

# European Metrology Research Programme

## Call Process

*This is an extract from the EMRP Interim Report submitted in 2011, which describes the call process used by the EMRP at that time. It is an uncontrolled document and will not be updated.*

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## TABLE OF CONTENTS

<b>1</b>	<b>Call management .....</b>	<b>3</b>
1.1	Preparation for a call.....	3
1.2	Stage 1 process (identifying metrological challenges).....	4
1.3	Stage 2 process (selecting Joint Research Projects) .....	6
1.4	Stage 3 process (selecting Researcher Grants) .....	9
1.5	The EMRP Committee decision.....	12
1.6	The Research Council opinion.....	12
1.7	Contract negotiations.....	13

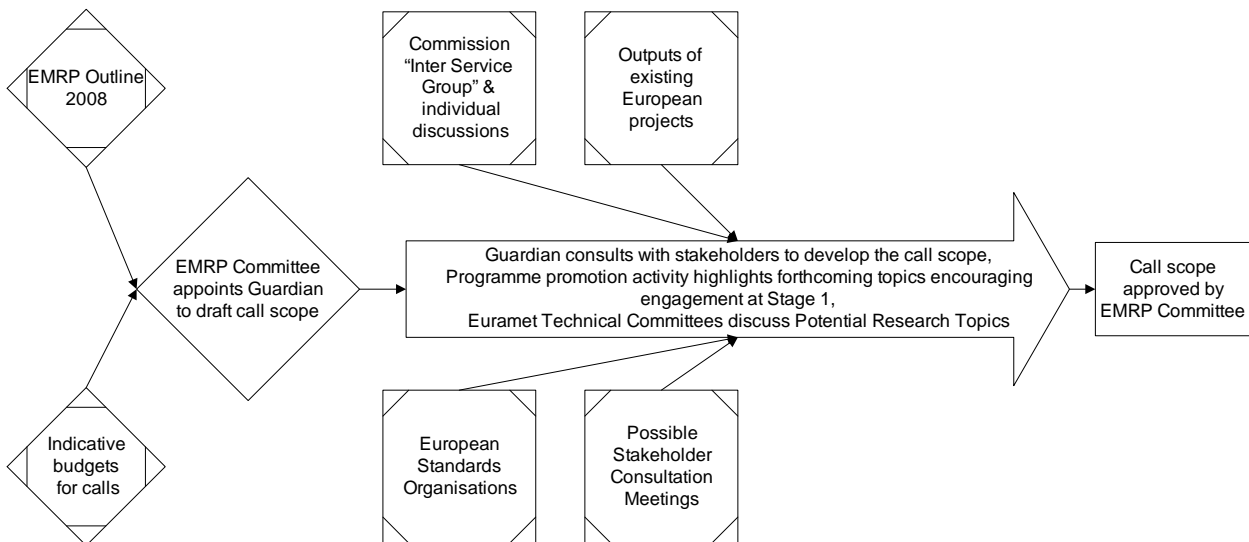
## TABLE OF FIGURES

Figure 1:	Process for defining the area of the programme to be opened .....	3
Figure 2:	Process for stage 1 of a call .....	5
Figure 3:	Process for stage 2 of a call .....	6
Figure 4:	EMRP Researcher Grant Evaluation.....	11

# 1 Call management

## 1.1 Preparation for a call

The process for defining the individual areas is shown in Figure 1. It starts with the appointment of a “Guardian” for the Targeted Programme from the EMRP Committee. The Guardian consults widely with stakeholders and refines the input from the relevant parts of the EMRP Outline 2008<sup>1</sup> into the “scope” document that defines the area for which the call for Potential Research Topics is focussed at Stage 1.



**Figure 1: Process for defining the area of the programme to be opened**

The scope documents for past calls can be found on [www.emrponline.eu](http://www.emrponline.eu) in the archived call pages.

