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MEETING OF THE PARTIES TO THE CONVENTION ON THE PROTECTION AND USE OF TRANSBOUNDARY WATERCOURSES AND INTERNATIONAL LAKES

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INTEGRATED MANAGEMENT OF WATER AND RELATED ECOSYSTEMS

DRAFT GUIDE TO IMPLEMENTING THE CONVENTION

Draft guide by the Chairperson of the Legal Board

Summary

The document includes a proposal for a decision by the Meeting of the Parties regarding the Guide to Implementing the Convention on the Protection and Use of Transboundary Watercourses and International Lakes. The Guide is a comprehensive commentary to the Convention's provisions, providing explanations of the procedural, legal, administrative, technical and practical aspects of the Convention's requirements for appropriate implementation. These explanations are coupled with illustrative examples of good practices in the United Nations Economic Commission for Europe region.

BACKGROUND AND PROPOSED ACTION BY THE MEETING OF THE PARTIES

1. This document was prepared following a decision by the Convention's Bureau to meet the requests made for assistance with accession to the Convention by Georgia and the former Yugoslav Republic of Macedonia. The Bureau decided that preparing a guide to address legal and practical implications of ratification and implementation of the Convention was the most effective response to these and possible future requests. The Legal Board and the Working Group on Integrated Water Resources Management were entrusted to provide, respectively, legal explanations of the Convention's provisions and practical advice on their implementation.

2. Further to this decision, a drafting group was formed to elaborate the draft Guide. The drafting group was composed of legal and water experts from the following countries and organizations: Czech Republic, Finland, Georgia, Germany, Greece, Hungary, Italy, Netherlands, Serbia, Slovakia, the former Yugoslav Republic of Macedonia, Ukraine, European ECO-Forum and the University of Dundee (United Kingdom). The drafting group held two meetings in Geneva, on 15 and 16 December 2008 and on 17 and 18 February 2009.

3. The current draft was prepared by the drafting group on the basis of the comments provided by the Legal Board at its fifth (Geneva, 2–3 October 2008) and sixth (Geneva, 29–30 April 2009) meetings and by the Working Group on Integrated Water Resources Management at its third (Rome, 22–24 October 2008) and fourth (Geneva, 8–9 July 2009) meetings. At its fourth meeting, the Working Group endorsed the draft Guide and requested it to be submitted to the fifth session of the Meeting of the Parties for adoption (ECE/MP.WAT/WG.1/2009/2).

4. The Meeting of the Parties may wish:

(a) To thank Italy for leading and partly funding this activity, Germany and Switzerland for providing the additional needed funds, and those Parties and non-Parties who strongly supported it;

(b) To express its appreciation to the Chairperson of the Legal Board, the members of the drafting group and all the other experts who contributed to the Guide's development;

(c) To adopt the Guide, as contained in the annex to this document, recognizing its strategic importance for implementation of and compliance with the Convention;

(d) To call on Parties and non-Parties to use the Guide in their work on transboundary water cooperation, and to commit to promoting the Guide widely in the region and beyond;

(e) To agree that the Guide should be a key reference document for activities included in the workplan for 2010–2012 and request the secretariat to print it, to develop an interactive online version and to prepare promotional material on it;

(f) To review, at its sixth session, experience with the use of the Guide, and decide, if necessary, to update the document in the light of the lessons learned.

Annex

DRAFT GUIDE TO IMPLEMENTING THE CONVENTION ON THE PROTECTION AND USE OF TRANSBOUNDARY WATERCOURSES AND INTERNATIONAL LAKES

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INTRODUCTION

1. In the 1980s water-related activities of the United Nations Economic Commission for Europe (UNECE) increasingly focused on transboundary water management issues and on the ways and means of strengthening cooperation at the regional level, in general, and, in particular, among riparian countries i.e. countries bordering the same transboundary waters. These activities culminated in such policy documents as the Economic Commission for Europe's Declaration of policy on prevention and control of water pollution, including transboundary pollution, and the Economic Commission for Europe's Decision on Principles regarding Co-operation in the field of Transboundary Waters[1]. Based on these documents and on the outcomes of the Meeting on the Protection of the Environment (Sofia, 16 October–3 November 1989) of the Conference on Security and Co-operation in Europe (CSCE), UNECE countries negotiated the text of a legally binding document, which was signed in Helsinki on 17 March 1992 as the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention).

2. This legal document came up on time, as the break-up of the Soviet Union and some other countries in Central and South-Eastern Europe posed new challenges to regional cooperation in general, and to cooperation on environment and security in particular. New frontiers cut through Europe, and the Water Convention was the piece of international legislation available for these countries to protect and manage transboundary waters, which were previously national ones.

3. The Convention has been force since 6 October 1996.[2] As a framework agreement, the aims of the Convention have been enhanced by the elaboration of supplementary protocols: the Protocol on Water and Health, which was adopted in 1999 and has been force since 2005; and the Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters (Civil Liability Protocol) which was adopted in 2003. Moreover, in 2003, amendments to articles 25 and 26 of the Convention have been adopted, which are not yet in force, to allow States situated outside the UNECE region to become Parties.

4. The Convention has played a crucial role in the region in supporting the establishment and strengthening of cooperation and serving as a model for a number of bilateral or multilateral agreements. Among them are the 1994 Convention on Cooperation for the Protection and Sustainable Use of the Danube River (Danube River Protection Convention) and the 1999 Convention on the Protection of the Rhine (Rhine Convention), which build on the 1992 Water Convention's provisions in a more specific subregional context. Other examples are the agreements on the rivers Meuse and Scheldt, as well as on the Estonian-Russian, Kazakh-Russian and Russian-Ukrainian transboundary waters. Some relatively recent transboundary water instruments include the multilateral Framework Agreement on the Sava River Basin and a number of bilateral treaties on transboundary waters, such as between Belarus and Ukraine and

[1] Adopted by the Economic Commission for Europe at its forty-second session (1987) in its decision I (42).
[2] As of August 2009, the Convention had 36 Parties.

between Belarus and the Russian Federation. Reference to the Water Convention is also in the European Union Water Framework Directive (EU WFD)[3].

5. The Water Convention is an integral part of a wider legal framework in the UNECE region constituted by five environmental conventions: the 1979 Convention on Long-range Transboundary Air Pollution (LRTAP Convention), the 1991 Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention), the 1992 Convention on the Transboundary Effects of Industrial Accidents (Industrial Accidents Convention), the 1992 Water Convention and the 1999 Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention). The UNECE Conventions offer a strong and comprehensive legal framework for dealing with diverse environmental issues. The Water Convention is both complemented by and contributes to the implementation of the other UNECE conventions. It benefits from the work carried out under these instruments, since there is significant synergy in terms of their substantive scopes and obligations and commitments.

6. A host of questions often arise when a State considers ratifying or acceding to the Convention, as well as after ratification, for the purpose of its implementation. They concern procedural, legal, administrative, technical and practical aspects of the requirements for appropriate implementation. It is against this background that the need for a practically oriented guide has been originated.

7. The present Guide, designed to support both implementation of and accession to the Convention, focuses on a selected number of provisions of the Convention that may involve special difficulties for the Parties, as well as for acceding countries. In the longer term, Parties might decide to revise the Guide and include the remaining provisions.

8. The Guide is the product of a multilateral exercise, involving both Parties and non-Parties. It benefited from Parties' experience in the implementation of the Convention and from the good practices they have developed over 17 years since the Convention's adoption. Furthermore, the Guide was developed through a participatory process involving not only water managers and practitioners but also representatives of academic institutions, non-governmental organizations (NGOs) and international organizations.

I. RATIONALE, OBJECTIVES AND TARGET GROUPS

9. The core objective of the Guide is to assist Parties in the implementation of the Convention by offering detailed commentary on the Convention's provisions.

10. The Guide is also meant for non-Parties with a view to facilitating decision-making processes concerning ratification or accession, national ratification or accession processes, as well as the application of the Convention's provisions, as appropriate, prior to ratification or accession.

[3] Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy.

11. Finally, the Guide is intended to support transboundary cooperation also outside the UNECE region and promote the implementation of the Convention and its principles throughout the world. In particular, the Guide is expected to serve as a reference for non-UNECE countries cooperating with UNECE countries on shared waters. In the long-term, the Guide is expected to become a useful handbook for non-UNECE countries wishing to accede to the Convention once the amendments to the Convention allowing for that are in force.

12. The key target groups for the Guide are policymakers and decision makers, implementation agencies and bodies responsible for water issues, in particular in the transboundary context, such as joint bodies. The document will be also of interest to officials of other sectors with a direct relevance to water, such as health, the agricultural sector managing irrigation, the food sector, fisheries, the tourism sector, industrial water users, inland water transport and the production of electricity, as well as to the managers and stakeholders in such sectors.

13. While providing general guidance that can be suitable to different situations, the Guide also aims to be a practical tool responding to country-specific needs.

II. SCOPE OF THE GUIDE

14. The Guide provides explanation about legal and practical issues likely to emerge in the implementation of the Convention, as well as in the ratification or accession process. Explanation is coupled with examples of good practices in the region.

15. The Guide provides arguments underlining the advantages of being a Party to the Convention, both from “upstream” and “downstream” perspectives. The Guide also offers explanation of the main principles and features of the Convention and on how they influence requirements for implementation. Furthermore, the Guide gives general advice on how to organize ratification or accession processes effectively, taking into account that these processes are country-specific.

16. The core of the Guide is the commentary to the selected provisions, whose implementation may involve special difficulties**.** Such a selection does not imply that the provisions that are not covered by the Guide are less important and that Parties should give them a lower priority in the implementation of the Convention.

17. The commentary includes legal analysis and, stemming from this, practical and technical clarifications and minimum requirements with the corresponding measures.

18. The Guide should not affect in any way the contents or the legal force of the Convention’s provisions, nor the rights and obligations of the Parties to the Convention. Accordingly, the Guide does not constitute, nor represent, a legally binding interpretation of the Convention.

19. The Guide takes into account other authoritative international instruments relevant to the subject matter addressed by the Convention. In particular, frequent reference is made to the preparatory work of the International Law Commission (ILC) under the United Nations General Assembly, which led to 1997 United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses (New York Convention), and to the New York Convention itself, as well as to the 2001 Draft articles on international liability for injurious consequences arising out of acts not prohibited by international law, also prepared by ILC. Those two instruments, adopted after the entry into force of the Water Convention codify the international custom on water law in such a way as to corroborate the customary law nature of most of the provisions of the Water Convention, therefore enhancing their legal force. Furthermore, the preparatory work of these two international instruments – rich in extensive commentaries, international case-law and practice – provide useful background support for the purposes of the present Guide.

20. The relationship between the Water Convention and the New York Convention has been the object of a specific study under the former Task Force on Legal and Administrative Aspects of the Water Convention[4], even though the New York Convention is not yet in force, while the Water Convention has been in force for more than 10 years. It suffices here to refer to the main points of its conclusions. While both Conventions address the same subject matter, their respective provisions are mutually compatible. The provisions of the Water Convention are generally more specific. Therefore, they set out more precise guidance and advanced standards of conduct, particularly with regard to prevention, control and reduction of transboundary impact. By way of exception to the above, more extensive guidance may be found in the New York Convention concerning the principle of equitable and reasonable utilization. Most importantly, the added value of the Water Convention lies in the institutional framework it set up in order to assist the Parties in complying with its provisions and in further developing them on the one hand, and in the mandatory character of institutional cooperation between Riparian Parties on the other. None of these features are present under the New York Convention.

III. ADVANTAGES OF BECOMING A PARTY

21. In becoming a Party to the Convention, a State does not simply become the addressee of new rights and obligations. Most importantly, it joins in an institutional regime based on the Meeting of the Parties, its Bureau, its subsidiary bodies and the secretariat. Such an institutional framework assists Parties in the implementation and progressive development of the provisions of the Convention, including through soft-law guidelines and recommendations[5], as well as through the elaboration of specific protocols. It provides a collective forum conducive to bilateral and multilateral cooperation, where experience and good practices are shared. Parties may take part in working groups and other subsidiary bodies, such as the task forces and expert groups established by the Meeting of the Parties. These groups and the secretariat handle requests on

[4] The Relationship between the UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes and the 1997 United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses, Geneva, 2000 (UN Doc. ECE/ENHS/NONE/00/02, GE 00-30528), available at www.unece.org/env/water/publications/documents/conventiontotal.pdf.

[5] See the guidelines, recommendations, background reports and studies at http://www.unece.org/env/water/publications/pub74.htm

clarification of technical, legal, institutional, economic and financial issues related to the implementation of the Convention

22. The above added value in becoming a Party to the Convention, which derives from its framework nature, is best appreciated in relation to the importance of cooperation in the management of transboundary freshwater resources. Experiences gained and analysis carried out concur with the view that collective and coordinated use, protection and management of transboundary waters through cooperation between riparians is the key to optimal utilization thereof for all parties involved.[6] Further to that, there is general agreement that, while cooperation appears as a precondition for sustainable use of a transboundary water body, non-sustainable utilization leads to the worse off situation for all parties involved.

23. With the above in mind, one is to emphasize that the main feature of the Convention is precisely that of providing the normative framework within which riparians may carry out that cooperative collective action which is necessary for the optimal utilization and protection of their transboundary waters and related ecosystems. This action is to be undertaken through the conclusion and implementation of specific agreements between riparians (art. 2 (6), arts. 5, 6, 9, 10, 11, 12, 13, 14, 15 and 17).

24. Uncertainty about the willingness by other riparians to effectively cooperate is a major disincentive for self-interested States against taking the first steps towards cooperation. Such uncertainty may occur under two scenarios: The first one concerns the uncertainty of State A as to whether riparian B, and/or possibly C, D ... will enter into a bilateral or multilateral water body cooperation agreement; the second one, concerns the uncertainty of State A as to whether riparian B, and/or possibly C, D ... , once entered into such an agreement, will effectively comply with it, or let State A embark alone e.g. on the short term costs of the cooperation originally provided for in the agreement, on the basis of the expectation that the other riparians will implement the agreement.

25. The above appears most evident in a short vis-à-vis long term perspective framework, the latter being inherent in the concept of sustainability. Riparians are faced with quantity and quality problems pertaining to the water body. Addressing such problems through collective action requires a number of initially unilateral decisions towards cooperation and sustainability which may imply costs – e.g. a lower rate of consumption to be agreed, in cases of shortage of water, or the costs for improving infrastructure as well as for acquiring, or improving prevention and/or depuration technological capacity. This may make cooperation appear as disadvantageous in a short term perspective, particularly if riparian A has doubts about riparian B, or possibly C, D ... sharing the costs and cooperate. If, in such a situation of uncertainty, lack of trust and of communication, the dominant policy of the riparians becomes one of unilateralism, hence, pulling out of the short term costs of cooperation. In the long term, each riparian will find itself in the most disadvantageous situation vis-à-vis the shared water body: its depletion and/or its pollution beyond repair. Even before reaching the point of no return, in a scenario of lack of cooperation, repletion and restoration of the shared water body would be reached through costs

[6] See, for example, the seminal essay by Eyal Benvenisti, “Collective Action in the Utilization of Shared Freshwater: The Challenges of International Water Resources Law”, in *American Journal of International Law*, 1996, pp. 384 ff., and the references quoted therein.

for all riparians which would be incommensurably higher than the savings initially made by averting cooperation.

26. Becoming a party to the Convention may precisely remove this kind of uncertainty paving the way for collective and assisted action. This is so thanks to the confidence building framework set up by the Convention through its collective institutional regime providing for collective assessment, as well as technical, legal and administrative assistance. Indeed, if all riparians to a transboundary water body join in the Convention, thanks to the latter's institutional framework, each riparian State is not left alone in its dealings with the other riparians, while its expectations become the concern of all other Parties sitting in the Meeting of the Parties, which would also provide for assistance, together with its subsidiary bodies, facilitating compliance and cooperation by all Parties.

27. Cooperation under the Convention may become an important contribution to the prevention of conflicts between riparians, thereby enhancing peace and security. Permanent cooperation through the mechanisms of the Convention (such as establishment of joint bodies, exchange of information, consultations, etc.) allows for early identification of potential sources of disagreement and provides for means to prevent their escalation.

28. The advantages deriving from joining in the collective cooperative framework set out by the Convention benefit its Parties primarily with regard to the transboundary dimension of the relations with the other Riparian Parties. To that end, the Convention requires Riparian Parties to conclude bilateral or multilateral agreements or arrangements, or to revise existing ones, in order to apply its basic principles to the specific relevant transboundary waters. It also provides detailed guidance concerning the minimum tasks for such joint bodies.

29. The establishment of such institutional mechanisms provides concrete means for the practical implementation of the standards of cooperation envisaged by the Convention while representing at the same time a powerful incentive for further and more advanced cooperation. Many specific bilateral and multilateral agreements that have already been concluded under the auspices of the Convention specifically refer to the latter as their parental instrument drawing on its general aims and on most of its provisions.

30. Although non-Parties are not prevented from adopting on a voluntary basis the same standards of cooperation through the mechanisms laid down in the Convention, becoming a Party provides a guarantee that the institutional mechanisms of the Convention will apply in relations with other Riparian Parties on the basis of equality paving the way towards permanent and effective cooperation.

31. It may be recalled that the Convention has influenced the drafting of a number of sub-regional water regimes (e.g. the Danube River Protection Convention or the EU WFD). Proper implementation of the Convention thus provides a good basis for the execution of these sub-regional instruments. In fact, recitals (21) and (35) of the preamble to and article 1 of the EU WFD make it clear that one of the objectives of the Directive is to "make a contribution towards enabling the Community and Member States to meet [their] obligations", inter alia under the Convention. Thus in the EU context the Convention helpfully complements and provides

additional guidance for the understanding and implementation of the EU water-related legislation especially in the context of cooperation between EU and non-EU countries.

32. It may be that not all riparians to the same transboundary water body become Parties to the Convention. In such a case, the Riparian Parties would not be legally bound by the provisions of the Convention in their relations with the riparians that have not joined in the Convention.

33. Parties largely benefit from the Convention and its institutional framework also with regard to the domestic dimension of water management. As cooperation promoted under the Convention involves different sectors of the central administrations of States Parties, their relevant local authorities, other public and private stakeholders and NGOs. This improves collaboration, awareness, knowledge and capacity at cross-sectoral and multilayered levels in State and regional contexts. Such forms of cooperation and collaboration encompass exchange of information, consultations, common research and development, particularly on the achievement of water-quality objectives, joint monitoring and assessment, early warning systems and mutual assistance concerning critical situations. Thus advantages may as well be derived by Parties from those provisions that bear also on the exercise of their internal sovereignty: i.e. on the relation between a Government and its local administrations, on the one hand, and its citizens and resident individuals and companies, on the other. Moreover, the collective and expert assistance provided for under the Convention enhances the national water management capacity. Such enhanced national capacity, once acquired in relation to freshwaters having transboundary character, not only applies automatically to the domestic parts of an international water body, but can just as well be applied to waters having a purely domestic dimension.

34. Article 2 (5), setting out the precautionary principle, the polluter-pays principle and the inter-generational sustainability principle, provides a useful example of the domestic relevance of the Convention. Once such principles are adopted in the internal legal order of a riparian State – usually, through the parliamentary law authorizing ratification – they will normally apply to the whole range of activities likely to have environmental impact, be it domestic and/or transboundary. By taking individual and cooperative measures to prevent, control and reduce any transboundary impact, as one of the main objectives of the Convention, the Parties inevitably find themselves reaching out for higher standards of protection of human health and safety both at the domestic and international level. The same applies to the protection of flora, fauna, soil, air, water, climate, landscape and other objects.

35. Still on the advantages pertaining also to the domestic level of States Parties, the Convention provides a framework which may be used by the Parties to implement integrated water resources management (IWRM). The Convention promotes a holistic approach, which takes into account the complex interrelationship between the hydrological cycle, land, and flora and fauna, based on the understanding that water resources are an integral part of the ecosystem. This strengthens the cooperation between all riparians in pursuing the basic concepts and aims of the Convention at the domestic level.

36. Becoming a Party to the Convention may also involve, directly, or indirectly, advantages in relation to international funding for projects connected with use, protection and management of transboundary waters. Financial assistance may be facilitated or sought by the Meeting of the

Parties, when appropriate, in order to enhance the capacity of a Party to achieve the purposes of the Convention (see art. 17 (2 (c)).

37. Efforts to enter into bilateral or multilateral agreements and establish joint bodies are strongly encouraged by international organizations (e.g. UNECE, the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), the United Nations Development Programme (UNDP), the Organisation for Security and Cooperation in Europe (OSCE**)** and the EU), multilateral financial institutions and bilateral donors. Financial support to river commissions and other joint bodies worldwide is provided, inter alia, by the World Bank, the Global Environmental Facility (GEF), the European Investment Bank, the African Development Bank, the Asian Development Bank, the Islamic Development Bank, the European Commission and by a number of Governments.

38. Parties to the Convention may benefit from the use of the Convention's trust fund, which supports the effective implementation of the Convention. The trust fund is managed by the UNECE secretariat. The Parties contribute to the fund on a voluntary basis.

39. The trust fund can be used, inter alia, for:

(a) Technical support to Parties, particularly to countries with economies in transition, to promote and implement the Convention through the organization of seminars and workshops and other training activities;

(b) Support to participation of experts from countries with economies in transition, especially the countries in South-Eastern Europe and in Eastern Europe, Caucasus and Central Asia in workshops, seminars, symposia and other informal forums organized within the framework of the Convention.[7]

40. Non-Parties can also benefit from the Convention's trust fund. However, priority is given to Parties.

41. The GEF, which is the largest funder of projects to improve the global environment, provides grants for projects related to six focal areas including international waters. The GEF funding is intended to help meeting the so-called "incremental costs" of: (a) assisting groups of countries to better understand the environmental concerns of their international waters and work collaboratively to address them; (b) building the capacity of existing institutions (or, if appropriate, developing the capacity through new institutional arrangements) to utilize a more comprehensive approach for addressing transboundary water-related environmental concerns; and (c) implementing measures that address the priority transboundary environmental concerns.[8]

[7] See details about the trust fund in decision III/2 on establishment of a trust fund under the Convention, adopted at the third session of the Meeting of the Parties (Madrid, November 2003; ECE/MP.WAT/15/Add.1), available at: http://www.unece.org/env/water/meetings/documents_MoPWC.htm#ThirdMoP.

[8] Operational Strategy of the Global Environment Facility (1995), Chapter 4: International Waters, http://www.gefweb.org/public/opstrat/ch4.htm.

42. The World Bank, which provides lending to concrete projects and activities mainly with respect to different economic uses of transboundary waters (hydroelectric, irrigation, flood control, navigation, drainage, water and sewerage, industrial, and similar projects), attaches particular importance to riparians' making appropriate agreements or arrangements for these purposes for the entire waterway or any part thereof. The Bank's approach, governed by the Operational Policy (OP)/Bank Procedure (BP) 7.50: Projects on International Waterways (2001)[9], is determined by the recognition that the cooperation and goodwill of riparians is essential for the efficient use and protection of the waterway. In cases where differences remain unresolved between the State proposing the project and the other riparians, the Bank requires that the prospective borrower notifies the other riparians of the project. The Policy lays down detailed procedures for notification, including the procedures in case there is an objection by one of the riparians to the project. Participation in the Water Convention and compliance with its provisions would serve as a clear evidence of riparians' willingness to cooperate and would provide the ideal setting for dispute prevention and, if necessary, negotiated settlement, hence enhancing the eligibility for international funding.

IV. HOW TO BECOME A PARTY AND BASIC REQUIREMENTS FOR IMPLEMENTATION AND COMPLIANCE

43. A State becomes a Party to the Water Convention by ratifying, accepting or approving it or acceding to it. Ratification, acceptance, approval and accession mean the international act whereby a State expresses consent to be bound by a treaty. Article 25 of the Convention and its amendments (once into force) set out certain criteria and procedures for States and regional economic integration organizations to become a Party. Signatory States and regional economic integration organizations may ratify, accept or approve the Convention, while other member and consultative States of the UNECE and regional economic integration organizations may accede to it.

44. The deadline for the signature of the Convention has expired (art. 23). All signatory States, except the United Kingdom, have ratified, accepted or approved the Convention, which is why this section of the Guide focuses on the accession to the Convention.

45. In order for a non-signatory State to become a Party, it must deposit its instrument of accession with the Secretary-General of the United Nations, serving as the depositary of the Convention (art. 24). Accession is a process similar to ratification, acceptance or approval by which prospective Parties that did not meet the deadline for signature may become bound by the Convention. For an acceding State, the Convention enters into force on the ninetieth day after the date of deposit of the instrument of accession (art. 26).

46. It would be appropriate if acceding States, when depositing their instrument of accession, consider expressly indicating that they intend to accede to the text of the Convention as amended in its articles 25 and 26, according to decision III/1 taken at the third session of the Meeting of the Parties (Madrid, 26-28 November 2003).

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[9] Operational Policy/Bank Procedure 7.50: Projects on International Waterways (2001, revised in 2004), http://go.worldbank.org/RKU8MDSGV0.

47. The exact national process by which a State becomes a Party depends on that State's domestic legislation concerning the conclusion of treaties, which is often set out in that State's Constitution. In many States, the accession process to the Convention is the responsibility of the Ministry of Foreign Affairs, in consultation with the ministry or agency responsible for water resources (e.g. the Ministry of the Environment, the Ministry of Agriculture). Typically, the latter is responsible for the preparation of the assessment of any required changes to the existing domestic legislation needed to implement the Convention. In many States, acceding to a treaty is subject to approval by the Parliament or Government, and the domestic legislation must be brought into conformity with the treaty in connection with this procedure and, in any case, by the entry into force of the treaty with respect to that State.

