

# The CMS Constitution

## Introduction

The CMS organisational structure consists of two parts. There is a federal element, responsible for overseeing the project as a whole, which consists of four bodies:

- the Collaboration Board
- the Management Board
- the Finance Board
- the Technical Coordination Group.

This central structure is complemented by a set of quasi - independent bodies responsible for subprojects. The experiment is logically divided into a number of these subprojects<sup>1</sup>, each governed by an Institution Board and each having its own management body, led by a Project Manager. The hierarchical relationship between the CMS Federal Bodies is illustrated in Annex 1.

The present document describes the role and composition of the federal bodies and the way they interact with the subprojects. It also describes the general rules under which the Collaboration operates. The subprojects are separately responsible for drawing up their own constitutions and these are filed under a separate cover.

([http://cms.cern.ch/iCMS/jsp/page.jsp?mode=cms&action=url&urlkey=CMS\\_DOCOFF](http://cms.cern.ch/iCMS/jsp/page.jsp?mode=cms&action=url&urlkey=CMS_DOCOFF)).

---

<sup>1</sup> At present the CMS Collaboration has defined eight subprojects : Magnet, Central Tracker, Electromagnetic Calorimeter, Hadron Calorimeter, Muon Detector, Trigger / Data Acquisition, Physics Reconstruction and Selection, and Computing and Core Software.

# The CMS Constitution

## Table of Content

### **1. The CMS Constitution**

- 1.1 CMS Weeks and Collaboration Meetings
- 1.2 Organisation of CMS Federal Meetings
  - 1.2.1 Language
  - 1.2.2 Secretaries to Federal Bodies
  - 1.2.3 Agenda and Minutes
  - 1.2.4 Meetings
- 1.3 Validity and Modifications
- 1.4 Ratification

### **2. The CMS Collaboration Board**

- 2.1 Role
- 2.2 Membership
- 2.3 Chairperson
- 2.4 Collaboration Board Advisory Group
- 2.5 Communication and Interaction with other CMS Boards
- 2.6 Decisions

### **3. The CMS Management Board**

- 3.1 Role
- 3.2 Members and Functions
- 3.3 Interactions with other CMS Boards
- 3.4 The Steering Committee
  - 3.4.1 Role
  - 3.4.2 Members
- 3.5 Annual Reviews
- 3.6 Decisions
- 3.7 Communication with the CERN Management
- 3.8 Meetings

### **4. The CMS Finance Board**

- 4.1 Role
- 4.2 Members
- 4.3 Function of Members
  - 4.3.1 The Resources Manager
  - 4.3.2 Link-Persons to CMS Funding Agencies
  - 4.3.3 Subproject Resources Managers
- 4.4 Meetings
- 4.5 Relations with other CMS Boards
- 4.6 Decision Taking

### **5. The CMS Technical Coordination Group**

- 5.1 The Technical Coordinator
- 5.2 The Deputy Technical Coordinator
- 5.3 The Electronics Coordinator
- 5.4 The GLIMOS
- 5.5 The Technical Coordination Group
- 5.6 Meetings
- 5.7 Reviews
- 5.8 Task Forces

## Annexes

- 1 Hierarchical Relationship between the CMS Federal Bodies**
- 2 Organisation of CMS Weeks**
- 3 Participation in the Collaboration**
- 4 Letter for Considering New Collaborators**
- 5 The Conference Committee and the Rules for Nomination of Speakers to Conferences**
- 6 Rules for CMS Notes and Reports and the Editorial Boards**
- 7 Election Rules**
- 8 Regional Representatives in the CMS Management Board**
- 9.1 Organisational Structure of the CMS Management Board and Steering Committee**
- 9.2 Organisational Structure of the CMS Finance Board**
- 10 CMS Authorship of General Physics Papers**

# 1. The CMS Constitution

## 1.1 CMS Weeks and Collaboration Meetings

An important occasion for the Collaboration to meet, to be informed of the status of the project and to exchange ideas is provided by the CMS Week. At present four CMS Weeks are held each year at intervals of approximately three months. At least three of these meetings are held at CERN and the fourth may be hosted by a CMS institute outside CERN. The venue of a CMS Week outside CERN will be chosen by the Collaboration Board, normally at least one year in advance.

A CMS Week should normally follow a standard format (Annex 2), although departures from this timetable are permitted, particularly when the meeting takes place away from CERN. The dates for CMS Weeks are normally announced by the Spokesperson at the end of the preceding year.

One of the important meetings held during a CMS Week is the Open Plenary Session which is open to all members of the Collaboration. The purpose of this meeting is to disseminate information on the status of the project and to inform the Collaboration of all major developments and decisions concerning scientific, technical and organisational matters.

## 1.2 Organisation of CMS Federal Meetings

### 1.2.1 Language

The working language of meetings of all the CMS Bodies is English, unless otherwise explicitly agreed, and documents should normally be written in English. If for some reason an important document is prepared in another language, an English translation must be made available.

### 1.2.2 Secretaries to Federal Bodies

It is the responsibility of the Chairperson of each federal body to designate its Secretary. The list of Secretaries of the federal CMS bodies can be found at:

[http://cms.cern.ch/iCMS/jsp/page.jsp?mode=cms&action=url&urlkey=CMS\\_MGMT](http://cms.cern.ch/iCMS/jsp/page.jsp?mode=cms&action=url&urlkey=CMS_MGMT)

### 1.2.3 Agenda and Minutes

For the Collaboration, Management and Finance Boards, the preliminary agenda for the meeting is prepared by the Chairperson assisted by the Secretary. Normally it will be circulated to the members of the Board at least one week in advance of the meeting. Any member of the Board can suggest additional topics to the Chairperson either before the meeting or as items of 'Any other Business' at the meeting. The agenda should be formally approved at the beginning of the meeting.

The proceedings of the Board meetings are recorded in minutes. The minutes are distributed to all members of the corresponding Board in draft form for approval at the following Board meeting.

The minutes are distributed to all members of the respective Board after approval. In addition, the approved minutes of the Collaboration Board are available to all members of the Collaboration.

#### 1.2.4 Meetings

Collaboration Board Meetings are to be held at least four times each year, normally on the Friday of the quarterly CMS Week.

Approximately eight Management Board meetings per year are foreseen. Four of these meetings are scheduled to be held during the quarterly CMS Weeks. The additional meetings will be held between the CMS Weeks. The Steering Committee of the Management Board normally meets in months when there is no Management Board Meeting.

The Finance Board decides its meeting schedule on an annual basis to include at least one ordinary meeting held during each of the four CMS Weeks. Further ordinary meetings may be scheduled outside the CMS Weeks as needed, coupled where possible to the meeting dates of the CMS Management Board.

In addition, a Chairperson of a CMS Board may call for an extraordinary meeting to deal with specific or urgent topics. In such a case the members of the corresponding Board must be informed well in advance of the meeting.

During a CMS Week, the three federal Boards will meet initially in a joint session, for the efficient dissemination of information. The agenda of this joint meeting will be prepared by the Chairperson of the Management Board.

Technical Coordination Meetings are organised regularly at the discretion of the Technical Coordinator. They are open to all members of CMS with relevant expertise or interest in the topics being discussed. The minutes of all Technical Coordination Meetings will be distributed to attendees and made available to the whole collaboration.

### **1.3 Validity and Modifications**

CERN must be notified of any proposed major modifications.

All modifications of the Constitution must be ratified by the Collaboration Board either by consensus or by two-thirds majority.

The original of this document and all the amendments are kept in the CMS Secretariat. Copies will be distributed to all members of the CMS Collaboration Board, the CMS Management Board, and the CMS Finance Board. The document will be posted on the Web at:

[http://cms.cern.ch/iCMS/jsp/page.jsp?mode=cms&action=url&urlkey=CMS\\_DOCOFF](http://cms.cern.ch/iCMS/jsp/page.jsp?mode=cms&action=url&urlkey=CMS_DOCOFF)

## 1.4 Ratification

The CMS Collaboration Board, the CMS Management Board, the CMS Finance Board, and the CMS Technical Coordination Group declare that they agree on the present CMS Constitution.

-----  
For the CMS Collaboration Board, Done at CERN, March 2003

L. Foà, Chairperson of the CMS Collaboration Board



-----  
For the CMS Management Board, Done at CERN, March 2003

M. Della Negra, CMS Spokesperson



-----  
For the CMS Finance Board, Done at CERN, March 2003

A. Petrilli, CMS Resources Manager



-----  
For the CMS Technical Coordination Group, Done at CERN, March 2003  
Alain Hervé, CMS Technical Coordinator



## 2. The CMS Collaboration Board

### 2.1 Role

The CMS Collaboration Board is the governing body of the experiment and makes all major decisions within the Collaboration. In most cases a matter will be discussed first in the Management Board which, after due deliberation, will submit a recommendation to the Collaboration Board. However, some issues may go directly to the Collaboration Board.

The Collaboration Board considers applications from institutes wishing to participate in the CMS experiment and reaches decisions following the procedure described in Annexes 3 and 4. As an alternative to full membership, an Institute may apply for Associated status, as defined in Annex 3.

The Collaboration Board has created a Committee responsible for considering nominations of speakers for important conferences. The Collaboration Board appoints a Chairperson who regularly reports on the business of the Committee. The membership of the Committee and the rules for nomination of speakers are given in Annex 5.

The Collaboration Board has agreed on a set of rules for CMS documents as defined in Annex 6.

Particularly important responsibilities of the Collaboration Board are the election of the Spokesperson and of the Chairperson of the Collaboration Board. General procedures for decision taking and voting are described in articles 2.3 and 2.6, and in Annex 7.

### 2.2 Membership

- The membership of the Collaboration Board comprises Institution Representatives and, ex-officio, all members of the Management Board.
- To qualify for membership of the Collaboration Board an institution must have a total of at least three physicists paying M&O in the current year.
- An institution joining CMS which has at least three physicists qualifies for membership of the Collaboration Board, but may not vote for one year and until the qualification of having three M&O paying physicists is satisfied. If the requirement to have three M&O paying physicists is not satisfied after two years of membership of CMS, the institution ceases to be a member of the Collaboration Board.
- Institutions from the same country or region, with too few participants to qualify for their own representative, share one or two common representatives if together they have enough participants to qualify for one or more representatives.
- Two or three such institutions are allowed one representative, four or more institutions are allowed two representatives.
- Each country participating in CMS has the right to at least one representative.
- An institution whose number of qualifying persons falls below that required for direct representation in the Collaboration Board remains a member of the Collaboration Board for

two years, even if the number of qualifying persons remains below that required during this period.

