



International Amateur Radio Union Region 1
General Conference - 16th to 21st November 2008 - Cavtat, Croatia



SUBJECT	REPORT for the Period September 2005 to February 2008		
Society	EMC WG	Country:	
Committee:	C3	Paper number:	CT08_C3_07
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The activities of the EMC WG have consisted of 4 major issues: Standardisation of EMC in general, follow up on PLT, discussions on how to improve the influence, and preparation for the working group meetings in Friedrichshafen.

Presently only a few national societies seems to be active in relation to EMC and we need to improve this in order to defend our spectrum allocations.

Work not covered by the attached reports

At this point in time we are preparing for strengthening the radio amateur influence on the relevant EMC standards. The most important document is the product standard for PLT equipment. This is the document, which will limit the emissions from PLT products. The working group en CISPR have just circulated the first draft (CISPR/1/257/CD) and IARU circulated a proposal to national societies to comment on the draft including a specific comment. A few IARU national societies reported on their actions.

In parallel with the CISPR work the standardisation organisations ETSI and CENELEC is working on 3 EMC standards for wired telecommunication networks. This document is expected to be circulated in CENELEC and ETSI in late June or early July 2008. We shall make sure that the appropriate comments are forwarded to the national standardisation organisations and for this purpose we have updated the EMC mailing list and added a few people. For the reasons we have continued our membership of ETSI.

It is considered to increase the influence on the CISPR work by having somebody to participate in the annual CISPR meeting on behalf of IARU Region 1.

The Future

- The increased awareness of EMC in the IARU Member Societies shall be maintained
- The work related to relevant CISPR standards shall have a higher priority
- The WG shall discuss and find ways to highlight and report practical EMC problems
- to administrations, manufacturers and others.

Report on the 2006 CISPR Meeting in Stockholm, Sweden

I have limited this report to the items which I think are the most important, but if you need further information I will be happy to provide it.

In order to understand the division of the work in CISPR, you should know that CISPR A is a basic (common) group dealing with measurement methods, CISPR H is responsible for the generic standards and information on radio services and the other CISPR sub-committees are product-related groups.

I have covered the meetings in CISPR H (generic), CISPR I (Multimedia, radio- and television products) and CISPR S (The Steering Committee). The report includes some working group meetings.

1. CISPR H - generic EMC standards

This sub-committee is working on the basic documents for the setting of emission limits. The database on radio services is ready but they have not received any information. I invite interested people to look on the CISPR EMC Zone: <http://www.iec.ch/zone/emc/> on the right column below Functional safety and submit information.

The work on the technical report, which gives the rationale for the setting of limits is continuing. As a result of a concern raised by IARU in CISPR I on broadband interference, the model for the setting of limits will be discussed in a new joint CISPR I and CISPR H group. This will hopefully lead to more stringent limits for broadband emitters. Other issues like noise limited services should be added too. This work is highly important. When finished we will be able to identify the technical reasons for setting the limits and the dB's resulting from the more "political/economic" arguments can follow later. The work on the amendment of the generic emission standards is continued, and limits above 1 GHz will be proposed shortly. CISPR H is now looking for a new Chairman and we hope that we can find a suitable candidate from the National Authorities.

2. CISPR I - EMC standards for Multimedia and ITE-equipment

Working group 1 is still working the standards CISPR 13 and 20 even though they will be taken over by the new multimedia standards, CISPR 32 and 35.

At the meeting there was a proposal from Korea to relax the immunity RF test level by 9dB. But this was rejected because some members (including IARU) disagreed.

The German delegate from the German administration reported interferences cases where larger LCD and Plasma screen radiated substantial interference below 30MHz. It was decided to establish a small task group to investigate the problem. IARU volunteered to join the group.

Working group 2 is working on the emission standard for multimedia equipment, CISPR32. They made some decisions of principle e.g. that they would use the same limits above 1GHz as agreed in CISPR22:2006 A1. They will also use the established limits from CISPR22:2006 on all other frequencies. One new thing is that they will introduce the possibility of using alternative test methods for the same "phenomena". These different methods may not give the same result but it was accepted that they would give "essentially the same protection of the radio spectrum". The draft CISPR32 is on an early stage where many changes can still be introduced. The next draft will be circulated to CISPR members in March/April 2007 for comments.

Working group 3 is working on the maintenance of CISPR22 and 24 (the old ITE standards) and there are not foreseen any substantial changes.

