COMMUNICATION FROM THE COMMISSION

INTELLECTUAL PROPERTY RIGHTS AND STANDARDIZATION
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1.0. **INTRODUCTION**

1.1.1. Standardization and the protection of intellectual property serve different objectives but have to co-exist in the same industrial and commercial environment. Standardization aims at diffusing technology in the public interest, while intellectual property rights aim to secure private property protection. The standardization process cannot take place effectively if no clear solutions exist to resolve potential conflicts between the objectives of standardization and the principles of intellectual property rights. At the same time, the incentive to develop new products and processes on which to base future standardization will be lost if the standard-making process is carried out without due regard for intellectual property rights.

1.1.2. In December 1991 the Commission published its follow up to the Green Paper on standards (COM(91) 521) in which it was stated, in paragraph (xl) (other issues 71), that the Commission would welcome the development by standards bodies of clear conditions for the inclusion of intellectual property rights in standards, based on practice in the International standardization organizations. It was further indicated that "in view of the importance and complexity of the issue for intellectual property rights, standardization, competition and trade policies", the Commission intended to produce a separate communication on the subject.

1.1.3. Given the voluntary nature of standard-making, the Commission is not seeking to regulate standard-making directly by legislative proposals, if certain principles are not respected by standards bodies the Community will not be able to use their standards and even less, to make them mandatory. Certain types of behaviour on the part of standards bodies, or on the part of holders of intellectual property rights could bring them into conflict with the provisions of the Treaty, of Community or national legislation, or of international conventions.

1.1.4. Therefore in this Communication the Commission sets out a number of principles which it believes should form the basis of any internal rules which standards bodies may wish to elaborate. Standards bodies remain free to structure their membership rules and their internal organizational procedures as they wish. The results of their activity, must, however correspond to the standardization needs of the Community and must be made in conformity with the laws of the Community and its international obligations.
PRINCIPLES AND OBJECTIVES OF STANDARDIZATION

TYPES OF STANDARDS

2.1.1. A standard is a technical specification relating to a product or an operation which is recognized by a large number of manufacturers and users. Council Directive 83/189(1) lays down the following definition in its Article 1 (2) "standard shall mean a technical specification approved by a recognized standardizing body for repeated and continuous application compliance with which is in principle not compulsory".

It may be the result of a formal consensus-building procedure managed by a recognized standardization body in order to permit a large number of manufacturers to adopt identical solutions. Alternatively, the standard may arise spontaneously by the degree of penetration of the market of a particular technical solution (a so-called "de facto" or "proprietary" standard).

2.1.2. Standards may be developed for a wide variety of purposes, ranging from terminology and testing to detailed technical specifications for products, processes and services. They may be limited to ensuring compatibility of products or systems at their points of interconnection, or may extend to detailed specifications in respect of the design, dimensions and materials of the products themselves. In general terms, the Community along with other Parties to the Agreement on Technical Barriers to Trade of the GATT ("TBTA") is committed to specifying technical regulations and standards in terms of performance rather than design or descriptive characteristics.

OBJECTIVES OF STANDARDIZATION

2.1.3. In the majority of industries, the objective of the manufacturer whose product becomes a "de facto" standard may not be, at the outset of the commercialization of the technology, to see it become an industry standard. The objective of most manufacturers remains to achieve high levels of market penetration and to be competitive in those markets in relation to other manufacturers.

In certain industries, where a high degree of standardization is taking place, manufacturers must now, however, be aware of the possibility that some of their new technology may eventually form the basis of an industry standard.

OJ No L 109, 26/04/83 p. 08
2.1.4. If a new product has elements protected by intellectual property legislation, as is most likely to be the case, the manufacturer will exercise those intellectual property rights vigorously, as a means of securing and maintaining his lead and his profitability in a given territory. In many high technology industries, the highest costs are incurred in the research and development phase when the intellectual input in terms of man-hours of work is at its greatest, the manufacturing phase being a relatively low-cost operation. The economic value of the intellectual property rights in such a product will therefore constitute an important factor in price calculations and figures prominently as a company asset.

2.1.5. Once a certain level of penetration of the relevant market for his product has been achieved, the manufacturer will 'de facto' have set the industry standard for that product and it will be difficult, if not impossible, for others whose products must interoperate with his, to avoid working to the standard which he has set. This will be particularly the case where interworking or networking is involved, as in the computer, energy distribution, telecommunications and transport industries.

2.1.6. Once a certain level of market penetration has been achieved, the manufacturer whose product has become a de facto standard may accept that de facto standardization can be advantageous converted into a formal standard so that the dominance of his technology is embodied in a more permanent form. His objective will then be to secure the best terms from the conversion of his de facto standard into a formal standard.

2.1.7. These terms may include royalty payments for the use of his intellectual property and the grant of licences on a territorial basis for the exploitation of these intellectual property rights. These rights include the right to control manufacture and the right to control distribution, including importation.

2.1.8. A longer term benefit will probably accrue to the manufacturer who voluntarily licences his technology to become a standard since his market share will eventually grow significantly in respect of the rights for which he receives royalty payments even if he is no longer the sole manufacturer of the product itself, and even if the royalty rate which he receives is less than that which he would have obtained from a licensee on the open market.

2.1.9. He will also be able to satisfy a second longer term objective which is to see the technology developed by his company established as a worldwide standard with resulting beneficial publicity.
2.1.10. On the other hand, a standard may arise by a process of definition and approval by a recognized national or international standardization body.

2.1.11. The underlying objective of formal standardization is to generate the economic benefits for society that will result from a more rational organization of supply and demand and greater competition in the market place. Standardization tends to reduce costs for the supplier and purchaser of goods and services and to increase transparency of the market. Once the requirements of the market are reflected in a standard, all interested suppliers are put in a position to meet market needs on a competitive basis. At the same time, purchasers are given common assurances with respect to the performance of the product or service against agreed criteria of quality, interoperability, and so on. The importance of standardization as "an instrument of economic and industrial integration within the European market" has recently been explicitly recognized by the Council in its Resolution on the role of European Standardization in the European Economy of 18 June 1992.(2)

2.1.12. These economic objectives can, of course, only be realized insofar as standards are made known and available to the widest possible number of interested parties on fair and reasonable terms. Consequently, a standard is by definition a publicly-available document(3) and the technical specification which is not available to all potential users is not a standard.