- Responsibility for selecting a representative lies with the institution or institutions concerned.
- A representative who is unable to be present at a meeting may designate a deputy to attend. The deputy may be from a different institution from the usual representative, but must be a member of the CMS Collaboration.
- Associated Institutions are represented at Collaboration Board meetings according to the above terms, but are not permitted to vote.
- Institution Representatives are responsible for keeping their 'constituents' fully informed of Collaboration Board matters and for presenting the opinions and wishes of their constituents in meetings.
- Ex-officio members of the Collaboration Board do not have the right to vote. However, they may also fulfill the role of an Institution Representative with the right to vote in the Collaboration Board.

### **2.3 Chairperson**

The Chairperson of the Collaboration Board is elected by the members according to the procedure set out in Annex 7. Institution Representatives or their deputies are allowed one and only one vote each.

The Chairperson will normally nominate his/her Deputy within two days after election. The nomination is subject to endorsement by the Management Board and the Collaboration Board.

The Chairperson and the Deputy should generally be based at an institution other than CERN although it is not excluded that they spend extended periods at CERN.

The term of office of the Chairperson and the Deputy is three years; re-election for further terms is allowed.

### **2.4 Collaboration Board Advisory Group**

The Chairperson may form a team to assist in the preparation and management of Collaboration Board business. The composition of the Advisory Group is at the discretion of the Chairperson of the Collaboration Board. The membership will always include the Deputy Chairperson and the Secretary of the Collaboration Board. The membership does not require endorsement. The names of the current members of this Group are listed at:

[http://cms.cern.ch/iCMS/jsp/page.jsp?mode=cms&action=url&urlkey=CMS\\_CB](http://cms.cern.ch/iCMS/jsp/page.jsp?mode=cms&action=url&urlkey=CMS_CB)

Members of the Advisory Group are invited to attend Management Board meetings so that they are able to assist in the subsequent preparations for the Collaboration Board.

### **2.5 Communications and Interaction with other CMS Boards**

Interaction with the other Boards of CMS is through the Management Board. The Chairperson of the Collaboration Board and his/her Deputy are members of the Management Board and represent the Collaboration Board at Management Board meetings.



The Chairperson, in consultation with the Management Board, shall decide whether a matter merits being put before the Collaboration Board.

The Technical Coordinator and the Resources Manager report regularly to the Collaboration Board on matters from their respective areas of responsibility which are of interest to the Collaboration as a whole.

The Spokesperson will report regularly to the Collaboration Board on important matters concerning the Collaboration, such as meetings of the LHCC or of its referees, or meetings between CMS representatives and the CERN Management or meetings of the Resources Review Boards.

## **2.6 Decisions**

Decisions are to be agreed by consensus wherever possible. If a situation should arise where a consensus cannot be reached, a time scale shall be set for the decision to be reached at a later date. The relevant arguments will be documented and distributed to the Collaboration Board. The matter will then be decided at a subsequent meeting of the Collaboration Board, by a vote if necessary. A simple majority of those present who are eligible to vote will decide the issue (see also Annex 7c). In cases where the Collaboration Board disagrees with a recommendation of the Management Board the issue will be returned to it for further discussion, together with a statement expressing the concerns of the Collaboration Board. The issue will finally be decided in the Collaboration Board on its return.

## 3. The CMS Management Board

### 3.1 Role

The CMS Management Board is chaired by the CMS Spokesperson. The CMS Management Board through the Spokesperson is responsible for directing the CMS project and for drawing up policy. The organisation of the individual subprojects has to be endorsed by the Management Board. It has the mandate to resolve controversies - within or between the various projects. All important Management Board decisions must be submitted to the CMS Collaboration Board for ratification.

All important matters of scientific, technical, organisational and financial nature shall be discussed in the Management Board, either through its own initiative or upon request.

The Management Board through the Spokesperson represents the Collaboration in dealing with other organisations and committees. The Management Board interacts, in particular, with the CERN Management and its various scientific committees.

The documents prepared for scientific reviews conducted by or on behalf of CERN, which are required to monitor the progress of the experiment, should be made available to the members of the Management Board for comment.

### 3.2 Members and Functions

At present, the members of the Management Board are:

- the CMS Spokesperson
- the CMS Deputy Spokesperson
- the CMS Collaboration Board Chairperson
- the CMS Collaboration Board Deputy Chairperson
- the CMS Resources Manager
- the CMS Deputy Resources Manager
- the CMS Technical Coordinator
- the CMS Deputy Technical Coordinator
- the CMS Electronics Coordinator
- the Conference Committee Chairperson
- the Management Board Secretary
- the Collaboration Board Secretary
- Advisors to the Spokesperson
- Technical Advisors to the Technical Coordinator
- the "Regional Representatives" as listed in Annex 8.
  
- the Subproject Project Managers:
  - Central Tracker (2 members)
  - Electromagnetic Calorimeter (2 members)
  - Hadron Calorimeter:
    - Barrel (1 member)
    - Endcap (1 member)
  - Muon Detector:
    - Barrel (1 member)
    - Endcap (1 member)
  - Trigger / DAQ:
    - Trigger (1 member)
    - Data Acquisition (1 member)
  - Physics Reconstruction and Selection (1 member)
  - Computing and Core Software (1 member)

The structure and the present composition of the Management Board is shown in Annex 9.1. An updated list is kept at  
[http://cms.cern.ch/iCMS/jsp/page.jsp?mode=cms&action=url&urlkey=CMS\\_MB](http://cms.cern.ch/iCMS/jsp/page.jsp?mode=cms&action=url&urlkey=CMS_MB)

The Spokesperson is elected for a term of three years by the CMS Collaboration Board. He / she nominates his / her Deputy. The Deputy will assist the Spokesperson in carrying out his / her duties. The nomination of the Deputy Spokesperson must be endorsed by the Management Board and the Collaboration Board. Consultation with the CERN Directorate will be part of the procedure for appointing the Spokesperson.

The Resources Manager and the Technical Coordinator are appointed by the Spokesperson in agreement with CERN, and will be (or temporarily become, if exceptionally seconded from elsewhere) CERN staff members. Their appointments must be endorsed by the CMS Management and Collaboration Boards. The Deputy Resources Manager and the Deputy Technical Coordinator are nominated by the Resources Manager and the Technical Coordinator respectively, in agreement with the Spokesperson. Their nominations must be endorsed by the Management Board and the Collaboration Board. The functions of the Resources Manager, the Technical Coordinator and the Deputy Technical Coordinator are described in articles 4.3.1, 5.1 and 5.2 respectively.

The Chairperson of the Conference Committee is elected by the Collaboration Board for a term of three years. The membership of the Committee is shown in Annex 5.

Advisors may be invited to serve on the Management Board to provide specialist expertise in important areas. Technical advisors are nominated by the Technical Coordinator, in agreement with the Spokesperson; other advisors are nominated by the Spokesperson. The nominations must be endorsed by the Management Board and the Collaboration Board.

The Subproject Project Managers are nominated by the Spokesperson. All these nominations must be endorsed by the Management Board and the Collaboration Board. The Project Managers are responsible for all matters related to the design, construction, installation and operation of their particular project. They should not in general hold another significant position of responsibility within CMS.

The "Regional Representatives" are selected by the Institution Representatives of the corresponding "Regions" as defined in Annex 8. The selection procedure and the term of office of "Regions" are defined individually by agreement between the corresponding Institution Representatives. However, for the Regional Representatives of "Other CERN Member States Countries" and "Other Non - CERN Member States Countries" the term of office is two years. In these cases a new Representative must not be from a country which has provided a previous Representative within the past four years. Other Non-CERN Member States Countries may also designate a Deputy who may replace their Representative in Management Board Meetings. In the case that the Other CERN Member States Countries or the Other Non-CERN Member States Countries is not represented in three successive Meetings of the Management Board, the Spokesperson will initiate steps to rectify the situation, if necessary inviting the "Region" to select a new Representative and, if applicable, a new Deputy. All Regional Representatives should consult regularly the groups of their "Region" and should convey the views of these groups to the Management Board.

The Spokesperson may propose modification of the number of members of the Management Board, in particular those of the Subproject Project Managers and / or the "Regional Representatives", in order to reflect possible modifications of responsibilities and / or

contributions. These proposals are to be endorsed by the Management Board and the Collaboration Board.

### **3.3 Interactions with other CMS Boards**

The Management Board interacts with the other CMS Boards on scientific, technical, organisational and financial matters.

The Spokesperson reports regularly on the business of the Management Board in the Opening Plenary Session of the CMS Weeks and to the Collaboration Board.

Various Board members holding positions as outlined in article 3.2 report to the Management Board on the activities within the CMS Collaboration:

- the CMS Collaboration Board Chairperson on the Collaboration Board,
- the CMS Resources Manager on the Finance Board,
- the CMS Technical Coordinator on the Technical Coordination Group,
- the Subproject Project Managers on their respective project Boards.

The same persons report back to their respective bodies on matters discussed by, and recommendations and decisions of, the Management Board.

Recommendations from the Finance Board or Steering Committee (article 3.4) or Subproject Boards on important matters are discussed at Management Board meetings. All important matters which are accepted by the Management Board are forwarded to the Collaboration Board for final approval, following the procedure outlined in article 2.6. Matters which are not accepted by the Management Board are returned to the respective Board for further consideration and possible modification.

The Chairperson of the Collaboration Board, in consultation with the Management Board, shall decide whether a matter brought before the Management Board merits being put before the Collaboration Board.

The Management Board is assisted in its task of directing and overseeing the CMS project by the Steering Committee, which is a sub-committee of the Management Board. The Steering Committee is responsible for the execution of the CMS Project in line with overall policy laid down by the Management Board; it constantly monitors the progress of all projects and reports regularly to the Management Board.

### **3.4 The Steering Committee**

#### **3.4.1 Role**

The role of the Steering Committee is to assist the Management Board in ensuring that the best possible overall detector is built for LHC physics using the resources available to the Collaboration. The Steering Committee supervises and reviews the progress and planning of the CMS Project during the construction period through milestones. The Steering Committee receives regular brief reports from the Project Managers on progress in their subprojects covering technical progress, schedule progress, milestones, planning and resources.