Working group 4 is working on the immunity standard for multimedia equipment, CISPR35. The present draft uses the same test severities as CISPR24 which is more stringent than CISPR20 (the old TV & radio immunity standard). The structure is different and the performance criteria

(pass/fail criteria) are function based in order to be generic. The draft CISPR35 is also on an early stage where many changes can still be introduced. The next draft will be circulated to CISPR members in March/April 2007 for comments.

Project Team PLC (27 participants met over two days) is working on the PLC part to be included in CISPR22 (or CISPR32). The work is sub-divided into smaller tasks and the first two tasks – description of the power system and the typical distances between the PLT network and potential victims – are almost finished. The group is at the point where the protection given by CISPR22 shall be defined. This created quite some discussion as the starting point was a very old document (CISPR G Chairman 1 October 1987). This document states that the field-strength to be protected is 65dB μ V/m.

The German authority presented a document showing measurement results on mains terminal emissions from 60 typical ITE equipment. The results showed that only a few peaks were close to the limit and the rest was typically 20 – 30dB lower. It was proposed that this was the real protection level provided by CISPR22 but some members disagreed.

The result of a small task force reported that the characteristics of PLT should result in a 10dB more stringent limit than the present mains limit. This result was transferred to a new group.

This new group was established in order to come up with coupling factors – coupling from PLT to victim – in different configurations. This should cover both conducted and radiated coupling. Several documents were presented - most of them being critical towards PLT.

The convenor tries to push the work forward but the complexity makes sure it takes quite some time. The convenor hopes to have the first draft in September 2007 which I think is unlikely. The next meeting will take place in January 2007.

3. CISPR S - Steering Committee

This committee takes care of general management and communication with the Standards Management Board (SMB) who is the top level of the IEC. My (IARU) report at this meeting – see attachment – was accepted very positively and the SC Chairmen was asked to investigate the issues raised in the report.

Conclusion

This years CISPR meetings had a more positive attitude in the direction we would like to see but my general feeling is that most of the countries are reluctant to change too much. As soon as somebody questions the usefulness of the present CISPR limits all the industry representatives claim that the numbers of complaints are so low – or non-existent – that they can't understand the problem. Some industry people even question the necessity of protecting the radio spectrum below 30MHz. It would be nice if an ITU representative could present the need for protection to the delegates !.

The IARU is involved in all the committees making the wishes of radio amateurs heard. It is still important for us to take part in the discussions, otherwise the manufacturers will be more concerned about the cost of testing etc instead of protecting the radio spectrum.

Report on the 2007 CISPR Meeting in Sydney, Australia

I have limited this report to the items which I think are the most important, but if you need further information I will be happy to provide it.

In order to understand the division of the work in CISPR, you should know that CISPR A is a basic (common) group dealing with measurement methods, CISPR H is responsible for the generic standards and information on radio services and the other CISPR sub-committees are product-related groups.

I have covered the meetings in CISPR H (generic), CISPR I (Multimedia, radio- and television products), CISPR I Project team on PLT and CISPR S (The Steering Committee). The report includes some working group meetings.

1. CISPR H - generic EMC standards

This sub-committee is working on the basic documents for the setting of emission limits. The database on radio services is ready but they have not received any information. I invite interested people to look on the CISPR EMC Zone: <http://www.iec.ch/zone/emc/> on the right column below Functional safety and submit information.

The work on the technical report, which gives the rationale for the setting of limits is finished. However, it has been recognized that it does not cover issues like narrowband interference signals vs broadband signals which covers a whole frequency band e.g. Power Line Telecommunications equipment, PLT. The work on the amendment of the generic emission standards is continued, and limits above 1 GHz is included in the draft document awaiting approval from the Committee so it can be circulated.

2. CISPR I - EMC standards for Multimedia and ITE-equipment

Working group 1 is still working the standards CISPR 13 and 20 even though they will be taken over by the new multimedia standards, CISPR 32 and 35. The German Administration for EMC presented a document showing interference measurements on plasma TV sets. This is the second year this has been brought up and the working group decided to do some measurements in order to investigate the problem. Later in the week I talked to the secretary of the WG and he said that "if nobody is pushing this task then it is not likely that the manufacturers will use resources to do much".

Working group 2 is working on the emission standard for multimedia equipment, CISPR32. The draft CISPR32 received more than 1000 comments and it has taken 6 months to resolve the comments. Furthermore, some countries are not happy with allowing multiple test methods. This issue was debated in the Sub-committee I. The next draft will be circulated to CISPR members in February/March 2008 for comments.