2.1.13. Benefits to purchasers and users accrue from the existence of a recognized standard guaranteeing not only interoperability but also a certain level of quality, safety and conformity to certain technical norms. A European standard can find itself in competition with standards set by other major trading partners such as the American or Far Eastern markets.

2.1.14. The objectives of standardization can only be met if the technology chosen is good, up-to-date and readily available. The standardization process is, however, by its consensus-driven nature, a lengthy one, and when substantial delays in adopting a standard occur, the technology on which the standard is based may already be out of date. On the other hand, the most innovative technology may not be the most appropriate for adoption as a standard because it is not yet stable and sufficiently tested in the market place.

(2) OJ n° 173 of 9.7.92, p.1

(3) See ISO/IEC Guide 2, "General terms and their definitions concerning standardization and related activities".
Once chosen as a standard, a particular technical solution tends to perpetuate itself for a period longer than that which it might have enjoyed on the open market in a free competitive situation and therefore the process of standardization may itself retard technological innovation in some areas.

It is also the case that too much standardization in a given area at a particular moment in time may create difficulties as that technology changes. Replacing a substantial standardized "platform" such as a main-frame computer operating system with a new and more advanced standardized "platform" may prove more costly and more difficult than the addition of new layers of system software on to existing products.

A variety of approaches to the issue of standardization are therefore required if the most appropriate form of standardization for a particular industry is to be achieved.

2.2. PRINCIPLES USED IN NATIONAL AND INTERNATIONAL STANDARDS BODIES

2.2.1. The three European standards-making bodies recognized by the Community at a European level are CEN, CENELEC and ETSI. CEN (European Committee for Standardization) and CENELEC (European Committee for Electro-Technical Standardization) create standards for EC and EFTA countries. Their membership is composed of national standards bodies and national electrotechnical committees respectively. ETSI (European Telecommunications Standards Institute) created in 1988 following the recommendation made in the Commission's Green Paper on Standards, groups together administrations, network operators, users, manufacturers research institutions and private service providers and has the task of drafting European Telecommunications Standards.

2.2.2. At the International level, ISO, IEC and CCITT (International Telegraph and Telephone Consultative Committee) are the standard-making organizations. ISO (International Organization for Standardization) draws its membership from national standards organizations. The IEC (International Electrotechnical Commission) has a similar but smaller membership in the field of electronics and electrical engineering.

2.2.3. The principles applied to intellectual property by ISO/IEC and by CEN/CENELEC are relatively simple. Subparagraphs b) and c) of Annex A of the ISO document (Reference to patented items IEC/ISO Directives - Part 2 Methodology for the development of international standards) are applied by all four bodies. They read as follows:
b) "If the proposal is accepted on technical grounds, the originator shall ask any known patent holder for a statement that he would be willing to negotiate licences under patent and like rights with applicants throughout the world on reasonable terms and conditions. A record of the patent holder's statement shall be placed in the files of the ISO Central Secretariat or the IEC Central Office, as appropriate, and shall be referred to in the relevant International Standard. If the patent holder does not provide such a statement, the Technical Committee shall not proceed with the inclusion of the patented item unless the respective Council gives permission.

c) Should it be revealed after publication of the International Standard that licences under a patent and like rights cannot be obtained under reasonable terms and conditions, the International Standard shall be referred back to the Technical Committee for further consideration."

2.2.4. CCITT in its Annex 5 Statement on CCITT patent policy elaborated in June 1988 made the following observations. "Over the years the CCITT has developed a "code of practice" regarding patents... The rules of this "code of practice" are rather simple and straightforward... the detailed arrangements being left to the parties involved, as these arrangements might differ from case to case".

2.2.5. ETSI has drafted a Policy and Undertaking on Intellectual Property Rights which sets out more detailed procedural rules and which starts from two premises which differ from those applicable in ISO/IEC/CEN or CENELEC. The first premise is that membership of ETSI is conditional on signature of the Undertaking whereby an intellectual property right (IPR) holder agrees to licence his IPRs according to certain limitations as to royalties. The second premise is that ETSI standards are available in a specific geographical area as a consequence of the definition of territory contained within the draft Undertaking. Certain conditions are specific to signatories of the Undertaking. This Policy and Undertaking has not yet been approved by the ETSI membership.
2.3. THE USE OF STANDARDS BY PUBLIC AUTHORITIES

2.3.1. Because standards represent a voluntary consensus concerning the technical characteristics of goods and services, they are commonly used by public authorities within the framework of regulation. This may take the form of a direct reference in legislation which makes a given standard mandatory or, as is normally the case in the Community, of conferring a "presumption of conformity" to legislation on any product which complies with the standard. Directives based on reference to standards have been adopted in a number of important industries, including mechanical engineering, construction, medical devices, telecommunications, gas appliances and measuring instruments.

2.3.2. Similarly, public authorities often use standards in their procurement. Within the Community, for instance, the public procurement Directives(4) now all require purchasing entities to define technical specifications in their contract documents by reference to European standards where these exist, in order to ensure that nationally-determined specifications are not used to restrict access to procurement markets.

2.3.3. Whenever public authorities incorporate standards into legislation and thereby confer upon them a more binding character than their normal voluntary status, they must satisfy themselves that:

- the standards in question have been developed in accordance with the normal procedures of standardization (i.e. that they represent a consensus based on the views of all interested parties); and

- the standards in question are available for use by all interested parties to whom the legislation applies.

- international agreements subscribed to within the framework of the GATT (i.e. the TBTA and to a lesser extent the Agreement on Government procurement) extend these rights of non-discriminatory treatment to certain other GATT contracting parties.

2.3.4. However, providing that the procedures set out below are followed, even in the exceptional circumstances where a standard becomes 'non-voluntary', problems can be resolved in relation to intellectual property rights.

2.3.5. If the technological solution which is to be made mandatory is based on proprietary rights, these rights must be the subject of negotiation before the standard is agreed and the technology is made mandatory. If the negotiations fail to produce an agreement from the rightholder, the rights cannot subsequently be expropriated unless there are over-riding public interest or public safety considerations to be taken into account and no other technical solution could be devised.