Important issues of any nature will be passed to the Management Board for decision. This also applies to technical decisions that affect the detector performance.

The Steering Committee provides help and guidance to the Spokesperson, the Technical Coordinator and the Resources Manager and provides guidance for the work to be performed by the Technical Coordination Group.

All actions for the good conduct of the Project will normally be agreed by consensus. The chairperson of the Steering Committee will report regularly to the Management Board on its activities. An Executive Summary of the operational decisions taken by the Steering Committee will be made available to the whole collaboration.

The role of the Steering Committee shall be reviewed at least one year before the start of data-taking.

#### 3.4.2 Members

- The members of the Steering committee are:the CMS Spokesperson (Chairperson)
- the CMS Deputy Spokesperson
- the Subproject Project Managers
  - Tracker + his/her Deputy
  - Electromagnetic Calorimeter +his/her Deputy
  - Hadron Calorimeter
    - Barrel
    - Endcap
  - Muon Detector
    - Barrel
    - Endcap
  - Trigger/DAQ
    - Trigger
    - DAQ
  - Core Computing and Software
  - Physics Reconstruction and Selection
- the CMS Technical Coordinator
- the CMS Deputy Technical Coordinator
- the CMS Electronics Coordinator
- the CMS Resources Manager
- the CMS Collaboration Board Chairperson or his/her Deputy

Members of CMS can be invited for discussions on particular issues at the discretion of the Chairperson. The names of the current members of this Committee are listed at:

[http://cms.cern.ch/iCMS/jsp/page.jsp?mode=cms&action=url&urlkey=CMS\\_SC](http://cms.cern.ch/iCMS/jsp/page.jsp?mode=cms&action=url&urlkey=CMS_SC)

### 3.5 Annual Reviews

During the construction phase the Management Board has mandated the Spokesperson to organize an annual review of the CMS subprojects. The Spokesperson may delegate this responsibility to the Deputy Spokesperson. The reviewers are selected by the Spokesperson and the Deputy Spokesperson, in consultation with the Technical Coordinator, the Deputy Technical Coordinator, the CMS Electronics Coordinator and the appropriate Project Manager.

The Review Committees (one for each subproject) are charged with carrying out an independent, integrated review of all aspects of a CMS subproject, encompassing performance requirements, technical design, manufacturing, scheduling and management. It should also examine whether the resources already used are consistent with expectations and whether those needed for completion are available. The relative emphasis on these aspects will be decided in consultations between the committee, the Project Manager, the Spokesperson and Deputy, the Technical

Coordinator and Deputy, and the Electronics Coordinator. A review of the electronics and electrical systems is explicitly included in the charge to the Annual Review Committees.

Each Review Committee shall produce a written report of its findings, which after discussion with the appropriate Project manager and the Spokesperson and Deputy, will be distributed to the members of the CMS Management Board and presented at a specially convened meeting of the Management Board.

The names of the current members of the Review Committees are listed at:

[http://cms.cern.ch/iCMS/jsp/page.jsp?mode=cms&action=url&urlkey=CMS\\_MGMT](http://cms.cern.ch/iCMS/jsp/page.jsp?mode=cms&action=url&urlkey=CMS_MGMT)

### **3.6 Decisions**

The Management Board will seek to reach decisions by consensus.

In a case where such a consensus cannot be reached, the Spokesperson shall propose a compromise to the Management Board. Should such a compromise not be acceptable by consensus, the Spokesperson will make the decision, which, as for all important matters, will be forwarded to the Collaboration Board for final approval.

### **3.7 Communication with the CERN Management**

Certain members of the CMS Management meet regularly with the CERN Director of Research. CMS shall be represented by:

- the CMS Spokesperson
- the CMS Deputy Spokesperson
- the CMS Collaboration Board Chairperson
- the CMS Resources Manager
- the CMS Technical Coordinator.
- the CMS Deputy Technical Coordinator.

Other members of CMS may be invited to attend such meetings as appropriate.

Members of CERN management shall be regularly invited to meetings of the CMS Management Board and the Steering Committee, as well as to the Opening Plenary Session of the CMS Weeks held at CERN.

### **3.8 Meetings**

Approximately eight Management Board meetings per year are foreseen. In addition, should urgent matters arise, additional meetings may be called by the Spokesperson. In such a case the members of the Management Board must be informed at least two weeks prior to the meeting.

Members of the Management Board may send a replacement should they be unable to attend a meeting. The Spokesperson should be informed of this prior to the meeting.

## 4. The CMS Finance Board

### 4.1 Role

The CMS Finance Board is chaired by the CMS Resources Manager. The CMS Finance Board through the Resources Manager is responsible for dealing with all matters related to the costs and resources of the CMS project (financial, personnel, etc.), evaluation of contributions, relations with funding agencies (drawing up of the relevant agreements), contract policy, and all administrative matters.

The Finance Board discusses and decides on all important issues related to CMS finances. This includes funding, and distribution of charges, income and expenditure, adjudication of large contracts, major decisions with financial implications made by the Subprojects, annual budgets and all subjects related to the CMS Resources Review Board.

All important decisions of the Finance Board are reported to the Management and the Collaboration Boards.

### 4.2 Members

The Finance Board consists of the:

- Resources Manager (Chairperson)
- Deputy Resources Manager
- Link-persons to CMS funding agencies
- Subproject Resources Managers (one per Subproject)
- Spokesperson and / or his / her Deputy (ex-officio members)
- Chairperson of the Collaboration Board (ex-officio member)
- Technical Coordinator and / or his / her Deputy (ex-officio member)
- Project Managers for Common Projects<sup>2</sup> (ex-officio members)
- Project Manager for Infrastructure and Integration (ex-officio member)

The structure and present composition of the Finance Board are shown in Annex 9.2. An updated list is kept at:

[http://cms.cern.ch/iCMS/jsp/page.jsp?mode=cms&action=url&urlkey=CMS\\_FB](http://cms.cern.ch/iCMS/jsp/page.jsp?mode=cms&action=url&urlkey=CMS_FB)

### 4.3 Function of Members

#### 4.3.1 The Resources Manager

The Resources Manager is (or temporarily becomes if exceptionally seconded from elsewhere) a CERN staff member appointed by the Spokesperson in agreement with CERN, and confirmed by the CMS Collaboration Board.

The Resources Manager must keep the Finance Board up to date on the financial situation of the Collaboration. The Resources Manager consults the Finance Board on all major non - technical decisions concerning the CMS project and in particular the Common Projects.

The CMS Resources Manager is in charge of all matters related to the resources for the CMS project, except those which naturally fall under the direct jurisdiction of the Institutes. In particular, he/she is responsible, in consultation with the Common Project Managers, for the

---

<sup>2</sup> The CMS Collaboration has defined two Common Projects: Magnet, and Software/Computing

operation of the Common Funds, evaluation of in-kind contributions and contractual policy. He/she monitors the financial and legal aspects of the Common Projects, taking advice from the CMS Finance Board. He/she is concerned, together with the Link-persons to CMS funding agencies, with establishing and maintaining relations with the funding agencies, with drawing up relevant agreements and with obtaining endorsement for these and any other agreements to which the Institutes of CMS are party. He/she also presents the annual budget and expenditures report to the CMS Resources Review Board.

The CMS Resources Manager may delegate to the CMS Common Project Resources Managers all matters of contractual policy concerning their projects. In exercising this delegated responsibility, the Common Project Resources Managers must act in accordance with the provisions set out in the CMS Guidelines on Common Project Contributions.

The CMS Resources Manager may appoint a Deputy if necessary.

The CMS Resources Manager links the Collaboration with CERN's administrative services.

The Resources Manager is an ex-officio member of the Collaboration Board, Management Board, Steering Committee and CMS subproject Institution and Finance Boards.

#### 4.3.2 Link-Persons to CMS Funding Agencies

The Link-persons keep the Resources Manager informed about funding for the detector construction. They coordinate negotiations on funding and budget profiles with their respective funding agencies, where the Resources Manager may assist them.

The Link-persons are responsible for keeping good working relations with the officials in their respective funding agencies and for keeping the Resources Manager informed about any potential change of the funding situation.

A Link-person is nominated by the representatives of the institutions supported by the relevant CMS funding agency.

#### 4.3.3 Subproject Resources Managers

The Subproject Resources Managers are nominated jointly by the respective Subproject Manager, the Resources Manager and the Spokesperson. Their appointments are endorsed by the respective Institution Boards.

The Subproject Resources Managers deal with all matters related to the costs and resources of their Subproject (financial, personnel, space, etc.), contracts, and in general, all related administrative matters. They must regularly inform the Resources Manager and report to the Finance Board on the resource aspects of their project and on any major changes to the planning. They must inform the Finance Board when large contracts, or groups of related contracts are placed.

## 4.4 Meetings

Members of the Finance Board may send a replacement should they be unable to attend a meeting. The Resources Manager should be informed of this prior to the meeting.

The Resources Manager may call for extraordinary meetings to deal with specific or urgent topics. In such a case the members of the Finance Board must be informed at least two weeks prior to the meeting.



The outcome of all Finance Board meetings is summarised in minutes, which are made available to the members of the Finance Board and to all participants of the Collaboration on request to the Resources Manager.

#### **4.5 Relations with other CMS Boards**

The Resources Manager reports regularly to the Management Board and to the Collaboration Board.

#### **4.6 Decision Taking**

The Finance Board will seek decisions by consensus. In cases where consensus cannot be reached, the Chairperson will propose a compromise to the Finance Board. Should this compromise not be acceptable by consensus, the Chairperson will make a proposal which will be forwarded to the Management Board for resolution.

## 5. CMS Technical Coordination Group

The Technical Coordination is carried out under the responsibility of the CMS Technical Coordinator, assisted by the CMS Technical Coordination Group.

The roles and methods of operation defined below are for the construction phase and will evolve once this phase is completed.

### 5.1 The Technical Coordinator

The Technical Coordinator leads the technical coordination of the CMS project, reporting to the Spokesperson. He/she is (or temporarily becomes if exceptionally seconded from elsewhere) a CERN staff member appointed by the spokesperson, in agreement with CERN, and confirmed by the CMS Collaboration Board.