Working group 3 is working on the maintenance of CISPR22 and 24 (the old ITE standards) and there are not foreseen any substantial changes.

Working group 4 is working on the immunity standard for multimedia equipment, CISPR35. The present draft uses the same test severities as CISPR24 which is more stringent than CISPR20 (the old TV & radio immunity standard). Generally the old in-band requirements are substituted by a full frequency out-of-band immunity requirement. The structure is different and the performance criteria (pass/fail criteria) are function based in order to be generic. The draft CISPR35 received 800 comments from national committees and the process of resolving the comments are has just started. Among the new tests will be an immunity test on frequencies above 1GHz. The next draft will be circulated to CISPR members in March/April 2008 for comments.

Project Team PLC (32 participants met over three days) is working on the PLC part to be included in CISPR22 (or CISPR32). The team decided by 2/3 majority to prepare 2 drafts covering in-house equipment and outdoor equipment. Regardless an instruction from CISPR steering committee (*) to have requirements that give the same level of protection of radio services that is given by CISPR22, majority – PLT friendly people – decided to include a relaxation of 18dB ! It is done in a way where the limit is the same as presently in CISPR22 but the measurements method uses a loading device with 24dB of unbalance. The old method (Artificial Mains Network) uses 6dB. Furthermore, some PLT people want to change the measuring circuit even though measurement shows this change gives another 10-20dB of relaxation.

The convenor tries to push the work forward but he accepted to have more work done before the drafts could be finalized. This delays the work by at least 4 months. The convenor hopes to have the first draft in February 2008. When it comes out for comments in national committees we will have to react by getting amateur societies to forward comments to national committees.

* The instruction was triggered by IARU and it was later confirmed by the CISPR Plenary meeting.

3. CISPR F – Product committee for household and lighting equipment

The standards CISPR14 and 15 have been heavily criticised for not covering the whole frequency range from 150kHz to 1GHz. A draft standard is coming out for final vote and – if approved – will require measurements in the whole frequency range.

4. CISPR S - Steering Committee

This committee takes care of general management and communication with the Standards Management Board (SMB) who is the top level of the IEC. My (IARU) report at this meeting included the point of principle on the PLT work – see above – and the problem with radiated emissions below 30MHz from plasma TV sets.

CISPR discussed extensively the problems when having more than one test method for the same phenomena. The IEC rules require that one of the methods shall be chosen to be the reference method. Industry is concerned that this will stop the development of new and more efficient test methods. The President, Mr. Peter Kerry from UK, stepped down after 12 years as president. He will be followed by Mr. Don Heirman from USA. Mr. Heirman is a private consultant but worked previously for Bell Labs in USA.

Conclusion

This year CISPR the meetings were mostly addressing maintenance and smaller changes to the existing standards. Only the new multimedia standards, the PLT work and the reference method issue were the centres for heated discussions. Our position in CISPR steering committee proved to be very important this year in helping us to have an influence on the PLT work.

The IARU is involved in all the committees making the wishes of radio amateurs heard. It is still important for us to take part in the discussions; otherwise the manufacturers will be more concerned about the cost of testing etc instead of protecting the radio spectrum.

International Amateur Radio Union Region 1

Minutes of EMC working group meeting held at Friedrichshafen on Friday the 23rd of June 2006 at 1200.

1. Christian, OZ8CY opened the meeting and welcomed those delegates present. It was noted that the start time of the meeting had been announced incorrectly elsewhere as 1400.
2. Angus, MM1CCR, agreed to act as minute secretary for this meeting.
3. Actions from last WG meeting:
Mail exploder for distribution all minutes and other material. Mike, OE3MZC, had volunteered to arrange this but problems have arisen with the preferred domain for Web address. Don, G3BJ, has taken over responsibility for the Region 1 Website, so it should be followed up with him. It was noted that it will be best for e-mails to include a URL pointer to Web texts rather than use attachments.

Some concern was expressed about using a reflector for draft papers due to the legal complications, It was agreed that any material quoted should be covered by a statement as to the source.

The preferred method of operation will need to use a Web space with a password for controlled access.

Don had requested some information for use in a poster and this action has been completed.

4. Status on PLT

European countries had reported to the Cocom Committee on the number of interference cases from PLT in their countries. Most had responded although France, Italy, UK, Greece and Cyprus had not.

Hilary, G4JKS, reported that five countries have commercial rollouts with ongoing trials in 10 countries. The EC claimed that there apparently had been few interference complaints and most had been resolved, apart from those in Austria.