48. Preparations for the accession can be made by assessing the changes to the existing domestic legislation and to bilateral and multilateral agreements that the Convention requires. A useful option is to establish an official working group to assess the impact of the Convention on the domestic law and policies and on transboundary cooperation. The working group may include ministry officials, representatives of environmental agencies, municipalities, NGOs and academic institutions. Specific officials/institutions may be designated to lead the accession process.

49. The decision on accession implies that the State is prepared to comply with and implement the Convention. Compliance means the fulfilment by the contracting parties of their obligations under the Convention, and it requires the implementation of the Convention at the national as well as the international level (part II of the Convention). Implementation refers to all relevant laws, regulations, agreements, policies, and other measures and initiatives that the Parties adopt and/or take to meet their obligations under the Convention. The accession act is an important first step, but it must be followed by the practical implementation of the provisions of the Convention.

50. Implementation at the national level and at the level of transboundary cooperation is vital for the effectiveness of the Convention. This means that the Parties must place particular emphasis on the implementation measures and approaches. The implementation measures may cover a wide range of activities from formal institutional and legal reviews to public awareness campaigns.

51. In order to implement the Convention properly, potential parties must ensure, inter alia, sufficient awareness of the Convention's obligations; sufficient political attention to implementation; technical, administrative and financial capacity; coordination among relevant implementing authorities; and cooperation between other Riparian Parties. As a practical matter, it is recommended that all initial measures, such as legal, administrative and financial ones, are in place at the national level upon the accession of the State concerned to the Convention.

52. A national implementation plan, ideally complemented with a time frame, may be useful for integrating the Convention's obligations into domestic activities and transboundary cooperation. Although preparing such a plan is not formally required by the Convention, countries may use it as a step towards the accession and implementation.

53. Usually, implementation of the Convention involves at least three main steps. First, the Parties must enact laws and regulations and enter into or adapt bilateral or multilateral agreements or arrangements. Second, the Parties must adopt sufficient administrative measures. Third, the Parties must ensure that sufficient human, financial and technical resources are available for the implementation. Obviously, there is no need to enact laws, enter into agreements or establish administrative measures or structures if the existing ones are sufficient in view of the Convention.

Box 1. Ratification and implementation of the Water Convention in Finland

Finland signed the Convention on 17 March 1992 and ratified it on 21 February 1996. The Convention was ratified by the President of Finland and the ratification instrument was deposited with the Secretary-General of the United Nations. Nationally, the Convention was brought into force by a presidential decree.

In accordance with the division of responsibilities in force at the time, the Ministry for Foreign Affairs was responsible for the Convention's ratification process in Finland. Comments on the ratification were requested from the Ministry of Justice, Ministry of Agriculture and Forestry and Ministry of the Environment, as well as from the Frontier River Commissions of Finland and the neighbouring States.

Based on the comments, it was assessed that the Convention did not require the enactment or amendment of national laws or regulations at the time. Neither was it considered necessary to adapt the bilateral frontier river agreements due to the implementation of the Convention.

However, it must be noted that, in order to implement the Convention, Finland amended the Water Act already in 1994. According to the amendment, the scope of the Water Act was extended to include the effects on surface waters or groundwaters in the other States.

The new Constitution of Finland entered into force in 2000. Now the acceptance of the Parliament is often required for the conclusion of treaties. The provisions of treaties and other international obligations, insofar as they are of a legislative nature, are brought into force by an Act of Parliament.

Box 2. Accession of Ukraine to the Water Convention

The Law of Ukraine on Accession to the Convention was passed on 1 June 1999. The Law was passed by the Verkhovna Rada of Ukraine (the Parliament) and became effective on 23 June 1999. This was preceded by the following process.

The Ministry of Environmental Protection of Ukraine prepared the draft Law on Accession to the Convention. The draft Law, together with the text of the Convention in the Ukrainian language and the explanatory note giving details about the importance of Ukraine's accession to the Convention, in particular legal, environmental and economical considerations in favour of enacting this Law, was submitted for consideration by the Cabinet of Ministers of Ukraine.

The Cabinet of Ministers, after having considered the draft, forwarded it to the Ukrainian Parliament, where it was accepted and passed as the Law.

Certain financial difficulties emerged with the Ministry of Finance during the agreement process of the draft Law because at that time Ukraine was already a transition economy. Eventually, the decision in favour of accession was made as it required no membership fees.

V. GENERAL EXPLANATIONS OF THE MAIN FEATURES OF THE CONVENTION

The framework nature of the Convention

54. The Water Convention is a typical "framework" instrument. Most of the UNECE conventions as well as significant global environmental treaties (e.g. on climate change, the ozone layer, etc.) and UNEP regional seas conventions belong to this category of international instruments. The primary objective and function of this type of international agreements, which are sometimes also called "umbrella" treaties, is to create an institutional framework around the Meeting of the Parties within which the Parties cooperate, benefit from collective technical and legal assistance and further develop the provisions of the framework agreement.

55. The objectives of the Water Convention are to be achieved through a two-tiered approach, which envisages two main categories of obligations. The first set of duties, contained in Part I, are more general and apply to all Parties to the Convention. The second, contained in Part II, are more specific and must be implemented through the conclusion of further agreements by Riparian Parties sharing the same transboundary waters. The legal framework of the Convention is more detailed than average umbrella agreements, therefore it offers more legal guidance; this is especially true with respect to provisions contained in Part II.

56. Consistent with the nature of a "framework" instrument, the Water Convention lays down certain general principles and requirements for its Parties to be further developed and made operational through the adoption of subsequent protocols and certain non-binding ("soft-law") instruments in the form of guidelines and recommendations on specific subjects within the scope of the Convention. The evolution of a "framework" conventional regime through supplementary protocols has become a well-established practice in situations where more concrete actions are required to achieve the purposes of the regime or to respond to new problems. Under the

Convention, this has led to the adoption of two additional binding instruments: the Protocol on Water and Health and the Protocol on Civil Liability.

57. While legally binding protocols are undoubtedly important, a major contribution to the development and implementation of the UNECE environmental regimes has been accomplished through the adoption of non-binding instruments in the form of numerous guidelines and recommendations. They deal with a broad range of questions that have to be tackled in order to make the "water regime" actually workable and effective. A set of water-related guidelines and recommendations adopted under the umbrella of the Water Convention address, inter alia, such issues as:

(a) Ecosystem approach in water management (1993 Guidelines);

(b) Water quality criteria and objectives (1993 Recommendations);

(c) Prevention of water pollution by hazardous substances (1994 Recommendations);

(d) Prevention and control of water pollution from fertilizers and pesticides in agriculture (1995 Guidelines);

(e) Licensing of wastewater discharges from point sources into transboundary waters (1996 Guidelines);

(f) Measures to prevent, control, and reduce groundwater pollution from chemical storage facilities and waste disposal sites (1996 Recommendations);

(g) Monitoring and assessment of rivers and lakes (1996 Guidelines);

(h) Monitoring and assessment of transboundary groundwaters (2000 Guidelines);

(i) Monitoring and assessment of transboundary rivers (2000 Guidelines);

(j) Sustainable flood prevention (2000 Guidelines);

(k) Monitoring and assessment of transboundary and international lakes (2002 Guidelines);

(l) Monitoring and assessment of transboundary rivers, lakes and groundwaters (2006 Strategies);

(m) Safety of pipelines (2006 Guidelines);

(n) Payments for ecosystem services in integrated water resources management (2007 Recommendations);

(o) Transboundary flood management (2007 Model Provisions);

(p) Safety of tailing management facilities (2009 Guidelines);

(q) Water and adaptation to climate change (2009 Guidance).

58. These and other soft-law instruments influence the development of the legal regime established by the Convention, also facilitating its implementation by providing clear and concrete parameters concerning the conduct required for full compliance.

59. The legal interface between the Water Convention and other environmental conventions adopted under the auspices of the UNECE must also be mentioned. This applies primarily to the Industrial Accidents Convention, the Espoo Convention, and the Aarhus Convention. All these treaties contribute to the implementation of the Water Convention. The linkages between the Water Convention and other UNECE instruments exist in different forms – from direct cooperation in creating new legally binding instrument and formulating policies to the provision of operational and technical support at the country level.

The "due diligence" nature of the general obligations under the Convention

60. When implementing the Convention, a Party is to give special consideration to the legal nature of its provisions for it to comply with them in the best and most rational way. It appears that the general obligation of prevention, control and reduction of transboundary impact, with its specifications and articulations, set out in articles 2 and 3, is one of "due diligence", as opposed to absolute obligations.

61. The ILC in its "Articles on Prevention of Transboundary Harm for Hazardous Activities" of 2001, described the "obligation of due diligence [as] the core basis of the provisions intended to prevent significant transboundary harm, or at any event to minimize the risk thereof"[10]. This obligation of prevention coincides precisely with the normative core of the Convention as set out in article 2 (1).

62. The due diligence nature of an obligation of prevention is precisely determined by the duty to take "all appropriate measures" aimed at the prevention in point. According to the European Court of Justice, "appropriate" means "required".

63. Explanation of the due diligence concept is best made in functional terms. This is to say that, in order to distinguish in practical terms a "due diligence" obligation of prevention from an "absolute obligation" of prevention, one is to consider that, in the latter case, a State Party would be held responsible for breach of the obligation of prevention whenever transboundary impact occurs in relation to an activity carried out on its territory. On the other hand, for an obligation of due diligence to be considered as having been breached, the mere occurrence of transboundary impact would not in itself be sufficient. In order for a State to be internationally responsible for breach of a "due diligence" obligation of prevention, next to the occurrence of transboundary impact, it would be necessary that the State on whose territory the activity was carried out which

[10] Report of the ILC, United Nations Doc. A/56/10 Supp. No. 10, p. 391.

caused such an impact could not prove to have adopted "all the appropriate measures" of prevention. If transboundary impact occurs despite all appropriate measures having being taken, the origin State, rather than becoming internationally responsible for breach of an international obligation, will have to comply with the ancillary obligation to take all appropriate measures – individually and jointly with the victim State – to control and reduce such impact. The general legal concepts just explained coincide with the normative structure of the basic obligation of prevention, control and reduction of transboundary impact under article 2 of the Convention.

64. The due diligence nature of the obligation of prevention, control and reduction of transboundary impact and the concept of "appropriateness" of the measures required involve a significant measure of relativity as to both contents and time frame of the conduct which is to be taken by Parties.

65. Such relativity would be proportionate to the capacity of the Party concerned, as well as to the nature and degree of the risk of occurrence of transboundary impact in light of the specific circumstances, including the individual features of the relevant water basin. This is to say that, on the one hand, the higher the risk of a major impact – such as that of a flooding from failure of a dam, or of serious toxic pollution from failure in an industrial plant – the greater the care due (i.e. the appropriate measures). On the other hand, the higher the degree of scientific, technological, economic and administrative development, and capacity of the State Party, the higher the standards of care expected and required by it.

66. The Water Convention precisely requires each Party to start with due care the process of adoption of "all the appropriate measures" for achieving the result eventually required by its relevant provisions, right from the time of completion of the ratification, or accession process.[11]

67. Three specifications are called for in order to assess the actual contents of the duty of care under the due diligence obligations set out in the Water Convention:

(a) The relativity and flexibility of the obligation to take "appropriate measures" is complemented under the Convention by general parameters, such as the precautionary, polluter-pays and sustainability principles (art. 2 (5)) and standards, such as those set out in article 3 on the introduction, amongst others, of a permit regime based on the best available technology, on environmental impact assessment, as well as on the setting of emission limits and of water-quality criteria. Those standards and parameters contribute to the concrete determination of the normative content of the due diligence obligations of prevention and of the corresponding duty of care;

(b) It is practically and legally difficult, if not impossible, for the victim of a transboundary impact to prove that all the appropriate measures of prevention have not been

[11] "Many agreements contain a special clause, in which the States pledge themselves to take "all appropriate measures" or to make "appropriate efforts to control and reduce sources of pollution in the area or in the space concerned". This is to be done both by establishing technical and administrative procedures for informing other States in the event of pollution. It is clear that such agreements do not establish the strict obligation not to pollute (obligation of result), but only the obligation to "endeavour" under the due diligence rule to prevent, control and reduce pollution. For this reason, the breach of such obligation involves responsibility for fault (rectius: for lack of due diligence)" (R. Pisillo Mazzeschi, "Forms of International Responsibility for Environmental Harm", in *International Responsibility for Environmental Harm* 15, 19 (F. Francioni and T. Scovazzi eds., 1991).

adopted by the national authorities of the origin State. While it is possible for a subject to prove that it has taken action and has kept a record of it, it is virtually impossible to provide documentary evidence that a third party has not taken action. Consequently, there is a general agreement that in this area of law an inversion of the burden of proof applies, shifting from claimant onto the origin State of transboundary impact. It will be for this State, rather than for any subject invoking responsibility, to demonstrate that appropriate preventive action has been adopted within its jurisdiction;

(c) As already anticipated, the due diligence obligation to take "all appropriate measures" applies, not only to the obligation of prevention, but also to that of control and reduction of transboundary impact. That is to say that, under the Convention, the occurrence of transboundary impact is the trigger for the obligation to take all appropriate measures to control and reduce such an impact;

68. The above being said about the basic feature of the general principle of prevention, control and reduction of transboundary impact, one should not lose sight of those specific provisions in the Convention that provide for immediately applicable obligations. This is the case with the following obligations:

(a) To set emission limits for discharges into surface waters based on the best available technology, specifically applicable to individual industrial sectors (art. 3, para. 2);

(b) To define water quality objectives and adopt water quality criteria in conformity with annex III;

(c) To establish programmes for monitoring the conditions of transboundary waters (art. 4);

(d) To make information on the conditions of transboundary waters available to the public, according to the indications set out in art. 16;

(e) To cooperate according to the articulations and specifications provided for under article 2 (6), and articles 5, 6, 9, 10, 11, 12, 13, 14, 15, 17. Obviously, full compliance with this obligation is subject to the cooperative attitude by the other riparians; however, for a Party not to be found in non-compliance with the obligation of cooperation it is to demonstrate that cooperation could not be possible due to the attitude of riparians, while it has adopted all measures to make cooperation possible.

VI. EXPLANATIONS AND CLARIFICATIONS OF SELECTED PROVISIONS

PART I. PROVISIONS RELATED TO ALL PARTIES

A. Article 1, paragraphs 1,2,3,4 and Article 9, paragraphs 1 and 3 – Scope of the Convention

Article 1 (1, 2, 3 and 4)

For the purposes of this Convention,

1. "Transboundary waters" means any surface or ground waters which mark, cross or are located on boundaries between two or more States; wherever transboundary waters flow directly into the sea, these transboundary waters end at a straight line across their respective mouths between points on the low-water line of their banks;
2. "Transboundary impact" means any significant adverse effect on the environment resulting from a change in the conditions of transboundary waters caused by a human activity, the physical origin of which is situated wholly or in part within an area under the jurisdiction of a Party, within an area under the jurisdiction of another Party. Such effects on the environment include effects on human health and safety, flora, fauna, soil, air, water, climate, landscape and historical monuments or other physical structures or the interaction among these factors; they also include effects on the cultural heritage or socio-economic conditions resulting from alterations to those factors;
3. "Party" means, unless the text otherwise indicates, a Contracting Party to this Convention;
4. "Riparian Parties" means the Parties bordering the same transboundary waters;

Article 9 (1)

The Riparian Parties shall on the basis of equality and reciprocity enter into bilateral or multilateral agreements or other arrangements, where these do not yet exist, or adapt existing ones, where necessary to eliminate the contradictions with the basic principles of this Convention, in order to define their mutual relations and conduct regarding the prevention, control and reduction of transboundary impact. The Riparian Parties shall specify the catchment area, or part(s) thereof, subject to cooperation. These agreements or arrangements shall embrace relevant issues covered by this Convention, as well as any other issues on which the Riparian Parties may deem it necessary to cooperate.

Article 9 (3)

3. In cases where a coastal State, being Party to this Convention, is directly and significantly affected by transboundary impact, the Riparian Parties can, if they all so agree, invite that coastal State to be involved in an appropriate manner in the activities of multilateral joint bodies established by Parties riparian to such transboundary waters.

1. Background explanations, analysis and clarification

69. The "scope" of a treaty determines its "sphere of application", i.e. the subject matters addressed by its provisions. The scope of "territorial treaties" determines also the geographical (in our case, also the hydrological or hydrographical) sphere of application of the treaty, including the water resources, as well as the water-related components of the environment, governed by its provisions. It can also define the types of uses, or activities, regulated by the treaty. Finally, it determines the issue of eligibility, i.e. which States are entitled to participate in such a treaty. Thus, there are different aspects to be considered and established in order to assess the scope of the Convention: its geographical application, the kinds of situations and activities, as well as who is involved in or affected by it, including the question of which States have a right to become a Party to it. These issues are closely interrelated, and the rights and obligations related to each of them have an influence on the rights and obligations related to the others.

Geographic scope

70. The geographic scope of the Convention is defined in article 1 (1), with regard to the types of waters, and in article 2 (6)[12], with regard to the relevant catchment areas and to the marine environment.

71. As to the types of waters falling within the scope of the Convention, the key words are transboundary waters, surface waters and groundwaters.

72. According to article 1 (1), the expression transboundary waters means any surface waters or groundwaters which mark, cross or are located on boundaries between two or more States. Wherever transboundary rivers flow directly into the sea, such rivers fall within the reach of the rules of the Convention until a straight line across their respective mouths between points on the low-water line of their banks.

73. Surface waters include waters collecting on the ground in a stream, river, channel, lake, reservoir or wetland. Groundwaters include all the water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil. As for groundwaters, the Convention includes both confined and unconfined aquifers.

74. Article 2 (6) provides that transboundary waters should not to be limited to a water body (e.g. a river, a lake, a groundwater aquifer), but should cover the catchment area of the said water body (or in case of a groundwater aquifer, whether confined or unconfined, its entire recharge area). The entire catchment area of a surface water body or a recharge area of the groundwater aquifer should be understood as the area receiving the waters from rain or snow melt, which drain downhill (on the surface or below the surface of the ground in the unsaturated or saturated zones) into a surface water body or which infiltrate through the subsoil (i.e. the unsaturated zone) into the aquifer.[13]

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[12] See commentary to article 2(6).

[13] Note should be taken of the definitions in the EU WFD. This Directive uses the term "river basin", whereby the river basin means the area of land from which all surface run-off flows through a sequence of streams, rivers and, possibly, lakes into the sea at a single river mouth, estuary or delta. This Directive also uses the term "sub basin"

75. It is important to note that in hydrological terms the term "catchment area" equally applies to areas from which water drains downhill into a part of the river (for example, the area upstream of the point of the confluence of a river with its tributary or the area upstream of the outflow of a lake) or areas from which water drains downhill into the totality of a river (i.e. the area upstream of the point where the river flows into the sea, an enclosed lake or desert sink).

76. The Convention adopts an integrated approach to water use and protection.[14] This approach is based on the concept of catchment area as described above (para. 74), encompassing also "other elements" of the environment, such as air, land, fauna and flora to the extent that theses "other elements" interact with the relevant transboundary waters (see article 1 (2)). Therefore, the entire catchment area or parts thereof comprise the physical unit on which the Riparian Parties shall cooperate by developing harmonized policies, programmes and strategies under article 2 (6). This approach is also reflected in Art 9 (1), which calls upon Riparian Parties to specify the catchment area(s), or parts thereof, which are subject to cooperation.

77. Article 1 (1), excludes sea waters from the scope of the Convention. However, article 2 (6) requires Parties to protect the environment influenced by their transboundary waters, including the marine environment. This obligation has had a far-reaching influence on a number of agreements, developed on the basis of the Convention, which have included provisions to protect the recipient sea and coastal areas. This is the case, for example, of the agreements on the protection of the rivers Elbe, Oder and Danube.

78. It is important to note that the Convention does not exclude transboundary waters which end in a desert sink or in an enclosed lake.

Substantive scope

79. The key substantive scope of the Convention focuses on the prevention, control and reduction of transboundary impact as defined in article 1 (2).

80. Accordingly, the Convention follows a holistic approach to the concept of environment in addressing the adverse effects on its diverse components listed in article 1 (2).
The expression "significant adverse effect" provides an abstract standard of guidance for the assessment of the acceptable threshold of harm, like in similar provisions contained in other multilateral environmental agreements (MEAs) in which we find the terms "appreciable", "substantial", "important", or "serious". In the preparatory work which led to the New York Convention, the ILC indicated that the replacement of the word "appreciable" with "significant" did not purport to raise the applicable standard of acceptable adverse effect, as it would have

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whereby the sub-basin means the area of land from which all surface run-off flows through a series of streams, rivers and, possibly, lakes to a particular point in a water course (normally a lake or a river confluence).
Thus, in the Convention's meaning the "catchment area" is identical with the "basin area", as defined by the EU WFD, when the river ends up in the sea, and "a part thereof" can be understood as the area of a "sub-basin", as defined by the EU WFD, when the river ends up in any other surface waters.

[14] "River basin management", as practiced today, is based on such an integrated approach.

been the case with the words "substantial" or "serious".[15] The expression "significant adverse effect" reflects the international general principle of "good neighbourliness" which sets out the duty to overlook minor, insignificant, inconveniences deriving from activities in neighbouring countries. There can be said to be "significant adverse effect" when there is a real impairment of a significant use of the water body or of its environment by a riparian. To put it with the words of the ILC, "significant harm" is intended as "a detrimental impact of some consequence upon, for example, public health, industry, property or the environment in the affected State".[16] This is fully in line with the principle of equitable utilization codified in the Water Convention under article 2 (2 (c)).

81. The concrete assessment of the "significance threshold" of the adverse effect making up the transboundary impact depends on the catchment area specific situation, including the specific circumstances pertaining to the riparian Parties involved, on a case-by-case basis. The same adverse effect may be considered "significant" in one catchment area, but not in another, according to the different depuration capacity available, or to the kind of uses affected and to the alternative uses available in each relevant catchment area. The purpose of determining the "significance threshold" is that of providing guidance to the Parties in the adoption of the concrete legislative and administrative measures – precisely aimed to prevent overcoming that threshold – so that they may be considered as "appropriate" by the interested riparians. Therefore, exchange of data and information, as well as consultations – i.e. cooperation – between them is crucial for the assessment of the acceptable, or non-permissible, "adverse effect" of an existing, or planned, activity. This accounts for the three-pillar normative cornerstone of the Convention, based on (a) the no-harm rule; (b) the equitable utilization principle; and (c) the cooperation principle, as the catalyst for the realization the prior two.

82. The elaboration of water-quality objectives and criteria is the key to the concrete assessment of the "significance threshold" on a case-by-case basis, particularly if they are elaborated jointly by riparians. On that score, the Convention provides a most advanced regulatory setting facilitating such an assessment. It is to be recalled that the Convention, next to the obligation for riparians to enter into "agreements or arrangements" for the establishment of joint bodies, whose various tasks include that "to elaborate joint water-quality objectives and criteria", provides in annex III a number of guidelines to that end.

83. For the same purpose, the Parties to the Water Convention that are also Parties to the Espoo Convention will make reference to appendix I of the Espoo Convention, providing a list of activities that are likely to cause significant adverse transboundary impact, together with appendix III, setting out the "general criteria to assist in the determination of the environmental significance of activities not listed in appendix I". Appendix IV is also of assistance in providing for an inquiry procedure on "the question of whether a proposed activity listed in appendix I is likely to have a significant transboundary impact". While reference to those parameters is not mandatory for Parties that are not Parties to the Espoo Convention, it can be of useful guidance,

[15] Report of the International Law Commission on the work of its forty-sixth session, U.N. GAOR 49th Session, Suppl. No. 10, U.N. Doc. A/49/10, pp. 11 f. (1994).
[16] Report of the International Law Commission on the work of its fortieth session, U.N. Doc. A/43/10 (1988), reprinted in [1988] 2(2) Y.I.L.C.1, p. 36.

anyhow, in complying with the obligations of prevention, of equitable utilization and of cooperation under the Water Convention.

84. The Water Convention applies to any activity that may cause transboundary impact without defining the nature and location of such activity. That means that an activity causing, or likely to cause, transboundary impact can be located anywhere in the territory of a State, without regard to its proximity to the border, or to the water body. States should therefore consider the entire catchment area and even, in some cases (for confined aquifers, for example, their entire recharge areas) beyond it, to ensure that no transboundary impact is caused.

85. In line with the principle of legal equality of States, the normative scope of the provisions of the Convention is primarily that of addressing the reciprocal relations between Riparian Parties. However, the Convention contains provisions that also aim to protect the common interest of the community of its Parties in the preservation of the environment. These are called integral obligations (or obligations *erga omnes partes*), in the sense that, in order to protect community interests, they create a set of indivisible corresponding rights for the community of the Parties. Conduct seriously in contrast with those obligations is not admissible, even if it results from mutual agreement by two, or more, Riparian Parties, or from a reciprocal action in response to a previous violation of the Convention. Accordingly, conduct that causes serious and irreversible harm to the environment of another State Party, or a use of a water body that proves unsustainable for the environment would not be permissible under the Convention.