The Technical Coordinator undertakes the following tasks:

- implementing the Infrastructure Project and directing the Magnet Project as defined in the MoU.
- assuring the integration of the subdetectors and the magnet, the infrastructure at CERN, the surface and experimental areas, the services, the installation of the experiment and the machine interface.
- providing project oversight insofar as to keep informed, or prepare decisions for, the Steering Committee and the Management Board on the progress of the Project.
- organising periodic reviews of subprojects or sub-systems (see article 5.7), especially of engineering designs prior to the launch of full scale procurement and construction.
- fulfilling the technical duties of CERN in its capacity of host laboratory.
- directing the activities of the Technical Coordination Group.

The Technical Coordinator is an ex - officio member of the Collaboration Board, Management Board, Steering Committee, Finance Board and CMS Institution Boards. He/she reports regularly in the Opening Plenary Session of the CMS Weeks, the Collaboration and Management Boards and the Steering Committee.

The CMS Technical Coordinator links the Collaboration with CERN's technical services.

### 5.2 The Deputy Technical Coordinator

The Deputy Technical Coordinator assists the Technical Coordinator and acts on his/her behalf as required.

The particular responsibilities of the Deputy Technical Coordinator are:

- liaising with the subprojects and following the evolution and impact of changes in the detector design, construction progress and installation planning.
- coordinating the study of common problems and encouraging the development and adoption of common solutions.
- organising periodic reviews of sub-systems.
- coordinating the general (host laboratory) support for assembly and test-beam activities at CERN.
- coordinating the definition, monitoring and change control of the planning and milestones reported to the LHCC.
- coordinating the commissioning of the experiment.
- coordinating the definition of the yearly CMS calendar of events.

The Deputy Technical Coordinator is an ex - officio member of the Collaboration Board, Management Board, Steering Committee, Finance Board and CMS Institution Boards. He/she reports regularly to the Collaboration Board, Management Board and Steering Committee.

### **5.3 The Electronics Coordinator**

The Electronics Coordinator coordinates, monitors and supports the development, procurement and installation of electronics systems for the CMS experiment.

Particular responsibilities include:

- coordinating the integration, installation, commissioning and operation of electrical and electronics systems in the experiment.
- liaising closely with the individual subprojects, with CERN groups and with industry.
- promoting information exchange between subprojects and creating and maintaining a knowledge base.
- ensuring compatibility between sub-systems with the objective of coherent operation of the CMS experiment.
- encouragement of common solutions, where appropriate.
- organising periodic reviews of electrical and electronics systems.

The Electronics Coordinator is an ex - officio member of the Collaboration Board, Management Board, Steering Committee, Finance and CMS Institution Boards. He/she reports regularly to the Collaboration Board, Management Board and Steering Committee.

### **5.4 The GLIMOS (Group Leader in Matters Of Safety)**

The role of GLIMOS is defined by the document entitled 'Safety Policy at CERN' (SAPOCO 42, Annex 2.1).

The GLIMOS has complete authority over personnel and equipment in all matters that concern safety of the experiment, irrespective of the institute affiliation of personnel or the ownership of equipment.

The GLIMOS is appointed by the CERN Management on the proposal of the Spokesperson. The appointment is confirmed by the Management Board and the Collaboration Board.

He/she is (or temporarily becomes if exceptionally seconded from elsewhere) a CERN staff member.

### **5.5 The Technical Coordination Group**

The CMS Technical Coordination Group is led by the CMS Technical Coordinator. Its role is to support the Technical Coordinator in the execution of his/her responsibilities (article 5.1). In addition, the Technical Coordination Group works in close harmony with the subprojects and provides them with assistance when required.

Within the Technical Coordination Group, General and Specific Task Coordinators assist the Technical Coordinator by overseeing and reporting on particular aspects of the CMS project. The current composition of the Technical Coordination Group is:

### *General CMS Coordinators*

Technical Coordinator  
Deputy Technical Coordinator  
Electronics Coordinator  
Assembly Coordinator  
General Integration Coordinator  
GLIMOS (General Safety Coordinator)  
Machine Interface Coordinator  
General Engineering and Structural Analysis Coordinator  
Detector Control Systems Coordinator:  
Radiation Issues

*Specific Task Coordinators are appointed as necessary to cover topics such as:*

Quality Assurance Coordinator  
Cooling & Services  
Low voltage system  
Detector Safety System  
Gas Systems  
Rack system  
Magnet Coil Assembly and testing  
Magnet Yoke Assembly

The list of current coordinators is kept at:

[http://cms.cern.ch/iCMS/jsp/page.jsp?mode=cms&action=url&urlkey=CMS\\_MGMT](http://cms.cern.ch/iCMS/jsp/page.jsp?mode=cms&action=url&urlkey=CMS_MGMT)

## **5.6 Meetings**

### 5.6.1 Technical Coordination Meetings

Technical Coordination Meetings with video-conferencing are held regularly. The meetings are chaired by the Deputy Technical Coordinator and are open to all CMS members with technical responsibilities or with relevant expertise or interest in the topics being discussed. They are intended to inform the Collaboration about matters related to the CMS technical assembly and to provide a forum for discussion and exchange of relevant information between subprojects and the Technical Coordination Group. The provisional dates of these meetings will be fixed in advance for every calendar year. All subprojects should be represented. In particular the subproject Technical Coordinators are expected to attend. The agenda shall include, amongst other topics, general assembly schedule and milestones, issues of integration and services, reports on machine interface, general services and infrastructure, safety matters and interim reports from technical task forces mandated by the Management Board. Following discussion in the Technical Coordination Meetings, the Technical Coordinator or his/her Deputy may recommend actions for approval by the Steering Committee, Management Board and Collaboration Board.

The proceedings of all Technical Coordination Meetings are summarised in minutes, which are distributed to attendees and are available to the whole collaboration.

### 5.6.2 Other Meetings

Other meetings will be called as necessary. For example:

Integration link meetings, organised by the General Integration Coordinator take place regularly. Every CMS subproject must nominate a suitable link-person to represent their interests at these meetings and to follow up on issues discussed. A similar structure exists for coordinating cabling with a corresponding cabling link person for each subproject.

Assembly coordination meetings take place regularly at LHC point 5, organized by the Assembly Coordinator. All groups actively involved in assembly activities must be represented.

## **5.7 Reviews**

Before launching the construction of major parts of any subproject or sub-system, or engaging in major related expenditures, the Technical Coordinator, with the agreement of the relevant subproject manager, organizes reviews to confirm the soundness and completeness of the retained design, including the coherence of all interfaces with respect to neighboring sub-detectors or other parts of CMS. The aim is to minimize risks in cost and schedule.

An EDR (Engineering Design Review) or ESR (Electronic Systems Review) is thus held prior to the start of construction of a large item or important procurement.

A PRR (Procurement Readiness Review) may be held in anticipation of an EDR or an ESR, to authorize significant pre-production or pre-procurement, or where parts of the system are well understood and factorize from the overall design. Such parts can, for schedule reasons, be considered for approval to proceed, providing there is no risk to the satisfactory completion of the overall design needed for the EDR.

Each sub-detector will undergo one or more MPRs (Manufacturing Progress Reviews) at strategic moments of the production process. The Technical Coordinator will decide which production processes merit MPRs. The MPR committee will ascertain whether the manufacture is going as planned, whether the milestones are likely to be met and whether the resources (financial and human) required to complete the production are available.

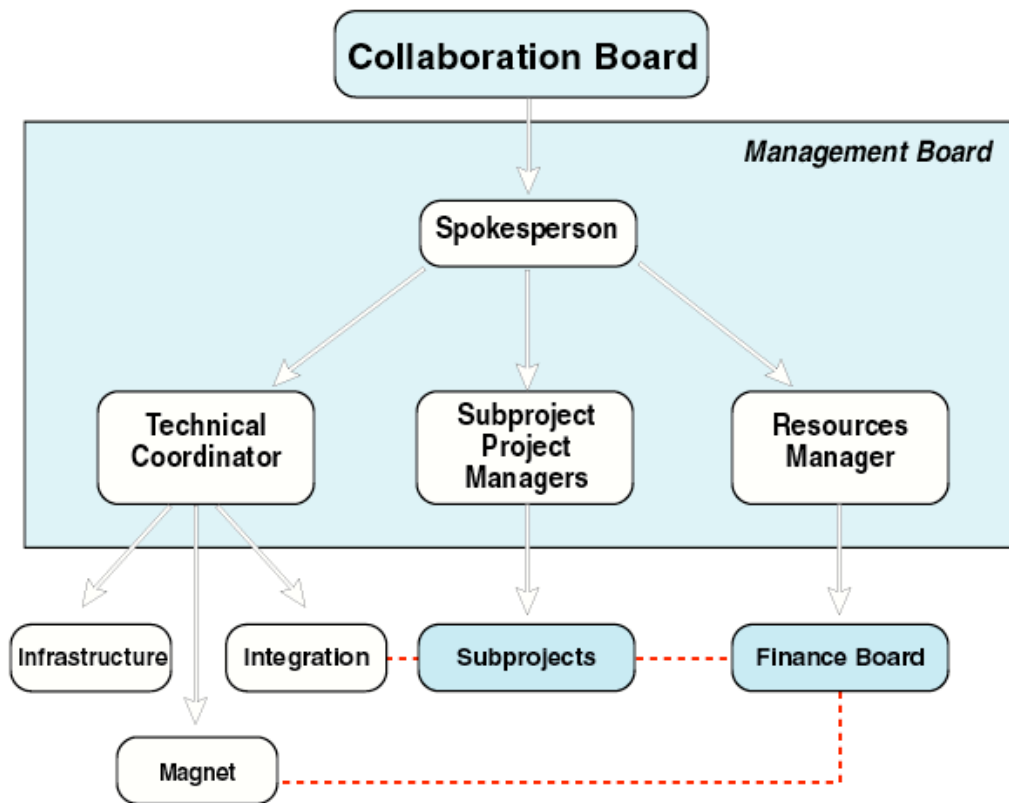
The written reports of the findings and recommendations from these reviews are sent to the appropriate Project Manager with copies to the Spokesperson and the members of the CMS Management Board. Any follow-up is the responsibility of the appropriate Project Manager and the Chairperson of the Review Committee.