The intelligent house application of PLT had received press attention in Finland and the potential nuisance of interference from PLT to alarms classed as critical applications and hence protected was recognised. It was also noted that the alternative of wireless LAN technology was not without threat to AR at 2.4GHz.

Mike, OE3MZC, spoke of the need to have a common understanding of the limits on interference and reported that there had been two large rollouts of PLT in Austria. Operation of Ascom had been stopped as it was too slow and unreliable. In the city of Lintz, Mainet is still being deployed. The decision of the ministry in Austria was that all cases of interference are illegal and must be stopped in all instances. This is based on a line that no public place should be subject to an interfering field strength which exceeds the NB 30 at 3 metres. However, PLT operators are 50 db above this limit and by way of enforcement they were fined 727 Euros and given 14 days to effect a remedy. Operation has continued and the issue has been taken to a higher court where the result may not be forthcoming for up to three years.

In response to a question about the credibility of Amateur Radio in Austria, Mike stated that the Amateur Radio Service was highly respected and the figures they had produced had been validated by the Austrian government. This came too late to affect the existing court case as new information cannot be introduced at the appeal level.

Asko, OH4NX, stated that he had taken the issues to the highest level in the EU commission but difficulties were still encountered.

Robin, G3JWI, noted that the noise floor in residential locations is usually relatively low if incidental burst type noise is discounted and measurements are made correctly. Using insensitive measuring equipment or taking measurements in an industrial location will give a very misleading picture of the ambient HF radio noise as it affects Amateur Radio

Mike felt that one way to make the point would be to request a further 30 db allowance on Amateur Radio power limits. The big problem was that in the ITU regulations, and hence in legal terms, harmful interference is not defined, yet national organisations neglect to act on standards and try to act on harmful interference on a case-by-case basis.

Hilary felt that the JWG Code of Practice would be important in these situations in assisting administrations to resolve problems. The drafting group continues with this work and will try to include a statement that it may be necessary for PLT operations to shut down for short periods for investigations.

The dangers arising from the spread of in-house PLT using the home plug standard were noted.

Xavier, EA3ALU, outlined the position in Spain where Telefonica Espania is using in-house PLT for local distribution and there were many complaints of interference. He noted that there was more interference from house wiring than from distribution wires.

5. Work Items and Recommendations to IARU Reg 1 EC

Ole, LA2RR, pressed the meeting on what to do next and Hilary noted that there was a need to monitor work in ETSI PLT which was dealing with co-existence between radio and PLT.

Christian gave an update on the CISPR working group for standard 22 where most members are seeking a no change position and concentrating on coupling factors so there would be no limits on PLT transmit power.

Hilary updated the meeting on the JWG position re PReN50471. The standard had been sent out for general inquiry. There was no clear consensus within the JWG. and this position was reflected in the comments from national administrations. Work on the standard has been suspended and the only work item being considered by the JWG is the Code of Practice. The idea is to get uniformity of reporting to COCOM so that at a later point the JWG can derive a different type of standard. Mandate 313 is not to be returned to the Commission, so that work could be resumed at some future date.

6. There was agreement that:

The EMC working group agreed to ask the IARU for funding so that the group would be able to track developments.

The group would continue with ETSI membership in order to monitor ETSI PLT but it decided to attend meetings only as considered necessary.

The group would continue with CISPR meetings

Christian will do a report to IARU EC and estimate costs. He will need the names of those who could attend the meetings and do reports. Hilary felt that this person should take over coordination of the work that she had been doing, in the interests of consistency.

Hilary had given reports for the last two years to IARU and notes had been circulated to national societies in July 04 regarding the Draft Standard. In March 06 a request had been made that all cases of interference should be reported to national administrations.

IARU Region 1 – EMC Working Group meeting 22nd June 2007, Friedrichshafen, Germany

An invitation to this meeting was circulated to all National Societies and EMC Working Group members within IARU Region 1

Opening and Welcome

Christian OZ8CY who welcomed all attendees and thanked them for coming opened the meeting.

Nomination of Secretary

John G8MM was accepted by default as the secretary for the meeting.

Approval of Agenda

The meeting was asked to approve the agenda, which had been circulated via National Societies. Acceptance was unanimous.

Introductions.

As is the custom with international meetings of this nature each attendee gave a short introduction indicating the affiliation and particular area of interest/expertise.

Actions arising from the last meeting.