2.3.6. Therefore the question of the use of standards by public authorities does not hinge on the question of whether any intellectual property rights which may underlie the standard can be incorporated ex post facto into a mandatory standard, since such rights must in all cases be acquired by negotiation and not by legislative expropriation.
3.0. PRINCIPLES OF INTELLECTUAL PROPERTY PROTECTION

3.1. GENERAL PRINCIPLES

3.1.1. Intellectual property rights include patents, trademarks, copyright, design rights, semi-conductor topography rights, trade secrets. Works of the intellect are created as the result of a given volume of man-hours of labour and a return on the financial investment in that labour cost will be secured only if the creator of the work can control how his work is to be exploited and where.

General principles are applicable to all forms of intellectual property protection. They include the following:

- others may only use or copy the intellectual creation with his permission and, if the right holder so wishes, he may be paid for that permission;
- in order to ensure a wider distribution and use of works of the intellect in society as a whole, limits are set on the scope and duration of the intellectual property protection;
- the abusive exercise of intellectual property rights by individuals or companies occupying a dominant position is subject to the application of competition rules, and in particular Article 85 and 86 of the Treaty. Agreements between companies regulating the exercise of intellectual property rights may be subject to the prohibition of Article 85 of the Treaty.

3.2. PATENTS

3.2.1. Specific characteristics apply to each type of intellectual property right. So in the case of patent rights, the object of the right is a new creative technical solution to a problem. The "invention" must demonstrate novelty and be capable of an industrial application.
3.2.2. The patent right will only be granted if application formalities are completed in which the inventive step is described in detail. There may be a period during which a patent application is subject to examination prior to the grant of a patent. For this limited period of time the patent application is not fully disclosed to the public, although the existence of an application may be known. Once a patent has been granted, the disclosure to the public is compensated for by the temporary monopoly which the patent right gives over the exploitation of the patented invention.

3.2.3. That monopoly right can be exercised exclusively by the patent holder if he chooses to commercialise his invention himself. If in certain circumstances he fails to work his patent himself or if he chooses to license others to do so, he may nevertheless be remunerated by others for the right to be a licensee of his patent.

The right is not subject to any general exceptions in respect of use by potentially competing third parties but is limited in time so that society may benefit freely from technical progress once the rightholder has had the opportunity to recover his original investment in research.

3.2.4. Patents are granted on a territorial basis, that is to say, that they are valid for the country in which they are issued, or in the case of a patent issued by the EPO (European Patent Office) they may be valid for up to 17 countries, i.e. those of the Community plus Austria, Switzerland, Sweden, Monaco and Lichtenstein. Rights acquired under patent law exhaust only on expiry of the term of protection in the territory for which they are granted, or, on the non-payment of any renewal fees.

3.3. COPYRIGHT

3.3.1. Copyright, by contrast, protects not novelty but originality. This originality is assessed in relation to the expression used by the creator and protection by copyright cannot apply to solutions, principles, ideas, or methods as such. There is no monopoly in the patent sense under copyright protection since any second maker is free to find his own way to express an idea which he has taken from the work of another. Even in technical fields such as computer programs it is exceptional for there to be only one possible way to express an idea.
3.3.2. In cases where idea and expression are inseparable, there is generally held to be no copyright in that expression. The only monopoly under copyright law is therefore the right of the author to prohibit the unauthorized exploitation of the expression used in a work, for example to prevent the copying of lines of text from a book or lines of code of a computer program.

3.3.3. A work is protected under copyright law as soon as it is created. Within the Community and according to international copyright conventions there is no need to complete registration or examination formalities. However, in some countries, registration formalities do exist.

3.3.4. The absence of any requirement in the Community to register a copyright means that only litigation can prove conclusively whether a valid copyright exists in relation to a particular work. The protection exists regardless of whether the work has been commercially exploited by its creator or not. Copyright is not therefore a compensation to the author for disclosure as with patent protection, and the essence of the copyright cannot be reduced to a mere right to remuneration.

3.3.5. Copyright protection is relatively long, at least 50 years following the death of the author according to the relevant international conventions, and is a territorial right. A work created or published in the Community, can be licensed for exploitation only within the Community, the right to exploit the work in, for example, the US, being the object of a separate negotiation by the rightholder.

3.3.6. A limited number of exceptions to the exclusive copyright rights are provided for in the legislation of the Member States and by the relevant international conventions so that certain acts may be legitimately performed by users.

3.4. SEMI-CONDUCTOR PRODUCTS AND OTHER INTELLECTUAL PROPERTY RIGHTS

3.4.1. The protection given in the Community to the topographies of semi-conductor products ("chips") should also be mentioned(5). This protection is a sui generis regime, limited to chips produced within the Community, although protection can be extended, on the basis of reciprocity, to chips produced in third countries.

(5) Directive 81/54/EC
The protection is limited in time (10 years) and is restricted in scope by exceptions permitting reproduction of a topography for the purpose of private study and the developing of other topographies, i.e. a form of 'reverse engineering' exception.

3.4.2. Design rights have not yet been harmonized throughout the Community and a variety of regimes protecting both functional and non-functional designs exist. Some regimes foresee a registration system.

3.4.3. Other forms of intellectual property such as trademarks, trade secrets, unfair competition do not appear at the present time to cause any specific problems in relation to the issue of standards and are therefore excluded from the scope of this Communication.

3.5. EFFECTS OF AN INTELLECTUAL PROPERTY RIGHT

3.5.1. Some clarification is necessary as to what acts are permitted or prohibited, in respect of intellectual property rights. In the case of a product or process incorporating a patented invention, the part of the product or process so protected cannot be copied without authorization, even by observing the ideas and principles on which it is based, nor can instructions in written form, such as a specification or patent description, be used for the purpose of producing a similar or identical result.

3.5.2. In the case of a product covered by copyright, the part of the product so protected may not be copied without authorization but if it is accessible to the human senses, as in the case of a three-dimensional object or other works in a humanly perceivable form, it may be studied, and the ideas and principles derived from that study may be used to create a similar or identical functionality, providing that the expression of the copyrighted work is not reproduced.