## **5.8 Task Forces**

The Technical Coordinator may request the Management Board to approve the creation of a technical task force, comprising representatives of several sub-systems, the Technical Coordination Group and others as necessary, to study or direct some aspect of CMS integration or assembly. Such Task Forces are of limited duration and the chairpersons report to the CMS Management Board.

## Annex 1: Hierarchical Relationship between the CMS Federal Bodies

### Hierarchical Relationship between the CMS Federal Bodies



21 Jan. 2003

Latest version available at: <http://cmsdoc.cern.ch/pictures/cmsorg/boardproject.info>

## Annex 2: Organisation of CMS Weeks

(at CERN or Outside CERN)

	Monday	Tuesday	Wednesday	Thursday	Friday
8:30					
9:00					
9:30		Parallel Sessions	Parallel Sessions	Plenary Session	MB
10:00					
10:30					
11:00					
11:30					
12:00				#12:15	Conference Committee
12:30					
13:00	Opening Plenary Session			Combined FB/MB/CB Session	
13:30					
14:00	Project Manager Reports				CB
15:00					
15:30		Parallel Sessions	Parallel Sessions	FB	
16:00					
16:30					
17:00					
17:30					
18:00					
18:30				CB-IB	
19:00					
19:30			Social Event		
20:00					

## **Annex 3: Participation in the Collaboration**

### **3.1 Procedure for Considering New Collaborators**

3.1.1. A group wishing to join CMS should contact the Spokesperson expressing its interest. (A 'group' is understood to be a unit from an academic / research institute or a formal collaboration of such units.)

3.1.2. The Spokesperson will bring the matter to the attention of the Management Board, and in particular will invite comments from the Project Managers on how the prospective collaborators might be integrated into the experiment and will consult the appropriate Regional Representative. The Regional Representative reports to the Management Board the views of institutes who have associations with the applicant and / or are supported by the same funding agency.

3.1.3. If sufficient interest is expressed by the Management Board, a letter (see Annex 4) will be sent to the applicant by the Resources Manager, requesting information concerning the financial viability of the group.

3.1.4. If the Management Board judges the reply to be satisfactory, the group will be invited to make a short presentation at a future Collaboration Board meeting, giving information on the composition and experience of the group, its proposed contribution to the experiment and its other commitments.

3.1.5. After the presentation, the Collaboration Board will have a first discussion, and any questions raised will be passed on to the applicant for clarification.

3.1.6. The application will be considered further at a later Collaboration Board meeting (normally the following one if all questions have been satisfactorily addressed in time) and a final decision will be made by secret ballot of those present who are qualified to vote.

3.1.7. The Spokesperson will communicate the outcome to the applicant.

3.1.8. If the Management Board does not express a positive opinion after step 3.1.2 or step 3.1.4, the matter will nevertheless be put before the next Collaboration Board. If the Collaboration Board supports the Management Board's view, the Spokesperson will be instructed to write a letter of rejection to the applicant. If the Collaboration Board disagrees with the Management Board and wishes to pursue the application further, the Spokesperson will be instructed to inform the group of the situation, invite them to make a presentation to the Collaboration Board addressing the points listed in the letter of Annex 4 and paying particular attention to any issues which have given rise to concern.

### **3.2 Security of membership in the Collaboration**

3.2.1. Circumstances may arise that lead to the consideration of expulsion of an institute. However, no institute may be expelled from the Collaboration, unless this action is endorsed by the Collaboration Board. Such an endorsement would require a two thirds majority of votes, cast following a full discussion at a Collaboration Board meeting.

3.2.2. Participation of an individual in CMS is at the discretion of the institute to which he or she is accredited. Should an individual be guilty of a serious violation of the rules of CMS, the Spokesperson shall bring the matter to the attention of the relevant group leader, who will be



expected to take appropriate action. If the problem is not quickly resolved, the Spokesperson shall bring the matter to the Collaboration Board who will decide on further action.

### **3.3 Associated Institutes**

3.3.1. The status of Associated Institute provides a means of formally recognising a group supplying specialist expertise in computing or engineering, but not interested in participating in the physics analysis of CMS. Such an Institute appears in all listings of the Collaboration membership, with a flag referring to an appropriate explanatory footnote. If the group has five or more members, it has observer (non-voting) membership of the Collaboration Board. If it has less than five members, it is represented by an established member of the Board. The Institute is not normally expected to pay a Common Fund Contribution or contribute to the general running costs of the experiment.

3.3.2. The mechanism for considering an application for Associated status is the same as that for considering applications for full membership, except that a version of the letter of Annex 4, asking for assurance only that they will cover any travel and subsistence expenses of their personnel, be sent.

3.3.3. Members of a group from an Associated Institute will not normally be included as authors of CMS physics publications. They may appear as authors of CMS related technical papers arising from their contributions to the project.

3.3.4. The status of all Associated Institutes will be reviewed periodically by the Collaboration Board, which may decide that the association be terminated. This would normally be done in agreement with the Associated Institute.

3.3.5. The reviews of Associated Institutes should take place every three years, with the first review foreseen to be at the end of 2004. However, the CMS Collaboration Board may review the status of an Associated Institute at any time, should the circumstances under which the status was originally agreed undergo a significant change.

## Annex 4: Letter to Prospective New Collaborators

**Subject:** Proposed participation of *Institution* in CMS Experiment

Dear .....,

We are pleased to acknowledge the interest of your institute to participate in the CMS Collaboration. Your application will be discussed in the next meetings of the CMS Management and Collaboration Boards. The topics that usually arise in the discussion are listed below for which we are seeking clarification. Would your institute be able to:

- make the appropriate contribution to the CMS Common Projects or other common items and contribute, at the level agreed by the RRB, to their common maintenance and operation,
- fund the construction or procurements of the components for which you will accept responsibility, and contribute to their maintenance and operation,
- contribute to the cost of detector R&D, prototyping, calibration, installation and commissioning,
- bear your appropriate share of other operating expenses,
- pay for the travel and subsistence of your own personnel.

It is important to confirm that your institution will be able to meet these conditions in order to proceed.

Yours sincerely,

CMS Resources Manager

cc. Chairperson of Collaboration Board  
Spokesperson

## **Annex 5:**

# **CMS Conference Committee CMSCC and Nomination of Speakers at Conferences**

The task of the CMS Conference Committee is to promote and to regulate the presentation of results of CMS to the broad international public. This includes conferences, workshops, symposia and the like. Presentations at international laboratories are treated as conference talks.

### **5.1 Communication with the organiser, identifying talks, nominations**

- By default, the CMS Spokespersons, the CB Chair or CMSCC Chair may carry out the communication between CMS and a given conference organiser. Officially, CMS assigns and publishes a single point of contact (CMSCC Chair).
- Conferences where the scope is of technical nature, people from the corresponding subsystems communicate with the organisers.
- For large conferences with a set of talks or with parallel sessions, the CMSCC assigns one person to deal with the organisers of that conference or parallel session.
- All available talks are announced to the collaboration with a deadline to apply or to nominate.
- Every CMS member has the right to nominate a person to give a presentation.
- Members of CMS are eligible to speak on behalf of CMS if they satisfy the rules for CMS authorship. In justified exceptions, the CMSCC may decide differently.

### **5.2 Finding Candidate Speakers**

#### a. Subsystems (MUON, TK, ECAL, HCAL, TR/DAQ, SOFT/COMP)

- Talks about technical issues concerning a given subsystem are decided by the respective Institution Board. The CMSCC is informed, and the talks and names of the speakers are recorded on the web.
- Cases of unresolved controversy or talks involving more than one subsystem are resolved by the CMSCC.

#### b. Physics, Reconstruction, Software

- Members of the PRS conference committee have the task to research talks related to PRS and to post them.
- Deliberations on finding candidates are usually done by email; all members of the CMSCC (and the PRS conference committee) will be on the mailing list.
- The choice of candidates is approved by the CMSCC.

### c. General CMS talks

- All speakers for general CMS presentations (“Status...”, “Highlights...”, “New Physics Results...”, ...) are decided by the CMSCC. The same holds true for invited speakers.

### d. Quality of presentations

- To ensure quality, the rules of the sub detector community or of PRS apply.

## **5.3 Posting**

The public conference web page will show all information available including the names of speakers which have been officially assigned to a talk. In addition, the title of that talk has to be shown with a link to the abstract, the transparencies and write-up (if applicable).

## **5.4 Decision making, Reporting**

- The committee has the final decision making power.
- In CMS weeks, the CMSCC meets in person and prepares a summary talk for the CMS Collaboration Board.

## **5.5 Membership**

The members of the CMSCC are

Chair  
CMS CB Chair or Deputy CB Chair (e.o.)  
CMS Spokesperson or Deputy Spokesperson (e.o.)  
Tracking (Tracker and Muons)  
Calorimetry (ECAL and HAD)  
Trigger/DAQ and Computing  
CPT Project Manager (e.o.)  
Physics Advisor (e.o.)  
Scientific Secretary  
Secretary

The elected members of the board are chosen by the Collaboration Board or by the subsystem communities. The Scientific Secretary is chosen by the chair of CMSCC. The term of the elected people ends in December 2007. After this, the term lasts at maximum for three years and is renewable. The CMSCC Chair may invite additional people to meetings to give advice.

The current membership of the Committee can be found at:  
<http://cmsdoc.cern.ch/CMSstructures/organization.html>

## **Annex 6:**

# **Rules for CMS Notes and Reports and the Editorial Boards**

CMS documents which are intended for distribution (internally and / or externally) can be classified in different categories. At present, rules have been defined only for the following five classes of CMS documents:

– CMS NOTES	designated by the code	- [CMS Note year/xxx]
– CMS ANALYSIS NOTES		- [CMS AN year/xxx]
– CMS INTERNAL NOTES		- [CMS IN year/xxx]
– CMS DETECTOR NOTES		- [CMS DN year/xxx]
– CMS CONFERENCE REPORTS		- [CMS CR year/xxx]
– CMS THESIS		- [CMS TS year/xxx]

The Spokesperson has ultimate responsibility for issuing and publishing of the above mentioned CMS documents. He/she may delegate this responsibility.

In the interest of attaining a uniform and high standard for documents produced across the subprojects an Editorial Board (Publication Committee) has been created. Each subproject shall also create a Subproject Editorial Board. The chairpersons of these Boards will be called the Editor and Sub-Editors respectively.