An expression of thanks was given to Don Beattie G3BJ for setting up the email exploder, which is the means of distributing news and information amongst the EMC interest group.

Status on PLT

An open discussion resulted in many inputs from WG members.

Deployment

- Hajo DJ1ZB reported on the deployment of PLT in schools.
- John G8MM commented that the emotional reaction to wireless may force schools to consider PLT
- Asko OH4NX said that in Finland in-house use is growing
- Frank DO5SUH observed that some applications may not cause a problem, for example in a school which is a fairly isolated building
- Another observation was that in-house modems which employ notching for the Amateur bands are not likely to cause problems
- Several members added that notching is not mandatory – and may even be turned off by the users with some chip-sets.
- It was suggested that we should press for notching to always be employed.
- Mike OE3MZC indicated that even with notching there may be problems, since any non-linearity in the system, or the performance of the front end of an Amateur radio may result in inter-modulation products that could fall in-band.

EMC Complaints

- Andrea IW0HK commented that in a large deployment in Bressia, with some 3000 users, there are no reported problems (system from Israeli manufacturer).
- Frank DO5SUH pointed out that interference is quite often not reported because of several factors, including neighbour relations, pressure from the Utility providing power, and the desire not to be identified as a complainant.
- Andrea IW0HK reported that in one particular factory installation in Italy, the PLT system wipes out 7-22MHz.

Legislation

- Christian OZ8CY was able to report on a meeting he had recently attended where an EC Commissioner had reported that Access PLT was essentially dead, with an admission that the Commission had 'overplayed' its commercial importance.
 - Mike OE3MZC was able to confirm this sentiment.
 - Pierre-Louis F5NED reported that in France an access system had been disconnected following a complaint from a Radio Amateur.
 - He also reported that the very large infrastructure projects in and around Paris are effectively dead – there is no finance available, and the developers were not prepared to buy the required licences.
 - Mike OE3MZC added that the EC sponsored OPERA project is continuing to push PLT in other areas, such as meter reading, and traffic flow. Concern was expressed that some applications may involve high throughput video.
 - Asko OH4NX commented that in Finland the utilities have found it easier and more reliable to use a GSM cell-phone for meter reading applications in remote areas.
 - Mike OE3MZC emphasised that high data rate video/audio applications, which are being pushed by the in-house entertainment system manufacturers remains a threat. These applications result in an always-on noise spectrum.
 - In Austria Power Line PLT providers have been shown to be the cause of interference - but the Regulator has no legal power to close the system (Lintz). The PLT system provider has installed new software protocols with better notching and has lowered the launch power – but without real success. It is seen as a political issue.
- The sum total power of the PLT emissions is reckoned to be of the order of 10kW – and this is being transmitted without a licence!

Christian OZ8CY emphasised the need to maintain our credibility with the authorities and regulators. However, we should make formal complaints in the case of PLT or other interference, but these should be based on 'real', 'hard' evidence. This is needed to ensure that no regulator can make the claim that there are 'no complaints'.

Thilo DL9KCE provided a very interesting PowerPoint presentation of measurement made in Mannheim indicating that at many points in that city the level of interference exceeds NB30. DARC have a very well equipped mobile measurements system.

Christian OZ8CY reminded the meeting that the New EMC Directive becomes active on 20 July 2007. He pointed out that the directive itself may not provide much comfort, but the EMC guide, which has been developed to explain the application of the directive, helps us by defining which standards may be used by manufacturers when certifying equipment. The harmonised standards will be applicable in those cases of self-certification by a manufacturer.

It has been reported that in some cases manufacturer and competent bodies have 'jumped the gun' and are using limits which are still the subject of discussion by CISPR. IARU EMC WG, sent a letter to the Chairman of the CISPR I sub-committee, and he will circulate a letter refuting the use of matters under discussion. Our letter and his letter will be placed on the exploder soon.

John G8MM commented that members were advised that items of equipment intended for industrial use are being sold on the domestic market. In particular some large screen Plasma displays are certified for industrial use, and may be the cause of interference in some domestic situations.

Christian OZ8CY reported that the work of the ETSI JWG. It has been clarified that just one set of applicable standards will apply

Christian reported briefly on the activities of the CISPR I PLT meeting that he and John had attended in Geneva earlier in the week.

Mike OE3MZC referred members to the new multimedia draft immunity standard (CISPR I 225 CD). There are some aspects of the limits, which are cause for concern. Mike asks that members read and comment – please.

Christian OZ8CY explained that there will be a definition of Broadband and narrowband as a result of work currently being undertaken by CISPR.