3.5.3. A special exception to the normal rules of copyright and which is of relevance in the telecommunications standards area has been introduced in Directive 91/250 EC on the legal protection of computer programs to enable interoperable programs to be created by means of deriving and re-using information from existing programs. A study of a computer program in machine-readable form may not yield all the information required in order to create an interoperable program.
Acts which would constitute technical violations of copyright rights such as reproducing or translating the program may need to be carried out. The Directive does not exclude the possibility that payment may be made to the rightholder for such information as a consequence of negotiation between the rightholder and the person requiring information. The exception does not allow for the copying of protectable expression.

3.5.4. As regards the specification for a standard which is produced in text form, copyright rules will apply to the expression of the specification. This does not prevent users of the specification from implementing the specification. No part of the product or process which is subject to intellectual property rights should be described in the specification, unless the rightholder has agreed to the use of his intellectual property rights in that standard.

3.5.5. Once authorization has been given by the owner of an intellectual property right for the product or process covered by the right to be used as the basis of a standard, authorization to describe the standard in a technical specification must also have been given, either explicitly or implicitly.

3.5.6. Ownership of the copyright, if any, in the written form of the specification will depend on whether the specification has been provided by the owner of rights in a de facto standard, or has been provided by a standards body following agreement between the parties concerned as to the ownership of the authors' rights in the text.

3.5.7. If the specification of the standard is drawn up with sufficient accuracy, it should contain all the information necessary to ensure a satisfactory implementation of the standard. It should not therefore normally be necessary to look beyond the specification for additional information unless this can be done without violating the intellectual property rights in the product or process so described.
4.0. THE STANDARD-MAKING PROCESS

4.1. STANDARDS INCORPORATING NO PROTECTED MATERIAL

4.1.1. It is the case in most standardization work that either no intellectual property rights exist or are created, or that there is express consent to free use of the intellectual property or waiver of any rights arising or acquired. It is also possible that intellectual property rights arise but are owned and exercised jointly by all members of the grouping, or according to contractual arrangements between the parties.

4.1.2. In these instances the question of the existence, ownership and exercise of intellectual property rights is normally resolved ab initio, and no further problems should arise. It should be stressed that, wherever possible, standards should be devised which avoid taking over proprietary technology on which intellectual property rights already exist.

4.2. 'DE FACTO' STANDARDS

4.2.1. The opposite situation exists where the product or process developed by one manufacturer becomes, by virtue of its success on the market, the de facto standard. For example, in the video cassette/recorder field, the overwhelming success of the VHS "standard" is a well-known case. In these situations the products or process will almost certainly embody intellectual property rights.

4.2.2. These rights may have been known to others in the industry if patents are involved since patent applications are a matter of public record once the 18 months period from first filing date is up, at least as far as the Community is concerned, and it is unlikely that a de facto standardization can have occurred in a period less than 18 months.

The manufacturer may even have concluded licences with third parties in respect of those rights to permit manufacture in certain markets.

4.2.3. If copyright is involved the situation is more ambiguous, as far as those countries are concerned which impose no registration formalities on the copyright holder, as is the case in all the Member States. In these circumstances copyright may exist and expire at the end of its due term without its validity ever being tested.
4.2.4. Nevertheless it should always be possible for the potential owner of a copyright to identify the subject matter over which he intends to claim a prior right. A presumption of ownership will thus be created which will be rebuttable if he is found not to be the owner or if the subject matter is held not to be protectable.

4.2.5. If the owner of the intellectual property right is made aware that a standard-making body wishes to base a standard on his technology, he is put on notice that a violation of his intellectual property rights might occur.

4.2.6. It is therefore of relevance to any subsequent negotiations or litigation to establish by what means the rightholder could be expected to know that a violation of his rights might be proposed. In the event that the rightholder participates himself in the standard making body it may be assumed that he receives constructive notice by the announcement that a standard is due to be established using the technology in question. In other words, an announcement by the standards body must create a presumption that the rightholder has been put on notice as to the potential use of his rights.

4.2.7. However where the de facto standard concerns a technology created by a manufacturer not belonging to the standards body, the manufacturer cannot be said to be presumptively put on notice. This situation will be dealt with in paragraph 4.6 below.

4.2.8. Adoption of official standards based on de facto standard solutions has many advantages. De facto standards are by their nature well-tried and tested solutions, stable and technically satisfactory. They have market acceptance and are probably well-documented.

4.2.9. Therefore in spite of the difficulties which the existence of proprietary intellectual property rights could potentially create, it is unavoidable that de facto standards will present themselves in many instances as natural candidates for adaptation into recognized standards.

No cases have been drawn to the attention of the Commission as yet where the owner of intellectual property rights in a technology refused to licence his rights to enable an already agreed standard to be subsequently implemented.
4.2.10. Particular attention has to be paid however to the procedures by which this process occurs in order to ensure that the interests of rightholders and standards users are respected. These procedures are dealt with in the following sections.

4.3. STANDARDS CREATED TO INCLUDE AN IPR: AGREEMENT AND REFUSAL TO LICENCE.

4.3.1. If there are proprietary intellectual property rights underlying the technology on which a standard is to be based and that fact is known to the standard makers, then the agreement of the rightholder must be sought if the work on the standard is to continue. It is obvious that such an agreement should be sought at the earliest possible opportunity so that, in the event of a refusal to licence, alternative solutions may be explored. A time-limit within which permission must be given or refused can also assist in speeding up the standard-making process.

4.3.2. Once the limit has passed and no agreement has been reached between the parties as to the use of an intellectual property right, work on that solution must be halted and an alternative technology considered. It would be inadvisable for a standard-making body to continue work on a standard if permission has not been sought or has not been granted in respect of intellectual property rights.

4.3.3. If agreement is reached between the rightholder and the standard-making body, the terms for licences must be fair, reasonable and non-discriminatory. It is not feasible or appropriate to be more specific as to what constitutes "fairness" or "reasonableness" since these are subjective factors determined by the circumstances surrounding the negotiation. If the rightholder is to be satisfied that his investment in research and development can be adequately recovered, he would expect the royalty rate to relate in some way to the normal freely-negotiated commercial rate, allowing for the greatly increased market for his technology which standardization will bring.