Eligibility to participate

86. The issue of the scope, or territorial application, of an international agreement is also linked to the question of which States are entitled to participate in a given treaty. The Water Convention was initially conceived as a pan-European or, in other words, a typical “regional” instrument. According to its article 23 the Convention is open for the States members of the UNECE, States having consultative status with the UNECE, and regional economic integration organizations constituted by sovereign member States of UNECE to which their members have transferred competence over matters governed by the Convention. Currently, UNECE comprises of 56 countries located in the EU, non-EU Western Europe, Eastern Europe and South-Eastern Europe, Caucasus, Central Asia, North America, as well as Israel and Turkey. All of them have the right to become Party to the Convention.

87. On 28 November 2003, the Parties to the Water Convention amended its articles 25 and 26 unlocking the door for any other States that are Members of the United Nations to accede to the Convention upon approval by the Meeting of the Parties. With these amendments, once in force, the Convention will acquire an entirely different character of a “global” treaty potentially open for universal participation. Unlike other global international agreements, however, the non-UNECE States’ entitlement to become a Party is not automatic. It is dependent on and conditional upon the approval by those Parties that were Parties to the Convention on 28 November 2003. The amendments will enter into force with 23 ratifications. Nevertheless, the Meeting of the Parties will not consider any request for accession by States outside the UNECE until the amendments have entered into force for all the States and organizations that were Parties to the Convention when they were adopted.

88. The Convention addresses two categories of States: “Parties” and “Riparian Parties”. Under article 1 (3) “Party” means a Contracting Party to the Convention itself. Thus, any State that has ratified or acceded to the Convention is considered a “Party” within the meaning of this provision. On the other hand, the term “Riparian Parties”, as defined in article 1 (4), refers to those Parties to the Convention that border the same transboundary waters. They are required to enter into bilateral and multilateral agreements concerning their “common” waters as provided for in article 9.[17]

89. As anticipated above, although the primary focus of the Convention is on fresh waters, it does not ignore potential negative consequences of their use for the marine environment. In international practice, marine pollution through transboundary rivers is dealt with by a different “family” of international instruments: regional seas conventions and additional protocols on land-based sources and activities. The latter often provides for the possibility of non-coastal States located within the catchment areas of transboundary rivers flowing into a regional sea to become a Party to such agreements.

90. Likewise, the Water Convention mirrors this situation in its article 9 (3). It envisages that in cases where a coastal State, being Party to the Convention, is directly and significantly affected by transboundary impact deriving from transboundary waters, the Riparian Parties can, if they all so agree, invite that coastal State to be involved in an appropriate manner in the activities of multilateral joint bodies established by Parties riparian to such transboundary waters. Thus, the Convention opens the door for the affected coastal States to at least participate in the activities of the Riparian Parties, if not to become a party to specific transboundary waters agreements.

2. Examples

Box 3. Cooperation on the Ems-Dollard estuary

The Ems-Dollard estuary serves as an example of cooperation between States in an area without fixed delimitation lines. This cooperation between the Netherlands and Germany is based on the Ems-Dollard Treaty (1960). The treaty establishes a joint management system for the estuary (internal waters and the 3 nautical miles territorial sea), which focuses mainly on issues of navigation, waterway construction, fisheries and hunting. For this purpose a permanent Ems-Dollard Commission was established, which meets on a regular basis.

With regard to environmental issues in the estuary, a supplementary environment Protocol to the Ems-Dollard Treaty was adopted in 1996. This Protocol deals with cooperation in the water and the nature conservation sectors, in particular more in the areas of water quality and water ecology. Information exchange, coordinated monitoring programmes, development of common standards, improvement of water status, coastal protection, etc., are the issues dealt with under the Protocol.

The Permanent Dutch-German Transboundary Waters Commission established in 1963 is in charge of implementing the provisions of the Protocol. This Commission meets once a year and has several regional working groups, including one for the Ems-Dollard region.

[17] See commentary to article 9.

Both countries have agreed on a practical approach for their cooperation in the Ems-Dollard estuary. This cooperation, especially among the regional authorities on Dutch and German side, is conducted in the spirit of good neighbourliness, and can be characterized as very constructive, based on trust and mutual understanding.

Box 4. Beyond freshwaters, protection of coastal areas and recipient seas: how the agreements on the Elbe, Oder and Danube aim to protect the relevant recipient sea

1. The Preamble of the Agreement on International Commission for the Protection of the Elbe River expresses the necessity to decrease the pollution load of the North Sea. Article 1 (2 (c)) stipulates that the contracting Parties (Czech Republic and Germany) "will consistently decrease the load of the North Sea from the Elbe River basin".

To meet this and other basin-wide provisions the contracting Parties developed and implemented the Action Programme for Reduction of Harmful Substances in the Elbe and its basin for 1992–1995, and the Action Programme Elbe for 1996–2010. The impact of implemented measures is monitored by means of the International Monitoring Programme of the Elbe through the network of international monitoring profiles. The results are regularly published and open to the public. To prevent accidental pollution the International Warning and Alarm Plan of the Elbe has been developed. At present the Elbe River Basin District Management Plan is being developed in line with the requirements of the EU WFD.

2. The Preamble of the Agreement on the International Commission for the Protection of the Oder River Against Pollution informs that one of the reasons for the conclusion of the Agreement was the "necessity to improve the ecological status of Oder and Stettin Lagoon" and the "endeavour to decrease the load of the Baltic Sea". One of the goals of the Agreement set in article 1(2 (a)) is "to prevent and consistently decrease the load of the Oder, as well as Baltic Sea by the harmful substances".

After the Agreement entered into force, the Contracting Parties approved the Programme of Urgent Measures Oriented to the Protection of the Oder River and its Basin against Pollution for the Years 1997–2002. The impact of measures was observable also in the Baltic Sea. To protect waters against accidental pollution countries developed the Emergency Plan for the Oder including the International Warning and Alarm Plan for the Oder which is at present being updated. In line with the EU WFD, the Monitoring Programme for the Oder River Basin has been developed and the Oder River Basin District Management Plan is under preparation. All these measures are helping to improve water and its ecosystems in the Oder River basin and contribute also to the status of water in the Baltic Sea. Moreover, cooperation with the Helsinki Commission (HELCOM)[18] is secured by the participation of both Germany and Poland in HELCOM activities.

3. The Danube River Protection Convention in its preamble emphasizes "the urgent need for strengthened domestic and international measures to prevent, control and reduce significant adverse transboundary impact from the release of hazardous substances and of nutrients into the aquatic environment within the Danube Basin with due attention also given to the Black Sea". In its conclusion, the preamble notes that the contracting Parties are "striving at a lasting improvement and protection of the Danube River and of the waters within its catchment area in particular in the

[18] The Helsinki Commission (HELCOM) is the governing body of the 1992 Convention on the Protection of the Marine Environment of the Baltic Sea Area.

transboundary context and at sustainable water management taking duly into account the interests of the Danube States in the field of water use and at the same time contributing to the protection of the marine environment of the Black Sea". In article 2 (1), one of the objectives of the Convention is that the contracting Parties "shall endeavour to contribute to reducing the pollution loads of the Black Sea from sources in the catchment area".

To reduce pollution in the Danube River basin, the International Commission for the Protection of the Danube River (ICPDR) approved and implemented the Joint Action Programme 2001–2005. The Transnational Monitoring Network – to monitor and assess the pollution loads in the Danube river basin which potentially enter the Black Sea – and the Accident Emergency Warning System for the whole Danube River basin to mitigate impact of possible accidents - have been established. A Memorandum of Understanding was signed in 2001 between the International Commission for the Protection of the Black Sea (ICPBS) and the ICPDR on common strategic goals. The Joint Technical Working Group secures exchange of information between the ICPDR and ICPBS. At present the Danube River Basin District Management Plan is being developed according to the EU WFD. The Danube River Basin District as defined by the ICPDR covers the Danube River basin, the Black Sea coastal catchments on Romanian territory, and the Black Sea coastal waters along the Romanian and partly the Ukrainian coasts.

B. Article 2, paragraph 1 – Obligation to prevent, control and reduce transboundary impact

Article 2 (1)

1. The Parties shall take all appropriate measures to prevent, control and reduce any transboundary impact.

1. Background explanations, analysis and clarification

91. The aim of this article is to avoid significant harm being caused to riparian States by imposing the duty to take all appropriate measures to that effect.[19] It codifies a customary international rule known, as the "no-harm rule". It is linked to the principle of equitable and reasonable utilization, under article 2 (2 (c)),[20] and to that of cooperation, under article 2 (6), hence making up the three-pillar normative cornerstone of the Convention.

[19] According to the International Court of Justice, "The existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control is now part of the corpus of international law relating to the environment" (Legality of the threat or use of nuclear weapons, par. 29, ICJ Reports 1996, p. 241–242). See also principle 21 of the 1972 Stockholm Declaration: "States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction." The same rule is also embodied in Principle 2 of the 1992 Rio Declaration.

[20] This linkage is clearly demonstrated in article 1 of the Rules on water pollution in an international drainage basin adopted by the International Law Association at its Montreal Session (1982), which provides, inter alia, that "consistent with the Helsinki Rules on the equitable utilization of the waters on an international drainage basin, States shall ensure that activities conducted within their territory or under their control conform with the principles set forth in these Articles concerning water pollution in an international drainage basin".

92. As already indicated, the obligation for Parties to take all appropriate measures is a due diligence obligation. It means that the conduct of each Party "is that which is generally considered to be appropriate and proportional to the degree of risk of transboundary harm in the particular instance"[21]. The higher the risk or degree of transboundary impact, the greater will be the duty of the State to take "all appropriate measures".

93. The obligation under review, like all due diligence obligations involves a reasonable amount of flexibility. Since the level of economic development and the relevant technological, infrastructural or institutional capacity may vary from one State to another, such differences are to be taken into account in determining whether a particular Party has taken "all the appropriate measures", i.e. whether it has exercised the required due diligence. However, such a country-specific approach does not dispense any Party from its obligations under the Convention, thus neutralizing their normative impact.[22] To that end, one is precisely to identify and refer the minimum requirements of the general provision under consideration.

2. Minimum requirements to comply with the provision

94. In order to identify the minimum requirements deriving from the general expression "all appropriate measures" for the purposes of complying with article 2 (1), one is to draw guidance from a number of provisions of the Convention actually making up and specifying the normative content of the due diligence obligation in question. Special reference should be made, among others, to articles 2 and 3 - including reference to annexes II and III, respectively on "best environmental practice" and "water-quality objectives and criteria" – dealing with the prevention, control and reduction of transboundary impact.

95. Therefore, in case of a problem about compliance by a Party with the obligation of prevention under review, that Party is to show, inter alia, that:

(a) It has taken "measures for the prevention, control and reduction of water pollution […] at source" (art. 2 (3));

(b) Such measures do not "result in a transfer of pollution to other parts of the environment" (art. 2 (4));

(c) It has taken legal, administrative, economic, financial and technical measures to apply low and non-waste technology in order to prevent emission of pollutants at source (art. 3 (1 (a)));

(d) It has introduced a licensing regime of wastewater discharges also providing for monitoring and control of the authorized discharges based on the best available relevant technology (ibidem, (b, c));

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[21] International Law Commission, Report of the fifty-third session (2001), doc. A/56/10, Draft articles on international liability for injurious consequences arising out of acts not prohibited by international law, commentary under article 3 (11).

[22] See also International Law Commission, op. cit, commentary under article 3 (13).

(e) It applies biological treatment (or equivalent processes) to municipal wastewater, or, at least, concrete steps to that effect have been undertaken (ibidem, (e));

(f) It applies measures for the reduction of nutrient inputs from industrial and municipal sources (ibidem, (f));

(g) It applies appropriate measures and best environmental practices (in conformity with annex II) for the reduction of inputs of nutrients and hazardous substances from diffuse sources, especially agriculture (ibidem, (g));

(h) It has developed contingency planning (ibidem, (j));

(i) It has taken measures to prevent the pollution of groundwaters (ibidem, (k)).

96. The obligation expressed in article 2 (1), applies to various forms of adverse effects to the environment in conformity with the definition of transboundary impact under article 1 (2), of the Convention. Such a definition is inevitably abstract, and situation specific, since it assumes that an impact that is significant in one case may not be so in another. Nonetheless, it represents one of the most detailed definitions to be found in a multilateral environmental agreement of the significant transboundary harm to be prevented. As to the concrete determination of the threshold of "significant adverse effect on the environment" to be prevented, international State practice, arbitration practice, the ILC and legal literature are unanimous to the effect that it is to be assessed on a case-by-case basis. To this end, consultation and cooperation between the countries involved may be held upon request by the complaining State. Such consultations will involve interpretation and application of the no harm rule, together with the equitable utilization principle, to the specific circumstances of each given case. The Convention offers a most advanced institutional framework for such a joint process to take place. Furthermore, as to the criteria for the actual assessment of the permissible, or prohibited, impact in each given case, the Convention provides advanced tools for such an assessment insofar as States Parties comply, individually and jointly, with the specific provisions on the setting of emission limits, water-quality objectives and criteria.

97. One last important aspect on the point at issue is that no Party may be held responsible for breach of the obligation of prevention due to transboundary impact that may derive from another country. This may happen inter alia where upstream Country A pollutes its own section of a transboundary water body or withholds water in its territory to such an extent that – due to the already high concentration of pollutants received or to the reduced dilution capacity of the receiving water – downstream Country B is rendered unable to meet its own obligations vis-à-vis downstream Country C. This case has been particularly addressed during recent developments concerning the EU water regime. Article 6 of the Priority Substances Directive[23] provides that no Member State may be held liable for breach of its obligations to meet applicable environmental

[23] Directive 2008/105/EC of the European Parliament and of the Council of 16 December 2008 on environmental quality standards in the field of water policy, amending and subsequently repealing Council Directives 82/176/EEC, 83/513/EEC, 84/156/EEC, 84/491/EEC, 86/280/EEC and amending Directive 2000/60/EC of the European Parliament and of the Council.

quality standards if it can demonstrate that the exceeding of such parameters was due to pollution outside its national jurisdiction and that, despite recourse to the required coordination mechanisms, it was unable to take effective measures to comply with those standards.

98. In similar circumstances, Country B would still be under the obligation of reduction of transboundary impact vis-à-vis Country C. However, the appropriate measures to that end and related costs should be undertaken jointly with the origin Country A according to an equitable share.

3. Examples

Box 5. Joint protection of the Rhine River.

In 1976, the States in the International Commission for the Protection of the Rhine signed the Convention for the Protection of the Rhine against Pollution by Chlorides (Chlorides Convention). The water quality of the Rhine was rather poor in the 1970's and the States felt obliged to cooperate in order to improve water quality, especially with regard to drinking water production. Chloride pollution was one of the major concerns. It was caused especially by potash mining - chloride from the mining sites was discharged into the Rhine. It was agreed to discharge less chloride into the Rhine and to inject it into deep ground layers. Germany, France, Luxemburg, the Netherlands and Switzerland shared the investment costs. The Chlorides Convention aims to improve water quality in such a way that 200 mg/l chloride ions are not exceeded at the German/Dutch border. The Convention also regulates a stand still of chloride discharges by fixing national overall freights, which are not allowed to increase. The Protocol to the Convention has been signed in 1991 to further specify the obligations of Parties regarding the reduction of chlorides in the Rhine.

Box 6. Experience of the Czech Republic with the prevention of transboundary pollution

Transboundary pollution prevention is addressed by the international commissions for the protection of the rivers Elbe, Oder and Danube by means of the joint action programmes for pollution reduction in the respective river basins in the past, of joint monitoring and assessment programmes of the status of transboundary waters, of commonly agreed international accident emergency and warning systems valid for all contracting Parties in the basins, and of International River Basin District Management Plans for the three river basins, which are being developed according to the requirements of the EU WFD.

According to various bilateral treaties and agreements between the Czech Republic and neighbouring States (Austria, Germany, Poland and Slovakia), transboundary waters are surface and ground waters creating, crossing, or neighbouring boundaries with other States, if measures on them can impact the status of waters on the other State territory. In the case of measures on transboundary waters, contracting Parties apply national regulations. To prevent negative transboundary impact all measures planned on transboundary waters (issue of permissions for discharges, maintenance or modifications of the streams, planned constructions on them, withdrawals, measures influencing minimal flow, etc.) are to be discussed and agreed with neighbouring States beforehand. As a preventive measure the bilateral commissions for transboundary waters also established common accident emergency and warning plans containing a description of accident emergency and warning procedure and contacts of the competent authorities on both sites. This regards the cases of floods, ice hazard as well as accidental pollution at the local level. Tests of the system are being performed regularly. Moreover, the areas with potentially disputable water quality or quantity are regularly monitored on the basis of commonly agreed monitoring programmes.

C. Article 2, paragraphs 2 (c) and 5 (c) – The equitable and reasonable utilization principle

Article 2 (2 (c) and 5 (c))

2. The Parties shall, in particular, take all appropriate measures:
…
(c) To ensure that transboundary waters are used in a reasonable and equitable way, taking into particular account their transboundary character, in the case of activities which cause or are likely to cause transboundary impact;

5. In taking the measures referred to in paragraphs 1 and 2 of this article, the Parties shall be guided by the following principles:
…
(c) Water resources shall be managed so that the needs of the present generation are met without compromising the ability of future generations to meet their own needs.

1. Background explanations, analysis and clarification

99. Originally, alternative claims of State entitlement over transboundary waters were based upon the extreme and irreconcilable doctrines of absolute territorial sovereignty on the one hand and absolute territorial integrity, on the other. Claims based on absolute territorial sovereignty, a favourite of upstream States, would allow a State unlimited use of transboundary waters falling within that State's territory regardless of the needs and concerns of other watercourse States.[24] Conversely, the principle of absolute territorial integrity, which tends to favour downstream States, would prohibit an upstream State from interfering with the natural flow and conditions of an international water body. Neither of the two approaches ever prevailed in international practice. As a compromise result, the doctrine of limited territorial sovereignty is now widely accepted by States as being the foundation upon which the principle of equitable and reasonable utilization has evolved in conjunction with the no-harm rule and the principle of cooperation.

100. The principle of equitable and reasonable use is well recognized as part of customary international law, as evidenced by international agreements, non-binding instruments, decisions of courts and tribunals, and in the writings of publicists.[25] The most authoritative recognition of

[24] See, generally, McCaffrey, S.C., Second Report on the Law of the Non-navigational Uses of International Watercourses, [1991] 2(2), Yearbook of the International Law Commission, 105-109, U:N. Doc. A/CN.4/SER.A/1991/Add.1 (Part 2).

[25] Commentary to Draft Articles on the Law of the Non-navigational Uses of International Watercourses, in Report of the International Law Commission on the work of its forty-sixth session, United Nations GAOR, forty-ninth session., Supp. (No. 10), U.N. Doc. A/49/10 (1994), reprinted in [1994] 2(2) Yearbook of the International Law Commission, at 222, para. 24. The commentary concluded that: "A survey of all available evidence of general practice of States, accepted as law, in respect of the non-navigational uses of international watercourses - including treaty provisions, positions taken by States in specific disputes, decisions of international courts and tribunals, statements of law prepared by intergovernmental and non-governmental bodies, the views of learned commentators and decisions of municipal courts in cognate cases - reveals that there is overwhelming support for the doctrine of

its customary character can be found in the International Court of Justice (ICJ) judgment in the case concerning the Gabčíkovo-Nagymaros Project (Hungary/Slovakia) on the Danube River, where the Court referred to the watercourse State's "basic right to an equitable and reasonable sharing of the resources of an international watercourse"[26]. Its universal acceptance as a principal binding rule in the field of transboundary water resources has been enhanced by its codification in articles 5, 6 and 10 of the New York Convention.

101. This principle reflects the concept of "community of interest of riparian States" in an international water body together with the perfect equality of the right of each of them in its use, first recognized with respect to navigation by the Permanent Court of International Justice in the River Oder case[27], later recalled and applied by the ICJ in the Gabĉíkovo-Nagymaros case to the non-navigational uses of international watercourses[28].

102. Article 2 (2 c), should be read in conjunction with article 2 (5 c), according to which "water resources shall be managed so that the needs of the present generation are met without compromising the ability of future generations to meet their own needs". This is fully in line with the contemporary developments of international customary water law according to which the principle of equitable use incorporates that of sustainable development. That is to say that a use of an international water body may not be considered as equitable, therefore legal, if it is not sustainable. This is corroborated by the codification of the principle in hand under article 5 (1) of the New York Convention. The latter, after enunciating the principle in general terms, provides that "in particular, an international watercourse shall be used and developed by watercourse States with a view to attaining optimal and sustainable utilization thereof and benefits therefrom, taking into account the interests of the watercourse States concerned, consistent with adequate protection of the watercourse". Therefore an utilization of the watercourse providing maximum benefit to the riparian States in a manner incompatible with its preservation as a natural resource could not be qualified as "equitable and reasonable". This accounts for the fact that the principle in point does not apply only to water quantity and distribution issues, but also to water quality problems.

103. For better understanding how the principle of equitable and reasonable use operates in the context of international watercourses the ILC commentary to its 1994 Draft Articles may be of use. It reads as follows: "In many cases, the quality and quantity of water in an international watercourse will be sufficient to satisfy the needs of all watercourses States. But where the quantity or quality of the water is such that all the reasonable and beneficial uses of all

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equitable utilization as a general rule of law for the determination of the rights and obligations of States in this field."

[26] ICJ Reports 1997, par. 78, p. 54. See also ibid., para. 147, p. 80, where the Court made explicit reference to the text of article 5 (2) of the 1997 United Nations Watercourses Convention.

[27] "[the] community of interest in a navigable river becomes the basis of a common legal right, the essential features of which are the perfect equality of all riparian States in the use of the whole course of the river and the exclusion of any preferential privilege of any one riparian State in relation to the others" (Territorial Jurisdiction of the International Commission of the River Oder, Judgment No 16, 1929, PCIJ, Series A, No 23, p.27).

[28] "Modern development of international law has strengthened this principle [i.e. of equitable and reasonable use] for non-navigational uses of international watercourses as well, as evidenced by the adoption of the Convention of 21 May 1997 on the Law of the Non-Navigational Uses of International Watercourses by the United Nations General Assembly" (ICJ Reports, 1997, par. 86, p. 56).

watercourses States cannot be fully realised, a "conflict of uses" results. In such a case, international practice recognizes that some adjustments or accommodations are required in order to preserve each watercourse State's equality of right. These adjustments or accommodations are to be arrived at on the basis of equity, and can best be achieved on the basis of specific watercourses agreements."[29]

104. As emphasized by the same ILC in its commentary to article 5 of the Draft Articles on the Law of the Non-Navigational Uses of International Watercourse, the principle of the sovereign equality of States results in every riparian State having rights to the use of the transboundary waters that are qualitatively equal to, and correlative with, those of other riparian States. However, this fundamental principle of "equality of rights" does not mean that each riparian State is entitled to an equal share of the uses and benefits of the transboundary waters. Nor does it mean that the quantity of water itself is to be divided into identical portions. Rather, each riparian State is entitled to use and benefit from the transboundary waters in an equitable manner. The scope of a State's rights to equitable utilization depends on the specific circumstances of each individual case.[30]

105. The rule of equitable and reasonable use is particularly relevant in cases where there is a "conflict of uses" between watercourse States. A situation must therefore arise whereby one or more riparian States is unable to satisfy its needs as a result of another States use of an transboundary watercourse.

2. Minimum requirements to comply with the provision

106. Where it can be established that there is a conflict of uses between States, and all the conflicting uses are considered reasonable, resolving the conflict will be determined by weighing up all relevant factors and circumstances in all riparians concerned.[31] This accounts for the fact that the principle in point reflects the community of interest and the equality of rights of all riparians in the use of a shared water body. Against this fairly abstract background, assessment of the equitable nature of an existing, or planned, use depends on the specific circumstances pertaining to the given basin, as well as to the social, economic and political features of the States involved, which may differ from one another. Accordingly, practical implementation of the principle under consideration requires a case-by-case assessment to be made in conformity

[29] Commentary to ILC 1994 Draft Articles, supra note.
[30] See Yearbook of the International Law Commission, 1994, vol. II, part two, p. 98.
[31] Such an approach was followed in the leading *Donauversinkung* decision as deriving from established international law in a case between the states of Württemberg and Prussia, on the one hand, and that of Baden, on the other, on the use of the Danube River, since the German *Staatsgerichtshof* (High Court) could not apply the municipal law of one of the federal states, nor could it find applicable provisions in the German Constitution. The court stated that "one must consider not only the absolute injury caused to the neighbouring State, but also the relation of the advantage gained by one to the injury caused to the other." The principle therefore recognizes both the right to an equitable and reasonable share in the uses of an international watercourse, and a correlative obligation not to deprive other States of their right to an equitable and reasonable utilization (Annual Digest of Public International Law Cases, 1927–1928, p. 128. Article IV of the ILA Helsinki Rules on the Uses of the Waters of International Rivers provides that: "Each basin State is entitled, within its territory, to a reasonable and equitable share in the beneficial uses of the waters of an international drainage basin."

with the Convention, mutual exchange of data and information on such basin and country specific factors, as well as consultations, hence cooperation, are a precondition.

107. In order to identify such relevant factors on which to exchange data and information and on which to hold consultations, article 6 (1) of the New York Convention provides useful guidance. It identifies a non-exhaustive list of factors and circumstances that should be taken into account when balancing the interests of riparians.[32] Such factors relate to the physical characteristics of the resource, the population dependent on the waters, existing and potential uses, the impact of such uses, and the availability of alternative uses or the adoption of more efficient practices.

