

WORLD METEOROLOGICAL ORGANIZATION



**IMPLEMENTATION PLAN FOR
HOMS IN THE 21ST CENTURY**

1. INTRODUCTION

1.1 HOMS, the international system for technology transfer in operational hydrology, was launched in 1981. During its eighteen years of existence, HOMS has developed a network of 120 HOMS National Reference Centres (HNRCs) and 8 Regional Focal Points. The HOMS Reference Manual (HRM) is updated regularly and there have been more than 3500 transfers of HOMS components.

1.2 However, as we approach a new century, National Hydrological Services (NHSs) are confronted with new and ever-increasing demands from their users and therefore the need for an efficient HOMS is stronger than ever. This plan meets this need by focusing on the following objectives:

- laying out the strategies needed to enhance HOMS;
- defining future procedures for implementing HOMS; and
- defining the role of the HNRCs and of the Office for HOMS in the WMO Secretariat,

taking into account both the technological advances in operational hydrology and information technology of recent years, and the new challenges facing NHSs at the dawn of the 21st Century.

1.3 The International Workshop on HOMS in the 21st Century held at the WMO Secretariat in Geneva, 6 to 8 September 1999 developed a draft of this plan for HOMS. The CHy Advisory Working Group, in its capacity as the Steering Committee for HOMS, reviewed and approved this plan during the week of 13 to 17 September 1999.

2. MISSION OF HOMS

2.1 The mission of the Hydrological Operational Multipurpose System (HOMS) is the organised transfer of proven hydrological technology operationally used by National Hydrological and Meteorological Services (NHMSs) for all facets of hydrology and water resources management. This includes network design, the observation, collection, processing and storage of data, hydrological modelling, and methodologies, techniques and best practice guidelines for hydrologic forecasting and water resources management. The hydrological technology available in HOMS is presented and transferred through training and in the form of materials and software in the form of components and sequences of components. HOMS components may include:

- a) instruments,
- b) other equipment,
- c) computer software,
- d) manuals and guidance material, and
- e) training material.

Items d) and e) above can be in any medium: paper, video, computer-based, etc.

3. OBJECTIVES OF HOMS

3.1 The objectives of HOMS are to:

- (i) provide an efficient means of technology transfer;

- (ii) aid in the application of and training in appropriate technology, especially in developing countries;
- (iii) improve the quality of hydrological information available for use by decision-makers; and
- (iv) provide an international systematic framework for the integration of the many technologies, methodologies, procedures and guidelines for use in hydrology and water resources management.

4. TARGET GROUPS FOR HOMS

4.1 The primary target group is the NHMSs of Members of WMO. Members of the secondary group encompass those other academic and government agencies involved in hydrology and water resources. In making information available to these two groups, it is recognized that access will in effect become worldwide. However, it is essential that ongoing development and promotion of HOMS be targeted towards the NHMSs and related organisations. The AWG will need to monitor the impact of the wider access to HOMS on the HNRCs and on HOMS itself.

5. THE ROLES OF THE VARIOUS GROUPS INVOLVED IN HOMS

5.1 The groups involved in the implementation of HOMS include:

- Office for HOMS in the WMO Secretariat
- Commission for Hydrology (CHy), through it's Advisory Working Group (AWG)
- WMO Regional Associations (I-VI)
- HNRCs
- HOMS Regional Focal Points

5.2 The role of the Office for HOMS in the WMO Secretariat is:

- Identify gaps in HOMS;
- Coordinate the provision of components to address these gaps;
- Manage the HRM, including publication in its various forms;
- Manage components, including:
 - acceptance of components,
 - distribution of components originating from the WMO Secretariat;
- Co-ordinate and facilitate activities of the Regional Focal Points and the HNRCs, for example:
 - instruction in the use of HOMS itself and sponsoring international training in the use of the individual components and sequences
 - exchange of information on needs and solutions to these needs
 - manage and publish the HOMS Newsletter;
- Monitor the performance of HOMS (with HNRCs);
- Mobilise resources in support of:
 - the development of training packages
 - the running of training courses
 - the filling of gaps in the HRM.