4.3.4. The terms which the rightholder offers for the use of his rights should be flexible enough to include the possibility, if the parties so agree, of cross-licensing arrangements. Cases of disputes arising in relation to the terms and conditions offered by the rightholder could be resolved if necessary by arbitration.
In the event of an appeal against an arbitration decision both parties may have recourse to the use of Article 86 EC.

4.3.5. The freedom of the rightholder to refuse to licence is, at the present time, absolute, since his exclusive intellectual property rights cannot be subject to expropriation or compulsory licensing except in exceptional circumstances such as reasons of national security or over-riding public interest.

4.3.6. However a refusal to licence by the rightholder implies as a consequence that an alternative technical solution will probably be adopted and will then challenge the rightholder's potential or de facto dominance in the market. It is normally therefore not in the rightholder's interest to decline to licence his patent or his copyright unless the terms offered by the potential users fall well short of his commercial expectations.

4.3.7. This factor has to be borne in mind in relationship to the "fairness" or "reasonableness" of the remuneration which the rightholder seeks to obtain and balanced against the enhanced market opportunities which standardization on his technology might bring.

4.4. LATE OR NON-DISCLOSURE OF RIGHTS

4.4.1. A potential source of difficulties can be identified where proprietary rights are not disclosed at all or are disclosed late in the standard-making process. In theory, an IPR holder (having been put on notice by a standard-making body that his rights were potentially to be used in the creation of a standard,) would be acting in bad faith if he claimed those rights only once the standard had been adopted, thereby forcing competitors to agree to licence royalties higher than those which might have been offered at an earlier stage, or blocking the implementation of the standard completely.

4.4.2. As has been indicated in paragraph 4.2.9. above, no such event has yet been notified to the Commission. However, bad faith could easily be demonstrated where a presumption of knowledge on the part of the rightholder can be established.
It is therefore for standards-making bodies to establish procedures whereby late disclosure or non-disclosure of rights is penalized once actual or presumed knowledge can be established. The degree to which late disclosure inconveniences the standard-making body can be regulated by means of the time-limit imposed on rightholders to declare an interest once a standard has been announced.

4.4.3. If there are deliberate acts of bad faith on the part of the rightholder a court might take these into consideration in evaluating the extent of any damages for copyright or patent violation under civil or criminal law.

4.5. LIABILITY FOR NON-DISCLOSURE

4.5.1. The question arises as to the extent to which the rightholder can and should be held liable for a failure to disclose an interest. If publication of future standard-making activities takes place in an efficient manner, the responsibility for conducting a search of patents and copyrights held by a manufacturer taking part in the standard-making process must rest with that manufacturer. The rightholder may be unaware of the fact that he is in possession of a patent in a given area, or that the subject matter in question might be covered by a copyright. The task of identifying relevant rights will of course be more onerous for manufacturers with substantial IPR portfolios and this factor should be taken into consideration by the standard-making body, perhaps by allocating a longer time-limit for the identification of rights by manufacturers who can demonstrate the magnitude of the search procedure to be carried out in their particular case.

4.5.2. If on the other hand, the standard-making body accepts the responsibility for conducting a search of possible patents in a given area, then the liability for disclosure must no longer rest with the individual rightholder, alone. He can no longer be automatically presumed to have acted in bad faith by failing to disclose his rights.
4.6. IDENTIFICATION OF RIGHT HOLDERS

4.6.1. If a standard-making body bases its work on a technical solution which is not the property of any of those participating in its work, and makes no effort to identify and obtain authorization from the proprietary rights holder, then the normal application of intellectual property law implies that an infringement of rights has occurred if no reasonable effort has been made to trace the rightholder. Seeking authorization ex post facto will not legitimize the infringement of rights. Therefore the standard-making body has to ensure that all reasonable efforts have been made to identify rights and to negotiate with the rightholder before the subject matter of the rights is incorporated into the standard even if this means that searches have to be carried out as to the existence of patents.

4.6.2. Outside the standard-making environment, a manufacturer wishing to launch a new product should ensure that in so doing he will not violate existing patents or copyrights. The standard making body has a duty to take all reasonable precautions to the same end.

4.7. AVAILABILITY OF LICENCES

4.7.1. A further question which standard-making bodies must address is the extent to which proprietary rights should be licensed for use. The normal practice is for standard-making bodies to make standards available to all users regardless of whether they take part in the standard-making process. Terms and conditions applied to participants and non-participants should not significantly discriminate against the latter. A fortiori where the standard-making body acts in an official or quasi-official standard-making capacity and where its standards are recognized and even made compulsory by virtue of legislation, access to the standard must be available to all without a pre-condition of membership of any organization. Similarly, any treatment of non-members which would impose financial or other burdens on them which act as a direct incentive to become a member of a standard-making organization should be avoided. Different conditions might be applied to different users in relation to their contributions to the standard-making process and the benefits and disadvantages which the parties can demonstrate with regard to their particular circumstances.

4.7.2. The rightholder must in all cases retain the initial right to grant or refuse licences on whatever exclusivity or territorial basis he wishes, subject to the application of Articles 30 - 36, 59, 66 and 85, 86 of the Treaty.
If membership of an industrial grouping or of a standard-making body is conditional upon agreement to a reciprocity arrangement between members and non-members it is for the right holder to decide whether those arrangements are acceptable to him before joining the grouping or standards body.

4.7.3. It should be borne in mind by industry groupings and standards bodies that intellectual property rights are exclusive rights which are usually exercised territorially. A right holder can choose whom he licences to reproduce, publish, manufacture or distribute copies of his work and may grant exclusive licences for one specific market, the Member States of the Community being understood, of course, for such purposes as one single market. The Community has taken, within the GATT Uruguay Round negotiations, a strong line against the international exhaustion of intellectual property rights.

It has to be recognized at the same time that the standard-making process entails an acceptance by the right holder of the fact that he is no longer acting in a totally free and geographically limited market once he has agreed to give licences as of right on fair and reasonable conditions to all users of a standard. The international obligations of the Community in this respect are dealt with in section 5.0 below.

4.8. INDUSTRY SPECIFIC SOLUTIONS

4.8.1. It may be the case that in certain industries the use of technical standards is more developed than in others. The reasons may be historic, for example the initial overwhelming success worldwide of a particular product, making it attractive for other manufacturers to adopt similar solutions. The reasons may also be purely technical, for example the need to ensure compatibility of international air traffic control and landing guidance systems. They may also be commercial, for example pressure from consumers for hi-fi products of different manufacturers to be combined into "sound systems".