108. According to the principle in point, no use or category of uses enjoys inherent priority. However, article 10 (2) of the New York Convention provides that, "special regard" be given to vital human needs. The expression "vital human needs" was discussed at some length in the United Nations negotiations. The "statement of understanding", which is based on the ILC commentary and accompany the text of the Convention, indicates that: "In determining 'vital human need', special attention is to be paid to providing sufficient water to sustain human life, including both drinking water and water required for production of food in order to prevent starvation." Ultimately, in weighing up all relevant factors every effort should be made to maximize the resultant benefits to watercourse States equitably, whilst at the same time protecting the long-term sustainability of the resource.

109. The fact that a use of a watercourse causes transboundary impact may not necessarily involve that it is inequitable. According to the specific circumstances of each given case, such a use may be assessed as equitable. This would require that all appropriate measures, not only to prevent, but also to control and reduce the transboundary impact had been taken, including exchange of data and information, as well as consultations and other forms of cooperation with the affected States. The equitable and lawful nature of the use might also depend on whether, through such forms of cooperation, all parties involved have negotiated mutually agreeable adjustments. However, not every transboundary impact would be negotiable. Agreement would not preclude the inequitable, therefore illegal, nature of a use that would be unsustainable, such as a use that would irreversibly affect the environment to the extent of impairing present or future vital human needs of the people living along the basin, or beyond.

110. The fact that a use of transboundary water may be assessed as equitable at a given point in time does not mean that such an assessment may not be reversed at a later stage according to the change the circumstances pertaining to the factors relevant for the assessment.

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[32] "Utilization of an international watercourse in an equitable and reasonable manner within the meaning of article 5 requires taking into account all relevant factors and circumstances, including:

(a) Geographic, hydrographic, hydrological, climatic, ecological and other factors of a natural character;
(b) The social and economic needs of the watercourse States concerned;
(c) The population dependent on the watercourse in each watercourse State;
(d) The effects of the use or uses of the watercourses in one watercourse State on other watercourse States;
(e) Existing and potential uses of the watercourse;
(f) Conservation, protection, development and economy of use of the water resources of the watercourse and the costs of measures taken to that effect;
(g) The availability of alternatives, of comparable value, to a particular planned or existing use."

3. Example

Box 7. Kansas versus Colorado: long-term assessment of equitable use

The *Kansas versus Colorado* case decided by the United States Supreme Court in 1907, still referred to as an authoritative precedent, is most illustrative of the application of the equitable utilization principle. In this case the Court rejected the claim for relief put forward by Kansas – the downstream user of the Arkansas River – against Colorado for significant harm deriving from the latter's diversion of water from the river which the Court found to be an equitable use. The Court acknowledged that the appropriation of the waters of the Arkansas River by Colorado, for purposes of irrigation, had diminished the flow of water into the State of Kansas. At the same time, the result of this appropriation had been the reclamation of large areas in Colorado, transforming thousands of acres into fertile fields. The Court mentioned that while the influence from the diminished flow of water had been of perceptible injury to portions of the Arkansas Valley in Kansas, yet, to the great body of the valley it had worked little, if any, detriment. However, the Court added that "it is obvious that if the depletion of the waters of the river by Colorado continues to increase there will come a time when Kansas may justly say that there is no longer an equitable division of benefits, and may rightfully call for relief against the action of Colorado" (206 US, 1907, p. 117).

D. Article 2, paragraph 2 (d) – Conservation and, where necessary, restoration of ecosystem

Article 2 (2 (d))

2. The Parties shall, in particular, take all appropriate measures:
…
(d) To ensure conservation and, where necessary, restoration of ecosystems.

1. Background explanations, analysis and clarification

111. For the purpose of the Convention, ecosystem conservation comprises measures to maintain viable structures, functions and species compositions within an ecosystem, whereas ecosystem restoration covers measures needed to improve ecosystems and return (damaged) ecosystems to a former viable or "natural" condition (or, as this cannot always be achieved, to a close approximation of its condition prior to disturbance).

112. Often, ecosystems conservation requires such measures as pollution prevention whereas restoration involves such additional measures as restoration of the former physical, hydrological and morphological conditions; chemical methods for cleanup and restoration of different components of the environment; and such biological manipulation, as revegetation and the reintroduction of absent or currently nonviable native species.

113. One of the challenges linked to conservation and restoration is that humans are a central element in the well-being of ecosystems. Social, economic, technical and political factors, which may affect the ways in which human beings use nature, are to be considered when establishing

conservation and/or restoration measures.[33] This implies, for example, close cooperation among those who establish these measures, including consultations with local populations.

114. Although the Convention deals with transboundary waters, the term "ecosystems" in this provision is not necessarily limited to transboundary ecosystems nor does it exclude other than aquatic and water-related ecosystems[34]. However, existing practice in the application of this provision suggests dealing with measures that help to maintain and/or improve aquatic and water-related ecosystems.

2. Minimum requirements to comply with the provision

115. As the provision is part of the "general obligations" of the Parties, it does not enumerate conservation and restoration measures nor does it provide specific criteria to judge whether the aims of conservation or restoration are being achieved.

116. Such measures are enumerated, inter alia, in article 3, which also includes the requirement to establish "water-quality criteria and objectives".[35] Moreover, article 9 (2) requires Parties "to propose relevant measures for maintaining and, where necessary, improving the existing water quality", and article 9 (2 (f)) requires Parties "to develop concerted action programmes for the reduction of pollution loads from both point sources (e.g. municipal and industrial sources) and diffuse sources (particularly from agriculture)".

117. In addition, the Guidelines on the ecosystem approach in water management (ECE/ENVWA/31) provide a set of requirements to judge whether aquatic ecosystems are able to maintain viable structures, functions and species compositions, and which candidate organisms could serve as indicators of the quality of ecosystems.

118. These refer to suitable oxygen concentrations and concentrations of toxic or other harmful substances below certain levels[36] as well as to the status of the benthic, planktonic, macro-invertebrate and aquatic plant communities; the fish population; and higher vertebrate communities.

119. It is therefore essential, that monitoring systems not only deal with water-quality aspects of the aquatic environment, but also with sediment quality as well as hydro-biology.[37]

120. It is important to note that water quantity is an essential element in securing the structure, function and species compositions in aquatic and water-related ecosystems. Therefore measures

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[33] For economic implication of the loss of biodiversity, see also "The Economics of Ecosystems and Biodiversity" (European Communities, 2008), available at: http://ec.europa.eu/environment/nature/biodiversity/economics/index_en.htm

[34] Water-related ecosystems means ecosystems such as forests, wetlands, grasslands, and agricultural land that play vital roles in the hydrological cycle through the services they provide; Recommendations for payments for ecosystem services in Integrated Water Resources Management. (ECE/MP.WAT/22; United Nations, 2007), available at http://www.unece.org/env/water/publications/pub74.htm.

[35] See commentary to article 3.

[36] See commentary to article 3 (3).

[37] See commentary to article 11.

on quantity, serving the objective of ensuring good quality, should also be established. Useful recommendations on water-quantity regulations and management tools are therefore part of the above Guidelines.

121. The more recent Recommendations on the payments for ecosystem services in integrated water resources management (ECE/MP.WAT/22) and the EU WFD[38] should also be consulted, when establishing measures to maintain or improve ecosystems.

3. Example

Box 8. Bringing the migratory species back to their spawning habitats

The International Commission for the Protection of the Rhine is currently establishing a master plan for migratory fish in the Rhine River basin. The rivers in the basin have been habitats for migratory species like the salmon and the sea trout in the past. These species had vanished because of the poor water quality and of the construction of barriers, which cut migration routes. The water quality has been improved and several species came back, like the salmon, also due to fish stocking. But the natural reproduction is too low at the moment to guarantee the survival of these species. Now the task is to bring the salmon and other migratory species back to their spawning habitats. River continuity has to be re-established, e.g. by the construction of functioning fish passes in hydropower plants and other barriers. The riparian States in the Rhine River basin financed a study together to investigate the current situation and the necessary measures. The States have already planned a number of measures, especially with regard to the implementation of the EU WFD. They will be part of the master plan, which is expected to be finalized in autumn 2009.

E. Article 2, paragraph 5 (b) – the polluter pays principle

Article 2 (5 b)

5. In taking the measures referred to in paragraphs 1 and 2 of this article, the Parties shall be guided by the following principles:
…
(b) The polluter-pays principle, by virtue of which costs of pollution prevention, control and reduction measures shall be borne by the polluter;

1. Background explanations, analysis and clarification

122. Article 2 (5) of the Water Convention, on "General Provisions", provides that, in complying with the basic obligations set out in paragraphs 1 and 2 – i.e. those of prevention, control and reduction of pollution, that of reasonable and equitable utilization, as well as those of conservation and restoration of ecosystems – Parties are to be guided, among others, by the "polluter pays principle" (hereinafter PPP).

[38] The EU WFD is a complex document, whose principles should be taken into account by non-EU countries as appropriate; as for the present subject matter, this refers particularly to article 1 (a) and (b), article 2 (21), article 4 on good ecological status, article 6, and annex V.

123. This provision offers a primary basic definition of this principle as the one "by virtue of which costs of pollution prevention, control and reduction measures shall be borne by the polluter".

124. Initially, the PPP was conceived narrowly in the documents of the Organisation for Economic Co-operation and Development (OECD) as a tool for prevention of pollution, in the sense that the costs of pollution are to be born by the polluter – usually the private operator whose activity produces environmental impact – irrespective of whether the threshold of the adverse impact reaches a prohibited, hence illegal, level. Therefore, the principle in point primarily refers to the costs necessary to manage and control – basically through depuration - the environmental impact routinely caused by a given lawful activity in order to prevent it from reaching the threshold of wrongfulness. The scope of application of the PPP was gradually extended so as to cover the cost of pollution in general. In this sense, principle 16 of the Rio Declaration[39] provides that "National authorities should endeavour to promote the internalization of environmental costs[40] and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment".

125. In that respect, the PPP can well be said to encompass the whole scope of application of the primary obligation of the Convention, namely, that of taking "all the appropriate measures to prevent, control, reduce any transboundary impact". In fact, the amount of such costs is to be planned by the private operator.

126. Indeed, the costs of pollution prevention, control and reduction envisaged by the PPP are primarily aimed at avoiding damage being caused, thus stressing the preventing aspect of the principle. Once a transboundary impact occurs, the PPP comes into play as a tool for the mitigation and recovery of damage, as well as for the financing of measures of reinstatement of the environment.

127. The primarily domestic scope of application of the PPP should be underlined, to the effect that it refers to costs to be borne in relation to domestic activities. Namely, those carried out by operators that are usually private.

128. In line with the latter consideration, one should emphasize that the PPP is a regulatory tool for public administrations aiming at the internalization of environmental costs. That is, requiring companies that carry out activities that pollute to internalize environmental costs – including depuration – eventually, reflecting such costs in the prices of their products.

129. The public interest rationale of the PPP is that of charging the private operator for the environmental costs of its profit economic activities, rather than the public administration. In that respect, the adoption by the Parties of an environmental impact assessment (EIA) regime (under

[39] The Rio Declaration on Environment and Development, made at the United Nations Conference on Environment and Development in 1992.
[40] Internalization of environmental costs ensures that the unpriced environmental effects of an activity are "internalized", that is, they are assessed and consistently charged, where appropriate, to users and consumers who benefit from them.

art. 3 (1 (h)), within a licensing framework regime (art. 3 (1 (b and c)) with regard to any proposed activity which may be likely to pollute, hence, to have transboundary impact, would be conducive to appropriate implementation of the principle in point.

130. For the purposes of the Convention, it is crucial that the terms of the licence regime effectively aim to prevent, control and reduce transboundary impact and are based on the best available technology for discharges of hazardous substances (art. 3 (1 c)). The fact that an activity on the national territory of a State Party is authorized under an EIA regime and is subject to the PPP under its domestic legislation would not render such an activity automatically reasonable and equitable under article 2 (1 c), if it causes transboundary impact.

131. From a microeconomic standpoint, the PPP provides a concrete incentive for operators to reduce pollution, insofar as they are made to realize that the costs related to pollution they must bear are greater that the benefits they derive from the polluting activity.

132. It may be recalled in passing that PPP is an integral part of environmental legislation of the European Community, under article 174 of its founding Treaty and under, among others, the EU WFD and the Environmental Liability Directive[41].

133. In light of the above, the main legally relevant points of the PPP can be summarized as follows:

(a) Costs for internalization of polluting operational activities: the PPP is primarily a regulatory tool for domestic public administrations to internalize the cost of pollution prevention, control and reduction with regard to routinely conducted polluting activities. The trigger of the application of the principle is the presence of a potential or actual pollution activity, irrespective of the fact whether such pollution is lawful or not (i.e. water is discharged in accordance with the conditions of a permit or applicable regulations). Accordingly, the PPP cannot be seen as a license to pollute. The more one pollutes, the more it is liable to bear the costs. On that score, not only the PPP saves public funds, but also provides a strong economic incentive for polluters – usually private operators – to invest in prevention and treatment technologies and to carry out their activities with a high degree of care;

(b) Costs of internalization of accidental polluting activities: in addition to the above preventive focus of the principle, PPP also covers the control and reduction of water pollution from an accidental discharge. In this context, the PPP aims at ensuring that the final costs of pollution control and reduction are borne by the polluter. This aim can also be achieved through cost recovery by the public authorities when control and remediation measures are undertaken by the authorities, e.g. in the case of emergency response measures;

(c) Non-compensatory nature: the PPP is applicable in the relationship between public authorities and polluters. It does not give rise to compensation claims for damage caused between private parties for the loss of property, health, life, economic opportunity, etc. Such claims fall entirely outside the scope of the PPP. It is for national legal systems to afford the

[41] Directive 2004/35/EC of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage (Environmental Liability Directive).

victims of pollution access to appropriate remedies, irrespective of the PPP. There is no exemption from the duty to control and reduce the harmful effects on water for an operator because it has already paid damages for loss of private property;

(d) Domestic nature: the PPP has a primarily a domestic nature, i.e. it regulates relationships within the territory of a Party rather than between Parties. Accordingly, the PPP therefore does not provide legal grounds to claims for compensation for water pollution between Parties;

(e) Contextual application: The PPP is closely linked to other important requirements of the Convention, especially those, inter alia, to carry out EIA, to establish licensing regime, and to develop contingency regimes, under article 3.

2. Minimum requirements to comply with the provision

134. Public authorities have to take domestic action - be them through legislation, administrative, or enforcement action, such as licensing techniques, fines, taxes, and/or through the judiciary - so that polluters internalize the costs of pollution. That is to say that the Parties are to ensure that operators pay the costs to prevent pollution from causing significant adverse effect on the environment which may have a transboundary impact, as well as the costs for controlling and reducing such an adverse effect, once occurred, including the payment of damages. In case of sudden pollution, usually an accident, polluters have the obligation to remedy.

135. With reference to the above, by way of guidance, the following minimum requirements may be listed:

(a) Procedural measures: with regard to individual discharges (including operational and accidental), EIA and connected permitting regimes should be implemented, as appropriate. These can ensure that, on the one hand, the operator and the authorities become fully aware of the potential environmental impact of the polluting activity. On the other hand, through permitting procedures authorities can lay down conditions on pollution prevention, control and remediation as well as sanctions. Reporting and monitoring requirements would enable the competent authorities to gain sufficient information on the state of operational and accidental polluting activities;

(b) Mandatory remediation and sanctions: the above should be complemented by remediation requirements and sanctions both at the legislative and administrative levels. Financial or other sanctions should be introduced as an incentive for operators to avoid or minimize pollution;

(c) Cost internalization of operational pollution activities: eco-taxes, charges, duties and/or fees should be introduced through fiscal measures at the central and/or local levels. Such measures should meet at least three criteria: (i) they should proportional to the gravity and quantity of the pollution; (ii) they should be financially significant enough to create a meaningful incentive to invest in pollution prevention and control. Low charges are directly passed on to consumers, while higher charges require operators to optimize their fee structures by reducing

their environmental impact; and (iii) they should provide exemption clauses, so that those who undertake to invest significantly in pollution prevention and abatement technologies can be granted a full or partial exemption from the payment of charges. Such a policy may be effective only if charges are high;

(d) Cost internalization of accidental polluting activities: implementation of the PPP requires funds for the remediation of accidental pollution incidents. This may be achieved through a series of financial guarantees ranging from mandatory liability insurance, security over property (e.g. automatic mortgage over the assets of the polluter) to a number of banking products (e.g. bank guarantees, bonds, etc.). Parties apply mandatory financial guarantees to a very limited – but growing – extent, while environmental insurance policies are being taken up by private companies on a voluntary basis at a rapidly growing rate.

3. Examples

Box 9. Polluter pays principle applied in the Czech Republic

The polluter pays principle should be primarily applied on the national level of each country as prevention of water pollution on national as well as on transboundary level. In the Czech Republic, the legal or natural person discharging water to surfaces waters must have a permission issued by the State Water Administration according to the Water Act No. 254/2001 Coll. The polluter pays fees for the quantity of permitted discharged pollution (COD, dissolved inorganic substances, undissolved substances, P, N, AOX, Hg, and Cd) and for volume of discharged water in the case that legislatively stated limits for discharged pollution and volume of water are exceeded. In the case of volume of water, self-monitoring is applied. The chemical analyses are performed by the authorized laboratories. The Czech Environmental Inspection is responsible for supervision. Remission of fees or their part can be rendered to the polluter who invests into upgrading the treatment technology. The Water Act No. 254/2001 Coll. also stipulates fines for breaches regarding the surface or ground water pollution. The fees and fines for pollution of surface or ground waters are intake of the Czech State Environmental Fund.

Box 10. The user pays principle and the European Union Water Framework Directive

In some national and regional regimes, such as the EU, the PPP has been further developed to cater not only for cost recovery for the pollution of a natural resource, but also for the simple use of that resource, even if no pollution occurs, the so-called user pays principle.

The user pays principle is based on the same foundations as the PPP: to financially encourage the environmentally friendly and prudent use of renewable and finite natural resources. An example of the implementation of a user pays principle is provided by the EU WFD. One of the obligations under article 5 of the EU WFD is that Member States carry out an economic analysis of water uses by 2005. Under article 9 of the EU WFD, Member States have the obligation to report inter alia on the recovery of costs for water services and the adequate contribution of the different water uses by at least industry, households and agriculture. Though article 9 provides that Member States shall take account of the principle of recovery of the costs of water services, including environmental and resource costs, this will not be the case in the first River Basin Management Plans as more time and research are needed on the practicalities of implementing these obligations.

Both reports are of use when defining cost-effective measures to promote sustainable water use based

on the long-term environmental objectives and protection of available water resources. To the latter objective article 9 calls on Member States to implement when effective, by 2010, water pricing policies that contain adequate incentives for users to use water efficiently as well as ensure that an adequate contribution is made to the recovery of the costs of water services.

It is important to note that the required measures should not only cover the cost of the continuous running of water services (operational costs), but should also cover the expenses of the maintenance, mitigation measures and the preservation of the actual and future water resources (internalization of environmental and resource costs).

Member States may however opt not to apply a cost recovery of 100 per cent if they can ensure the long-term sustainability of water uses through other means. In practice, the above requirement calls for the raising of water fees in several EU Member States to a level that ensures the full cost recovery of that water service. Where no such fees exist today for a particular service, then fees have to be introduced, unless it can be demonstrated that alternative measures are available and implemented to ensure sustainable water uses. Given the widespread economic and social implications of this requirement Member States must take into account such considerations and other compelling regional aspects (climatic and geographic conditions) when defining their fee structure.

F. Article 2, paragraph 6 - Principle of cooperation

Article 2 (6)

The Riparian Parties shall cooperate on the basis of equality and reciprocity, in particular through bilateral and multilateral agreements, in order to develop harmonized policies, programmes and strategies covering the relevant catchment areas, or parts thereof, aimed at the prevention, control and reduction of transboundary impact and aimed at the protection of the environment of transboundary waters or the environment influenced by such waters, including the marine environment.

1. Background explanations, analysis and clarification

136. The obligation of cooperation stands out as an independent obligation. However, as repeatedly stressed, it is an integral part of the three-pillar normative cornerstone of the Convention together with the obligation of equitable utilization, under article 2 (2 c), and the obligation of prevention, control and reduction of transboundary impact under article 2 (1). That is to say that cooperation between riparians is instrumental to full compliance with the other two obligations.

137. This provision enunciates the general international obligation of cooperation with respect to relations between Riparian Parties. Its customary legal force in the field of the protection of the environment is substantiated by a number of authoritative instruments, such as Principle 24 of the Stockholm Declaration, Principle 7 of the Rio Declaration, article 4 of the ILC 2001 Draft articles on international liability for injurious consequences arising out of acts not prohibited by international law, as well as article 8 (1) of the New York Convention. It represents one of the key normative and policy features of the Water Convention.

138. The normative contents of the general obligation of cooperation is specified and articulated through an extensive number of subsequent provisions in the Convention, namely, articles 9 to 15. According to those provisions, cooperation takes the form, inter alia, of consultations, establishment of joint bodies, joint monitoring and assessment, exchange of information, warning and mutual assistance. Such forms of cooperation may be applied to the special circumstances pertaining to each specific transboundary waters, through bilateral and multilateral agreements among Riparian Parties.

139. The general obligation of cooperation reflects the interdependence of Riparian Parties also recognizing their community of interest in the shared transboundary waters. To that end, this provision prescribes that cooperation be made "on the basis of equality and reciprocity". This implies that cooperation should not be limited to a purely formal procedure of exchange of views, but that each Riparian Party should conduct itself in good faith.

2. Minimum requirements to comply with the provision

140. Cooperation in article 2 (6), is not provided for the sole purpose of occasional contacts to prevent, or control, transboundary impact in individual cases, it is to be established on a permanent basis through bilateral or multilateral agreements. Its vast scope of application extends to the whole series of policies, programmes and strategies required for the achievement of the aims of the Convention.

141. Cooperation is not simply confined to the water channel of the transboundary river, or to the water of the international lake but, according to article 2 (6), it has to be applied to the relevant catchment area, or at least parts thereof. Thus, the Convention adopts an integrated approach to water protection based on the catchment area[42], Thus, the catchment area appears as the main unit for the application of harmonized policies, programmes and strategies the Riparian Parties are to develop under article 2 (6), of the Convention.

142. According to the provision under review, the outcome of cooperation should be the development of "harmonized policies, programmes and strategies". Harmonization includes common, or at least co-ordinated, policies, programmes and strategies. Therefore, it may range from coordination of relevant national actions to the development of a single river basin management plan, an option already provided for in article 13 (2 and 3) of the EU WFD. In any case, the "development" of such harmonized actions covers their preparation and adoption, as well as their implementation.

143. Cooperation among States in river basins may be complex, particularly at the beginning. It should be seen as an aim in itself. It is therefore crucial to create a reliable structure as a basis for cooperation. This may be a gradual process starting with simple steps, e.g. by a joint committee meeting regularly. At a later stage, working groups or expert groups may be added. The kind of structure depends on the specific needs of the relevant countries and of the relevant water basins. Some of the older river commissions started following this approach, for example on the Rhine River or the Moselle or Saar Rivers. However, there is no blueprint.

[42] See for this concept the commentary to articles 1 (1, 2, 3 and 4) and 9 (3).

144. Effective cooperation is based on mutual trust. Trust building in the international water sector may need time and the psychological factor should not be underestimated. Considering that for instance the International Commission for the Protection of the Rhine had been established shortly after the end of the Second World War, one could imagine that trust-building required many years. Trust building requires much dialogue in order to increase mutual understanding and to enable the States involved to address in a constructive manner more problematic issues. The establishment programmes, plans or projects is facilitated if the Riparian Parties trust each other. However lack of mutual trust does not relieve Riparian Parties from fulfilling their obligation to cooperate. In this spirit, for example, article 30 of the New York Convention provides that, even in case of a serious obstacle to direct contact between watercourse States, the latter shall fulfil their obligation to cooperate under the Convention through any indirect procedure accepted by them.

145. Performance in good faith of the obligation of cooperation amounts to a minimum requirement. Minimum good faith parameters most relevant to the Convention are to be found in the Lake Lanoux arbitral award of 1957. While Spain (downstream) claimed that France (upstream) could not carry out a project without its prior consent, the Tribunal stated that "international practice […] confines itself to obliging the States to seek, by preliminary negotiations, terms for an agreement". It went on to declare that a State would be in breach of such an obligation of cooperation "in the event, for example, of an unjustified breaking off of the discussions, abnormal delays, disregard of the agreed procedures, systematic refusals to take into consideration adverse proposals or interests, and more generally, in cases of violation of the rules of good faith"[43].

146. As indicated above in the background explanations, the general obligation of cooperation reflects the interdependence between Riparian Parties and also recognizes their community of interest in transboundary waters. Against this rationale, the provision under review prescribes that cooperation shall be made "on the basis of equality and reciprocity". According to the United Nations Charter – as further interpreted in the landmark Declaration on Principles of International Law Concerning Friendly Relations and Co-operation Among States[44] – all States enjoy sovereign equality. They have equal rights and duties and are equal members of the international community, notwithstanding differences of an economic, social, political or other nature.