5.3 The role of the Commission for Hydrology, operating principally through the AWG, as the Steering Committee for HOMS is to:

- Establish the policy for HOMS activities;
- Set priorities for the activities within HOMS, as regards:
 - Identification of gaps

- Provision of components to fill gaps
- Development of training material
- Provision of training courses;
- Establish performance criteria for monitoring HOMS;
- Participate in the component description approval process;
- Establish mechanisms for the provision of new components, through for example:
 - CHy Technical Expert Working Groups
 - Regional projects.

5.4 The role of Regional Associations I to VI is to:

- Promote HOMS;
- Facilitate the exchange of information on needs and solutions to these needs;
- Facilitate training for:
 - the use of HOMS
 - the use of components and sequences;
- Co-ordinate regional and HNRC activities;
- Participate in the component description approval process, through the Regional Hydrological Advisers (RHAs);
- Provide new components and sequences through regional experts, Working Groups on Hydrology (WGHs) and regional projects.

5.5 The role of the HNRCs and Regional Focal Points is to:

- Promote HOMS to the target groups;
- Identify gaps and needs;
- Originate and undertake preliminary review of components (first stage of the approval process);
- Manage the components originating from the country of the HNRC, as regards:
 - transfer of components
 - updating and/or removal of components
 - maintaining of contact with the component originator;
- Promote the development of training material for components;
- Co-ordinate national training activities;
- Monitor the performance of HOMS in collaboration with the Office for HOMS.

6. CRITERIA FOR NEW AND UPGRADE OF EXISTING COMPONENTS AND SEQUENCES

6.1 Components and sequences can originate from a number of sources, including Members of WMO with HNRCs, Members of WMO without HNRCs, bilateral and multinational projects and specialised technical groups or committees. Irrespective of the source of components, it is essential that they meet specific criteria for their acceptance. These criteria are:

- (i) a component must fall under one of the following categories: instruments, other equipment, computer software, manuals and guidance material, training material;
- (ii) the component should be relevant to the needs of other NHMSs;
- (iii) the component must be readily available, either free of charge or as a commercial product which must have an approximate cost provided;

- (iv) the component must be in active use by the contributing NHMSs or another organization which should be able to provide advice on its experience;
- (v) the component must be supported;
- (vi) the component description must be reviewed regularly with regard to the criteria (ii) to (v) above and, in addition, the technology therein may require updating (a period of four years between reviews is recommended);
- (vii) the component should meet international standards (eg Guide to Hydrological Practices, WMO Technical Regulations, ISO Standards, etc.); and
- (viii) the component description must follow the Guidelines for writing of components (see Annex 1).

7. PROCEDURE FOR THE ACCEPTANCE OF NEW COMPONENTS AND SEQUENCES

7.1 The procedure for the acceptance of new components and sequences is the following:

- Review and submission of components by the HNRC;
- Review and acceptance/rejection of components by the relevant Regional Hydrological Adviser (RHA);
- Review and acceptance/rejection of components by the Office for HOMS in the WMO Secretariat;
- Involvement of the AWG in the provision of expert advice and the resolution of any contentious issues, when called upon by the WMO Secretariat or an RHA.

7.2 The initial and primary responsibility for the review of components rests with the HNRC. Once the HNRC is satisfied with the component and its description and can provide a documented review process using and commenting on the acceptance criteria outlined in 6.1 above, it should forward, in parallel, to the Office for HOMS in the WMO Secretariat and to the Regional Hydrological Adviser (RHA) of the relevant region:

- the component description;
- all available background information (including comments on the acceptance criteria); and
- where practical, a copy of the component itself.

7.3 The Regional Hydrological Adviser (RHA) should endorse the proposed component providing the technology described is relevant beyond the boundaries of the country from which it originated. This also guarantees that RHAs are kept abreast of what technological advances are occurring in their region, which in turn proves useful for their work as chairs of the Regional Working Groups on Hydrology. This endorsement is to be provided to the Office for HOMS at the WMO Secretariat within two months of receiving the component documentation from the HNRC.

7.4 The Office for HOMS at the WMO Secretariat is to ensure the readability and standardisation of the descriptions of HOMS components and sequences. If endorsement of the component by the RHA is not received within two months, the Office for HOMS will advise the RHA that if a response is not received within one month the component will be included in the HRM. After this time the Office for HOMS may include the component in the HRM, provided the Officer for HOMS considers the component meets the acceptance criteria.