### **6.1 CMS Notes**

- are an official instrument of documentation and publication.
- contain only information which is approved to be distributed outside of CMS.
- should aspire to the quality of a standard publication
- should be of interest to a wider community
- should be an interesting piece of work but one that is not necessarily original. Clarity of expression shall be considered important.
- are reviewed and must be approved by an independent referee(s) (i.e. a CMS member(s) who is(are) not an author(s) of the note). The name of the referee must be accessible to all members of CMS.
- will be openly accessible from the CMS Notes site

The author(s) of a CMS Note must send a draft copy to the appropriate Sub-Editor and the Editor.

The document is first reviewed by the subproject Editorial Board and the Sub-Editor proposes a classification (e.g. as Note or IN). For reasons of uniformity across the experiment, the definitive classification is decided by the Editor.

Some Notes will be selected by the Editorial Board for publication in recognized electronic Journals. In such a case, with the agreement of the authors, a Note will undergo a second review by a member of the Editorial Board to consider its suitability for publication. The Editor is responsible for corresponding with the Journals.

### **6.2 CMS Analysis Notes**

The process of producing public documents, related to PRS activities, starts with Analysis Notes. Authors must have their analyses approved by the appropriate PRS groups and then by a Physics

General Meeting. At the start of this process a draft Analysis Note is submitted to the PRS Sub-Editorial Board and two referees are appointed. If the Analysis Note is approved the authors may ask to upgrade the document to a CMS Note. In this case a member of the Publication Committee is added as a third referee.

PRS documents not intended to become public are classified as CMS Internal Notes (see section 6.3). PRS-related CMS Notes without a corresponding Analysis Note may be produced. Examples are notes describing algorithms used in the reconstruction programs, or references considered useful to the Collaboration.

Therefore Analysis Notes are

- for CMS Internal use and reference only
- are an instrument for discussions in CMS physics meetings and, once approved, are a reference to an approved analysis.
- must be sent to the PRS sub-editor
- are reviewed by two referees
- will only be accessible by password to the members of CMS

### **6.3 CMS Internal Notes**

- are for CMS internal use and reference only,
- are intended for fast and informal dissemination of information to members of CMS,
- need not be reviewed by a referee,
- must however be sent to the appropriate Sub-Editor and the Editor (for information only),
- will only be accessible by password from the CMS Notes site to the members of CMS.

### **6.4 CMS Detector Note**

Any new and important information that is included in conference presentations will need prior approval. For detector-related presentations this information should be documented in a Detector Note that includes also the relevant background information.

Therefore Detector Notes

- are a vehicle to gain approval for the dissemination of new information concerning detectors,
- are intended to aid presentation of the most recent information at conferences,
- are submitted to the appropriate Detector Sub-Editor and reviewed by the Detector Sub-Editorial Board,
- will only be accessible by password to the members of CMS.

### **6.5 CMS Conference Reports**

- are written by CMS members who presented a CMS related talk at a conference, a workshop or an official meeting outside of CMS,
- may also carry (institute) preprint number(s),
- need not be reviewed by a referee,
- must however be approved by the appropriate Sub-Editor (for detector-related reports) or by the Editor (for PRS reports),
- will be openly accessible from the CMS Notes site,
- may thus contain only approved information (i.e. information contained in CMS Notes, Detector Notes or Analysis Notes).

## 6.6 CMS Thesis

CMS Students are encouraged to make the manuscript of their Thesis available to the Collaboration, once completed and approved by their University. The Thesis will be openly accessible from the CMS Notes site.

## 6.7 Common Guidelines

- all Notes and Internal Notes should be available in source format (e.g. LaTeX, Framemaker, Microsoft Word etc.). Style files for these will be provided and must be used. Guidelines for producing CMS public documents, in particular CMS Notes, are available at

<http://cms.cern.ch/iCMS/jsp/iCMS.jsp?mode=single&part=publications>

- in addition, all Notes should be provided as a Post Script file, and if possible PDF, to be stored on the CMS WWW home page,
- note and report numbers are issued by the CMS secretariat, after they have been accepted according to the procedures outlined above.

## 6.8 The Editorial Board

### 6.8.1 Role

- The role of the Editorial Board, through its chairperson, is to:
- oversee the categorisation of the above mentioned documents,
- supervise the organization, distribution and publishing of CMS notes.
- select CMS Notes for publication and designate the referees.
- decide in cases where referee and author(s) do not agree.

### 6.8.2 Members

The Editor is appointed by the Spokesperson. The Collaboration is solicited for names of candidates for membership of the Editorial Board. The members are selected by the Editor, after consultation with the Spokesperson and the Chairperson of the Collaboration Board. The names of the Editor and the members of the Editorial Board will be put forward for endorsement by the Collaboration Board. The term of office for these positions is three years and may be renewed. The names of the current members are listed at:

[http://cms.cern.ch/iCMS/jsp/page.jsp?mode=cms&action=url&urlkey=CMS\\_MGMT](http://cms.cern.ch/iCMS/jsp/page.jsp?mode=cms&action=url&urlkey=CMS_MGMT)

## 6.9 Subproject Editorial Boards

### 6.9.1 Role

The role of each Subproject Editorial Board is to review documents and to recommend to the Editorial Board their categorization. The responsibility for the creation of each Board and the selection of its members lies with the respective Project Manager(s) and Chairperson of the respective Institution Board .

### 6.9.2 Chairpersons

The names of the current members of each Subproject Editorial Board are listed at:

[http://cms.cern.ch/iCMS/jsp/page.jsp?mode=cms&action=url&urlkey=CMS\\_MGMT](http://cms.cern.ch/iCMS/jsp/page.jsp?mode=cms&action=url&urlkey=CMS_MGMT)

## **6.10 Resolution of Conflicts**

Should a conflict arise between authors or between author and referee, the Editorial Board will decide the matter. In extraordinary cases it may be necessary for the Chairperson of the subproject Institution Board concerned, or the CMS Spokesperson, to inform the editors of a journal that a submitted paper is not endorsed by CMS. Should this occur, the CMS Collaboration Board will decide on what further action should be taken.



## Annex 7: Election Rules

### Annex 7a: Elections / Nominations - Terms

Position	Elected by	Nominated by	Regular Term	Next Term Starts
Spokesperson	Collaboration Board <sup>(1)</sup>		3 years	1/1/2004
Deputy Spokesperson		Spokesperson <sup>(2)</sup>	3 years	1/1/2004
Chairperson of Collaboration Board	Collaboration Board		3 years	1/1/2006
Deputy Chairperson of Collaboration Board		Chairperson of Collaboration Board <sup>(2)</sup>	3 years	1/1/2006
CMS Resources Manager		Spokesperson <sup>(3)</sup>	3 years	1/1/2004
CMS Deputy Resources Manager		Resources Manager <sup>(4)</sup>	3 years	1/1/2004
CMS Technical Coordinator		Spokesperson <sup>(3)</sup>	3 years	1/1/2004
CMS Deputy Technical Coordinator		Technical Coordinator <sup>(5)</sup>	3 years	1/1/2004
Electronics Coordinator		Spokesperson <sup>(2)</sup>	3 years	1/1/2004
Chairperson of the Conference Committee	Collaboration Board		3 years	1/1/2005
"Regional" Representatives in Management Board	"Region" <sup>(6)</sup>		2 years (suggested)	
Subproject Project Managers		Spokesperson <sup>(7)</sup>	3 years	1/1/2005
Subproject Technical Coordinators		Subproject Project Manager <sup>(8)</sup>	3 years	1/1/2005
Subproject Resources Managers		Subproject Project Manager <sup>(8)</sup>	3 years	1/1/2005
Chairpersons Institution Boards	Institutes in Subproject		2 years	1/1/2004 (1st part) or 1/1/2005 (2nd part).

1. Consultation with the CERN Directorate will be part of the procedure for appointing the Spokesperson.
2. To be endorsed by the CMS Management Board and the CMS Collaboration Board.
3. In agreement with CERN, to be endorsed by the CMS Management Board and by the CMS Collaboration Board.
4. The CMS Resources Manager may appoint a Deputy if necessary. This will be done in agreement with the Spokesperson, to be endorsed by the CMS Management Board and by the CMS Collaboration Board.
5. In agreement with the Spokesperson, to be endorsed by the CMS Management Board and by the CMS Collaboration Board.
6. "Regional" Representatives are reviewed on a regular basis (suggestion: every two years) by the institutes within a given (regional) structure, usually a country or a group of countries

(i.e. Russia / Dubna Member States etc.). The "regions" presently represented in the CMS Management Board are shown in Annex 8 of this document.

The term for the representation of "Other CERN Member States" and for "Other CERN Non-Member States" in the CMS Management Board is two years. Reelection after two terms is possible. A new Representative must not be from a country which has provided a previous Representative within the past four years.

7. Project Managers are nominated by the Spokesperson after consultation with the appropriate Institution Board towards the end of the current term. The Chairperson of the Magnet Technical Board is nominated in the same way as the Project Managers after consultation with the CMS Management Board. All nominations are to be endorsed by the CMS Management Board and to be ratified by the CMS Collaboration Board.
8. The Spokesperson and the respective Project Manager are jointly responsible for appointing a Technical Coordinator and a Resources Manager for the subproject. Their nominations are endorsed by the respective Institution Board and the CMS Management Board.

## **Annex 7b: General Conditions**

The renewal of a position - either elected or nominated - at the end of the term of office is allowed.

The Subproject Project Managers may choose to nominate a Deputy who would serve for the same term of office. The nomination would be subject to approval by the relevant Institution Board.

All regular votes shall always be held in the middle of a year such that the following term begins on January 1 of the following year.

The responsibility for monitoring the performance of the Project Managers and their Management Teams lies primarily with the Spokesperson and the respective Institution Board. If shortcomings are found, either the Institution Board may recommend to the Spokesperson, or the Spokesperson after consultation with the members of the Institution Board may propose, that a change be made to the management structure.

Similarly, the CMS Collaboration Board and CMS Management Board should monitor the performance of holders of senior federal positions within the Collaboration. Should problems arise concerning the Spokesperson, the recommendation for change should be made to the Chairperson of the CMS Collaboration Board. In all other cases the recommendation for change should be made to the Spokesperson.

The decision whether or not to hold a vote on such an issue will be taken by the Chairperson of the relevant Institution Board or of the CMS Collaboration Board. Voting will be conducted by the Institution Board if the competence of the member of a project team is called into question, and by the CMS Collaboration Board if the issue concerns holders of federal posts. Should a vote be held adequate notice must be given. A decision for change will require a two-thirds majority.