147. Still on the element of equality among riparians, article 2 (6) provides the right for each riparian State to participate, on an equal footing with other riparian States, in the procedural aspects of cooperation. Equality in this context implies the right, as well as the duty, for each riparian State to be involved in the negotiation of watercourse agreements, as well as in the activities of consultation, monitoring, exchange of data etc., in a manner consistent with the concept of the community of interest of riparian States in the uses of a transboundary watercourse.[45]

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[43] International Law Reports (1957), p. 101, at pp. 128 ff.
[44] Declaration on Principles of International Law Concerning Friendly Relations and Co-operation Among States, United Nations General Assembly resolution 2625 (XXV), 1970.
[45] See for this concept, the commentary to article 1 (1(c)).

148. As to reciprocity**,** it is a direct consequence of the principle of the legal equality of States. It involves some element of quid pro quo behaviour and requires that each Riparian Party should conduct itself in good faith taking into account the legitimate interests of the other Riparian Parties. However, in case of a breach of a basic provision of the Convention, reciprocity may not allow for reciprocal conduct by way of countermeasure, nor for suspension, or termination, of the obligations breached. Obligations such as that to prevent, control, or reduce transboundary impact are not only beneficial to the other Contracting Parties but also protect the common interest of the community of the Parties to an environmental agreement – or the international community as a whole – in the preservation of the environment. These are called integral obligations**,** in the sense that in protecting community interests, they create a set of indivisible corresponding rights for the community of the Parties to the agreement, or for the members of the international society. Accordingly, a reciprocal conduct of non-performance of such an obligation by a Contracting State in response to a previous breach of the same obligation would be wrongful for it would violate the same indivisible corresponding right of each and all the other contracting Parties.

3. Examples

Box 11. Cooperation on the Rhine River basin

The Rhine River basin is a good example to demonstrate that cooperation initially restricted to the main river can be extended to the whole basin: The old and the new Convention on the Protection of the Rhine are limited to the stream itself, without its tributaries, with the exceptions of flood protection in the basin and of discharges of polluting substances in the catchment area which adversely affect the Rhine River. Therefore, only the countries on the main stream are Parties to this Convention. Moreover, the upstream boundary of the Rhine is for the purpose of the Convention defined as the outlet of the Lake Untersee (the falls at Schaffhausen) which excludes the more upstream areas from the geographical scope of the Convention. When the EU WFD came into force in 2000, it was necessary to cooperate in the whole river basin, i.e. including all tributaries, groundwaters and coastal waters. The existing Convention has not been changed. But a parallel more informal structure alongside the Convention's working structure was established, the so-called Coordination Committee to implement the EU WFD. In this new structure, States that are not Parties to the Convention but which share the Rhine River basin cooperate, namely Austria, Italy, Liechtenstein and the Walloon region of Belgium. Switzerland, as a non-EU State, is not bound to the EU WFD, but is willing to contribute and cooperates also within this new structure and not only in the structures under the Convention. In the meantime, after some years of existence with both approaches in parallel, the two processes have been structurally merged and now many issues are discussed together, without focusing on which issue should be treated under which structure. Of course, there are issues that pertain only to the Convention or only to the EU WFD; nevertheless, many issues overlap and synergies are possible. For the implementation of the EU WFD, it has been an absolute advantage to build on an existing international structure and not to have to start from zero.

Box 12. Experience of the Czech Republic with regard to international cooperation in water management under different legal regimes

The Czech Republic is a typical inland country. Nearly all its rivers and streams flow from its territory to the territories of neighbouring countries (Austria, Germany, Poland and Slovakia). Its water resources are dependent on precipitation. Three important international river basins cover its territory:

the Elbe, the Oder and the Danube. The Elbe River basin is shared by the Czech Republic and Germany: The Elbe flows into the North Sea. The Oder River basin is shared by the Czech Republic, Germany and Poland and discharges into the Baltic Sea. The Danube River basin is shared by 19 countries; 14 of them, including the Czech Republic, are contracting Parties to the Danube River Protection Convention. The Danube flows to the Black Sea. It should be clear from the above that international cooperation in water management and protection is extremely important for the Czech Republic.

International cooperation in the Czech Republic is taking place on three levels.

1. Cooperation under UNECE is based on:

- The Water Convention, which can be considered according to its provisions, especially article 2 (6) and article 9 as the "roof Convention" for other multilateral and bilateral conventions on lower level dealing with more detailed issues regarding specific river basins.
- The Protocol on Water and Health to the Water Convention. This regulation has no equivalent for the lower level of specific river basins or transboundary waters.

2. Cooperation for the protection of international river basins is based on:

- The Agreement on the International Commission for the Protection of the Elbe River,
- The Convention on the International Commission for the Protection of the Oder River against Pollution,
- The Danube River Protection Convention, implemented through the International Commission for the Protection of the Danube River.

Main objectives of the above treaties are:

- Pollution reduction in the river basins and its preservation on the agreed level and contribution to the better water environment in the North, Baltic and Black Seas,
- Revitalization of water ecosystems,
- Protection of water resources, save use of water for drinking purposes and in agriculture,
- Coordinated flood protection,
- Prevention of water pollution from accidents,
- Coordinated implementation of the EU WFD by all contracting Parties.

3. Bilateral cooperation on water management with Austria, Germany, Poland and Slovakia is based on:

- The Treaty between the Czechoslovak Socialistic Republic and the Republic of Austria on the Arrangement of Water Management Issues on Transboundary Waters implemented by the Czech-Austrian Commission for Transboundary Waters,
- The Convention between the Czechoslovak Republic and the Peoples Republic of Poland on Water Management on Transboundary Waters implemented through the Meetings of the Czech and Polish Government Plenipotentiaries for Co-operation in Water Management on Transboundary Waters,
- The Agreement between the Government of the Czech Republic and the Government of the Slovak Republic on Co-operation on Transboundary Waters implemented by the Czech-Slovak Commission for Transboundary Waters,
- The Treaty between the Czech Republic and the Federal Republic of Germany on Cooperation

on Transboundary Waters implemented by the Czech-German Commission for Transboundary Waters.

According to the above bilateral treaties, the bilateral transboundary waters are surface and ground waters creating, crossing, or neighbouring boundaries with other State, if the measures on them can impact the status of waters on the other State territory.

The main objectives of the cooperation on bilateral transboundary waters are:

- Protection of transboundary waters and their ecosystems against pollution,
- Coordinated approach to planned measures on transboundary waters, or measures which can influence the status of transboundary waters,
- Coordinated use of transboundary waters,
- Treatment and maintenance of transboundary rivers, including their riverbeds if necessary,
- Joint activities in hydrology and flood protection,
- Harmonized implementation of EU WFD on the bilateral level.

The above multilateral and bilateral treaties have similar objectives as the Water Convention, but the level and detail of cooperation is more concrete. Hence it can be said that the Czech Republic implements the Water Convention predominantly through the international legal instruments on the lower level.

Box 13. Cooperation of Serbia on the "Danube Roof Report"

Since 2000, the EU WFD has been the basic legal document which governs the management of waters in EU Member States. Because the EU WFD sets for that "in the case of an international river basin district extending beyond the boundaries of the Community, Member States shall endeavour to produce a single river basin management plan", EU Member States that share the Danube River basin, with the consent of all other countries which are contracting Parties to the Danube River Protection Convention, have nominated the International Commission for the Protection of the Danube River (ICPDR) as the coordination body for the development of this plan.

The Danube River Protection Convention forms the overall legal instrument for cooperation and transboundary water management in the Danube River basin. The Convention was signed on 29 June 1994 in Sofia, and entered into force in October 1998. All countries sharing over 2,000 km² of the Danube River basin (at the time of writing: 8 EU countries, 1 accession country and 5 non-EU countries), as well as the EU itself, are contracting parties to the Danube Convention.

The Danube River Basin Analysis (DRBA) was the first important step toward the Danube River Basin District Management Plan (DRBM Plan) and was reported to the European Commission in March 2005. The analysis includes a general characterization of the entire Danube River Basin District, focusing on both surface water and groundwater bodies. Serbia, which is not an EU Member State but is a member of ICPDR and a contracting Party to the Danube Convention, as well as other countries in this river basin, have voluntarily agreed to participate in the preparation of the DRBA.

Even though Serbia made every effort to ensure that the data and information it submitted for DRBA are as complete as possible, this was not possible in every segment. Serbia's major limiting factors were, above all, financial (insufficient financial resources) and legal (lack of harmonization between domestic and EU legislation). Additionally, the time since Serbia joined these activities was too short to conduct all analyses and collect all data, and there were some difficulties caused by differences

between local statistics and DRBA data collection requirements. An inadequate number of human resources familiar with new EU directives was also a problem to some extent, but this was partly resolved during the course of the activities with the assistance of EU projects.

On the other hand, Serbia benefited from these activities in many ways. Since more than 90 per cent of Serbia's territory is in the Danube River basin, it is obvious that Serbia cannot protect and enhance the water regime within its territory without substantial cooperation with neighbouring countries and all upstream countries. Furthermore, familiarization with new EU regulations and gradual harmonization of domestic water management procedures with EU legislation have improved communications with water management specialists from other countries. Another significant benefit was the ability to examine in detail the various implications (above all, financial) of the implementation of EU water directives in Serbia. This will considerably facilitate Serbia's negotiations in connection with its potential accession to the EU.

Box 14. Cooperation on the protection of Lake Ohrid

Cooperation started in 1998. It was the first experience of cross-border protection and management of natural resources in the Balkan region. Cooperation began under Lake Ohrid Conservation Project supported by World Bank and other multilateral and bilateral assistance.

As a result of their cooperation, in June 2004 the Governments of Albania and the former Yugoslav Republic of Macedonia signed an Agreement for the Joint Protection and Sustainable Development of Lake Ohrid Watershed. Based on the agreement two joint institutions were established:

- The Lake Ohrid Watershed Bilateral Committee
- The Bilateral Secretariat.

The Committee convenes meetings regularly at least twice a year. The Committee is chaired on a rotation base by the minister of environment of each country for a period of one year. The Committee has developed a Joint Action Plan and is considering the following issues:

- Governments' environmental policies
- Measures regarding future actions
- Developing of joint future projects
- Short-term measures in the field of reduction of pollution
- Measures for protection of habitats
- Future bilateral cooperation.

The agreement was followed by the signing of Joint Protocols for sampling and analysis and Joint Quality Assurance Protocol. A state-of-the-environment report for Lake Ohrid and its watershed was prepared. A monitoring programme for the lake and other national programmes from both sides are in the phase of joint harmonization and new Joint Monitoring Teams for the lake have been established. To raise the public awareness of the watershed, support to non-governmental sector and establishing of green centres were conducted. In this regard, a programme of small investments in pilot projects was developed.

Box 15. Trilateral cooperation on the Lake Prespa

Lake Prespa is situated between Albania, Greece and the former Yugoslav Republic of Macedonia. It is an area of extraordinary natural and cultural beauty.

On 2 February 2000, the three Prime ministers of Albania, Greece and the former Yugoslav Republic of Macedonia signed the Declaration for Prespa Park Conservation with the following ultimate goals:

- Enhancement of living standards for the inhabitants of Prespa, through the preservation of its natural and cultural values and the sustainable use of its resources;
- Peace and cooperation between the three countries.

The main challenges the three States intend to address through long-term cooperation include:

- Conserving and protecting the unique biodiversity of Lake Prespa
- Preventing or reversing the causes of habitat degradation
- Exploring suitable management regimes and methods for the wise use of its water resources
- Providing a model and reference point for peaceful collaboration in the wider region.

With the support of the Convention on Wetlands of International Importance, especially as Waterfowl Habitat **(**Ramsar Convention on Wetlands) and its MedWet Initiative, the trilateral Prespa Park Coordination Committee (PPCC) was established in 2001. Members of the PPCC are representatives of the Ministries for Environment, the mayors of the local municipalities, and one NGO per each country. MedWet/Ramsar participates as an ex officio member of the PPCC. In the six years of its operation, the PPCC has convened biannually The PPCC serves as a forum for information exchange, collaboration, and coordination of joint actions and interventions in Prespa. Such joint activities have included the preparation of a Strategic Action Plan for the protection and development of the region, and contribution to the development and submission of a GEF Prespa Park project proposal, approved by the GEF secretariat in 2005.

Further joint cooperation continues with the implementation of the project, “Integrated Ecosystem Management in the Prespa Lakes Basin of Albania, the former Yugoslav Republic of Macedonia and Greece”. Within the project many activities have been carried out and different planning documents were developed, such as:

- Integrated land-use spatial plan for the former Yugoslav Republic of Macedonia-Prespa;
- Local environmental action plan for Albania-Prespa;
- Water management plan;
- Forests management plans;
- Transboundary monitoring System;
- Upgraded information management and GIS.

Joint trilateral bodies have been established under these projects to stimulate the cooperation of the three countries.

Box. 16 Cooperation of Belarus and Ukraine on the upper Pripyat River

A part of the water flow from the upper Pripyat River in Ukraine is discharged through the Vyzhevskiyi floodgate of the Beloozerskaya water-feed system[46], into the Dnieper-Bug Canal (DBC), situated in Belarus. This discharge is also used to reduce flooded areas in the territory of Ukraine. However, due to the poor state of the canal, this can cause, in turn, flooding in Belarus. Moreover, in low-water seasons, the discharge in the canal – necessary for navigational purposes – can result in lack of the required volume of water in the upper Pripyat needed for ecological function of the river. The problem of water regime management of the upper Pripyat is therefore a transboundary issue that needs to be solved through close cooperation of the two countries in managing the whole basin.

To address this problem, a project on sustainable management of shared water resources in the upper Pripyat River basin began in 2008 under the umbrella of ENVSEC. The project specifically aims to strengthen bilateral cooperation and facilitate the development, harmonization and bilateral implementation of water allocation procedures for the Beloozerskaya water-feed system, in an environmentally safe, economically viable, and mutually acceptable manner.

Improvement of water regime management of DBC would reduce negative impacts on the river's ecosystem. The most important challenge will be to ensure environmentally safe control and distribution of the upper Pripyat flow through Vyzhevskiyi floodgate of the Beloozerskaya water-feed system. It is also important to mention that most of the catchment area of the upper Pripyat in Ukraine is a protected territory: the Pripyat-Stokhyd National Park. The main issues that will be addressed under the project are: (a) reconstruction of DBC; (b) hydromorphological modification and ecosystem degradation of the Pripyat River channel downstream of the floodgate; (c) possible deterioration of the river water quality; and (d) disturbance of hydroecological regimes of Svyatoe, Volyanskoe and Beloe Lakes. The project is also expected address legal issues related to property rights, land and water use, and information exchange.

The project foresees joint Belarussian-Ukrainian hydrological and hydro-ecological investigations of the upper Pripyat and of the Beloozerskaya water-feed system. The project's major outcome will be the Operating Rules for Beloozerskaya water-feed system of DBC, which will cover the following issues: (a) the hydrological profile of the Pripyat at the Vyzhevsky floodgate under various flow conditions; (b) the results of the bilateral study of flow regime and hydro-ecological conditions of the upper Pripyat, the Beloozerskaya water-feed system and DBC; (c) justification of water flow allocations in the upper Pripyat to meet the needs of environment protection in the basin; maintenance and navigation of DBC; and (d) the optimal control of high flow events.

The project is being implemented with the active participation of the Plenipotentiaries (officials formally appointed by Belarus and Ukraine) and with the strong support from the following authorities in both countries: the Ministry of Transport and Communications and the Ministry

[46] This system is comprised of several floodgates, a part of the upper Pripyat River and a number of lakes that feed the Dnieper-Bug Canal.

of Natural Resources and Environmental Protection in Belarus, and the State Committee of Water Resources, with its regional branches, and the Ministry of Environmental Protection in Ukraine. The project's interim results have been well received in both countries, and the Operating Rules for Beloozerskaya water-feed system of DBC are expected to be adopted in December 2009 by the Plenipotentiaries from the two countries. For more information, see http://dev.grida.no/pripyat/

G. Article 2, paragraphs 7 and 8 – Environmental conditions and transboundary impact

Article 2 (7, 8)

7. The application of this Convention shall not lead to the deterioration of environmental conditions nor lead to increased transboundary impact.

8. The provisions of this Convention shall not affect the right of Parties individually or jointly to adopt and implement more stringent measures than those set down in this Convention.

1. Background explanations, analysis and clarification

149. Both provisions under review reflect two aspects of the same rationale, namely, minimizing transboundary impact and maximizing the standards of environmental protection. On the one hand, under article 2 (7), a Party may not invoke the Convention as justification for lowering environmental standards on its territory, in case any provisions of the Convention were to afford a lower environmental protection than that already in force in that Party. On the other hand, under article 2 (8), having become a Party to the Convention may not be invoked as an argument preventing adoption, and/or implementation, of higher environmental standards – either at the domestic, or at the international level – than those provided for in the Convention (the so-called practice of "gold-plating").

150. In terms of intertemporal law, under article 2 (7), prior legislation in force in State at the time of its becoming a Party to the Convention prevails over the latter in so far as the application of certain provisions of the Convention would result in the deterioration of environmental conditions or lead to increased transboundary impact. In this respect, article 2 (7), derogates from the general principle that later law prevails over incompatible earlier law (*lex posterior derogat priori*). On the other hand, this principle is reinstated in article 2 (8) under the considerable limitation to the effect that the Convention may be derogated from by future national legislation or international agreement only insofar as the latter would introduce higher standards than those under the Convention

151. Those provisions reflect and should be read in the light of the so-called "more favourable provision principle", according to which, in case of more provisions applicable to the same subject matter, the one giving the maximum protection should apply. Provisions of this kind are

common in human rights treaties[47], as well as in environmental law treaties[48], given the fact that those branches of international law aim at gradually imposing higher standards of diffused protection of the general interest.

152. It may be added that the broad wording of article 2 (7), puts under its protective umbrella, both legal norms and factual situations where the environmental conditions of a transboundary river or an international lake are better than those required by the standards of the Convention.

2. Minimum requirements to comply with the provision

153. Article 2 (7), imposes a "standstill" obligation, preventing Parties from lowering their environmental conditions or from increasing transboundary impact by abusively invoking, as a justification, the provisions of the Convention, when the standards set by the latter are lower than the ones already in force, or existing in practice, in that Party.

154. This provision, in combination with article 2 (8), makes clear that in case both the Convention and other, more favourable, internal or international norms apply, the provisions leading to broader environmental protection, or to lesser transboundary impact, should have precedence.[49] It should be emphasized that in this case there is no discrepancy, or conflict, between the applicable norms, as the implementation of the higher standard necessarily implies the implementation of the lower one.

155. It is also obvious from these provisions that the Convention purports to introduce minimum standards in the field of prevention, control and reduction of water-related transboundary impact, hence, allowing, if not encouraging, Parties, to adopt in the future, if they so wish, higher protection standards, either at the domestic or at the international level, or to maintain the higher existing ones.

H. Article 3, paragraph 1 (c) and (f) – Limits for waste-water discharges, appropriate measures and best available technology

Article 3 (1 (c) and (f))

1. To prevent, control and reduce transboundary impact, the Parties shall develop, adopt, implement and, as far as possible, render compatible relevant legal, administrative, economic, financial and technical measures, in order to ensure, inter alia, that:
…
(c) Limits for waste-water discharges stated in permits are based on the best available technology for discharges of hazardous substances;
…
(f) Appropriate measures are taken, such as the application of the best available technology, in order to reduce nutrient inputs from industrial and municipal sources;

[47] See article 5 (2), of the International Covenant on Civil and Political Rights.
[48] See article 2 (9), of the Espoo Convention.
[49] See also UNECE, *The Aarhus Convention, an Implementation Guide*, 2000, commentary under art. 3, paras. 5 and 6, p. 45, available at: http://www.unece.org/env/pp/acig.pdf.

1. Background explanations, analysis and clarification

156. According to article 3 (1 (c)), the limits for wastewater discharges stated in permits shall be based on the best available technologies[50] for discharges of hazardous substances, as defined in article 1(6) of the Water Convention. This provision is specified in article 3 (2), which indicates that Parties shall set emission limits for discharges from point sources into surface waters based on the best available technology, which are specifically applicable to individual industrial sectors or industries from which hazardous substances derive. Moreover, article 3 (1 (f)), extends the application of best available technologies also to the treatment of nutrient arising from industrial and municipal sources

157. Thus, the requirement to apply best available technology refers to the treatment of hazardous substances from industrial point sources as well as nutrients from industrial and municipal point sources.

158. By definition, hazardous substances do not include bacteria, viruses and other micro-biological agents. However, there are cases where the emission of these agents, for example, from municipal wastewater treatment plants into surface waters, may cause both local impact and transboundary impact. The local impact may be more pronounced, however, also transboundary impact, which falls under the Convention, has been observed.

159. Although the Convention does not contain an explicit references to this kind of agents, it appears, however, from the definition of transboundary impact as well as from article 2 (1) that all appropriate measures to be taken to prevent, control and reduce any transboundary impact would also apply to bacteria, viruses and other micro-biological agents. Currently, the Parties are facing a dilemma between the protection of people against significant adverse effects of bacteria and other agents, on the one hand, and the maintenance of aquatic ecosystems, on the other. This is mostly due to the fact that the use of disinfection substances for the treatment of emissions from wastewater treatment plants could cause a harmful effect, if not extinction, of aquatic life in surface waters, which plays an important role in the self-purification process. It seems that appropriate technical measures as well as accompanying legislation for enforcement still need to be developed. This would mostly fall under the obligations related to research and development (articles 5 and 12).

160. Permit conditions for the discharge of hazardous substances have to be based on “best available technology”. This technology is defined in annex I to Convention as “the latest stage of development of processes, facilities and methods of operation which indicate the practical suitability of a particular measure for limiting discharges, emissions and waste”. When determining what the applicable “best available technology” would look like, not only technical aspects should be considered, but also economic considerations should be made (in order to see whether its use is reasonably affordable). To assess accurately the costs of best available technology that are necessary to protect waters and the return on this investment, it is essential to judge not only a possible short-term implications of high costs, but valuate best available

[50] See also commentary to article 3 (2).

technology vis-à-vis future socio-economic development of a country. Best available technology should be seen as an investment that will pay off in the long term. The Convention also recognizes that what is best available technology for a particular process will change with time in the light of technological advances, scientific knowledge and economic and social factors.

161. Best available technology therefore constitutes a set of requirements variable at least along the following parameters:

(a) The technical availability of a given technology, process, method, etc. (i.e. it has been developed and placed on the market);

(b) The financial affordability of a given technology, process, method, etc. for a given Party.

162. The notion of best available technologies provides a wide margin of discretion to competent authorities when determining what can actually be regarded as best available technology. Best available technologies can be defined at a general level (with reference to accepted industrial benchmarks) or on a case-by-case basis. Note should be taken of the fact that the EU system is based on the notion of best available techniques, which should not be mixed with the notion of best available technologies under the Convention (see box 18).

2. Minimum requirements to comply with the provision

163. To comply with this provision, as the first step, Parties should prepare an inventory of industrial sources of pollution and elaborate a list of hazardous substances in wastewater (see also article 3 (2)). The hazardous substances are usually classified on the basis of their toxicity, persistence and bioaccumulation. Each group of substances defined by this classification requires implementation of certain measures. For example, the most dangerous substances should be eliminated and the waters that contain such substances should require prior authorization by competent authority. This classification might be revised, as needed, by reclassifying current substances or including new substances.

164. To achieve integrated prevention and control of pollution arising from industrial activities (e.g. energy production, production and processing of metals, extraction of minerals, the chemical industry, waste management, the pulp and paper industry), there is a need to lay down measures to prevent or, where that is not practicable, to reduce emissions into the air, water and soil (including measures concerning waste), in order to achieve a high level of protection of the environment as a whole.

165. The respective Party has to take the necessary measures so that the competent authorities can ensure that installations are operated in such way that:

(a) All the appropriate preventive measures are taken against pollution, in particular through application of the best available technology;

(b) No significant pollution is caused;

(c) The necessary measures are taken to prevent accidents and limit their consequences.

166. Application to the competent authority for a permit includes a description of:

(a) The installation and its activities;

(b) The raw and auxiliary materials and other substances used;

(c) The source of emissions from the installation;

(d) The nature and quantities of foreseeable emissions from the installation into each medium as well as the identification of significant effects of the emission on the environment;

(e) The proposed technology and other techniques for preventing, or where this not possible, reducing emissions from the installation;

(f) Measures planned to monitor emissions into the environment;

(g) Other relevant information.

167. To protect the environment as a whole (water, air and soil) an integrated approach to issuing permits is required. As to the conditions of a permit as such, the respective State should ensure that the permit includes all measures necessary for compliance with requirements mentioned in the preceding paragraph and where environmental quality standards require stricter conditions than those achievable by the use of the best available technology, additional measures shall in particular be required in the permit, without prejudice to others measures which might be taken to comply with environmental quality standards.

168. Linking discharge limit values to best available technology serves a dual purpose. First, these limit values have to be established with regard to the latest technological developments. This does not automatically require implementation of the most advanced (state-of-the-art) technologies, but it does exclude using old technologies as a point of reference for setting limit values. Second, given the progressive nature of best available technology, public authorities have to review the permit conditions on a regular basis and set new conditions if the evolution of this technology so requires, regardless of any amendment of the applicable legislation.

169. Parties have to ensure that the competent authority is informed of developments on and follows best available technology.

170. Parties should take the appropriate measures to ensure that competent authorities periodically reconsider and, where necessary, update permit conditions (existing emission limit values of the permit need to be revised, or new need to be included in permits; substantial changes in the best available technology make it possible to reduce emissions significantly

without imposing excessive cost; operational safety of the process or activity requires other techniques to be used).

171. Where a Party is aware that the operation of an installation is likely to have significant negative transboundary effects on the environment of another State, it shall forward the information to the other State.