The Way Forward

The work in the ETSI/CENELEC joint working group has produced the Code of Practice and it has been decided to prepare a network standard using only limits already stated in product standards. As a consequence of this OZ8CY proposed to put the IARU Reg.1 participation on hold and rely on Hajo and others to report if anything important requires participation from IARU Reg.1. This was agreed.

Hajo DJ1ZB, will continue to work on behalf of IARU.

The proposal on organisational membership and work repartition has been accepted. Christian will propose our representation to IARU Reg.1 EC.

EMF Exposure.

Christian OZ8CY explained the legal situation and gave a brief overview of the regulatory constraints in some of the European countries.

John G8MM explained that frequently in the UK Planning Officers were requesting an assessment when an application was made by a Radio Amateur to erect an antenna mast/tower. This was causing a great deal of work for the RSGB Planning Advisory Committee – and there is a feeling that we should move forward from this position. Angus Annan MM1CCR, RSGB President had suggested an IARU Region 1 initiative to deal with this issue.

A suggestion that ETSI should be asked to generate/provide a guide was quickly rejected. Ole LA2RR commented that anything from ETSI would be seen as too prescriptive, and not in our best interest.

Mike OE3MZC suggested that we should keep the reaction low key – so as to avoid any adverse emotion.

Thilo DL9KCE added that paranoia grows with time, and that in his experience we should be very careful.

Ole LA2RR suggested that it would be best that we de-emphasise any emotion. He explained that he frequently has to do this when meeting journalists by indicating that if they consider it acceptable to use a cell-phone, they will be safe in his shack!

It was agreed to make some relevant information available for IARU Reg. 1 amateurs but not to go for any official guide/standard.

Action Points resulting from the meeting.

1) Develop Guidelines, which could be adopted by Radio Amateurs in member countries as giving a sound approach to RF safety in and around the shack.

John G8MM and others.

2) Translate some of the assessment material currently in use by those countries where RF assessment is mandatory.

Thilo DL9KCE and others

The meeting was rounded out with a short PowerPoint presentation prepared by Thilo DL9KCE showing the assessment procedure that applies in Germany.

The meeting ended after 2 hours of very intense exchange. It could have gone on for much longer, except that attendees had other commitments.

We will plan that the next meeting is for 3 hours duration.

TERMS OF REFERENCE FOR THE IARU REGION 1 ELECTROMAGNETIC COMPATIBILITY (EMC) WORKING GROUP

1. The EMC-WG is a specialised body of IARU, Region 1 and is set up by the General Conference. It acts under the provisions of the IARU, Region 1 Constitution and Bye-Laws.
2. Its aims are:
 - a. to exchange information related to all aspects of electromagnetic compatibility
 - b. to provide advice on EMC to IARU member societies
 - c. to prepare papers on EMC presenting the interests of radio amateurs with respect to EMC
 - d. to influence EMC related legislation and standards for the benefit of radio amateurs
3. The EMC-WG Chairman shall be appointed at each triennial General Conference and shall act in accordance with the procedures described in the Region 1 Bye-Laws.
4. The EMC-WG Chairman Coordinates the work of the EMC WG and may – after approval of the budget – participate in meetings / symposia either himself or by an appointed representative.
5. The EMC-WG Chairman shall report annually to the EC and to a General Conference. He shall attend Region 1 General Conference.
6. The EMC-WG Chairman's expenses will be reimbursed according to the appropriate parts of the Region 1 Bye-Laws.
7. The work of the EMC-WG shall be carried out mainly by correspondence. If it is deemed necessary by the Chairman or by the EC a meeting of the EMC-WG may be convened after approval of and in consultation with the EC.

The way forward with EMC

Following the discussions in Davos, the decision on the spectrum defence fund, the discussions on the tasks for the EMC WG and the changes in the standardisation work, I propose to describe and reorganise our work in the following way.

Task 1: Distribution of information

With the new mail exploder set up by Don Beattie we can easily distribute information in relation to EMC. Anyone with access to the “group” should upload relevant information except confidential information e.g. recommendations on how to influence voting in standardisation. This kind of information should be sent directly by e-mail to EMC WG members and National Societies through the EMC WG Chairman.

General information addressed to National Societies e.g. information they may copy in their magazines should be notified by a member of the EMC WG (Mike Zwingl & Thilo?).