## **Annex 7c: General procedures for elections and votes by ballot of the Collaboration Board.**

- Each member of the Collaboration Board representing an institution or group of institutions has one vote, to cast on behalf of their institution(s).
- Voting is allowed only after membership of CMS for 1 year.
- The ballot is secret.
- In case of absence, a member of the Collaboration Board may nominate a delegate who may vote on behalf of the institution(s) usually represented by the absent member. The delegate must be a member of the CMS Collaboration, but could come from an institution different to that of the usual representative. A delegate must be present during the discussions preceding the vote. A delegate may not represent more than one absent institution representative nor be a voting member of the Collaboration Board; a delegate may therefore cast no more than one vote. The Secretary of the Collaboration Board, or where applicable the Election Committee, must be informed in advance and in writing (or by fax or e-mail) about the delegation of the vote.
- Voting by mail, fax, e-mail or other means will not be accepted.
- A vote is generally won by a simple majority of the votes cast (i.e. the person or proposal receiving the most votes), except in the cases of the elections of the Spokesperson and the Chairperson of the Collaboration Board (see Annex 7d). In the case of a tied vote, the Chairperson shall define an appropriate procedure to resolve it. However, for important matters, the Collaboration Board may decide before a vote that over 50% of the votes cast may be required to achieve a result, according to the procedures described in Annex 7d.

## **Annex 7d: Procedures for Election of the CMS Spokesperson, and the Chairperson of the CMS Collaboration Board**

The election is carried out within the general procedures described in Annex 7c

- All members of the CMS Collaboration are eligible to stand for election to the position. The Spokesperson and the Chairperson of the Collaboration Board should not hold another Management Board position except "Regional Representative". This means that such a candidate, if elected, has to resign from the other position.
- The organization and management of the elections will be carried out by an Election Committee. In preparing the election, the Committee shall invite nominations from all CMS institutes, consider these nominations and prepare a list of candidates for election to the Collaboration Board.

For the election of the Spokesperson, the Chairperson of the Collaboration Board will be a member of the Committee. For the election of the Chairperson of the Collaboration Board, the Spokesperson will be a member of the Committee.

Each member of the Management Board representing a region shall nominate one representative of their region for the Election Committee. Members of the Election Committee must be members of the CMS Collaboration. The nominations for the Election Committee are to be endorsed by the Collaboration Board.

The CMS Resources Manager is responsible for organizing the establishment of the Election Committee, and acts as its secretary. The Committee members designate one member of the Committee as Chairperson.

- The regular votes shall be held on the Tuesday of CMS Weeks at CERN at a special Collaboration Board Meeting where the candidates will present themselves. If possible, they should be held about six months before the regular term expires.
- All elections must be announced at the preceding Collaboration Board meeting, but at least six weeks in advance of the election.
- The Spokesperson (Chairperson of the Collaboration Board) will normally nominate his/her Deputy Spokesperson (Deputy Chairperson of the Collaboration Board) within two days after election. The nomination has to be endorsed by the Management Board and the Collaboration Board.
- The candidate who has received at least 50% of all cast votes is elected. If no candidate receives this majority, the two candidates with the largest number of votes will participate in a runoff election, which will take place on the same day.

## **Annex 7d - continued**

If there is only one candidate who accepts nomination, the election will proceed and the choice offered will be to vote for or against the one single candidate. The candidate will be declared elected if the 'Yes' votes amount to at least 50% of the votes cast. (It should be noted that in this situation, namely where there is only one candidate on the ballot sheet, an abstention effectively counts as a 'No' vote.) If there is a single candidate who fails to receive at least 50% of the votes cast, or if there is no candidate willing to stand, a new election will be scheduled for the following Collaboration Board meeting.

In exceptional cases, the Chairperson of the Election Committee may ask the Management Board to fix the date for a non-regular election. Also these non-regular elections must be held at Collaboration Board meetings and must be announced six weeks in advance.

## Annex 7d - continued

### **Suggested timetable for the election of the Spokesperson and the Collaboration Board Chair.**

- Autumn CMS Week of the year before the election:
- Management Board: Regional Representatives are requested to nominate a CMS scientist to represent their region on the Election Committee. Nominations are made to the secretary of the Election Committee, the CMS Resources Manager, before the last CMS Week of that year.
- Collaboration Board: is informed that the election is being prepared.

Last CMS Week of the year before the election:

- Management Board: agrees membership of the Election Committee and recommends it to the Collaboration Board. It proposes the date and time of the election.
- Collaboration Board: approves the membership of the Election Committee, and endorses the date and time of the Election.

Before the first CMS Week of the election year:

- Election Committee: elects a Chair who organises its business. It invites all members of CMS to nominate candidates via their Collaboration Board representative, and checks the nominated candidates' willingness to stand, and in the case of the election of the Spokesperson, secures CERN's agreement to the candidates.

First CMS Week of the election year:

- Chair of the Election Committee: reports to the Management and Collaboration Boards and presents the list of candidates who have agreed to stand.

Before the second CMS Week of the election year:

- Election Committee: mails information on the candidates to all members of the Collaboration Board.

Tuesday of the second CMS Week of the year:

- Special Collaboration Board meeting: the candidates are invited to make statements and are available for discussion. The election, organised by the Chair of the Election Committee, is carried out.

The same CMS Week as the Election:

- The elected person nominates a Deputy who is endorsed by the Management Board and then by the Collaboration Board.

## **Annex 8:**

### **Regional Representatives in the CMS Management Board**

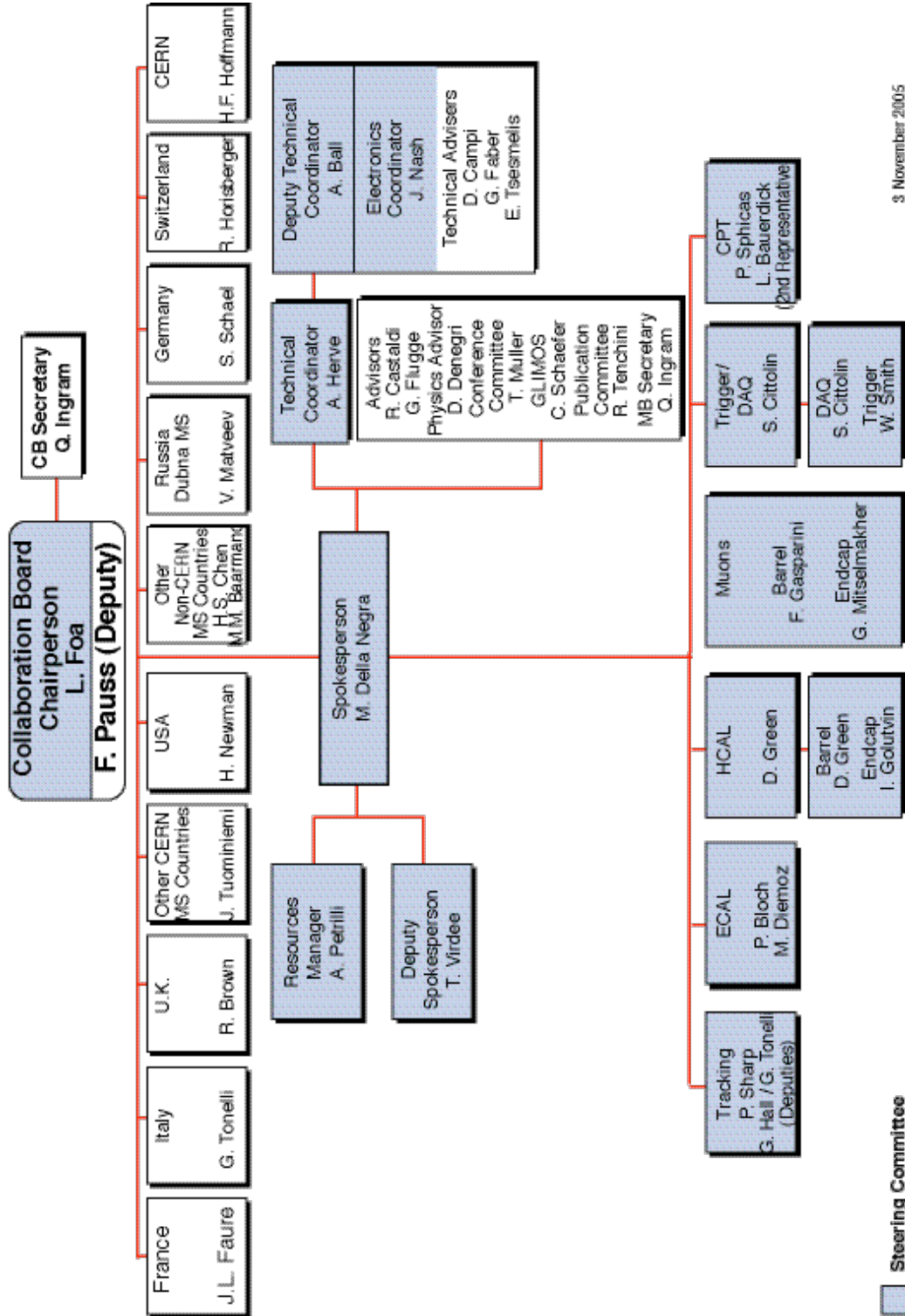
At present, the following "Regions" are represented in the CMS Management Board:

- CERN
- France
- Germany
- Italy
- Russia and Dubna Member States  
(at present: Armenia, Belarus, Bulgaria, Georgia, Ukraine and Uzbekistan)
- Switzerland
- United Kingdom
- U.S.A.
- Other CERN Member States Countries  
(at present: Austria, Belgium, Finland, Greece, Hungary, Poland, Portugal and Spain)
- Other Non-CERN Member States Countries  
(at present: Brazil, China, Croatia, Cyprus, Estonia, India, Iran, Ireland, Korea, New Zealand, Pakistan, Serbia, and Turkey)