3. Examples

Box 17. Control of dangerous substances discharges in the European Union

Directive 2006/11/EC[51] of the of the European Parliament and of the Council of 15 February 2006 on the pollution caused by certain dangerous substances discharged into the aquatic environment of the Community stipulates the basic principles for reduction or elimination of dangerous substances in discharged wastewater.

This directive classifies dangerous substances into 2 groups (List I and List II). List I contains certain individual substances selected mainly on the basis of their toxicity, persistence and bioaccumulation with the exception of those which are biologically harmless or which are rapidly converted into substances which are biologically harmless. List I includes organohalogen compounds and substances which may form such compounds in the aquatic environment; organophosphorus compounds; organotin compounds; substances which have proved to possess carcinogenic properties in or via the aquatic environment; mercury and its compounds; cadmium and its compounds; persistent mineral oil and hydrocarbons of petroleum origin; persistent synthetic substances which may float, remain in suspension or sink and which may interfere with any use of the water. Pollution through the discharge of the various dangerous substances within List I must be eliminated.

All discharges into the waters which are liable to contain any substance in List I shall require prior authorization by the competent authority. The authorization shall lay down emission standards with regard to discharges of any such substance into the waters and, where this is necessary, to discharges of any such substance into sewers. Emission standards laid down in the authorization shall determine: the maximum concentration of substance permissible in a discharge; the maximum quantity of a substance permissible in a discharge during one or more specified periods of time. This quantity may, if necessary, also be expressed as a unit of weight of the pollutant per unit of the characteristic element of the polluting activity (e. g. unit of weight per unit of raw material or per product unit). Emission limits for 17 substances in List I and qualitative objectives for water are published in “daughter directives”. Authorizations may be granted for a limited period only. They may be renewed, taking into account any changes in the limit values.

Limit values of substances discharged in wastewaters are considered as fulfilled in the case that best available techniques (see box 18) are used for decreasing the quantity of these substances in wastewater, with the objective of their phased elimination.

List II contains substances which have a deleterious effect on the aquatic environment, which can, however, be confined to a given area and which depends on the characteristics and location of the water into which they are discharged. These include: substances belonging to the families and groups of substances in List I for which the limit values have not been determined, certain individual substances

[51] Directive 2006/11/EC contains the codified wording of the Council Directive 76/464/EEC of 4 May 1976 and its daughter directives.

and categories of substances belonging to the families and groups of substances: metalloids and metals and their compounds; biocides and their derivatives not appearing in List I; substances which have a deleterious effect on the taste and/or smell of the products of human consumption derived from the aquatic environment and compounds liable to give rise to such substances in water; toxic or persistent organic compounds of silicon and substances which may give rise to such compounds in water, excluding those which are biologically harmless or are rapidly converted in water into harmless substances; inorganic compounds of phosphorus and elemental phosphorus; non-persistent mineral oils and hydrocarbons of petroleum origin; cyanides, fluorides; substances which have an adverse effect on the oxygen balance, particularly ammonia and nitrites.

Pollution through the discharge of the various dangerous substances within List II must be reduced. All discharges into waters which are liable to contain any substances within List II shall require prior authorization by competent authority, in which emission standards shall be laid down. Such standards shall be based on the quality objectives for water. In order to reduce pollution, States shall establish programmes for pollution reduction that include quality objectives for water. These programmes may include specific provisions governing the composition and use of substances or groups of substances and products and shall take into account the latest economically feasible technical developments. These programmes shall set up deadlines for their implementation.

Where necessary, Lists I and II may be revised, supplemented and if appropriate certain substances from List II may be transferred to List I.

Under the EU WFD, the above system of limit values for hazardous substances is being gradually replaced by the end of 2013.

Box 18. The system of best available techniques in the European Union

The notion of best available techniques, usually abbreviated as BAT, is a cornerstone of EU environmental legislation relating to industrial pollution. It is defined in the Integrated Pollution Prevention and Control (IPPC) Directive[52] in a broader manner than the best available technology under the Convention. The difference between "technology" and "technique" carries a message of content. As opposed to "best available technologies" in the Convention, "best available techniques" under the IPPC Directive also encompass important non-technical aspects, such as management methods and the environmental impacts of an installation through the full life cycle of a plant (e.g. how decommissioning affects the environment).

In order to enhance the uniform interpretation of best available techniques by the EU Member States, the European Commission has initiated an exchange of information coordinated by the European IPPC Bureau (a branch of the Commission's Joint Research Centre). In cooperation with Member States and industry experts, the European IPPC Bureau issues – and regularly updates – reference documents (so-called BREFs (BAT reference documents)) for various industries. BREFs constitute non-binding guidance documents for national authorities to be used in IPPC permitting procedures. BREFs contain parameters for wastewater discharges that can be used by non-EU Parties for the implementation of the Convention. BREFs are available on the Internet.

[52] Council Directive 96/61/EC of 24 September 1996 concerning integrated pollution prevention and control.

I. Article 3, paragraph 1 (d) - Stricter requirements, even leading to prohibition in individual cases, are imposed when the quality of the receiving water or ecosystem so requires

Article 3 (1 (d))

1. To prevent, control and reduce transboundary impact, the Parties shall develop, adopt, implement and, as far as possible, render compatible relevant legal, administrative, economic, financial and technical measures, in order to ensure, inter alia, that:
…
(d) Stricter requirements, even leading to prohibition in individual cases, are imposed when the quality of the receiving water or the ecosystem so requires;

1. Background explanation, analysis and clarification

172. The term "stricter requirements" refers first and foremost to the need to apply in certain cases (if the quality of the receiving water or ecosystem so requires) more stringent conditions than those already set out in the preceding paragraphs, namely in subparagraph (a) regarding the control pollution at source; in subparagraph (b) regarding licensing of discharges; and in subparagraph (c) regarding the need to base limit values for discharges of hazardous substance on best available technology.

173. The term "receiving water and ecosystem" obviously means domestic and transboundary rivers, lakes, groundwaters and other waters as well as water-related and terrestrial ecosystems, which are located in the catchment area as defined in the Convention[53].

174. The term "prohibition" obviously means either prohibition of a discharge (e.g. by collecting the wastewater and handling it in a closed process or disposing it off at special sites) or more generally prohibition of a human activity.

175. Countries usually set up limit values for surface water quality for various chemical determinands (e.g. dissolved oxygen, biological oxygen demand, chemical oxygen demand, nitrogen, phosphorus, lead, copper, mercury and other hazardous substances) and for various microbiological and biological determinands to ensure good quality of surface water. Discharges of pollutants have a negative impact on the status of these surface waters. For this reason, it is necessary to assess the impact of discharged pollutants on surface water quality. In addition to the amount of the discharged pollutant from a particular source of pollution, the surface water quality upstream of this particular source of pollution (as the surface water can already be polluted by other pollution sources upstream) and the flow rate of the surface water are key factors in this assessment. The lower the flow rate (e.g. during the summer period), the lower should be the amount of discharged of pollutants. Thus, "stricter requirements" could mean to curb the amount of discharged pollutants from one or more pollution sources or to prohibit any discharges.

[53] See also commentary to article 1 (1).

2. Minimum requirements to comply with the provision

176. The minimum requirements to comply can be inferred from some of the specifications contained in the Convention.

177. One indication can be found in article 3 (1 (f)) in relation to what "stricter" would mean. This paragraph extends the requirement to use best available technology also for discharges of nutrients from industrial and municipal sources, and this is more "stringent" than the requirement of paragraph 1 (c), namely to apply best available technology in case of hazardous substances.

178. A second indication can be found in article 3 (1 (k)) in relation to the prohibition of wastewater discharges into groundwater aquifers as one of the additional measures to prevent groundwater pollution.

179. In deciding on "whether the quality of the receiving water or ecosystem necessitates stricter requirements", use should be made of the provisions in paragraph 1 (h) on environmental impact assessment and other means of assessment[54], and the provisions in paragraph 2 on water-quality criteria and objectives[55].

180. Account should also be taken of the fact that the concentration of a substance in the receiving water (e.g. a river) depends on the amount of the emitted substance and the current flow rate. For a given amount of an emitted substance, the concentration in the river is the higher the lower the water flow. Thus, the "stringency" of requirements on the emitter can also be made dependent on the flow rate, i.e. the actual hydrological regime. Given the potential impact of climate change on water availability and flow regime, which may lead to a decrease of water flow, this dependency may also lead to more stringent requirements on emitters in the long-term.

3. Examples

Box 19. Protection of the Vardar River from pollution with chromium

The industrial landfill started its operation period in the late 1950s. No regulation in respect to the environment permitting existed in that period and no operating rules were put in place.

It contains about 1,000,000 tonnes of industrial/hazardous waste, mainly metallurgical sludge with significant quantities of six-valent chromium (Cr^{+6}). The chromium waste was generated by a plant producing fertilizers, part of the overall industrial complex. The waste was disposed over a period of several decades.

The micro-location of the landfill was selected without any environmental impact assessment. The landfill was settled on a stream, a small direct tributary to the Vardar River, the biggest river in the former Yugoslav Republic of Macedonia. The Vardar River is a transboundary river that flows from the former Yugoslav Republic of Macedonia to neighbouring Greece.

The wider region of the landfill location belongs to the catchment area of a large groundwater aquifer

[54] See also commentary to article 3 (1 (h)).
[55] See also commentary to article 3 (3).

system that represents a crucial source of drinking water for the capital of the former Yugoslav Republic of Macedonia, Skopje. This source of potable water is known as the Rasce Spring.

During the construction of the landfill, the stream was captured with concrete pipeline, which during the following years collapsed due to the enormous weight of waste disposed on top of it. Such situation resulted in the direct contact between the landfill body and the stream, thus causing direct severe chemical pollution of the stream's waters and further of the Vardar River. In addition and due to the fact that no lining system was introduced during the construction of the landfill, groundwater within the Vardar River alluvium was also polluted, with the potential to endanger the Rasce Spring.

The landfill was owned by a State-owned industrial complex, Jugohrom, which was successively sold to a private operator. The new owner was allowed to start operating the industrial complex on the condition that no disposals of new waste in the landfill would take place. Consequently, it was agreed that the State would overtake liabilities in regard to the remediation of the historical pollution, i.e. the industrial landfill.

During the period 2002–2003, the remediation project was implemented. It was managed by the Ministry of Environment and Physical Planning of the former Yugoslav Republic of Macedonia. The project was funded by the EU programme OBNOVA, with a budget of approximately €1 million.

The process of remediation included various technical measures, including:

- Upstream redirection of the stream out of the landfill body
- Construction of a full drainage system downstream of the landfill to uptake polluted groundwater
- Construction of a pipeline for transport of captured polluted groundwater to existing wastewater treatment plants in the new operator's yard where it is treated before being discharged into surface recipient (Vardar River)
- Bio-reclamation of the slopes of the landfill, including cover layer

No pollution is caused on the Vardar River from the landfill since January 2005 , when the above system commenced operations. The wastewater plant treats the polluted waters to standards determined in the legislation. The Ministry of Environment and Physical Planning of the former Yugoslav Republic of Macedonia bears fully the cost of wastewater treatment plants operation, including workmen.

The project eliminated any potential pollution to the source of potable water for Skopje, the Rasce Spring and pollution of six-valent chromium to downstream of the Vardar River.

Box 20. Measures to reduce/eliminate foam formation on the Raab/Rába river

Since 2003, intensive foaming and water quality deterioration was observed on the Raab/Rába River – a right tributary of the Danube flowing from Austria to Hungary – near the border between Austria and Hungary. To solve the problem the countries representatives started a bilateral negotiation. The investigations find out that three leather processing factories located in Austria upstream the border were causing the foaming with their discharged treated wastewater load.

As a result of the negotiations the parties elaborated a Joint Action Programme in 2007. In the course of the implementation of this programme, Austria introduced stricter environmental requirements in connection with tanneries, took steps to ensure that the local administrative offices intensified their controls in the factories and improved the wastewater treatment technologies at the factories.

In addition, in 2008 both countries elaborated joint projects/measures for the ecological rehabilitation of the Raab/Rába River.

The frequency and the size of the foaming of the river have already decreased significantly due to the implemented measures. The final solution will however be achieved only by the full implementation of the jointly elaborated programme of measures.

J. Article 3, paragraph 1 (e) – At least biological treatment or equivalent processes are applied to municipal waste water

Article 3 (1 (e))

1. To prevent, control and reduce transboundary impact, the Parties shall develop, adopt, implement and, as far as possible, render compatible relevant legal, administrative, economic, financial and technical measures, in order to ensure, inter alia, that:
…
(e) At least biological treatment or equivalent processes are applied to municipal wastewater, where necessary in a step-by-step approach;

1. Background explanation, analysis and clarification

181. Biological treatment (secondary treatment)[56] is the process in which wastewater is treated with aerobic bacteria to remove or reduce such organic contaminants as animal and human excreta, ammonia, nitrates, and plant tissue. The Convention recognizes that the economic implications of applying biological treatment to all municipal wastewater might require a step-by-step approach. When deciding on the use of biological treatment, the following factors should be taken into account: the size of the pollution source (i.e. population equivalent, or PE), the flow rate and water volume in recipient waters, and their ecological and chemical stratus.

182. Biological treatment itself does not secure annihilation of bacteria for which oxidation by chlorine compounds or other disinfection agents would be needed. Nevertheless, use of such chemicals can harm ecosystem in recipients, whereas alternative oxidation of effluent by ozone can be inappropriately expensive. That is why bacteria removal is usually left to the natural oxidation and elimination process in recipients.

183. An alternative method to biological wastewater treatment (i.e. “equivalent processes in the meaning of the Convention) for small municipalities (< 500 PE) can be wastewater treatment in artificial wetlands or in decomposition ponds. It is necessary to bear in mind that this technique is less effective and fails to work during wintertime, when natural biological processes are slowed down or completely stopped.

[56] Wastewater treatment includes primary treatment, which employs physical processes to separate and remove floatable matter and suspended solids and which prepares wastewater for secondary (i.e. biological treatment) and/or tertiary (i.e. chemical and/or biological nutrient removal) treatment.

2. Minimum requirements to comply with the provision

184. Parties should develop and issue relevant regulations regarding municipal wastewater treatment, the quality of emissions and their control. Each person or company discharging wastewater should have a permission (a permit or license) issued by the water authority or other relevant authority. The observance of the permissions should be monitored and examined by the State's authorized institution.

185. Discharges from wastewater treatment plants to groundwater should not be permitted to be in compliance with article 3 (1(k)), which requests additional specific measures to prevent the pollution of groundwaters. Discharges from sewerage systems without subsequent treatment should be avoided. Temporary exceptions are possible in cases of accidents or urgent reconstruction work at wastewater treatment facilities. If wastewater is discharged to estuaries or coastal waters, less strict limits of discharged pollution may be used.

186. All municipal wastewaters from settlements defined by national regulations should be collected to sewerage systems and at least biologically treated before being discharged into surface waters. Moreover, nitrogen and phosphorus removal may be needed (tertiary treatment) if the status of the waters in the recipients so require. Clear indicators of their permitted concentration in treated wastewater should be also defined in the permission.

187. Depending on the quality of the sludge from wastewater treatment plants, the sludge can be used for agricultural purposes, or has to be disposed off as a dangerous waste. In no case, sludge can be released to water bodies.

188. The State administration can create conditions for a step-by-step implementation of the regulations regarding the wastewater treatment plant's equipment and emissions. The issued permission can contain a schedule for a step-by-step achievement of target concentration values and the treatment efficiency of the wastewater treatment plant. Priorities identified on the basis of impact assessment of pollution resources on the status of recipient should be taken into account.

189. State subsidies and bank loans can be used to equip the relevant municipalities with the sewerage systems and wastewater treatment plants. To facilitate this, Parties can develop a programmes for municipal pollution reduction containing inventories of municipal wastewater resources, measures to be implemented, respective implementation deadlines, costs needed as well as funding resources.

3. Example

Box 21. Municipal wastewater treatment under European Union regulations

EU regulations[57] require that all municipal wastewater from settlements > 2000 PE[58] should be collected to sewerage systems and at least biologically treated before discharge to surface waters. Limits for emissions of treated wastewaters are:

Indicator	Concentration (mg O_2/l)	per cent of reduction
BOD_5[59]	25	70-90
COD_{Cr}[60]	125	75

According to the status of recipient waters,the nitrogen and phosphorus removal is recommended for wastewater treatment plants with > 10,000 PE. The following results in treated wastewater are foreseen:

Indicator	10,000 – 100,000 PE Concentration (mg/l)	> 100,000 PE Concentration (mg/l)	per cent of reduction
P_{total}[61]	2	1	80
N_{total}[62]	15	10	70-80

The same requirements can be found under the "Recommendation concerning the Treatment of Municipal Waste Water" developed and approved by the International Commission for the Protection of the Danube River (ICPDR).

As a result of the National Policy Dialogue under the EU Water Initiative, the Republic of Moldova, as a member of the ICPDR, has adopted the new Government Regulation № 1141 of 10 October 2008 on the conditions of discharges of wastewater from municipal wastewater treatment plants into natural water bodies. The values for BOD, COD, P and N correspond to those of EU Directive on urban wastewater treatment[63]. The value for suspended solids were also set (35 mg/l, corresponding to 90 per cent reduction), as in the Directive, but taking into account national specificity.

K. Article 3, paragraph 1 (g) - Appropriate measures and best environmental practices are developed and implemented for the reduction of inputs of nutrients and hazardous substances from diffuse sources

Article 3 (1 (g))

1. To prevent, control and reduce transboundary impact, the Parties shall develop, adopt, implement and, as far as possible, render compatible relevant legal, administrative, economic, financial and technical measures, in order to ensure, inter alia, that:
…

[57] Council Directive 91/271/EEC of 21 May 1991 concerning urban waste-water treatment.
[58] Population Equivalent: the organic biodegradable load having a five-day biochemical oxygen demand (BOD_5) of 60 g of oxygen per day.
[59] Biological oxygen demand.
[60] Chemical oxygen demand.
[61] Total phosphorus.
[62] Total nitrogen.
[63] Council Directive 91/271/EEC of 21 May 1991 concerning urban wastewater treatment.

(g) Appropriate measures and best environmental practices are developed and implemented for the reduction of inputs of nutrients and hazardous substances from diffuse sources, especially where the main sources are from agriculture (guidelines for developing best environmental practices are given in annex II to this Convention);

1. Background explanation, analysis and clarification

190. Diffuse inputs into groundwater and surface waters are to be avoided wherever possible or widely reduced by taking appropriate measures and following best environmental practice (e.g. good professional practice in agriculture)[64]. "Best environmental practice" constitutes the most appropriate combination of measures that lead to minimizing or eliminating inputs from pollution sources. Appropriate measures mean application of current scientific knowledge in the field of agricultural practice. The concept implies the implementation of measure or combination of measures that will achieve an improvement and/or reduction of nutrient emission as well as hazardous substances input in the most cost efficient way, and considering the influence of time scale in assessing the ecological effects. "Best environmental practice" for a particular source will change with time in the light of appropriate combination of measures, economic and social factors, as well as changes in scientific knowledge and understanding. Application of the best environmental practice should not result in any increase in pollution in other areas or in other parts of the environment or any increased risk to human health or living resources in countries where the environmental regulations are less stringent. If the reduction of inputs resulting from the use of best environmental practice does not lead to environmentally acceptable results, additional measures need to be applied.

191. Nutrient enrichment of fresh waters might also derive from atmospheric deposition of NOx –N and NHy –N through the agricultural nitrogen cycle. Inputs of nitrogen may lead to indirect formation of nitrous oxide after nitrogen leaching or run-off, or following gaseous losses from ammonia volatilization and emission of nitric oxide (NO) through nitrification after fertilizer is applied to fields and consecutive deposition of NOx and ammonia.

192. Diffuse sources of pollution mainly come from an extensive area but in some cases like small point sources (household septic tanks which are not connected to sewerage system) can be also considered as diffuse sources.

193. Besides pesticides used in agriculture, badly managed landfills and contaminated industrial sites can also be important diffuse sources of hazardous substances.

2. Minimum requirements to comply with the provision

194. All Parties have to take systematic action to counter soil degradation, to record the state of the soil and to implement preventive measures. Parties themselves should draw up programmes of measures. They have to define areas where there are specific risks for the soil,

[64] Two specific publications developed under the Convention offer a detailed guidance on this issue: Protection of Water Resources and Aquatic Ecosystems; Water Series No.1 ECE/ENVWA/31, United Nations, New York, 1993; and Recommendations to ECE Governments on the protection of inland waters against eutrophication, 1992 (ECE/CEP/10).

e.g. erosion, loss of humus content, compaction, salinization and landslides, and to set targets to reduce the risks and draw up measures to achieve these targets. In addition, to prevent the further accumulation of toxic substances in soils, Parties should draw up inventories of contaminated sites and existing waste, former industrial sites and deposits, as well as on soils with high toxic contents. Moreover, instruments for promoting environmentally appropriate farming methods are to be applied consistently and brought into line with the imperatives of groundwater protection.

195. Important aspects are limits for toxic substances in soils and their application.

196. Examples of measures to be developed and implemented include:

(a) Afforestation of agricultural land;

(b) Avoiding spreading fertilizer and manure at high risk time and in high risk areas;

(c) Measures that involve different application techniques of manure;

(d) Increase the diversity of crops in rotation;

(e) Restrictions of agricultural activities on slopes to avoid erosion and run-off;

(f) Restoration/protection of wetlands;

(g) Conversion from conventional to organic production;

(h) On farm advice/extension services[65];

(i) Rules for pesticides and herbicides application;

(j) Landfills management (use of landfills only for relevant waste; protection against leaching; closure down);

(k) Remediation of old industrial contaminated sites.

3. Examples

Box 22. Reduction of diffuse from non-agricultural sources in the Netherlands

The Netherlands has adopted a generic policy for dealing with measures for the reduction of diffuse sources from non-agricultural activities, liable to cause pollution. Different public authorities at the central (ministries) and local (provinces, municipalities, water boards) governmental level have drawn up the so called *Uitvoeringsprogramma diffuse bronnen waterverontreiniging*, an Implementation Programme for dealing with diffuse sources of water pollution. The Programme was drawn up in order to give effect to article 11 (3 (h)) of the EU WFD and was presented to the Dutch Lower Chamber of

[65] Informal adult education, including both formalized training programmes as well as coaching, mentoring and counselling practices.

Parliament by the Minister for the Environment in December 2007.

The Implementation Programme consists of a three-tier approach applicable to the so-called problematic substances for the purpose of achieving the environmental objectives of the EU WFD:

No further action: this deals with a category of problematic substances that in some cases were banned a long time ago, occur as a diffuse source from polluted soil or occur naturally in raw material such as cadmium or ore. For this category of substances all applicable cost-effective measures have already been taken and for the moment the implementation policy is that not much more can be achieved in reducing the emissions.

Action required at the European level: this refers to a category of problematic substances where source reduction is possible but primarily require European action in the adoption of preventative and control measures in view of attaining a level playing field. Examples of these substances: polycyclic aromatic hydrocarbons (PAHs) in car tires, emissions from traffic and transport, copper and zinc in animal feed.

Action required at the national level: the main focus of the Implementation Programme lies with this third category of problematic substances. A variety of measures have been formulated aiming, inter alia, at reducing emissions from chemical weed control (herbicides) on hard surfaces in public and private areas, restricting emissions from commercial and recreational shipping, reducing metal emissions from building materials and infrastructure (e.g. crash barriers, overhead wiring, roof gutters and roof coverings), limiting the use of and the emissions from pharmaceutical drugs in animals and reducing emissions to surface waters from pharmaceutical drugs in humans.

Box 23. Modelling nutrient emissions in river system

The MONERIS (Modelling Nutrient Emissions in River System) model was applied to estimate the nutrient emissions into the in Danube River basin by point sources and diffuse pathways. The model is based on data river flow and water quality as well as a geographical information system (GIS), which includes digital maps and extensive statistical information.

Whereas point emissions from wastewater treatment plants and industrial sources are directly discharged into the rivers, diffuse emissions into surface waters are caused by the sum of different pathways, which are realized by separate flow components. The separation of the components of diffuse sources is necessary, because nutrient concentration and relevant processes for the pathways are mostly very different. Seven pathways are considered:

- Point sources (discharges from municipal wastewater treatment plants and direct industrial discharges)
- Atmospheric deposition
- Erosion
- Surface run-off
- Groundwater
- Tile drainage
- Paved urban areas.

Along the pathways from the sources of emission into the river, substances undergo manifold processes of transformation, retention and loss. Knowledge of these processes is necessary to quantify and to predict nutrient emissions into the rivers in relation to their sources. The establishment of a harmonized database, the application and the adaptation of the model to the special conditions in the Danube River

basin represented main tasks.

First results were elaborated by the Federal Environmental Agency in Berlin and published in 2003. Danube countries obtained results on nitrogen and phosphorus emissions via various pathways, their contributions to the total emissions for the Danube and the share of the countries within the Danube River basin for the period 1998–2000 (tons/year; percentage).

For each country, the analyses contained information on:

• Diffuse sources of nitrogen and separate information about diffuse sources of phosphorus
  - Content in groundwater, tile drainage, erosion, surface run-off, atmospheric deposition, urban areas and sum of the diffuse sources for the nutrient
  - background concentrations
  - agricultural diffuse sources
• Point sources of nitrogen and separate information about point sources of phosphorus
• Sum of all sources

At present an updated version is in the finalization stage. It is possible to use the MONERIS model as a tool for nutrient reduction in the river basin management plans.