7.5 If there is any doubt or dispute with respect to the acceptance of a component, this can be referred to the AWG for adjudication at any stage of the process.

7.6 The procedure described in the paragraphs above is illustrated in Annex 2 as a block diagram.

8. COMMERCIAL COMPONENTS

8.1 Since its inception, components of a commercial nature, especially instruments and software, have been included in HOMS. Their inclusion and for that matter the inclusion of any component, does not imply an endorsement by WMO. The Office for HOMS has rarely actively sought the incorporation of commercial components. Exceptions have been the catalogues of water level recorders, current meters, winches, cranes, cableways, and other gauging accessories, which were compiled at one time. Excluding these, the commercial components in the HRM are those that were supplied by HNRCs, mainly because they have either been developed by them or were used by them themselves.

8.2 The result of the practice described above has been a very unbalanced representation of hydrological technology available commercially.

8.3 In the areas of both hydrological instrumentation and software, the trend over the last decade has been away from "home grown" or "in-house" development/production and towards the use of commercial products. Where in-house development is occurring, there is often a desire to recover some of the cost through the commercialisation of the product. The increasing power, reducing cost and wider availability of computers has resulted in an increasing range of very powerful and flexible commercial and lower cost shareware scientific software being available.

8.4 Therefore, HOMS should contain commercial components. However, all components in HOMS, whether free or commercial, should contain a disclaimer which reflects the fact that the WMO does not endorse the component. Such a disclaimer may read as follows:

While this component may be used by one or more WMO Member(s), its inclusion in HOMS does not imply endorsement by WMO. Other products within or outside the HRM may perform equally well or be more suitable under the conditions experienced in different countries.

8.5 Commercially available technology can be included in future editions of the HRM. This technology falls into two categories:

- (a) Commercial/shareware products used by NHMS's and closely related agencies; and
- (b) Other commercial/shareware products of relevance to hydrology and water resources.

8.6 The products used by NHMS's (8.5(a) above) should be included subject to the acceptance criteria specified in Sections 6 and 7.

8.7 The other commercial products (8.5(b) above) may be included in the HRM and could be presented in the form of a listing of similar products relevant to a particular section. The

form of this listing needs to be developed by the Office for HOMS and reviewed by the AWG, ensuring that it can be easily maintained. The listing would comprise a single component in a section of the HRM. The Office for HOMS will monitor the effort required to maintain the information in these components.

8.8 A separate, but highly related issue is whether the inclusion of these components may at some time in the future be restricted to products compliant with certain, yet-to-be defined standards. This matter is currently under review by the Office for HOMS in consultation with the AWG. What is undeniable is the potential benefit that HNRCs, especially those from developing countries, would derive from the effort described above. All too often their managers are faced with the responsibility of having to take decisions which could affect the future functionality of the service, without having at their disposal the complete information on what technologies are available.

8.9 The approximate costs associated with procurement of commercial components within HOMS must be specified in the HOMS component description.

9. ORGANIZATION OF THE HOMS REFERENCE MANUAL

9.1 The HRM constitutes the cornerstone of HOMS, to many it is the external image of the System, to the point that it is confused by many with the System itself. It is thus of the utmost importance that the HRM be kept up-to-date so as to be regarded worldwide as a repository of state-of-the-art and operationally proven technology for hydrology and water resources. There is a requirement to broaden this image such that training becomes more recognised and synonymous with HOMS.

9.2 As for the format of the HRM, the version available on the WMO World Wide Web server has recently become that which is most widely used. It is thus essential to have this version translated into additional languages. However, it is still necessary to maintain the paper and diskette versions, as not every HNRC has reliable access to the Internet. It is also recognised by those with Web access that the hardcopy version of the HRM is desirable, as this version greatly facilitates rapid access to the information contained therein. While the Internet version could be updated on a continuous basis, the two more traditional versions can only be updated and distributed less frequently, for example on a yearly basis.

9.3 The following three different formats of the HRM are to be maintained. The order does not reflect the importance of each format but simply that the soft-copy and hardcopy are based on the Internet format.

(i) Internet

The Internet, or more specifically Web technology, will be the focus for maintaining and presenting the HRM.