<sup>1</sup> The outline was the result of a series of stakeholder and partner workshops held under the iMERA project and can be found at <http://www.euramet.org/index.php?id=documents>

## **1.2 Stage 1 process (identifying metrological challenges)**

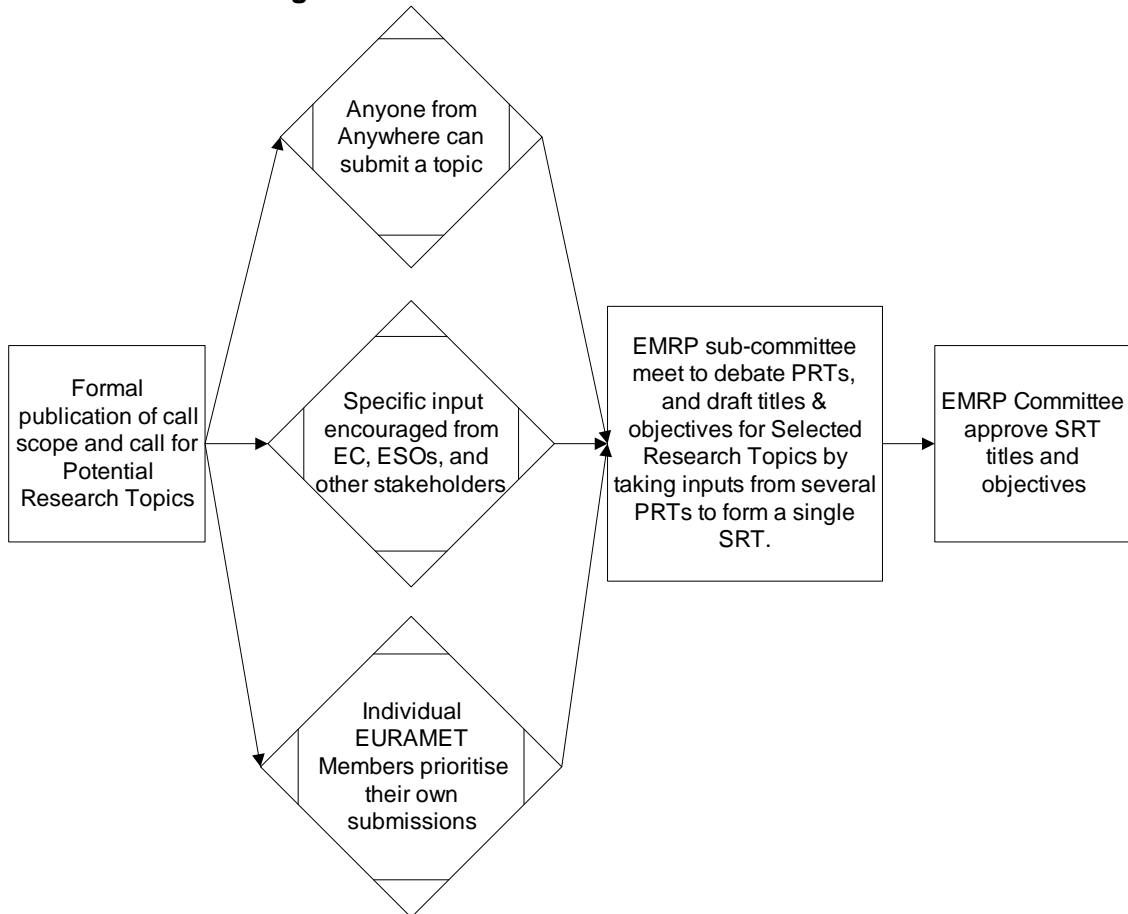
The first part of a call is formally announced in early February, covering the launch of Stage 1 “Call for potential metrology research topics (PRTs)” and advance notification of the launch of Stage 2 “Call for proposals for Joint Research Projects (JRPs) and associated applications for Researcher Excellence Grants (REGs)”. It is announced through three national newspapers in three EMRP participating countries, at least one international journal, as well as on the EURAMET website and through various other electronic media. Stage 1 of the call usually closes in late March.