4.8.2. As a general rule, the more mature a market, the greater the likelihood that non-proprietary standard solutions will be adopted, at least as far as interfaces between products of different manufacturers are concerned. Mature markets may lead to a corresponding decrease in the market dominance of the de facto standard since the early market lead of a single manufacturer may well be overtaken by competitors offering similar but improved product ranges.
It is also often the case that manufacturers of established product types prefer to concentrate on improvements to quality or refinements of style or performance, leaving the standardized aspects of the product unchanged.

4.8.3. The so-called 'black box' standardization described in 2.1.2. above, (which is limited to ensuring compatibility at the points of connection) and which can be observed for example in the case of consumer electronics, has many benefits to consumers and manufacturers. It multiplies choices available on the market but makes few demands on the intellectual property rights of these manufacturers already occupying a place in the market.

4.8.4. In the other areas of standardization, the process is driven not by reasons of interoperability or market acceptance, but by reasons of quality, safety or conformity to certain technical norms. In these instances a result to be achieved has to be determined, but a variety of technical means to achieve that result may still be available.

4.8.5. Intellectual property rights may therefore be less in conflict with the objectives of standardization in these circumstances, since the standard is likely to be based on results rather than methods. As a general principle, and for the reasons set out above, standardization based on results to be achieved rather than on a specific design or process technology, is to be preferred.

4.8.6. In the telecommunications area an argument has been made by some that the advances in technology are so rapid and the degree of involvement of intellectual property rights so great that existing ISO/IEC rules are inadequate. This is felt to be especially the case in telecommunications where exact specifications must be respected if public networks are to function in an interoperable and efficient manner.

4.8.7. It is not possible to say that in any specific industry, be it pressure vessels, mechanical engineering, aerospace engineering, or telecommunications, standardization and intellectual property rights co-exist with greater or lesser difficulty. Examples may be found, within one and the same industry, of standardization carried out for a variety of historic, technical, commercial and safety reasons. As a market for a particular product or process evolves, the motives which lead to standardization may also evolve.
4.8.8. The importance of the role of governments in determining the precise rules which affect the running of standards-making bodies should be noted. Governments have a number of roles to play in this area in that they are the procuring entity and the user of standards, the authority responsible for setting the boundaries for standard-making activities and at the same time encouraging research and development in both the private and public sectors, and the regulator of competition policy. Therefore the involvement of the legislator in the standard-making process and in the mandating of standards in specific areas becomes a tool of industry policy.

4.8.9. If a standard to which reference is made in a legally binding instrument, such as a Community Directive, is not specific but is rather a general reference to unspecified standards in a given field such as those referred to in Article 13 of Directive 90/531/EEC(6), then questions may arise as to the role of the private standard making bodies. If this is the case, a fortiori, it strengthens the need for uniform rules to apply to standard-making in those areas where legally binding instruments are likely to make reference to such standards or in areas where the use of certain standards made by such quasi-private or private bodies will be mandatory.

4.8.10. It also reinforces the underlying principle that the rightholder must remain, at all stages of the process, free to contract with the user of his intellectual property rights, since a standard-making body which assumed the role of administrator of such rights on behalf of its membership in an area where use of standards became mandatory through legislative action, would de facto acquire a monopoly power in relation to those manufacturers and users who remained outside the standard-making body.

4.8.11. In the view of the Commission, no particular industries should be singled out as requiring specific solutions. Such a policy, even if effective in the short term, could not guarantee an appropriate solution in the long term when the imperatives which drive the moves towards standardization in that particular industry may have changed.

(6) Article 13 (2) : The technical specifications shall be defined by reference to European specifications where these exist.

Article 13 (3) : In the absence of European specifications, the technical specifications should as far as possible be defined by references to other standards having currency within the Community.
4.8.12. If special rules for the co-existence of intellectual property rights and standardization were developed on an industry specific basis, any resulting lessening of intellectual property rights could lead to a shift in production by manufacturers away from that industry, and could disadvantage, rather than stimulate, European production.
5.0. OTHER POLICY CONSIDERATIONS

5.1. COMPETITION

5.1.1. An important consideration in the successful management of standardization involving intellectual property rights must also be the application of the competition rules of the Treaty and specifically the application of Articles 85 and 86. The issues which arise may be divided into two categories: those which relate to the constitution and operation of the standard-making body under Article 86 and those which relate to a refusal to grant licences to use an IPR or to the offer of terms and conditions for such licences under Article 86.

5.1.2. Standards-making bodies must be mindful of the requirements of Article 85 regarding in particular the fixing of royalty rates or other trading conditions in respect of standards which they make available, and, additionally must avoid creating opportunities for exchange of competitively sensitive information or for restrictive practices relating to quantities, prices, customer and territory sharing.

5.1.3. Restrictive agreements falling under Article 85(1) may nevertheless be exempted by the Commission under Article 85(3) where their benefits significantly outweigh the anticompetitive detriments. Standard-making bodies may therefore seek to notify the Commission of agreements which fall within the ambit of Article 85 with a view to negative clearance or an individual exemption under Article 85(3). Benefits derived from an exempted agreement must not fall only on the parties themselves but must also be shared by other market participants and consumers.

5.1.4. The exercise of an intellectual property right falls within Article 85(7) if such is the "object, means or consequence of an agreement"

5.1.5. Article 86 is also of relevance, whether to the standard-making body itself together with its members as undertakings likely to be in a collective dominant position within the common market or in a dominant position in their national markets or to the individual undertaking, member or non member, holding an intellectual property right.

5.1.6. Abuse of a dominant position by a standard-making body and its members could manifest itself by the activities of imposing unfair purchasing prices (i.e. royalty rates to rightholders) or selling prices, (rates including royalties for the use of standards) or other unfair trading conditions. Paragraphs (b)(c) and (d) of Article 86 might also cover abuse of a dominant position by a standard-making body.

5.1.7. The same test will apply to the individual undertaking, owner of an intellectual property right which the standard-making body wishes to use as the basis for a standard. However, whereas the definition of product market and the establishment of dominance in the relevant market are factors on which a considerable jurisprudence now exists at Community level, there have been as yet no decision of the application of Article 86 in the standards field.