The existing web pages will be expanded to make use of the features of HTML and include information on:

- The role of HNRCs
- The role of the Office for HOMS
- How to use HOMS
- On-line requests of components. The request being e-mailed to the correct HNRC for action or to the Office for HOMS for forwarding.

- Use of hot links within component descriptions where HNRCs or suppliers have web pages.
- Key word searching of all components
- Cross referencing where components are relevant to multiple Sections.

NOTE: The web pages are continuously updated and form the basis of the CD-ROM version.

(ii) **Soft-copy**

The existing floppy disk version of the HRM will be updated to be the Web based version of the HRM. Initially the size of the HRM will probably be small enough that the Web pages could be “zipped” up into an archive and placed on a manageable number of floppy diskettes. The pages can then be installed on a PC hard disk drive and viewed using a browser (such browsers are commonly packaged with Windows operating systems).

In the future CD-ROMs will be used as CD units become more widespread, the cost of producing CDs is quite cheap and CDs have sufficient capacity to hold the HRM in its multiple languages and a range of promotional material in an uncompressed form. The CD-ROM will contain a complete copy of the Web pages and operate in a stand-alone mode using a standard browser and Web display technologies, and hence no installation should be required before use.

The CD-ROM will be updated annually with multiple copies being made available to each HNRC for distribution within a country.

(iii) **Hardcopy**

A number of countries have expressed the desire to continue to have access to a hard copy version of the HRM. Therefore, a hardcopy version will be produced on request. This will contain:

- HOMS overview and objectives
- Brief description of each major section
- HOMS components
- Description of how HOMS operates (How to use it).
- List of HNRCs
- Role and operating guidelines for HNRCs
- Criteria for Component selection and the Component approval process
- Guidelines for preparing HOMS descriptions
- Role and operating guidelines for the Office for HOMS
- CD-ROM/floppy disk of all HOMS Components.

10. DISTRIBUTION OF COMPONENTS AND THE ROLE OF THE INTERNET

10.1 The possibilities inherent in the widespread use of the Internet are ideally suited to a programme such as HOMS, with its network of national centres on a global scale. This potential has yet to be realised. Some future applications could be:

- To add to the web version of the HRM an option to download publications in electronic format. The Office for HOMS in the WMO Secretariat could carry out the scanning involved, in those cases where the originator could not provide a version in a suitable format and the resultant file is not too large for efficient download.

- To add to the web version of the HRM an option to download software directly, either from the originator's or from WMO's website. In the case of commercial software, downloadable demonstration versions could be very useful and timesaving for both the originator and the user.
- To add to the web version of the HRM, links to the websites of the manufacturers of the commercial components.

10.2 The presence on the Web of a dynamic and efficient HOMS, will mean a considerable increase in the workload of some HNRCs, particularly those responsible for a large number of components. While suggestions have been made in the past regarding means of limiting the access to the HOMS website to selected users, this is not really desirable. It is felt that the ability to automatically download components may help defray the increased number of transfers. The choice as to whether to allow automatic downloading or to pursue the traditional transfer mechanism is up to each individual HNRC.

10.3 The types of components that will be considered for access through the Internet include:

- Software packages (self contained)
- Documents – reports, publications, catalogues, etc.
- Demonstration versions of complex software
- Equipment specifications
- Videos

10.4 The Internet will also be used for:

- Provision of Newsletters, promotional material
- Provision of links between HNRCs , RAs, etc.

10.5 The use of the Internet for interactive training in components will also be promoted.

11. PROCESS TO IDENTIFY GAPS IN HOMS

11.1 Gaps within HOMS can result from three major sources:

- (i) The withdrawal of components. As HOMS is updated, older components may be withdrawn;
- (ii) Evolution of science and technology within existing HOMS categories. For example, there is ongoing development of new technology within existing component categories, such as flow measurement and acoustic doppler current meters, etc; and
- (iii) Change/evolution in hydrological science and water resources management in general. Traditionally HOMS has addressed the needs for operational hydrological technology with emphasis on precipitation and water quantity and to some extent sedimentation. Increasing awareness of the impact of environmental degradation is resulting in a more holistic approach to water resource management.

11.2 Science and technology are continually growing and developing. Hence, the advent of new components and sequences reflects that HOMS is a dynamic system. Involvement in HOMS continues to be on a voluntary basis and therefore the methods employed to fill gaps within HOMS will recognise the source of the gaps, the needs of the user community and that participation in HOMS is voluntary.