The aim of Stage 1 is to identify challenges and problems and provide ideas to help the EMRP Committee best prioritise the most important topics to address and make best use of the resources available in the NMI and DI community. This stage is open to any person or organisation from anywhere. The process is web based and provides a simple WORD template to ensure ideas are expressed in an appropriate way. Proposers provide administrative information online, and upload their idea as a WORD file. All submissions are automatically acknowledged by e-mail. The process for Stage 1 of the call is illustrated in Figure 2.

The online web page requires proposers to self identify the most appropriate classification against a list, with the option of “other” for cross cutting topics. The classification is only used to make it more likely that similar topics will be reviewed together. The templates allow “co-authors” to be identified on the forms and encourage interest groups to submit one joint entry rather than multiple similar entries.

Submissions undergo a simple eligibility check to ensure that they can be prioritised (e.g. submission in English, all required sections of the form complete etc) and to remove any submissions that were superseded by the submitters. An Excel workbook is prepared for the EMRP sub-committee with instructions, statistical data and collated information on all of the submissions, and pre-programmed cells to enable marking and comments to be captured. The subcommittee initially work in pairs, each pair responsible for the initial review of PRTs within two or three classifications, thus sharing the workload. Each EMRP sub-committee member is provided with an individual Excel workbook to capture initial impressions and comments. These individual workbooks are then sent back to the EMRP-MSU where the inputs are collated into a single consolidated Excel workbook. This consolidated workbook is then redistributed such that all members of the EMRP sub-committee can see all initial PRT comments, i.e. their own and every other members comments in preparation for the sub-committee meeting. At this stage the review is widened with EMRP sub-committee members free to review all PRTs and prepare further comments. This process culminates in a meeting of the sub-committee where the titles and objectives for the Selected Research Topics are drafted for subsequent approval by the full EMRP Committee. The key criteria in the selection of the topics is alignment with the scope of the call, that the stakeholder need is clearly identified and supported, and that relevant expertise and facilities exist within EURAMET to address those needs.

**Figure 2: Process for stage 1 of a call**



Following the full EMRP Committee meeting a list of the titles of the SRTs is placed on [www.emrponline.eu](http://www.emrponline.eu) along with information on partnering meetings to be held immediately following the launch of Stage 2. The first drafts of the “Supporting Documents” are prepared by the EMRP-MSU, a short document for each topic describing the background, objectives and potential impact. The information and much of the text for the supporting documents is drawn from the relevant PRTs. These drafts are then reviewed by the EMRP sub-committee and iterated until deemed acceptable.