For good results, it is necessary to have enough and reliable data and trained experts in the countries to work with the model. Thus, experts from the Danube basin countries were recently trained. They will use this model to propose scenarios for nutrient reduction.

L. Article 3, paragraph 1(h) – Application of environmental impact assessment and other means of assessment

Article 3 (1(h))

1. To prevent, control and reduce transboundary impact, the Parties shall develop, adopt, implement and, as far as possible, render compatible relevant legal, administrative, economic, financial and technical measures, in order to ensure, inter alia, that:
…
(h) Environmental impact assessment and other means of assessment are applied;

1. Background explanations, analysis and clarification

197. The requirement for Parties to undertake an EIA, or other means of assessment for activities likely to have transboundary impact, is in itself an important element within the whole range of the “appropriate measures” that Parties are to adopt for the purpose of preventing, controlling and reducing such an impact under article 2 (1) of the Convention. The whole process of environmental impact assessment enhances public participation and transparency in the authorization of projects likely to have adverse effects on waters and enables public authorities to adopt better informed decisions implementing the substantive obligations of prevention. This is the rationale of the procedural requirement of the EIA. The adoption of national legislation requiring EIA within an authorization regime is a necessary condition for the implementation of EIA also at the international level between riparian States, possibly with the

participation of the relevant joint body, where established under article 9 (2(j)) of the Convention.

198. The relevance and rationale of EIA as an appropriate tool associating precaution with prevention[66] are substantiated by various authoritative international documents. Principle 17 of the Rio Declaration provides that "EIA, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority". Having specific regard to transboundary impact, reference should be made to article 7 of the ILC 2001 Draft Articles on international liability for injurious consequences arising out of acts not prohibited by international law[67], and with specific regard to international watercourses, to article 12 of the New York Convention[68]. Within the UNECE context, specific reference is to be made to the Espoo Convention, whose transboundary scope of application is not confined to international waters. It may be noted that the latter Convention, not only establishes, in its article 2 (3), the obligation for States to undertake EIA in case of planned activities likely to have transboundary impact, but also provides for a comprehensive framework for the participation in the process by the potentially affected Party before adoption of the final decision by the Party of origin. The Espoo Convention provides a parameter for reference for the implementation of EIA which is directly legally binding for those Parties of the Water Convention that are also Parties to it. It can nonetheless provide legal guidance in the field also for those Parties of the Water Convention that are not Parties to the Espoo Convention. Such guidance is likely to become indirectly binding also for non-Parties to the Espoo Convention insofar its standards become general practice customarily followed, at least at the pan-European level.

199. Within the UNECE conventional practice, and for the Parties to the Espoo Convention, EIA applies to the project level of activities likely to have transboundary impact (article 2 (7) of the Espoo Convention). The preparation and adoption of plans and programmes and, to the extent appropriate, policies and legislation, is subject to strategic environmental assessment (SEA), provided for by the SEA Protocol, adopted in 2003 (see also SEA Directive[69]). While the SEA Protocol is not yet in force, SEA is relevant nonetheless for the implementation of article 3 (1(h)) of the Water Convention, insofar as it falls within the scope of the expression "other means of assessment" contained in the provision under review.

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[66] International Law Commission, Report of the fifty-third session (2001), doc. A/56/10, Draft Articles on international liability for injurious consequences arising out of acts not prohibited by international law, commentary under art. 7 (4).

[67] "Any decision in respect of the authorization of an activity within the scope of the present articles shall, in particular, be based on an assessment of the possible transboundary harm caused by that activity, including any environmental impact assessment" (Doc. A/56/10).

[68] "Before a watercourse state implements or permits the implementation of planned measures which may have a significant adverse effect upon other watercourse States, it shall provide those States with timely notification thereof. Such notification shall be accompanied by available technical data and information, including the results of any environmental impact assessment, in order to enable the notified States to evaluate the possible effects of the planned Measures".

[69] Council Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment.

200. Article 3 (1(h)) on EIA is instrumental in the application of article 9 (2(j)), of the Convention, insofar as article 9 (2(j)) provides that joint bodies may participate in the implementation of EIA relating to transboundary waters. It may also facilitate the application of article 9 (2(h)), entrusting such joint bodies with the task of serving as a forum for the exchange of information on existing and planned uses of water and on related installations that are likely to cause transboundary impact.

2. Minimum requirements to comply with the provision

201. Parties to the Convention should adopt national legislation introducing an authorization regime for activities likely to cause impact on transboundary waters, within which EIA should be a precondition for receiving authorization. For Parties to the Espoo Convention, the scope of application of the provision under review encompasses the activities mentioned in appendix I to the Espoo Convention, as well as the activities to be identified according to the general criteria contained in appendix III of the same Convention.

202. Even though Parties are not bound by the SEA Protocol – either due to its non-entry yet into force or, after its entry into force, if they do not become Parties to it – or by the SEA Directive, they should endeavour to take into consideration SEA for the authorization regime concerning plans and programmes of activity falling under the scope of the Water Convention, in line with the article under review and in conjunction with the general obligation to take "all appropriate measures" of prevention under article 2. The scope of application of SEA should encompass plans and programmes which set the framework for projects listed in annex I of the SEA Protocol, as well as projects to be identified according to the general criteria contained in annex III of the SEA Protocol. Of particular assistance in the identification of the latter may be the water-specific projects mentioned in annex II of the SEA Protocol[70].

203. Parties should designate one, or more, competent national and local authorities in charge of the authorization regime within which they are to evaluate the relevant EIA or SEA studies. The contents of the EIA or SEA documentation should encompass, as a minimum, the elements set out in appendix II to the Espoo Convention or (for plans and programmes and, to the extent appropriate, policies and legislation) those in annex IV to the SEA Protocol.

204. The Party under whose jurisdiction an activity, plan or programme likely to cause transboundary impact is proposed, should notify them to the riparian Party likely to be affected, and if the latter so wishes, submit to it the EIA documentation. Consequently, the Parties involved should enter into consultations with each other in accordance with the relevant provisions of the Espoo Convention for Parties to it, or taking into account those provisions, for non-Parties to the Espoo Convention (as well as article 10 of the SEA Protocol for plans and programmes and, to the extent appropriate, policies and legislation).

205. Parties should ensure public information and participation in the EIA procedure, or the SEA procedure, if adopted, taking into account the standards set out in the Aarhus Convention, in article 3 (8) of the Espoo Convention and, where applicable, in article 10 of the SEA Protocol.

[70] See, for instance, its paragraphs 3, 6, 14, 20, 71, 77, 78, 79, 80 and 82.

3. Example

Box 24. International environmental impact assessment of the Rosia Montana gold mining project (Romania-Hungary)

The Rosia Montana Gold Corporation, a Canadian-Romanian joint venture, initiated in 1998 the opening of an open-cast gold mine at Rosia Montana (Verespatak), Romania. The total surface area of the project would extend to 1278 hectares in the upper catchment area of the Mureş/Maros River, a major tributary of the Tisza River. The mine would use during ore processing cyanide to extract gold mainly from quarry material, a technology similar to the one that caused a major ecological disaster in Baia Mare (Nagybánya) in 2000, but allowing to release a lower cyanide concentration into the tailing pond. The tailings would be stored in a tailing management facility of 185 m high rockfill dam with a potential risk to cause pollution.

Hungary has joined in the international environmental impact assessment procedure under the Espoo Convention in 2007 and forwarded a set of questions and critical remarks on the project. Based on the additional information and answers from the investor, Hungary is not supporting the implementation of the project as it would bear potential environmental risk.

While no conclusive decision has been taken over the opening of the mine at the time of the drafting of this Guide, the Espoo procedure has proved to be an important and useful tool to identify the major contentious issues and to clarify some of the differences surrounding the project.

M. Article 3, paragraph 1 (j) – Contingency planning

Article 3 (1 (j))

1. To prevent, control and reduce transboundary impact, the Parties shall develop, adopt, implement and, as far as possible, render compatible relevant legal, administrative, economic, financial and technical measures, in order to ensure, inter alia, that:
…
(j) Contingency planning is developed;

1. Background explanations, analysis and clarification

206. The general objective of a contingency plan is to organize an effective response in case of emergency situations with impact to water quality, water regime and water-related aquatic ecosystem and to facilitate cooperation, where relevant at transboundary level, throughout all phases of emergency situations: prevention, preparedness, response and restoration/remediation.

207. Contingency plans are being developed to respond to one or more of the following emergency situations: a technical failure; accidents involving hazardous substances; natural disasters as floods, ice hazards and droughts; extreme weather conditions; sabotage on installations; or any other emergency situation.

208. It is important to stress that the obligation of the Parties to develop contingency planning should be read in conjunction with their obligation to inform each other without delay about any critical situation that may have transboundary impact and to set up and operate warning and

alarm systems under article 14.[71] In addition, the related obligations under the Water Convention should be read together with the requirements on contingency planning set out by the Industrial Accidents Convention.

2. Minimum requirements to comply with the provision

209. A consolidated contingency plan should include:

(a) An internal contingency plan, elaborated by an operator and being applicable only at national level and;

(b) An external contingency plan, elaborated by the responsible authorities and being applicable at the national level and, as relevant, at the transboundary level. The operator should secure full cooperation with the competent authorities (e.g. water directorates' intervention units, fire brigades, etc.) and their access to facilities during the emergency situation. Therefore, even if in a transboundary context, only an external contingency plan is considered, an internal contingency plan is an important starting point for developing any external contingency plan.

210. The following options for developing transboundary contingency planning can be considered:

(a) A plan adopted jointly by countries sharing the same river basin; and;

(b) Plans developed by individual riparian countries with their provisions being harmonized directly or through a possible separate agreement. A transboundary contingency planning can be developed within the existing settings of transboundary cooperation (e.g. river basin commissions, meetings of plenipotentiaries for transboundary waters) or as a subject of a stand-alone agreement specifically dedicated to contingency planning and adopted by riparian countries.

211. Parties shall, by means of exchange of information, consultation and other cooperative measures, develop and implement policies and strategies for reducing the risks of extraordinary transboundary impact on water and water-related ecosystem and continuously improve measures for prevention, preparedness, response and restoration/remediation in case of emergency situation. Parties should develop legislative provisions or guidelines concerning safety measures and safety standards. Parties should establish and maintain intervention sites[72] for the mitigation of the effects of accidental water pollution and inform the other riparian countries about them.

212. Parties should identify competent authorities at the national, regional and local levels that are given access to the necessary competences for the tasks foreseen. Each Party should designate a national authority to be responsible for official communication on its behalf.

[71] See commentary to article 14.
[72] An intervention site is the location of intervention teams, equipments, technical support and other resources for prompt mobilization in order to alleviate the effects of a disaster during the first hours and days.

213. Parties should provide leadership and create minimum administrative obstacles and facilitate the development and implementation of contingency plans for their national and transboundary river basins. Competent authorities should review, test, revise and update the external contingency plans on a regular basis according to their country's national legislation.

214. Parties should ensure that operators are obliged to take all measures necessary for:

(a) Safe operation of hazardous activities;

(b) Prevention of industrial accidents and natural disasters with transboundary effects, and;

(c) Effective cooperation with the competent authorities.

215. Riparian Parties should aim at drawing up a joint contingency plan for the river basin concerned in order to facilitate the effective implementation of adequate measures. Otherwise, Riparian Parties should inform each other of their contingency plans through designated authority, ensure that plans' provisions are harmonized and agree on the mechanism for implementing them in a coordinated way. Transboundary contingency plans should be in line with the national legislations of the respective Riparian Parties and take into consideration natural conditions and socio-economic situation in the basin concerned.

216. A transboundary contingency plan should be concise and easy-to-follow, and should describe practical steps to be taken throughout all phases of an emergency situation. It should contain clear water quality and water quantity evaluation criteria, list of competent authorities and contacts of the focal point, and templates on data to be completed by the responsible officer. It should provide for methodology for assessment and monitoring of waters, as follows: either Riparian Parties use the same water monitoring systems and agree on joint methodology or each Party uses its own water monitoring systems and applies its own methodology, which are then harmonized through a clear guidance. To facilitate communication and overcome a possible language barrier, countries may consider developing a system of unified notification forms. Contingency plans should provide clear rules of procedure for public information and public involvement.

3. Example

Box 25. Harmonized accidental water pollution response plan for the Körös/Crisuri and Berettyo/Barcau watersheds (Hungary/Romania)[73]

As countries sharing the Danube River basin, Hungary and Romania are part of the Accidental Emergency Warning System (AEWS) in the framework of the International Commission for Protection of Danube River (ICPDR).
Both Hungary and Romania are Parties to the Industrial Accidents Convention, which lays down the notification principles for industrial accidents with transboundary effects.

[73] Based on the "Harmonized accidental water pollution response plan for the Körös/Crisuri and Berettyo/Barcau watersheds" report (KSZI).

Cooperation between Hungary and Romania is regulated by a bilateral transboundary river agreement. Joint projects are been implemented aiming at strengthening accidental pollution prevention and response capacities.

The "Transboundary River Basin Management of the Körös/Crisuri River, a Tisza/Tisa sub-basin" Project, successfully implemented between 2005 and 2007, aimed to enable Hungarian and Romanian authorities to implement a sustainable development policy in the basin, using the balanced management of water resources, meeting the users' needs and preserving ecosystems and aquatic environments. The project included the application of the EU WFD through different work packages. One such work packages dealt with contingency planning. The national administrations (e.g. the Ministries of Environment, regional directorates) of both countries were involved. The International Office for Water (IOW) supported the project.

The necessity of the elaboration of a jointly harmonized contingency plan for the Berettyó/Barcau watershed became clear after the accidental discharges of oil products in 1994. In June 1999, the Romanian and Hungarian experts reached an agreement regarding the most critical problems, and in the preparatory phase they established the basic elements of the plan.

The general objective of the project was to prepare a cohesive, harmonized contingency plan for the entire Berettyó/Barcau watershed, taking into account international best practices of response to transboundary pollution events. In the course of compilation of this harmonized accidental water pollution prevention and response plan, existing contingency plans, water quality monitoring systems, surface and sub-surface water quality status and the water uses which might be affected by accidental pollution were considered. In addition to the list (inventory) of potential accidental water pollution sources in both countries was elaborated.

The plan should have been an analysis of the present practices, with a view to harmonizing them between the countries. This plan will form a basis when practical guidelines, e.g. water monitoring and accident management, are elaborated and will make the cooperation between the regional bodies of the Hungarian and the Romanian authorities more effective in accordance with the joint decision.

In terms of the project's results, regular training sessions on accidental pollution response for all Hungarian water directorates are being organized, with experts of the neighbouring water directorates and environmental inspectorates also invited.

A further result, in the framework of a PHARE project related to the development of certain elements of the EU WFD, is an accidental water protection training centre, which is also under development.

N. Article 3, paragraph 2 – Emission limits for discharges from point sources into surface waters based on the best available technology

Article 3 (2)

2. To this end, each Party shall set emission limits for discharges from point sources into surface waters based on the best available technology, which are specifically applicable to individual industrial sectors or industries from which hazardous substances derive. The appropriate measures mentioned in paragraph 1 of this article to prevent, control and reduce the input of hazardous substances from point and diffuse sources into waters, may, inter alia, include total or partial prohibition of the production or use of such substances. Existing lists of

such industrial sectors or industries and of such hazardous substances in international conventions or regulations, which are applicable in the area covered by this Convention, shall be taken into account.

1. Background explanations, analysis and clarification

217. For point sources, Parties shall use the best available technology in order to minimize or eliminate inputs to water.

218. The Convention defines in its annex I that best available technologies imply the latest stage of development of processes, facilities or methods of operation which indicate the practical suitability of a particular measure for limiting discharges, emissions and waste. Furthermore, the Convention specifies considerations to be taken into account for determining whether a set of processes, facilities and methods of operation constitute best available technology. One of the important issues addressed is the economic feasibility.[74]

219. Article 3 (2) contains an important reference to "existing lists of such industrial sectors or industries and of such hazardous substances in international conventions or regulations, which are applicable in the area covered by this Convention". In fact, this is the only provision in the Convention alluding to obligations under other relevant international conventions.

220. Clearly, such "applicable" international conventions and regulations encompass primarily those instruments, which deal with fresh water pollution from point and diffuse sources, including both basin-wide treaties and activity or substance-specific agreements. Some multilateral agreements such as the Danube River Protection Convention – in addition to general obligations – also contain technical annexes, which address certain issues that require further elaboration. Thus, annex II "Industrial sectors and hazardous substances" of the Danube River Protection Convention includes a list of industrial sectors and industries, and a guiding list of hazardous substances and groups of substances, the discharge of which from point and non-point sources must be prevented or considerably reduced. An example of a pollutant-specific agreement is the 1976 Convention on the Protection of the Rhine against Pollution by Chlorides and the Additional Protocol of 1991.

221. International conventions, mentioned in article 3 (2), are not limited exclusively to fresh water resources. Legal instruments dealing with land-based marine pollution are equally important in this respect. A number of such agreements exist in the area covered by the Water Convention. These include in the first place regional seas conventions, protocols and other instruments, such as plans of actions, for the Arctic, Black, Baltic, Caspian, Mediterranean and the North Sea and North Atlantic.

222. Most of these agreements contain lists of potentially harmful activities and dangerous substances. For example, the 1996 Mediterranean Protocol on Land-Based Sources and Activities[75] identifies (annex I) sectors of activities and categories of substances that must be

[74] See also commentary to article 3 (1 (c) and (f)).
[75] Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources and Activities as amended in Syracuse, 7 March 1996.

taken into account in the preparation of action plans, programmes and measures for the elimination of pollution from land-based sources and activities. A similar list is included in an annex to the 2009 Black Sea Protocol on Land-Based Sources and Activities.

223. Along with conventions, article 3 (2) refers also to "regulations". The latter could be interpreted as a rather broad range of instruments by which governing institutions impose obligations and constraints on public and private sector behaviour. Most of the regional sea conventions create institutional mechanisms entrusted with the task of adopting various binding and non-binding instruments. Thus, the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Commission) adopts binding decisions as well as recommendations on a wide spectrum of issues including control of pollution from point and diffuse sources. One such instrument, for example, is the OSPAR decision 98/4 on Emission and Discharge Limit Values for the Manufacture of Vinyl Chloride Monomer (VCM) including the Manufacture of 1,2-dichloroethane (EDC). The OSPAR Commission makes recommendations on measures to address pollution sources or areas of concern. These recommendations are to be implemented by the Contracting Parties through their national legislation.

2. Minimum requirements to comply with the provision

224. Parties shall define the emission limit values for discharges from point sources.[76]

225. Parties have to aim at limiting discharges in relation to the respective branches of industry, by applying active parameters and where is necessary by respective parameters for specific substances.

226. Parties have to set limit values for amounts and quality (load and concentration) of direct and indirect discharges and emissions; the emission limit values can be set for certain groups or categories of substances.

227. Limit values for emissions containing harmful substances to water have to be stated in special permits or require an official license.

3. Example

Box 26. Wastewater ordinance in Germany

Since 1976 in Germany, minimum nationwide requirements are applied to the discharge of wastewater into water bodies and hence to the incidence, avoidance and treatment of wastewater, under the Federal Water Act. Since 1996, these minimum requirements have been based on the best available technology, i.e. the permissible pollutant load depends on how emissions into the water may be minimized by the respective industry by complying with technically and economically practicable progressive processes. This applies to direct discharges. In 1986, a uniform nationwide regulatory framework was adopted for

[76] The following directives of the Council of the European Communities may serve as examples. Council Directive 91/271/EEC of 21 May 1991 concerning urban waste-water treatment; Council Directive 96/61/EC of 24 September 1996 concerning integrated pollution prevention and control; Directive 76/464/EEC of 4 May 1976 on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community and its daughter directives.

indirect discharges. Since 1996, rather than being prescribed in administrative provisions, the minimum requirements are now set out in the form of a statutory ordinance adopted by the Federal Government. The relevant statutory ordinance, the Wastewater Ordinance, was enacted by the Federal Government in March 1997; since then, the existing rules of the administrative guidelines for wastewater for the various industries have been continuously incorporated into the ordinance. The uniform nationwide definition of best available technology for wastewater discharges represents an important contribution towards simplifying procedures while maintaining a high standard of environmental protection.

To date, some 53 industry-specific annexes have been added to the Wastewater Ordinance. Annex 1 to the Wastewater Ordinance applies to domestic and municipal wastewater, while the remaining annexes concerns individual segments of commerce and industry. For example, annex 38 regulates the requirements pertaining to wastewater from textile manufacturing and textile finishing plants.

O. Article 3, paragraph 3 - Water-quality criteria and objectives

Article 3 (3)

3. In addition, each Party shall define, where appropriate, water-quality objectives and adopt water-quality criteria for the purpose of preventing, controlling and reducing transboundary impact. General guidance for developing such objectives and criteria is given in annex III to this Convention. When necessary, the Parties shall endeavour to update this annex.

1. Background explanations, analysis and clarification

228. It is important to note that article 3 (3) starts with the phrase "In addition…", thus referring to article 3 (1 and 2), related to the setting of emission limits for discharges. Thus, the Convention embeds a "combined approach" of setting emission limits and agreeing on the quality of receiving waters.

229. The concept of water-quality criteria and objectives emerged in the 1980s. Shortly after the adoption of the Convention, the then Signatories developed detailed guidance and drew up *Recommendations to UNECE Governments on Water-Quality Criteria and Objectives*[77] which were finally endorsed at the first session of the Meeting of the Parties (Helsinki, 1997). EU Member States, when drawing up the EU WFD, have further developed the concept of water-quality criteria and objectives, including obligations as to compliance with water-quality and ecological objectives. Moreover, the Protocol on Water and Health to the Water Convention requires Parties to set water-quality objectives (in this instruments referred to as targets), inter alia, for water quality in surface and groundwaters.

230. Water-quality criteria represent minimum concentration levels for oxygen and maximum concentration levels for substances in water that do not harm a specific single form of water use (e.g. drinking water use, use of water for livestock watering, irrigational water use, water use for recreational purposes, use of water by aquatic life). These are the results of scientific work (e.g. the outcome of laboratory toxicity tests, usually lowered by a safety factor of 10 to 1,000 to account for uncertainties). In principle, they are valid for all countries, although adaptations are

[77] See part II of Water Series N.1 (ECE/ENVWA/31).

sometimes necessary to account for specific country's water use patterns and/or prevailing human behaviour. A prominent example of water-quality criteria is the work conducted under the auspices of the World Health Organization related to the quality requirements of drinking water.

231. Water-quality objectives (also referred to as chemical and ecological objectives under the EU WFD as well as targets under the Protocol on Water and Health) need to be developed because water in river basins is used at the same time for multiple purposes. Water-quality objectives are based on the above-mentioned criteria, but they are the result of a negotiation process among stakeholders (including economic/financial considerations, and accompanied by a time frame for compliance), within UNECE countries (Water Convention and the Protocol on Water and Health) or at the EU level (e.g. the EU WFD, the Drinking Water Directive[78]). For ecological objectives EU WFD gives only qualitative indicators.

2. Minimum requirements to comply with the provision

Water-quality criteria

232. Parties to the Convention should examine the applicability of existing water-quality criteria (before embarking on further research), particularly those related to drinking water use, re-use of wastewater for irrigation, use of sludge in agriculture and the maintenance of aquatic life. This should become part of the national or international regulations and recommendations.

Water-quality objectives

233. EU Member States[79] are bound by the provision of the EU WFD, which is a piece of legislation that complies with the requirements of the Convention. Currently, there seems to be no need for further action by these countries apart from those stipulated in that Directive and such related directives as the Groundwater Directive[80].

234. Other UNECE countries have also set water-quality objectives. Practice in many cases shows however that these objectives are based on unrealistic assumptions and fail to be complied with. For non-EU countries, it is advisable to follow the *Recommendations to UNECE Governments on Water-Quality Criteria and Objectives*. Moreover, they could also consider using the provisions of the EU WFD, although adaptations are needed to account for the technical, economic and financial capacity of the respective non-EU countries to comply with them. A number of countries in Eastern Europe, Caucasus and Central Asia (EECCA) are in the process of revising currently their systems for water-quality classification[81].

[78] Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption.
[79] For non-EU Parties it should be highlighted that the EU system of water quality standards and objectives does not strictly follow the distinction of "criteria" and "objectives" of the Convention and the guidance provided in the "Recommendations to UNECE Governments on Water-Quality Criteria and Objectives". Moreover, this system is under reconsideration as the Water Framework Directive has set a timetable for a comprehensive revision of all standards and the replacement of pre-existing legislation by 2013.
[80] Directive 2006/118/EC of the European Parliament and of the Council of 12 December 2006 on the protection of groundwater against pollution and deterioration.
[81] In EECCA countries, the so-called maximum allowable concentrations (MAC; in Russian - ПДК) of substances in water are used as water-quality objectives. These MAC represent "no-risk" water-quality criteria for a single

3. Example

Box 27. Bilateral cooperation and agreement on common criteria and an assessment system by Slovakia with Poland and the Czech Republic prior to application of the EU WFD

Before Slovakia, the Czech Republic and Poland became the members of EU, Slovakia used a similar approach with the two other countries concerning the setting-up of criteria and assessment for transboundary waters. At present, the three countries implement the EU WFD for the assessment of the status of waters, and are finalizing the first assessment based on data from 2007.

Given the long-term cooperation with Poland and an historically identical assessment method shared with the Czech Republic (when the two countries formed Czechoslovakia), there were no significant problems in the cooperation on the assessment of transboundary waters before applying EU WFD (until 2007)..