- 11.3 The methods by which gaps in HOMS will be identified include:
- (i) Meetings of interested parties, including CHy, AWG, CHy WGs, RA WGHs and other opportunities;
 - (ii) Proposals from and through the HNRCs;
 - (iii) Newsletters;
 - (iv) Direct surveys, questionnaires;
 - (v) Bulletin boards, e-mail groups, chat groups, etc; and
 - (vi) User groups.

12. TRAINING WITHIN HOMS

12.1 Experience has shown that the most successful transfers of components in the past were those where an appropriate training strategy was tied into the process. This is particularly true for those components with a high level of complexity.

12.2 While it is simple to point out the necessity of appropriate training to be associated with certain HOMS components and sequences, the actual provision of adequate training at international level is a complex problem, due to the considerable costs involved. (For example, documentation, internet web based training, videos, and residence courses.)

12.3 HNRCs are encouraged to offer training packages in conjunction with the components they supply. If they cannot assume the financial burden of implementing these packages, the Office for HOMS in the WMO Secretariat can approach multilateral and bilateral financial institutions to seek the necessary support to cover, for example, training at the regional level for at least the most frequently requested complex components.

12.4 It must be stressed that training is an essential part of HOMS and it should be targeted to meet the needs of the primary users of HOMS: the NHMSs. Two types of training are required, namely:

- (i) Instruction on the availability and use of HOMS itself, and
- (ii) Training on the use of components and sequences.

12.5 Any new components should be accompanied by a brief note on a recommended training strategy which should appear within the component description. A survey of training needs will also provide useful information on gaps in both training and gaps in HOMS.

12.6 Participants in training courses should be selected as those most likely to benefit from the training and those most likely to return these benefits to their NHMS. In this regard, the component training strategy should identify the skills required for use of the component.

12.7 The full range of training methodologies are to be employed within HOMS, the most appropriate method being used in each case. These include:

- Existing training courses (where possible existing courses are encouraged to make use of HOMS components)
- Training the trainer programmes
- Roving workshop programmes
- Training at source
- Video training
- Distance training

- On-line help desks
- CD-ROM training
- Internet based training

12.8 Where the “direct contact” approach is adopted, the training should take place at the regional to sub-regional level and incorporate:

- Local case studies
- Careful selection of students (skills based assessment)
- Holding with other meetings so as to reduce costs

12.9 With respect to funding, it is recommended that development projects include resources for training in addition to the supply of HOMS components. The various funding sources are encouraged to look for packages which provide proven technology with appropriate training programmes. In particular, HOMS is considering involvement in the World Bank “distance learning” infrastructure.

12.10 HNRCs are encouraged to supply components describing available training courses of relevance to hydrology and water resources. It may also be appropriate for training courses to be submitted as a sequence of components.

13. GUIDELINES FOR THE REVIEW OF COMPONENTS

Components should be reviewed using the same criteria as applied to the acceptance of components (see Paragraph 6.1). Where a component is removed and the technology still has relevance to other countries, for example, a manual or a piece of software no longer supported by an originating country, if possible and practical, a copy of the component itself should be sent to the Office for HOMS for retention.

14. GUIDELINES FOR HOMS COMPONENT DESCRIPTIONS

Annex 1 contains a copy of the Guidelines for HOMS component descriptions.

15. PROMOTION OF HOMS

15.1 Promotional material aimed at the primary and secondary target groups for HOMS is being developed for use by the HNRCs, NHMSs and the Office for HOMS. It is essential that such material be regularly updated and widely used by HNRCs. The development of the HOMS brochure and the HOMS training package will assist greatly with the promotion of HOMS. Other promotional opportunities that should be considered are:

- Newsletter
 - information about WMO HWRP
 - new/updated components
 - case studies
 - needs and solutions examples
 - how to get more information (standard block)
 - recent activities of the Office for HOMS
 - occasional interest stories

- Internet
 - Newsletter and other material should be accessible
 - E-mail contact lists – “HOMS family”
 - Newsgroups/chat lists
 - Links to HOMS pages in associated organization’s and component provider web pages
- Scientific and technical journal papers (national or international)
- Insertion of information on HOMS in national water journals
- WMO training courses
- WMO and other related or relevant meetings
- Posters
- Postcard (targeted mail-outs)
- World Day for Water (22 March) and national water days/weeks
- E-mail lists

15.2 Promotion of HOMS is the responsibility of all groups involved.

16. PERFORMANCE INDICATORS

16.1 The purpose of HOMS is to transfer technology and not to count the number of transfers of components. While the number of transfers of components is a measure of the use of HOMS, it is not a measure of its effectiveness.