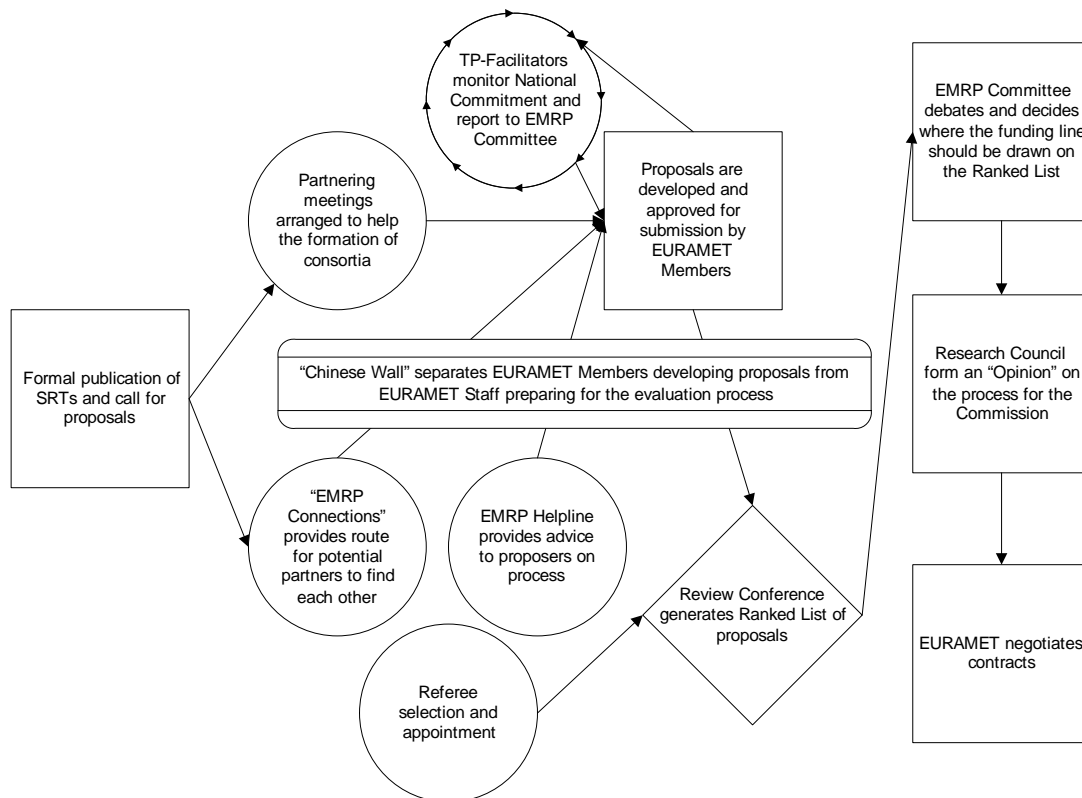
When considering the above process it would be rather misleading to imagine the process as one of prioritising one PRT over another. Rather it is a case of reviewing all PRTs in a given area, establishing a list of all of the needs, scientific and technological objectives and potential impacts expressed, and then identifying which of those ideas could be addressed most effectively by the metrology research community. Thus in each area all of the objectives from all relevant PRTs are assembled, and prioritised. The process is better thought of as a prioritisation of ideas rather than prioritisation of particular PRTs, although the “genealogy” of all Stage 2 topics is carefully captured ensuring the traceability of each of the Stage 2 topics to its “parent” contributing PRTs. This approach ensures efforts can be focused most appropriately, but makes the preparation of the

supporting documents challenging (as it is not simply a case of choosing PRT X over PRT Y and then editing the text of PRT X). The topics are assembled not only to bring the best resources from EURAMET to bear on the identified needs, but also to promote closer working between different EURAMET members and across technical disciplines by combining objectives in single topics that can only be addressed through collaboration.

### 1.3 Stage 2 process (selecting Joint Research Projects)

The second stage dedicated call for joint research projects and associated REGs usually launches in late June and closes in early October. This call opens the Selected Research Topics, each with a supporting document identifying the need or opportunity, the scientific objectives and likely impact. The overall process at Stage 2 of the Call is illustrated in Figure 3.

**Figure 3: Process for stage 2 of a call**



#### 1.3.1 Referees

In parallel with the call the EMRP-MSU and the EMRP Chair and Deputy Chair establish the list of independent referees. In accordance with the Council Decision all referees are drawn from the FP7 expert database. The primary and overriding criteria for the selection of the referees is scientific and technical competence (and their independence from the proposers). Within that constraint the best balance of gender, nationality, background etc is sought. This process involves the

establishment of a larger than needed initial pool of competent referees from which availability is checked, and then, provided there is choice, following a defined set of criteria aimed at achieving the best balance.

In practice, expertise is established with an initial key word search of the FP7 database followed by a detailed review of CVs. It is assumed that many if not most NMIs and DIs in Europe would participate in the programme so no referees are targeted from these organisations. For all referees a more detailed check for conflict of interest is made at each stage of the process to ensure no referees are drawn from organisations involved in the submission of proposals. Those experts (numbering about 200) passing the sift, are entered into the “pool”. The experts in the pool are then contacted to establish their willingness to act as referees for EURAMET, their availability and their expectation of being independent from any proposal. The terms and conditions offered in terms of expenses etc closely follow those used by the Commission for FP7. Potential referees in the “pool” who indicate they could be available are provided with the relevant supporting documents and asked to “self check” their suitability. They respond by e-mail indicating one of three possibilities for each SRT that the paper based review had indicated they would be suitable for:

- Able to read a proposal likely to be received against the SRT as a specialist
- Able to read a proposal likely to be received against the SRT as a generalist
- Unable to read a proposal likely to be received against the SRT

This allows the establishment of the boundary conditions of available and competent referees with a very high degree of confidence that there will be “no surprises”. With at least three referees allocated to each proposal and a maximum of four proposals allocated to each referee, the aim is to have as many referees as SRTs. In selecting the referees from the pool the aim is:

- At least 2 specialists and 1 generalist for each SRT
- Gender: at least 10 % women (obviously we would prefer 50 %, however this figure is totally unachievable in our field)
- Employment: industry ~ 50 %, “other” ~ 50 %
- Countries; outside Europe (1-3), of the remainder EU15 ~60 %, EU12 ~40 %, with as many countries represented as possible, with a limit of 3 referees for any one country
- Some redundancy is built in the process in case the EMRP-MSU checks or declaration by the referees identify real or potential conflicts of interest for referees, requiring them to drop out ahead of the evaluation.

The final list of referees is published on [www.euramet.org](http://www.euramet.org) in December.

### 1.3.2 Stage 2 Eligibility and Evaluation

Following the close of Stage 2 all proposals undergo an eligibility check by the EMRP-MSU against a pre-defined checklist. A document “Guide for Evaluation of JRPs and EMRP Researcher Grants,” is published with the call documents and sent to the referees. The referees are asked to confirm by e-mail that they are able to agree the both the “Code of Conduct for Referees (and Evaluators)” and the “Declaration of Confidentiality and Any Conflict of Interest” which are annexed to the guide. Actual signature of these two documents by each referee takes place at the Review Conference as a prerequisite for participation.

The Guide includes the marking sheets used for the evaluation, which follow the criteria laid down in the Council text.

For JRPs the criteria are:

- Scientific and/or technical excellence.
- Relevance to the objectives of the EMRP.
- Potential impact through the development, dissemination and use of the project results.
- The quality and efficiency of the implementation and management.

Marking is against each criteria between 0 and 5, a mark of less than 3 against any criteria results in the JRP being considered of insufficient quality to be funded. There are plans to introduce a weighting to each of these criteria in 2011.

The process of evaluation involves the referees receiving the proposals assigned to them several weeks ahead of the Review Conference (although all of the remaining proposals are made available in case a debate is required in the plenary session). The referees are requested to review and make their own preliminary informal marking using the template in the guidance document.

At the Review Conference the referees meet a representative of the proposing consortia (normally the person who will become the JRP-Coordinator if the proposal is successful), enabling referees to clarify their understanding of the proposed project and to test the various claims made prior to marking the JRPs and associated REGs.

Key elements of the Review Conference include:

- Guidance briefings for the referees,
- A poster session for the referees with the proposers,
- Discussion between the referees of their initial thoughts based on their individual remote prior reading and their views following the poster session,
- Development of formal questions by the referees to be put to the proposers,
- A formal question and answer session with the proposers,
- Marking of the projects and associated researcher grants,
- A final plenary session to address any issues arising, and to finalise the Ranked List.

The referees are split into pre-defined groups to allow efficient and effective discussion of the JRPs. Each of the JRPs in the group is marked within the group by consensus, however the bulk of the input into the discussions obviously coming from a minimum of three referees formally assigned to the JRP. Although the discussions amongst the referees involves robust debate they have been able to reach consensus in all cases so far. All of the referees within the group sign the final marking workbooks, and overall this process has worked well, allowing wide and effective debate on the relative merits of the JRPs.