## Annex 9.1: Organisational Structure of the CMS Management Board and Steering Committee

### CMS Management Board and Steering Committee

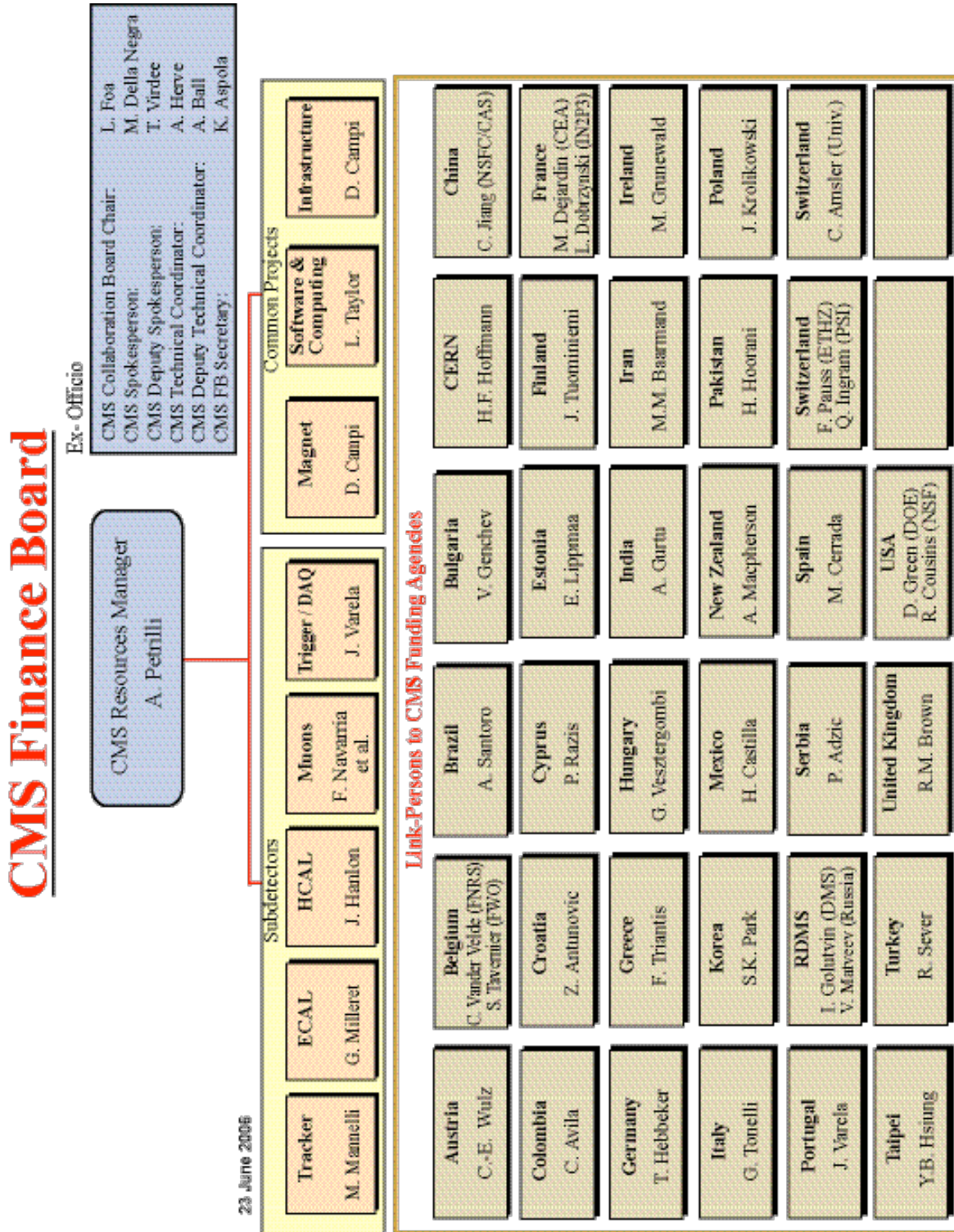


3 November 2005

Latest version available at:

[http://cms.cern.ch/iCMS/jsp/page.jsp?mode=cms&action=url&urlkey=CMS\\_MB](http://cms.cern.ch/iCMS/jsp/page.jsp?mode=cms&action=url&urlkey=CMS_MB)

## Annex 9.2: Organisational Structure of the CMS Finance Board



Latest version available at:  
[http://cms.cern.ch/iCMS/jsp/page.jsp?mode=cms&action=url&urlkey=CMS\\_FB](http://cms.cern.ch/iCMS/jsp/page.jsp?mode=cms&action=url&urlkey=CMS_FB)

## **Annex 10: CMS Authorship of General Physics Papers**

### **10.1**

The authors of CMS physics papers are the physicists, engineers and graduate students who are affiliated with a member institute of CMS and who have spent a significant fraction of their working time for CMS for at least one year since the date of registration with the CMS Secretariat.

Previous members of CMS who have left the collaboration for more than two years must re-register as a new member and become authors one year after re-registration.

In principle everyone who has contributed to the experiment has the right to sign CMS physics papers including, for example, theorists who have made important contributions.

Individual authors may choose not to sign any particular paper by informing the Chairperson of the Authorship Board before the author list is finalised.

The Collaboration Board is ultimately responsible for defining CMS authorship. It shall appoint an Authorship Board for three-year periods of office (appropriately staggered to maintain continuity). The Authorship Board is a sub-committee of the Collaboration Board to which its chairperson reports regularly. The main task of the Authorship Board is to harmonize, monitor and maintain the author list.

The present composition of the Authorship Board may be found on the CMS web server.

### **10.2**

All publications that involve usage of CMS raw data or CMS software must be submitted following the official procedure for CMS publications. Exceptions concerning this usage may be granted by the Spokesperson in consultation with the Chairpersons of the Collaboration Board, the Authorship Board and the Publication Committee.

Members of CMS who want to publish a paper alone or with other experimental or theoretical physicists not in CMS, may only use CMS physics data and results which already appear in CMS publications.

### **10.3**

The technical and financial obligations of each CMS Institution are determined for each calendar year.

The technical contributions shall cover the technical work, shifts etc. as accounted by CMS. The Team Leader of each Institution should distribute the technical load among the members of the team.

Financial contributions must cover both the M&O Cat A and Cat B obligations as presented at the October RRB of the previous year. The M&O Cat A obligations are determined by the number of PhD physicist authors in each Institution. Graduate students and engineers do not count in the determination of the M&O Cat A obligations.

## 10.4

The CMS Secretariat maintains all membership information in the CMS members' database.

The list of authors from each Institution in CMS is maintained by the corresponding Team Leader, who should check regularly the list of collaborators on the said database and should send updates to the CMS Secretariat. Special requests for addition of single authors on a specific paper shall be passed on to the Chairperson of the Authorship Board for approval.

## 10.5

The authorship list is alphabetical  
by country name (in English),  
by town name,  
by institute name,  
by author name,  
by author initials.

For the USA, the ordering of Institutes will be done according to the standard collaboration rules used by the Particle Data Group.

## 10.6

The list of authors for CMS publications will be maintained in electronic form. This will be based on the information in the CMS members' database that is kept updated. The author list of each paper will be available on the Web.

## 10.7

Authors who have been active in CMS for two years or more continue signing CMS papers for one year after leaving the Collaboration, unless the Institute's Team Leader objects.

In addition, on request, authors who retire or leave high-energy physics can sign CMS physics papers for an additional period of four months for every year that they have been members of the Collaboration prior to the publication of the first CMS physics paper. The additional period cannot exceed four years. No additional period is granted for authors who become authors of another major LHC collaboration. The date of commencement in the Collaboration shall be determined from the date of arrival stated in the CMS members database or from the author list and date of publication of the CMS Letter of Intent or the CMS Technical Proposal or any of the CMS Technical Design Reports, whichever is the earliest. Authors falling in this category shall be exempted from the obligations defined in Section 10.3.

Members who have retired but then become emeritus members of a CMS Institute continue to qualify as authors, providing they satisfy the conditions stated in clause 10.1. However they are not to be counted in determining the M&O Cat A obligation of that Institute. Years as an emeritus member shall neither be included in the determination of the additional periods mentioned above nor be counted against the additional periods already accumulated.

## 10.8

The practical application of these guidelines may generate a series of requests for exceptions. The Authorship Board will deal with all such requests. However if appeal is made or an issue of principle arises it shall be brought to the Collaboration Board for decision.

All requests for exceptions, and whether they were granted, are to be reported by the Chairperson of the Authorship Board to the Collaboration Board.

### **10.9**

For any person on temporary leave it is the responsibility of the home institute to ensure that the authorship obligations are fulfilled. This does not exclude agreement by the host institute to take over M&O costs. The home and host institute must decide themselves under which institute the person is listed.

### **10.10**

For persons with joint appointments at more than one institute, the institutes must decide themselves how the authorship obligations are fulfilled. They must also decide themselves under which institute the person is listed.

### **10.11**

An author must be listed under an institute which is a member of CMS, and may appear only once on a given publication. If a person is also affiliated to another institute, it may be mentioned in a footnote as "Also at".

### **10.12**

Undergraduate students will not normally be authors of CMS publications.

### **10.13**

There are Institutions which are not able to pay M&O for all their physicists for financial reasons. For these Institutions a quota should be agreed commensurate with their M&O contribution. Such Institutions must respect their quota when deciding on the author list for a paper.

### **10.14**

On papers published jointly by CMS and TOTEM authors may be listed only once.

### **10.15**

Members of CMS may be entered into the CMS Database in one of the following classifications.

#### **Persons signing papers:**

- Physicist
- Engineer
  - Engineer Electronics
  - Engineer Mechanical
  - Engineer Software
- Graduate Student

The physicist only signs if M&O is paid AND a technical contribution is made when that is defined.

**CMS Emeritus:**

Retired physicists who work on CMS may be classified as CMS Emeritus, and may sign papers without having to fulfil the obligations described in Section 10.

**Persons not signing papers:**

Undergraduate Student  
Technician  
Administrative

**CMS Associates:**

CMS Associates (eg theorists not paying M&O) are on the CMS mailing list and may be added to the author list of a paper to which he or she has made a significant contribution, with the agreement of the Authorship Board. They do not have access to CMS internal confidential information (eg they do not have CMS computer accounts).

**10.16**

Graduate student members of CMS with the right to sign papers may continue to do so after receiving their PhD, without the requirement of contributing to M&O. However, their status should be changed to physicist (if appropriate) promptly, such that the requirements of Section 10.3 apply from the earliest possible date, if they continue to be a member of CMS.