The finding of dominance depends heavily on the definition of the relevant product market. Obviously, the narrower the relevant product market is the greater the likelihood of dominance being established. The concept of the relevant product market implies that there can be effective competition between the products which form part of it and this presupposes that there is a sufficient degree of interchangeability between all products forming part of the same market in so far as specific use of such products is concerned. This must be assessed inter alia in the light of the structure of demand and supply for each product and can lead to holding an undertaking dominant in the market for its own products. (8)

5.1.8. The question is the extent to which a refusal by a rightholder to allow his technology to become the basis for a standard would be anticompetitive. In order to demonstrate abuse of a dominant position it would be necessary to establish that the relevant market was the technological solution in question and that the owner of rights in that technology occupied a position of dominance in relation to that market.

If the criteria for establishing relevant market and dominance were met the next step would be to evaluate the behaviour of the rightholder in refusing to allow his technology to become the basis for a standard.

5.1.10. Until now, the Court of Justice has always maintained that a mere refusal to licence an IPR, absent other instances of abusive behaviour, will not be actionable under Article 86(9).

*Intellectual property rights are by their nature exclusive property rights, and except in very limited and specific circumstances, as laid down in national legislation or international conventions, do not have to be made available to others by means of compulsory licences unless it can be demonstrated that the exercise of the right involves certain abusive conduct.*

5.1.11. Therefore Article 86 cannot permit the expropriation of rights for the purposes of using the technology as the basis of a standard where no other circumstances establish abuse of a dominant position, and taking into account particularly whether there are other viable technologies available.

The problem should therefore be addressed before the technology on which to base the standard has been definitively selected. If the standard in question had been adopted, implemented, and made mandatory by a Community Instrument, refusal to licence the technology necessary to use the standard would, a fortiori, create difficulties.

5.1.12. A main objective of Article 86 is to ensure that dominant companies do not create conditions of trading in which they are able to stifle or eliminate competition.

*If no standard exists, the IPR holder cannot be dominant in respect of the standard. If competition exists on the market for the product whose technology the standard-makers seek to use, the standard-maker is merely prevented from exercising a particular choice as regards the solution which he wishes to adopt to a specific problem.*

(9) Volvo: Veng [1988] ECR Ground 8
5.1.13. The situation where the standard-maker is not able to choose an alternative technology must be examined. The circumstances in which this is the case will be unusual. Nevertheless, for technical or for financial reasons the standard-maker could attempt to demonstrate the absolute necessity of licences being available for the use of a particular technology. It could also be claimed that alternative technologies produced inferior results. In the case of technical necessity, objective evaluation of the scope of the patent in question should reveal whether the patent is so broad as to render all other substitute technologies not viable. It is relatively rare for a patent to cover such a broad innovative area that alternative means to achieve the same result cannot be found.

5.1.14. As to financial necessity, excessive pricing of its technology by the dominant company could be indicative of abusive behaviour but this factor is not of relevance in a case of mere refusal to licence. It should be noted however that excessive prices asked for by a dominant company could amount to a de facto refusal to license.

5.1.15. If it were demonstrable that no other viable technology existed, it would fail to be resolved whether the standard-making body, or potential users of the standard, would be placed at a competitive disadvantage vis-à-vis the owner of the intellectual property right by the fact that no standard could be made in that area, or that the standard adopted was less efficient than the proprietary technology. Although it could be argued that consumers would benefit in the short term if intellectual property rights were compulsively licensed to serve as the basis of standards, in the long-term, investment in research and development in the standardized industrial sectors would dry up within the Community. Non-Community entities with extensive research activities would be encouraged to keep their technology out of Community markets, while low-cost manufacturing centres outside the Community would benefit from cheap licences to use Community technology.

5.1.16. Therefore, any application of Article 86 in the field of public standardization must be balanced against the policy objective of maintaining the Community's strength in research and development.
5.2. EXTERNAL RELATIONS ASPECTS
AVAILABILITY OF LICENCES FOR PRODUCTS FROM THIRD COUNTRIES

5.2.1. From a policy point of view the Community is committed to the widest possible geographical availability and use of standards in the interest of economies of scale and enhanced international trade.

5.2.2. Under the Agreement on Technical Barriers to Trade (TBTA) concluded under the auspices of the General Agreement on Tariffs and Trade (GATT) in 1979 the Community has accepted several obligations vis-à-vis the other parties to the TBTA (practically all industrialised countries and a number of developing countries) in relation to the preparation, adoption and application of technical regulations and standards.

The level of compulsion varies according to whether the standard or technical regulation is prepared, adopted or applied by a central government body (Art. 2 TBTA) or a non-government body (Art. 4 TBTA).

5.2.3. Under Art. 2 TBTA the Community has to ensure that standards are not prepared, adopted or applied with a view to creating obstacles to international trade and that products imported from the territory of any party to the TBTA shall be accorded treatment no less favourable than that accorded to like products of national origin and to like products originating in any other country.

Under Art. 4 TBTA the Community, as regards standards by non-governmental bodies, has to take such reasonable measures as may be available to achieve the objectives pointed out in Art. 2 TBTA.

5.2.4. Standards which are given a mandatory status by Community legislation by requiring that contracting authorities in public procurement Directives(10) refer to European standards must be available to entities in the Community at fair, reasonable and non-discriminatory terms.

5.2.5. Standards which provide a presumption of conformity to the essential requirements of Community 'New Approach' Directives(11) must be available to entities in the Community at fair, reasonable and non-discriminatory terms.


5.2.6. For the standards described in 5.2.4. and 5.2.5. above, national treatment (Art.2) requires that products originating in a Party to the TBTA be treated in the same manner. If these standards contain intellectual property rights, this means that the Community must ensure that the importer from a country party to the TBTA can obtain licences from the IPR holder for importation, marketing, sale and use in the Community on fair, reasonable and non-discriminatory terms. For other standards the level of compulsion to reach this result is limited to the adoption of reasonable measures.

From a policy point of view it would be desirable to make sure if licences for IPRs which are required for manufacture for export to the Community are available on fair, reasonable and non-discriminatory terms in order not to create obstacles to international trade.