To ensure consistency between the scores from different groups of referees, the training of the EURAMET facilitators concentrates on leading their referees to consensus opinions based on the scoring guidance:

*0 = Fail: the proposal fails to address the criterion under examination, or cannot be judged due to missing or incomplete information (JRPs only)*

*1 = Poor: there are serious inherent weaknesses in relation to the criterion in question, or the criterion is addressed in a cursory and unsatisfactory manner.*

*2 = Fair: while the proposal broadly addresses the criterion, there are significant weaknesses that would need correcting.*

*3 = Good: the proposal addresses the criterion well, although certain improvements are possible.*

*4 = Very Good: the proposal successfully addresses all relevant aspects of the criterion in question. Any shortcomings are minor.*

*5 = Excellent: the proposal demonstrates excellence in this criterion.*

As marks are agreed between the referees, the facilitators keep referring to these definitions. To further promote consistency between the groups the Programme Manager wanders between the groups collecting scores as they developed and listening to the arguments. Where a group appears to be scoring out of line with other groups he will ask questions of the referees against this guidance – prompting them to defend their scores.

The final discussions, where referees from all groups come together to review and approve the single ranked list, demonstrates that scoring is consistent across the groups.

The Review Conference is attended by an independent observer who has access to all documentation and all communications with the referees. He interviews proposers, referees and EURAMET staff and reports to the Commission and EURAMET on the correctness of the process as implemented.

#### **1.4 Stage 3 process (selecting Researcher Grants)**

The EMRP Researcher Grant scheme has three fundamental elements:

- Researcher Excellence Grants (REG)
- Researcher Mobility Grants (RMG)
- Early Stage Researcher Mobility Grants (ESRMG)

Researcher Excellence Grants aim at broadening metrological expertise in the programme and are exclusively available to the wider non NMI/DI research community. Researcher Mobility Grants obviously encourage transnational mobility within the programme participants but also provide an opportunity for the European countries not participating in the Article 169 to engage in capacity building of their metrology research capability. The Early Stage Researcher Mobility Grants provide the next generation of metrology researchers from the participating NMIs and DIs with the opportunity to gain transnational experience.

All Researcher Grants are associated with a Joint Research Project and so the call processes are either aligned with a JRP call at Stage 2 above or follow a JRP call once the selected projects are known - Stage 3 REGs and Mobility Grants.

#### 1.4.1 Open Call for ESRMG

This Call opened on 1 April 2010 and will remain open until the end of the programme. A single advert is placed here: <http://www.emrponline.eu/adverts/downloads/Advert%20JRPXX-ESRMG01.pdf>

This scheme is open to early stage researchers to support them in travelling from one JRP-Partner to another. A salary is not paid, but there are allowances to contribute towards travel, accommodation etc. Importantly, the research to be undertaken must be additional to the JRP tasks.

#### 1.4.2 Call Announcement

The second part of a call is announced in early April following the year in which the JRPs are selected, and closes in early May. Publication is similar to the way that the first part is announced but supplemented by comprehensive advertising for specific Researcher Grant opportunities.

Prior to the Call opening the JRP-Coordinators provide the EMRP-MSU with adverts on a EURAMET template for:

- Stage 2 REGs where the REG-Researcher had not been identified at Stage 2, this research is pre-defined and integral to the related JRP
- Stage 3 REGs where the advert describes some specific additional research (defined by the JRP-Consortium) that compliments the JRP but was not included in the original JRP proposal.
- Open REG adverts where applicants can effectively suggest any research that would add benefit to the JRP (Neither the research, Home Organisation or researcher are defined in the advert)
- RMGs where the advert describes some specific additional research that compliments the JRP
- Open RMGs where the applicant is invited to propose additional research to compliment the JRP

All adverts are placed on <http://www.emrponline.eu/adverts.html>, and some additional duplicate adverts are also placed on EURAXESS; the European Commission's Researcher Jobs webportal. Individual JRP-Consortia and Home Organisations are encouraged to place adverts on other websites and in literature.

Some JRP-Consortia choose to place a large number of adverts for different specific research needs related to their JRP. Although the total number of advertised researcher months is then in excess of those that could be funded, these JRP-Consortium feel this might encourage competition between the very best researchers. Other JRPs chose to place only a very general advert.

All EMRP Researcher Grant applications have to be made through <http://www.emrponline.eu>.