Task 2: Influence ETSI standardisation

The work in the joint ETSI/CENELEC WG has dealt with the network standard for all wired networks including PLT and the “code of practise” in relation to field trials. The work on the network standard is put on hold and Hilary Claytonsmith reports that the work on the COP will end early 2007.

I think that there is no need to use more resources in ETSI after the completion of the COP and until the work on the network standards restarts. Because of the new EMC Directive which deals with networks in a different manner than the old directive, it may very well restart in a year or two. We may need somebody (or all of us) to react if/when the work restarts. Hilary Claytonsmith should finalize the work on the COP.

The ETSI PLT group is still active but all EMC work is transferred to the joint WG and monitored by ETSI ERM EMC. Somebody should monitor ERM EMC in order to react if something important happens.

Task 3: Influence CISPR standardisation

CISPR is subdivided into sub-committees with individual working groups. Our main priorities should reflect the “areas” where radio amateurs experience most interference:

CISPR F (lighting & household appliances) & CISPR I (Computer & multimedia). The others, CISPR A (measurement methods, CISPR B (industrial equipment), CISPR D (ignition noise from motors), and CISPR H (generic standards and interference models) are of less direct importance for radio amateurs. However CISPR H should be monitored and Christian, OZ8CY, will do this.

Detailed overview:

Committees	Working Groups	Working Groups	Remarks and priorities
CISPR SC F	WG1 Household appliances	WG2 lighting	CISPR SC F and WG2 are high priorities because of present dominance by manufacturers and relaxed limits. There are a high number of interference problems with lighting equipment. WG1 is of less importance.

CISPR SC I	WG1 Maintenance of Analogue radio and TV CISPR13 emission (old) & 20 immunity (old)	WG2 Emission from multimedia, CISPR32 (new)	CISPR SC I, WG2, and PT PLT are high priorities because of the extremely high interference potential. WG1 and 3 are of less importance because it has been decided that the content may not change besides normal updating.
	WG3 Maintenance of CISPR22 emission from computers (old) & 24 immunity of computers (old)	WG4 Immunity of multimedia, CISPR35 (new)	WG4 on immunity is of some importance.
	CISPR I Project Team on PLT – text to be included in CISPR 22 (and/or CISPR 32)		
CISPR SC H	WG1 Generic standards 61000-6-3 & 61000-6-4	WG2 interference model	In theory, CISPR should use the interference model to develop limits, but in reality the limits are voted by the product related groups. The limits in the two Generic standards should in principle set the basic limits to be followed by all product groups but the present limits originate from CISPR22. Our highest priority – if we want to (or have the resources) should be on CISPR SC H and WG1. WG2 is of some importance and can be influenced by correspondance.
	WG4 In-situ measurements on large equipment		WG4 is not important for us.

Task 4: Influence IEC standardisation

Committees	Relevant working groups	Remarks
TC77 Main EMC committee	WG13 Generic immunity standards 61000-6-1 & 61000-6-2 and environmental (EMC related) description 61000-2-5	Are of some importance in relation to immunity
TC77A Low frequency <9kHz		Not important for us
TC77B High frequency immunity test methods		Not important for us
TC77C High power impulse		Not important for us
TC9 Rail way standards incl. EMC		Not important for us as they tend to use CISPR limits in relation to emission levels present at neighbours.
TC22 Power electronics and Frequency converters	SC22H IEC61800-3 (drives) & IEC62040-2 (uninterruptible power supplies UPS)	Are of some importance because power drives are used more and more in residential buildings – ventilation, pumping, UPS power supply and lifts. Present limits are extremely relaxed.
TC26 Welding equipment		Not important for us as they tend to use CISPR limits but present limits are extremely relaxed.
ACEC Coordination committee on EMC		Not directly important for us.

There are other IEC committees working on EMC for specific products but they are – in my view – not important for us.

Task 5: Influence CENELEC standardisation:

CENELEC has decided to implement EMC standards from IEC and CISPR and only to prepare own standards as an emergency solution. CENELEC “mirrors” the TC structure of IEC and CISPR and TC210 cover IEC TC77 and CISPR standards. Other product specific CENELEC TCs deals with the EMC standards produced by the IEC TC which they “mirror”.

CENELEC may propose modifications to IEC and CISPR standards. All European standards (EN's) are considered by TC210 but a few are dealt with and voted on by product committees. TC210 controls the European voting of potential EN standards from IEC TC77 (incl. subcommittees) and CISPR.