16.2 The true indicator of effectiveness of HOMS lies in the successful transfer and use of the components to some benefit. That is, the users of the components should indicate the level of success associated with using HOMS. The success of a transfer may be judged by the:

- Successful application of the component;
- Continued use of the component;
- Extent of use within the country;
- Training provided and the extent of skill development; and
- Increased knowledge and capability within the country.

16.3 Methods that may be used to evaluate the performance of HOMS include:

- General questionnaires to component users;
- Targeted questionnaires to component users;
- Targeted interviews of component users;
- General promotion of the need for users to provide feedback on components through newsletters, bulletin boards, user groups, etc;
- Publication of success/hardship stories.

16.4 The responsibility for obtaining information on performance is shared between the NHRCs and the WMO Secretariat Office for HOMS.

16.5 It is anticipated that there will be an increased usage of HOMS and, with the continuing use of the Internet to distribute components and the direct supply of some components by the originator, it will in time no longer be possible to identify all the users of the System. In other words, as HOMS evolves, it will become less frequent for HNRCs and the Office for HOMS to be directly involved in the transfer of components. Therefore, in practical terms, the increase of undocumented transfers, far from constituting a problem, could be a measure of the success of the System.

GUIDELINES

for writing a HOMS component description

Each component in HOMS will be presented in the HOMS Reference Manual (HRM) by a two page description. This description will be the first contact that users have with the component. Their decision as to whether or not they could make use of the component will be made on the basis of this description. Therefore, the description should aim at giving a comprehensive idea of the capabilities of the component and the conditions required for its use.

Descriptions may be written in English, French, Russian or Spanish. The descriptions will be translated into English for initial publication and normally be edited before being included in the HRM. The HRM is published in printed form, on the Internet and on diskette and authors should bear in mind the capabilities and limitations of these different forms when writing descriptions. In particular, they should avoid the use of graphical figures or complex equations.

Only the two page description will be published. If necessary, additional information that is referred to in the description may be made available on request from the author.

Each component has a title about ten words long. The title is used for computerized search and query procedures and should therefore be as informative as possible. Acronyms should be avoided, unless these are well known, or are given in full in the title.

Each component will be assigned a reference number based on the classification system. Authors are asked to advise on the classification.

The description must contain the following ten sections, with the exception that Sections 3 and 4 may not always be needed:

1. Purpose and objectives

This section should state the problem or task the component is intended to solve. It should be brief. Usually two or three sentences will be sufficient.

2. Description

This section should contain, in as much detail as possible, a description of the facilities offered and the methods used. Specific benefits of using this component should be mentioned. References to books and publications may be made, but the description should be complete in itself. This section is usually the longest in the component description. Following are some ideas on what to include under certain categories:

INSTRUMENTS:

- What variables does the instrument measure?
- What is the range of measurement and accuracy?
- Calibration procedures in the field and in the laboratory?
- What physical measuring principle is employed?
- Is recording analogue or digital?
- Installation/environmental requirements for the instrument?
- Requirements for data analysis/visualisation?

COMPUTER PROGRAMS:

- What computations are made and what data are used?
- What is the expected output?
- What mathematical/statistical methods are used?
- Is it a stand-alone application or are other components required?
- What hardware is required?

TECHNICAL MANUALS and GUIDES:

- What methods are described and what are the intended results?
- is it useful also for teaching purposes?

3. Input

This section may not be needed for instruments, manuals and catalogues. It should describe the physical processes or data required for operating the component and their nature/format. State here also, if the output of another HOMS component is used as input to this component.

4. Output

This section may not be needed for manuals and catalogues. The conceptual or physical product should be described here. State if the output is used as input to another HOMS component.

5. Operational requirements and restrictions

The following requirements should be covered where applicable:

- The number and professional level of personnel required to install, operate and maintain the component;
- The training strategy for implementation and use;
- Computer hardware, operating system and other software required;
- Characteristics of power supply, environmental conditions.