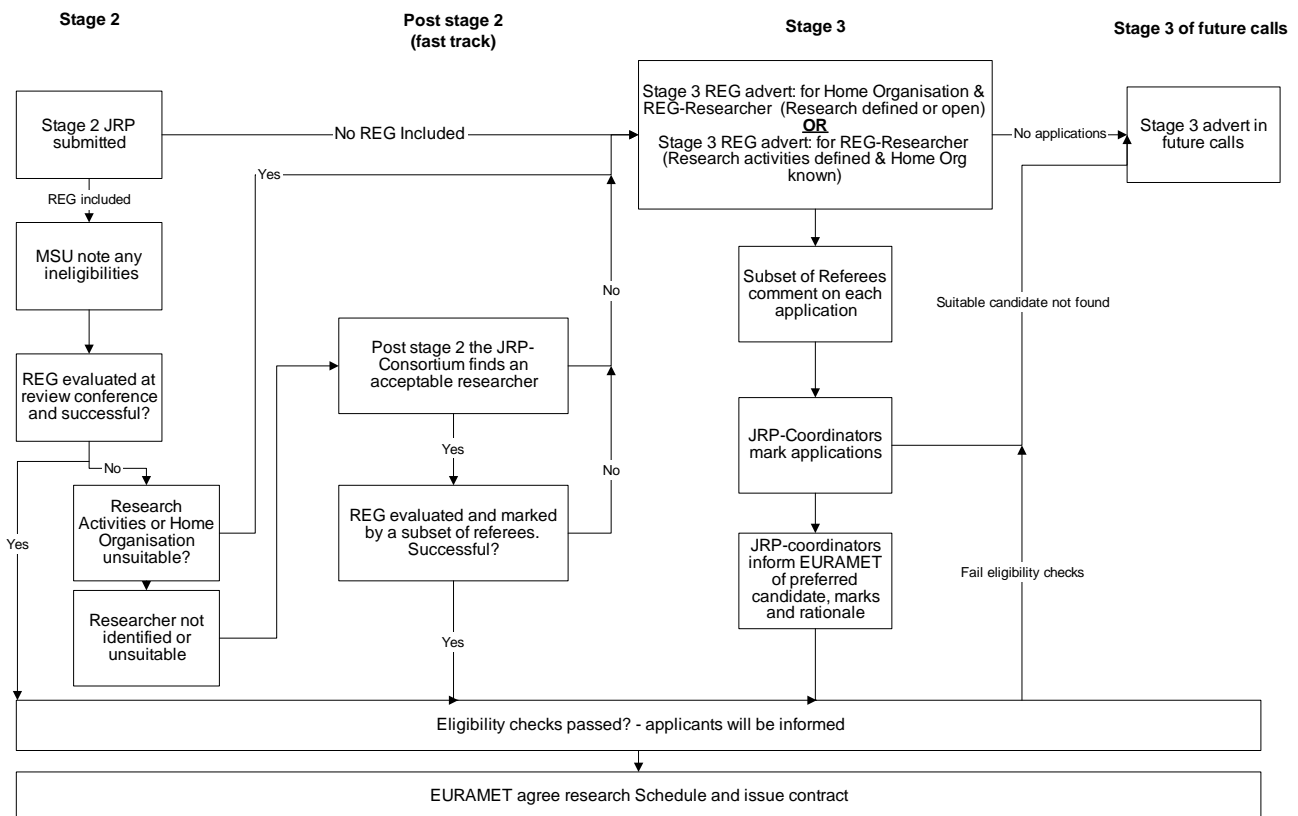
#### 1.4.3 EMRP Researcher Grants Evaluation and Selection

The evaluation and selection process is described in Figure 4.

All EMRP Researcher Grants are evaluated according to the criteria set out in the Decision, which are:

- Scientific and/or technical excellence

- Relevance to the objectives of the JRP
- Quality and implementation capacity of the applicant and his/her potential for further progress
- Quality of the proposed activity in scientific training and/or transfer of knowledge



**Figure 4: EMRP Researcher Grant Evaluation**

The independent referees are involved in evaluating all EMRP Researcher Grants.

