ -		
		Banking costs	€ 59,58
Interest	€ 165,95	Maintenance web site	€ 306,94
Sales of NCS reports	€ 553,44	Chamber of commerce	€ 35,08
		Credit balance	€ 317,79
	-----		-----
	€ 719,39		€ 719,39