6. Form of presentation

This should describe precisely what the component consists of. For example, is the component a computer program, a manual, or an instrument? Give the language of any printed documents and computer program messages, the programming language of the computer programs, specification of format and media for the data/software.

7. Operational experience

This section should describe actual operational experience gained using the component. Describe where it was used, giving the countries and environmental conditions. State briefly how successful it was. If an earlier or similar version of the technology contained in this component was available as a HOMS component in the past, this should be mentioned here.

8. Originator and technical support

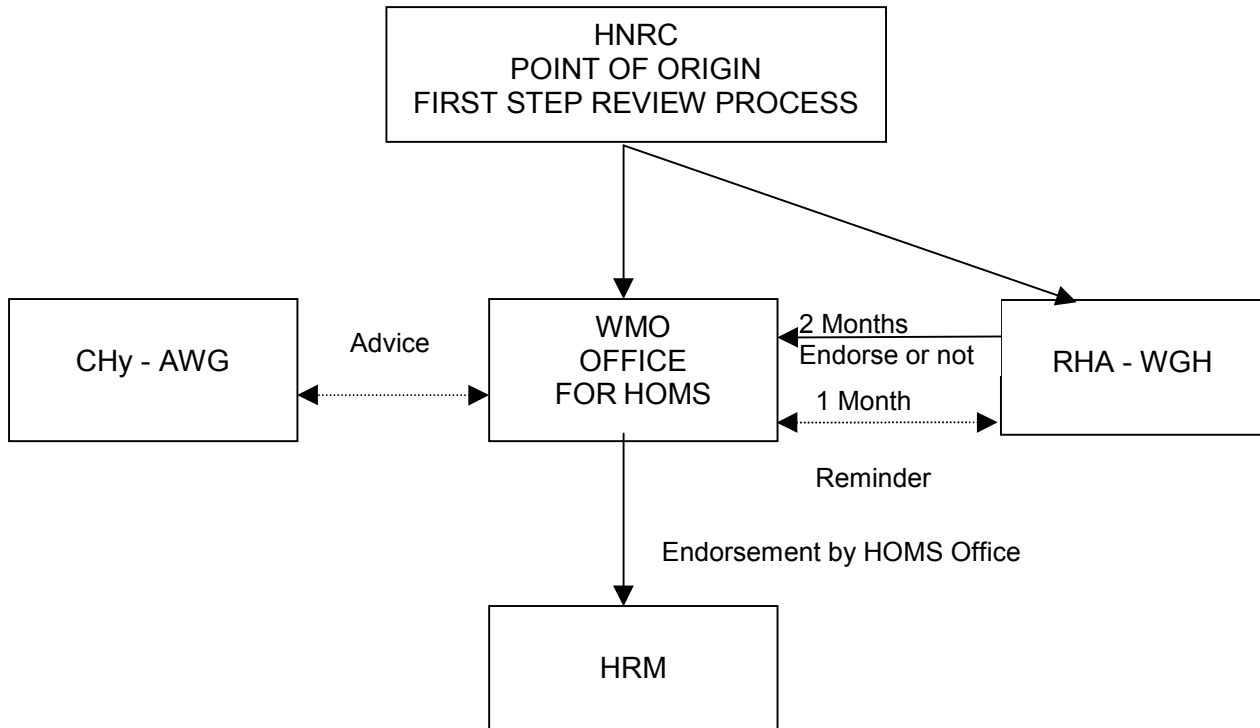
Give appropriate credit to the originator (individual, agency, corporation) of the component. Technical support: Who will answer technical questions and possibly solve problems with the component? If training opportunities are available, they should be stated here. Also, if no technical support is available, this should be stated explicitly here. However, unsupported components will in general not be included in HOMS.

9. Availability

An indication must be given as to where the component and any additional information may be obtained, with full address and communication details.

10. Conditions on use

This section should cover financial and legal (including copyright) conditions - not technical conditions, these are covered under Section 5. It is hoped that components will be made available without charge, or for production costs only. If a charge is to be made for a component, the approximate amount must be stated here.



ACCEPTANCE PROCEDURE FOR NEW HOMS COMPONENTS