5.2.7. This issue does not raise any conflict with intellectual property rights incorporated into a standard provided that the holder of such rights has consented to their inclusion. It would become of direct relevance if the rightholder subsequently refused to grant licences for the manufacture of products in the Community or importation of products originating in a TBTA signatory country or if the existence of the rightholder was only revealed once the standard had been made mandatory.

5.2.8. In both the above situations, a number of solutions exist. The standard could be withdrawn or modified. Alternatively in exceptional circumstances the Community instrument itself might have to be modified and the standard made non-mandatory. However, it is essential for standard-making bodies to recognize the need to identify any intellectual property rights before adopting a technical solution and for the rightholder to understand and accept the terms and conditions under which his rights will subsequently be licensed, both in respect of manufacturing and importation licences.
6.0. CONCLUSIONS

6.1. CODES OF PRACTICE / GUIDELINES / "UNDERTAKINGS"

6.1.1. If, in spite of the apparent lack of evidence of systematic difficulties arising at present in the majority of standard-making bodies, there are concerns that further codification of procedures for the treatment of intellectual property rights in the standards field is required, then consideration should be given to the nature of such codified procedures.

6.1.2. As stated in paragraph 5.2.5. above, the possibility that a European standard may be made mandatory or given a particular status through Community legal instruments places a burden of responsibility on the Community and the standard-making body to ensure that democratic and pro-competitive processes exist for the drafting of standard.

6.1.3. Therefore, the standard-making process should remain voluntary and should respect existing national and Community legislation, and international obligations. If changes to Community legislation or obligations are required in order to achieve the legitimate objectives of standardization, such changes should be effected by all relevant means including proposals to the Council by the Commission for legislative action. If existing provisions of the Treaty, or of Community legislation are to be given effect in the standard making area in ways which are different from the effect normally given in other areas, such extensions or interpretations should be conveyed with the industries concerned in a fully transparent manner.

6.1.4. As indicated in paragraph 1.1.4., if standard-making bodies choose to elaborate codes of practice or undertakings for signature by participants in the standard making process, care should be taken to distinguish those private procedural obligations arising from membership of a standard-making body and the obligations under public law which the body or its members may incur.

6.1.5. The Commission has examined a number of the codes or guidelines applied by international and national standards-making bodies. Given the voluntary nature of the standard-making process, the common characteristics of most such codes or guidelines are that they are non-binding and remain general in their approach. However, at least one standard-making body has attempted to create a binding and detailed Undertaking which sets out the mechanisms for regulating the making of standards.
6.1.6. It can be argued that the complexity of the relationship between standard-making and exclusive intellectual property rights requires a set of rules which foresees all possible eventualities. It can equally be argued that without constraints on the membership of the standard-making body, the potentially conflicting interests of those taking part in the process cannot be reconciled.

6.1.7. On the other hand, proponents of the general and voluntary approach favoured until now by most international standardization bodies argue that unnecessary detail in such guidelines renders the process more complex than it need be, and argue that no evidence of a need to depart from the voluntary approach has been produced.

6.1.8. It is not for the Commission to favour one approach rather than another, providing the requirements set out in paragraph 6.2.1. below are met. To the extent that standards-making bodies are private and voluntary organisations, they are free, within the limits imposed by Articles 85 and 86 of the Treaty, to organize their activities in the way which seems to them to be most appropriate. However, in imposing constraints on members, standards bodies should take into consideration the need to encourage the voluntary contribution by industry of its best technology toward the standard-making process. The Commission has therefore a preference for a system based on tried and proven principles, but which balances in a transparent and equitable way the interests of those concerned.
6.2. GENERAL PRINCIPLES

6.2.1. The Commission suggests that rights and obligations arise for both standards makers and intellectual property right holders. The principles on which standardization takes place should therefore recognize that partnership as follows:

European standard-making bodies should ensure that:

1. all persons wishing to use European standards must be given access to those standards;

2. standards are available for use on fair, reasonable and non-discriminatory terms, regardless of whether the users participate in the work of the standard-making body or not, but taking into account the circumstances of the use;

3. users are able to use the above standards to manufacture in conformity with the standards in the Community, and to import into the Community goods legitimately manufactured in third countries in conformity with the standards;

4. best efforts are made to identify holders of any intellectual property rights - by conducting searches - by publication of adequate information and where appropriate by holding public enquiries, before adopting a standard, work on a particular solution only continuing if all known intellectual property rights can be licensed for use in the standard;

5. fair conditions are provided to the holders of intellectual property rights, especially with regard to the time limits for identifying IPRs and agreeing to their use, and in respect of arbitration mechanisms as to royalty rates;

 Intellectual property right holders should:

6. use best efforts to identify in a timely manner any IPR which they hold which is relevant to a standard which is being developed and to confirm or refuse permission for its incorporation in that standard promptly;
7. offer fair, reasonable and non-discriminatory monetary or non-monetary terms for the licence to use any IPR;

8. regard agreement to the incorporation of an IPR in a standard as irrevocable unless the exceptional circumstances justify withdrawal of licences once the standard is adopted.

6.3. COMMUNITY ACTION

6.3.1. The Commission may find itself obliged to consider whether Articles 30-36, 59, 66, 85 and 86 of the Treaty are applicable in certain cases. Arbitration procedures set up by standard bodies, whilst useful in resolving disputes in certain areas, cannot be regarded as final and binding upon all parties if questions arise which fall to be decided by application of provisions of the Treaty.

6.3.2. As indicated earlier in this Communication, the Commission must ensure that where compliance with a standard or part of a standard is referred to in Community legislation, either as a mandatory requirement or as one which confers a particular status under Community law, the contents of that standard are made available to all interested parties on a fair, reasonable and non-discriminatory basis. This obligation derives from both Community and International law.

6.3.3. Where the Commission has reason to believe that a standard or part of it is not being made available on these terms it will have to take steps to withhold or to withdraw recognition under Community law of the standard. This could be done in respect of individual standards on an ad hoc basis, for instance, by the publication of notices in the Official Journal.

However, if a European standardization body consistently failed to ensure non-discriminatory access to its standards, the status of the standardization body itself under Community law would have to be reviewed.