SC205A deals with PLT standardisation and WG10 looks at EMC. CENELEC has agreed that all emission EMC standardisation shall be developed by the joint ETSI/CENELEC group and the voting shall take place in TC210. However the work in SC205A shall be monitored in order to react if they try to write own EMC emission standards. Christian, OZ8CY, is doing this presently.

Because TC210 does not write standard themselves the only important way to influence TC210 is by influencing the national voting in each country. This can only be done on a national basis and by IARU national societies participation on a national level. National Societies shall receive instructions from IARU Reg.1 EMC WG through the Chairman.

Other tasks:

The general tasks in relation to IARU REG. 1 lies with the EMC WG Chairman. All persons with responsibilities shall report to the EMC WG at least at the WG meetings.

In Short:

Task	Responsible	Other
Reports / budget etc. to IARU Reg.1	EMC WG Chairman	
Send information to exploder	Mike Zvingl All WG members	Don Beattie runs the maintenance of the exploder
Send information from IARU Reg.1 EMC WG intended for publication in National Societies magazines	Mike Zvingl	Thilo
Send information on voting to national societies	EMC WG Chairman	The practical e-mailing may be done by other person(s) in agreement with the Chairman
Reports to IARU REG1 EMC WG	All persons with responsibilities/tasks	
Participate in ETSI JWG	Hilary Claytonsmith	Put on hold when the COP is finished
Monitor ETSI ERM EMC	Hans-Joachim Brandt ?	
CISPR participation CISPR SC F & I CISPR F WG2 *) CISPR I PLT project team CISPR I WG2 and WG4	John Pink *) only participate in the annual meeting if held together with CISPR See note **) below table.	Assisted by Christian Verholt
Monitor CISPR H and H-WG1	Christian Verholt	Assisted by John Pink
Monitor IEC TC22	Christian Verholt	
Monitor IEC TC77	Christian Verholt	
Monitor CENELEC TC210	Christian Verholt	
Monitor CENELEC TC205A and WG10	Christian Verholt	

Establishment of a technical backing group to support technical arguments and scrutinize documents	Christian Verholt	David Lauder, Robin Page-Jones, Hans-Joachim Brandt, Richard Marshall, Mike Zwingl?
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Note ** Financial consequences: The only “new” expense that will arise from this plan is related to the active participation in CISPR work. It requires 1 annual trip to the CISPR main meeting and 2 or 3 trips for additional WG meetings. However, John Pink from UK (and a member of RSGB) is already involved in CISPR I and is funded by other sponsors, so it will not be an extra cost for IARU Reg.1 if he accepts the tasks.

In the future IARU Reg.1 should allocate adequate funds to this task (in addition to the present budget) and my estimate is in the order of 8000 Euro per Year. I propose to use funds from the spectrum defence fund for this purpose. It should be considered to end the membership of ETSI when the COP is finished and this will reduce the EMC WG budget for 2008 with the amount used for the ETSI membership and related travel cost.

IARU EMC WG meeting at IARU REG 1. 2008 Conference

Provisional agenda:

- 1. Registration of attendees**
- 2. Appointment of meeting secretary**
- 3. Approval of Agenda**
- 4. Interference below 30MHz**
 - 4.1 PLT status (internet on the mains)**
 - Status report from ITU, CEPT, CISPR, CENELEC & ETSI**
 - Actions**
 - 4.2 Short Range Devices**
 - ECC report**
- 5. Electromagnetic fields regulation**
 - EU & National regulation**
 - Status report from CENELEC, ETSI and IEC by OZ8CY**
- 6. Standardisation issues**
 - EN55022, Emissions from ITE equipment**
 - EN55022 amendment PLT (CISPR/11/257/CD)**
 - EN55024, immunity of telephones (CISPR 35)**
 - EN55020, immunity of radio and TV etc. (CISPR 32)**
 - CISPR H input, database over protection needs for radio services**
- 7. Status report from the CISPR meeting by OZ8CY**
- 8. Revision of EMC Directive**
- 9. Working group structure and nominations**
 - Nomination of Chairman**
 - Nomination of Vice Chairman**
- 10. Report to conference**
 - Comments on Terms of Reference**
- 11. Future meetings / communications**
- 12. Any other business**
- 13. Closure of the meeting**

OBJECTIVES

1. IARU level

- **Gather and distribute information**
- **Coordinate**
- **membership of ETSI (Region 1)**
- **Associated member of CISPR**

2. National Society level

- **Influence national government**
- **Influence standardisation organisation**
- **Support complaints**
- **Information in magazines**
- **Discourage investors**