- For Stage 2 applications the referees mark the applications and recommend as “fund”, “amend”, or “reapply”. In general this is undertaken at the Review Conference, but for the “post stage 2” re-applications (i.e. where the referees first marked them as “amend”) the marking is done remotely.
- For Stage 3 applications, a subset of the referees make comments on each of the evaluation criteria. The applications and referees comments are then forwarded to the JRP-Coordinators who undertake the marking (against the evaluation criteria), and decide whether any of the applicants are suitable (this can be supported by interviews if they wish). The decision and supporting reasons for their decision are forwarded to EURAMET who then negotiate a contract.

A “REG Research Schedule” is required for each REG (Stage 2 and Stage 3) and also an “RMG Research Schedule” for each of the RMGs. These define the work to be done in a form suitable for a contract document.

### **1.5 The EMRP Committee decision**

It should be noted that the EMRP Committee is the body within EURAMET charged with the overall responsibility for the EMRP. The EMRP Committee consists of one representative from each of the 22 participating countries, with the Institute for Reference Materials and Measurements (IRMM), an institute of the European Commission’s Joint Research Centre, having a standing invite as an observer. Membership of the EMRP is published on the EURAMET website. Voting within the EMRP Committee allows for the significantly varying levels of national commitment to the EMRP, but uses a “square root” system to ensure the decision making process is not dominated by the representatives from the countries with larger national contributions. The EMRP Committee delegates some tasks to a sub-committee, a subset of the full Committee, as it is not practical to carry out some of the tasks in a committee of 22. The full Committee retain overall authority and decision making power.

Immediately following the Review Conference, the full EMRP Committee meets and formally endorses the recommendations of the independent referees with regard to the proposed JRPs and associated Researcher Excellence Grants. The budget for the call and number of SRTs published, is designed so that more projects will be proposed than can be funded (approximately twice) so a funding line has to be drawn in each list.

At this meeting, the Programme Manager presents the Committee with options of what the total and percentage EU contribution to the projects would be (and therefore what national funding would be required) if further projects below the budget line were also funded. Debate in the Committee does not just concentrate on the finances but also considers the detailed referee comments about each project. In 2010 the final decision was to add two projects from the Industry TP and not to add any projects in the Environment TP, thus funding the top 9 projects in Environment and the top 17 in Industry. This was the solution that maximised both the total EU funding to the projects and the percentage EU contribution.

### **1.6 The Research Council opinion**

The EURAMET Research Council meets in December following the Review Conference. Comprehensive information on the process so far is sent to the members ahead of the meeting, including the independent observers report, and a detailed discussion takes place on the day regarding the call and selection process. The Council also provide useful advice to EURAMET regarding the following year’s call. At the end of the meeting the Research Council issue a formal opinion to the Commission. Membership of the Research Council is published on the EURAMET website at:

<http://www.euramet.org/index.php?id=committeesandbodies>

## **1.7 Contract negotiations**

Contract negotiation meetings for the projects selected take place in the first few months of the year. The process starts with face-to-face meetings between project officers from the EMRP-MSU and the individual JRP-Coordinators. The purpose is to convert the JRP-Protocol and the JRP costings as submitted at Stage 2 to form Annex 1 of the contract by

- Addressing the referees' comments
- Ensuring it describes clearly what is to be achieved
- Ensuring it contains enough detail to enable progress to be reported & monitored
- including best practice in the impact and management sections

An important initial task is to remove any overlaps from the projects so that the total budgeted costs of the approved projects could be known and the final EU funding rate for the call set.

The face-to-face meetings take place at the JRP-Coordinator's institute between the JRP-Coordinator and two members of the EMRP-MSU. This approach is chosen as it enables the JRP-Coordinator to be accompanied by a project manager or work package leader. It also provides the opportunity for others within that institute to be briefed and ask questions. Negotiations are concluded by email exchanges over the following weeks.