In the first step of cooperation, experts from both countries selected profiles for sampling water, and agreed on parameters to be monitored in transboundary waters and on the frequency of sampling and dates for common sampling. Analytical methods and reference to their relevant norms and statistical methods for calculation were also agreed.

The following groups of parameters were monitored:

- Parameters of oxygen regime (content of oxygen, saturation by oxygen, COD, BOD_5,…)
- Nutrients ($N\text{-}NH_4^+$, $N\text{-}NO_3^-$,$P\text{-}PO_4^{3-}$, total N, total P….)
- Physical-chemical parameters
- Biological parameters
- Microbiological parameters
- Relevant metals
- Relevant organic pollutants

Parameters, mainly metals and organic substances, were reviewed and updated based on actual needs. Changes in monitoring programmes were decided taking into account water assessment results from previous year(s) and information about new pollution sources, application of pesticides, elimination of pollution sources, etc. Changes in monitoring programmes of transboundary waters were first agreed upon by relevant experts of both countries and subsequently submitted for approval to the Commission for Transboundary Water.

The second step – the assessment of water – was different in the cooperation with Poland and with the Czech Republic.

Bilateral cooperation and agreement on common criteria and assessment system with Poland
Experts compared measured data in both countries for each monitored parameter. In case that compared

form of water use. A striking example is the current development of a new system for water-quality classification in the Republic of Moldova on the basis of a consultative process among ministries of environment and health, under a TACIS (Technical Aid to the Commonwealth of Independent States, of the European Commission) project and the National Policy Dialogue process on integrated water resources management. This system, expected to be adopted by the Moldovan Government in the course of 2009, uses MAC values and/or water-quality criteria for some 80 water-quality determinants as class I values, and a set of "negotiated" water-quality objectives for the other classes (classes II–V).

values from the two countries were different, experts agreed on a uniform value. Such set of values for each parameter was statistically handled. The final value determined the designation in water quality classes ranging from I to V (with I as the best quality).This classification system for water assessment was commonly approved. Results of assessment of all parameters were published in a table and analysed and commented on by experts, including with a comparison of results with previous year(s). The assessment of the water quality for a given year was approved by the Commission for Transboundary Water.

Bilateral cooperation and agreement on common criteria and assessment system with the Czech Republic

Data for key water quality parameters (oxygen regime, nutrients, selected physical-chemical parameters) measured in both countries were jointly statistically handled for each monitored parameter and the final value was compared with a "perspective"(desirable) value, which was jointly agreed on the basis of valid national criteria (governmental order) in both countries. The results of assessment of these parameters were published in a table and analysed and commented by experts, including comparison of results with previous year(s). For parameters monitored with a lower frequency (e.g. metals, organic substances) adequate statistical handling was agreed and the results together with comments of experts were also included into the assessment of transboundary water. The assessment of the water quality for a given year was approved by the Commission for transboundary water.

PART II. PROVISIONS RELATING TO RIPARIAN PARTIES

A. Article 9, paragraph 1 – Bilateral and multilateral agreements

Article 9 (1)

1. The Riparian Parties shall on the basis of equality and reciprocity enter into bilateral or multilateral agreements or other arrangements, where these do not yet exist, or adapt existing ones, where necessary to eliminate the contradictions with the basic principles of this Convention, in order to define their mutual relations and conduct regarding the prevention, control and reduction of transboundary impact. The Riparian Parties shall specify the catchment area, or part(s) thereof, subject to cooperation. These agreements or arrangements shall embrace relevant issues covered by this Convention, as well as any other issues on which the Riparian Parties may deem it necessary to cooperate.

1. Background explanations, analysis and clarification

235. Article 9 (1) provides for the obligation for Riparian Parties to enter into agreements, or other arrangements, in order to define their mutual relations and conduct regarding the prevention, control and reduction of transboundary impact. This provision reflects the framework nature of the Convention which establishes basic regulatory and institutional parameters for bilateral and multilateral cooperative activities and measures, in particular between the Riparian Parties, with a view to pursuing the main objective of the Convention. The Preamble of the Convention emphasizes that cooperation between member States concerning the protection and use of transboundary waters is to be implemented primarily through the elaboration of agreements between countries bordering the same waters, especially where no such agreements have yet been concluded.

236. Article 9 should be read and applied in conjunction with article 2 (6). The latter enshrines the general obligation for Riparian Parties to cooperate[82], whereas Article 9 provides the means and framework for implementing the said obligation.

237. The major purpose of article 9 (1) is to facilitate the negotiation of bilateral and multilateral agreements concerning transboundary waters between the Riparian Parties, on the understanding "that optimal utilization, protection and development of a specific international watercourse are best achieved through an agreement tailored to the characteristics of that watercourse and to the needs of the States concerned"[83].

238. The fact that article 9 (1), provides that it is mandatory to enter into … "agreements or other arrangements" distinguishes the Water Convention from other international instruments in the field and is considered to be the main added value of the Convention. This obligation, alongside with the requirements to establish joint bodies (art. 9 (2)) and develop institutional cooperation (arts. 2 (6), 10, 11, 12, 13, 14 and 15), makes the Convention a unique instrument and provides for effective mechanism facilitating the implementation of its other provisions.

239. The obligation to enter into agreements or other arrangements exists only for the Riparian Parties with respect to other Riparian Parties, i.e. the Convention does not create such an obligation for the Riparian Parties with respect to States which are not Parties to it. However, article 17 (2 (b)) of the Convention provides that the Parties shall "exchange information regarding experience gained in concluding and implementing bilateral and multilateral agreements or other arrangements regarding the protection and use of transboundary waters to which one or more of the Parties are party" also emphasising that efforts by its Parties to cooperate with non-Parties through the conclusion of agreements or other arrangements would be an important contribution to the prevention, control and reduction of transboundary impact, protection of transboundary waters and the marine environment.

240. The term **"**agreements" refers to formal agreements falling under the scope of application of the 1969 Vienna Convention on the Law of Treaties (Vienna Convention), therefore, they are to be in written form. The words "other arrangements" refer to less formal types of agreements as well as other forms of cooperation and mutual understandings between the Riparian Parties. It is to be stressed that "other arrangements" in no way are to be regarded as non-committal instruments, since several provisions of the Convention (art. 9 (1, 2), art. 11 (1), art. 12, art. 13 (1), art. 17 (2 (b)) refer to "other arrangements" on an equal footing as "agreements", when specifying the obligations of the Parties. "Agreements or other arrangements" may form a part of decisions or of final documents of an international conference, or of a diplomatic bilateral, or multilateral meeting. Reference to "agreements and other arrangements" includes cases in which provisions on transboundary water cooperation are part of a wider agreement on environmental protection or an agreement on economic cooperation.

241. Another important concept enshrined in the first sentence of article 9 (1) is that this particular obligation is meant to be complementary to cooperation agreements made by the Riparian Parties before the Convention entered into force for them. It urges the Riparian Parties

[82] See commentary to article 2 (6).
[83] See the Yearbook of the International Law Commission, 1994, vol. II, (part two), p. 93.

to conclude agreements where these do not yet exist, and it does not require extinction of the existing ones. However, the Convention obliges the Riparian Parties to adapt existing agreements or other arrangements, "where necessary to eliminate the contradictions with the basic principles of this Convention". The reference to "basic principles" should not be read in a restrictive manner, so as to refer only to those provisions which coincide with the recognized principles of international environmental law. Such reference should be read in line with the ordinary meaning of its wording to the effect that the pre-existing water agreements between the Riparian Parties do not contravene the fundamental provisions of the Convention itself. At the same time, reference to the "basic principles" of the Convention avoids the requirement to incorporate every single provision of the Convention in case there is a need to adapt existing agreements to the Convention.

242. Measures to adapt existing agreements or other arrangements may include amendments to the text of existing instruments or adoption of additional protocols, memoranda, etc. It is also possible for the Riparian Parties which already have a transboundary water agreement to enter into a new agreement, for instance in cases where adaptation of the existing one would prove a more complicated process than preparing a brand new one. By virtue of article 31 (3 (c)) of the Vienna Convention, in cases where the existing agreement does not contradict the Convention – while being, however, less explicit than the latter – the Parties to the existing agreement should implement it also taking into account the corresponding provisions of the Convention, as pertinent rules applicable to their relations. In this respect, they should endeavour to take into account the provisions of the Convention in the regulatory framework established by the existing agreement, for instance through agreed minutes drawn up by the relevant joint body and signed by its members, or more formally through protocols.

243. Article 9 includes the following "three musts" in relation to the contents of agreements or other arrangements. First, the Riparian Parties shall specify the catchment area, or part(s) thereof, subject to cooperation. Secondly, the agreements or other arrangements shall embrace relevant issues covered by this Convention, as well as any other issues on which the Riparian Parties may deem it necessary to cooperate. Thirdly, such the agreements or other arrangements shall provide for the establishment of joint bodies.[84]

244. The obligation for the Riparian Parties to specify the catchment area, or part(s) thereof, subject to cooperation (the so-called obligation to define waters) emphasizes the freedom of the Riparian Parties to determine the scope of the agreements or other arrangements they enter into. Even though the Riparian Parties are free to conclude agreements with respect to any part of a transboundary watercourse, it is important to note that the basic provisions and objectives of the Convention can be effectively met only if cooperation extends to all transboundary waters as defined by the Convention. It is also worth stressing that the same waters can be the subject of cooperation under more than one agreement, e.g. when the Riparian Parties conclude an agreement on a tributary of a river subject to another agreement concluded by a larger number of States.

[84] See commentary to article 9 (2).

245. Article 9 also complements article 2 (6), which provides that the Riparian Parties shall cooperate "in order to develop harmonized policies, programmes and strategies covering the relevant catchment areas, or parts thereof, aimed at the prevention, control and reduction of transboundary impact and aimed at the protection of the environment of transboundary waters or the environment influenced by such waters, including the marine environment". Another essential element of a bilateral or multilateral regulatory framework between the Riparian Parties is to be found in article 13 (1) of the Convention, according to which "the Riparian Parties shall, within the framework of relevant agreements or other arrangements according to article 9 of this Convention, exchange reasonably available data". Likewise, articles 11 and 12 provide that the agreements or other arrangements under article 9 should, inter alia, reflect "joint programmes for monitoring the conditions of transboundary waters, including floods and ice drifts, as well as transboundary impact" and "specific research and development activities in support of achieving and maintaining the water-quality objectives and criteria". It is implicit that on the one hand the list of issues mentioned in this paragraph is not exhaustive, while on the other, every agreement or other arrangement concluded between the Riparian Parties should not necessarily contain all of the issues above. However, if this is true with respect to each agreement or arrangement, the overall regulatory framework between such parties should properly address all of the above issues.

246. The words "any other issues on which the Riparian Parties may deem it necessary to cooperate" may encourage the Riparian Parties to expand the scope of their bilateral or multilateral agreements or other arrangements. "Other issues" may, inter alia, include: specific border control regulations for persons serving water installations, special Customs regime for the equipment necessary to conduct repairs at water installations, improvement of legislation, joint capacity-building trainings, restoration of water bioresources, preservation of landscape and cultural heritage and non-confrontational, non-judicial and consultative procedures for reviewing compliance,[85] etc. In relation to the issues of navigation and water quantity, it shall be stressed that the Convention does not exclude these issues from its scope of application. Even though these are not specifically referred to in the Convention, they may cause transboundary impact within the meaning of the Convention and therefore are areas where the Parties may have to take appropriate measures to prevent, control and reduce any transboundary impact. It is also obvious that water quantity is included in the scope of application of the Convention, as water quantity and quality strongly interrelate. It should be also emphasized that, pursuant to article 2 (8), the Parties have the right "individually or jointly to adopt and implement more stringent measures that those set down in the Convention". This means that agreements or other arrangements between the Riparian Parties may lay down for such more stringent standards, according to the so called gold-plating practice.[86]

247. By referring to "equality and reciprocity" in article 9 (1), the Convention emphasizes that such principles[87] should govern the relations between the Riparian Parties from the early stages of their cooperation, in particular at the negotiation stage of an agreement or other arrangement

[85] See *Water management: Guidance on public participation and compliance with agreements* (2000), p. 6 developed under the Convention, available at:http://www.unece.org/env/water/publications/documents/guidance.pdf.
[86] For an explanation of gold-plating practice, see commentary to article 2 (7, 8).
[87] See commentary to article 2 (6).

pursuant to the Convention. It should also be mentioned that negotiations may, in their turn, serve to build mutual trust.

248. The principle of equality also encompasses the relatively common situation when an agreement or another arrangement between the Riparian Parties concerns a part of the transboundary watercourse or a particular project, programme or use relating thereto. In such a case, the principle of equality requires that the use of the waters by one or more other riparian Parties, which are not parties to such an agreement, is not adversely affected to a significant extent by its provisions.

249. Moreover, the absence of bilateral or multilateral agreements or other arrangements between the Riparian Parties, concluded pursuant to article 9 of the Convention, does not relieve them from the obligation to fully implement and comply with the Convention.

250. In order for the Parties to comply with the obligation to enter into agreements or arrangements under article 9, they are required to accept in good faith all communications and contacts which could, by a broad comparison of interests and by reciprocal good will, provide the Riparian Parties with the best conditions for concluding such agreements or arrangements.[88]

2. Minimum requirements to comply with the provision

251. The first steps to implementing article 9 (1) of the Convention are to identify transboundary waters and to scrutinize the existing agreements or other arrangements pertaining to them against the requirements of the Convention. Following such analyses, the Riparian Parties should initiate discussions and start negotiations on the revision of existing agreements or for the conclusion of new ones. To that end, small open-ended working groups involving all relevant stakeholders may be usefully established. Conducting joint studies of transboundary waters and basins may also be conducive to the agreements or arrangements in point. It is important to ensure that existing and new agreements or arrangements include the “three musts” mentioned above.

252. A Party to the Convention should consider action aimed at entering into the agreements or arrangements in point also with riparian States which are not Parties to the Convention.

253. It is recommended that the Riparian Parties define the waters subject to cooperation in accordance with the basin approach and aim at obtaining the participation of all basin countries in the agreements in point. The conclusion of bilateral agreements addressing boundary waters is important; however, all efforts should be made to ensure cooperation on the entire transboundary basin(s). When a basin-wide agreement by all riparian States cannot be reached, cooperation may start from an agreement between only some riparians, with a view to involving eventually all riparians.

254. Intergovernmental organizations may facilitate the dialogue between the Riparian Parties. UNECE, the Meeting of the Parties to the Water Convention, and its secretariat have played and

[88] See commentaries to article 3 of the New York Convention (Yearbook of the International Law Commission, 1994, vol. II, (part two), pp. 93, 95.)

can continue to play a helpful and neutral role in initiating and facilitating the process leading to the conclusion of transboundary waters agreements.

255. The Riparian Parties should consider granting access to the text of draft agreements or of other arrangements to the public and to provide for public participation, including NGOs, in their elaboration. NGOs should be invited to participate in intergovernmental negotiation meetings and to comment on draft agreements.

3. Examples

Box 28. History of bilateral cooperation between the Czech Republic and Austria on transboundary water management

Forty-three percent of the 249-km-long border between the Czechoslovak Republic and Austria was formed by watercourses or water areas. That is why the Agreement between the Czechoslovak Republic and the Republic of Austria governing the technical and economic issues in the Danube River, the Morava River and the Thaya River boundary reaches was signed on 12 December 1928 in Prague and entered into force on 2 September 1930. To implement this Agreement, the Joint Technical Commission was established, which dealt solely with technical and economic issues and management of the Danube, the Morava and the Thaya boundary reaches. This included, in particular, maintaining flow profiles, protection against floods and ice-hazards, and construction of flood control barriers.

Cooperation was interrupted by Second World War. After the end of the war, it continued in spite of the fact that the two countries were on the different sides of the Iron Curtain. It was even extended to cover restoration after floods, navigation, hydrological and hydrographical data exchange and issues regarding quality of water and its protection. The cooperation was also extended on smaller rivers, the Malše River, the Lužnice River and the Upper Vltava River.

The Agreement on Technical and Economic Cooperation on the Danube, the Morava and the Thaya Rivers from 1928 could not cover the ever-growing cooperation between the two States in the field of water management. Therefore, the Convention between the Czechoslovak Socialist Republic and the Republic of Austria on Settlement of Water Management Issues Concerning Transboundary Waters was signed on 7 December 1967 and entered into force on 18 March 1970. For the purposes of executing this Convention, the Czechoslovak-Austrian Commission for Transboundary Waters was established. Of special significance is the provision of this Convention, pursuant to which the transboundary waters include also waters adjacent to the State boundary, where water management measures taken on the territory of one Party could cause major adverse effects on the water conditions in the territory of the other Party. This provision led, for instance, to the fact that the established Commission dealt with effects of water management measures planned on the interior territory of south Moravia, including Nové Mlýny hydroengineering structure and other engineering structures in the Thaya and Morava River basins. Not all proposed projects resulted in reaching a joint agreement and therefore could not to be realized. In addition to technical and economic issues, environmental protection also became of growing importance.

On 1 January 1993, when the Czech and Slovak Federative Republic ceased to exist, the work performed by the Czechoslovak-Austrian Commission for Transboundary Waters continued to be performed by the Czech-Austrian Commission for Transboundary Waters. Given that issues related to transboundary waters, including settlement of costs, were handled by the Czechoslovak-Austrian Commission separately for the Morava River basin, the Thaya River basin, the Upper Vltava River basin (Czech part)

and the Danube River basin (Slovak part), there was no problem with dividing the cooperation in the field of water management between the Czech Republic and the Slovak Republic. The current Czech-Austrian cooperation in the field of water protection has been governed by the subsequent Convention since 1967.

The handling of certain issues was often very difficult. Nevertheless, it has to be emphasized that it was in the interest of both Parties to find an appropriate solution and reach joint agreement. Long-term good cooperation is demonstrated by the fact that the provision on settlement of disputes has never been settled through arbitration court.

Box 29. Implementing the obligation to enter into agreements: the case of the Russian Federation

The Russian Federation shares transboundary waters with both Parties (Azerbaijan, Belarus, Estonia, Finland, Kazakhstan, Latvia, Lithuania, Norway, Poland and Ukraine) and non-Parties (China, Democratic Peoples Republic of Korea, Georgia and Mongolia) to the Convention. The Russian Federation signed the Convention in Helsinki on 18 March 1992 and ratified it on 2 November 1993.

The Russian Federation acted as a successor in a number of agreements concluded by the USSR with its neighbours, e.g. the Agreement between USSR and the Polish People's Republic concerning the use of water resources in frontier waters (1964), the Agreement between Norway and USSR on the utilization of water power on the Pasvik River (1957), the Agreement between the USSR and the Republic of Finland concerning frontier water systems (1964).

In the 1990s the Russian Federation entered into bilateral transboundary water agreements with Kazakhstan (1992), Ukraine (1992), Mongolia (1995) and Estonia (1997). Later, bilateral agreements were signed with Belarus (2002) and China (2008). In some cases, bilateral agreements covered cooperation on specific issues, e.g. the Agreement between the Government of the Russian Federation and the Government of the Republic of Estonia Concerning Cooperation in Protection and Use of Fish Resources in Chudskoye, Teoploye and Pskovskoye Lakes (1994).

As are Belarus and Tajikistan, the Russian Federation is also a Party to the Agreement on General Principles of Interaction in Rational Use and Protection of Transboundary Water Bodies in the States-Participants of the Commonwealth of Independent States (1998).

There is no transboundary water agreement between the Russian Federation and Azerbaijan, where the Samur River is a major transboundary watercourse. Also, there is no transboundary water agreement between the Russian Federation and Georgia.

The Russian Federation participated in the negotiations on the drafts of basin-wide agreements on the Zapadnaya Dvina (Daugava) River (shared with Belarus and Latvia), the Neman (Nemunas) River (shared with Belarus and Lithuania), and the Dnieper (Dnipro) River (shared with Belarus and Ukraine).

**Box 30. Structure of an agreement:
example of the Framework Agreement on the Sava River Basin**

The content of the Framework Agreement on the Sava River Basin (FASRB) represents the most common elements of bilateral and multilateral agreements on transboundary waters. Signed in 2002 by Bosnia and Herzegovina, Croatia, the Federal Republic of Yugoslavia and Slovenia, the FASRB now facilitates cooperation between Bosnia and Herzegovina, Croatia, Serbia and Slovenia on sustainable

development of the Sava River basin. The major objectives of the Agreement are the establishment of an international regime of navigation on the Sava River and its navigable tributaries, ensuring sustainable water management, and the prevention or limitation of hazards.

The agreement consists of a preamble, several parts and two annexes. Part one (General Provisions), includes definitions (inter alia, the definition of the "Sava River basin") and objective of the Agreement. Part two addresses general principles of cooperation. Part three describes the areas of cooperation, such as regime of navigation, sustainable water management, the Sava River Basin Management Plan, and extraordinary impacts on the water regime. Part four provides for the mechanism of cooperation. It describes the mandate and tasks of the Meeting of the Parties and establishes the International Sava River Basin Commission with international legal capacity necessary to exercise its functions. The Commission is empowered to establish a Secretariat. Arrangements to finance the Commission are stipulated in the FASRB. Part five includes dispute settlement provisions. The final provisions in part six address the duration, entering into force, termination of and withdrawal from the agreement, and other final clauses. Annex I is the Statute of the International Sava River Basin Commission. Annex II is an arbitration procedure.

Article 30 and other provisions of the FASRB explicitly prescribe the development by the Parties of protocols for regulating certain areas, therefore providing for a step-by-step approach to intensify cooperation. In addition to the Protocol on Navigation Regime, signed in 2002, four new protocols to the FASRB are being drafted (the Protocol on Transboundary Impacts in the Sava River Basin, the Protocol on Emergency Situations, the Protocol on Floods and the Protocol on Prevention of Water Pollution Caused by Navigation).

Box 31. Where to find bilateral and multilateral agreements

FAOLEX (http://faolex.fao.org/faolex/index.htm) is an online database that contains treaties, laws and regulations, primarily regarding food, agriculture and renewable natural resources, from all over the world. Agreements on transboundary water cooperation occupy an important place in this database, which is supported by the Legal Office of the Food and Agriculture Organization of the United Nations (FAO). Full texts of agreements are usually provided in original language with summaries in English, French and Spanish.

The Transboundary Freshwater Dispute Database (http://www.transboundarywaters.orst.edu/database/) includes nearly 450 international, freshwater-related agreements, covering the years 1820–2007, and other useful information on international river basins. It is a project of the Oregon State University Department of Geosciences, in collaboration with the Northwest Alliance for Computational Science and Engineering.

The CAWATERinfo portal provides a rich electronic library (http://www.cawater-info.net/library/index.htm) of international water-related agreements. The collection benefits from several non-official translations into Russian.

The UNECE publication *Transboundary Water Cooperation in the Newly Independent States* (2003, available online at: http://www.unece.org/env/water/documents/transbwatcoopnis_fin_e.pdf) has a list of bilateral and multilateral agreements in EECCA on transboundary waters.

The UNECE website: (http://www.unece.org/env/water/partnership/part.htm) provides information on bilateral and multilateral agreements and on joint bodies in the UNECE region.

B. Article 9, paragraph 2 - Joint bodies

Article 9 (2)

2. The agreements or arrangements mentioned in paragraph 1 of this article shall provide for the establishment of joint bodies. The tasks of these joint bodies shall be, inter alia, and without prejudice to relevant existing agreements or arrangements, the following:
(a) To collect, compile and evaluate data in order to identify pollution sources likely to cause transboundary impact;
(b) To elaborate joint monitoring programmes concerning water quality and quantity;
(c) To draw up inventories and exchange information on the pollution sources mentioned in paragraph 2 (a) of this article;
(d) To elaborate emission limits for waste water and evaluate the effectiveness of control programmes;
(e) To elaborate joint water-quality objectives and criteria having regard to the provisions of article 3, paragraph 3 of this Convention, and to propose relevant measures for maintaining and, where necessary, improving the existing water quality;
(f) To develop concerted action programmes for the reduction of pollution loads from both point sources (e.g. municipal and industrial sources) and diffuse sources (particularly from agriculture);
(g) To establish warning and alarm procedures;
(h) To serve as a forum for the exchange of information on existing and planned uses of water and related installations that are likely to cause transboundary impact;
(i) To promote cooperation and exchange of information on the best available technology in accordance with the provisions of article 13 of this Convention, as well as to encourage cooperation in scientific research programmes;
(j) To participate in the implementation of environmental impact assessments relating to transboundary waters, in accordance with appropriate international regulations.

1. Background explanations, analysis and clarification

256. Article 9 (2), embodies one of the three mandatory requirements concerning the substance of the bilateral or multilateral agreements or other arrangements in point. It provides for the establishment of joint bodies and it lists their basic tasks. This mandatory provision distinguishes the Convention from basically all other international instruments in the field[89], which either establish joint bodies themselves or mildly recommend institutional arrangements between riparian States. The rationale behind the obligation of establishing joint institutions is that "management of international watercourse systems through joint institutions is not only an increasingly common phenomenon, but also a form of cooperation between watercourse States that is almost indispensable if anything approaching optimum utilization and protection of the systems of waters is to be attained"[90]. The implementation of the said obligation creates a mechanism to help the Riparian Parties to comply with the Convention, therefore, creating

[89] Except for, for example, the 2000 Revised Protocol on Shared Watercourses in the Southern African Development Community (SADC Protocol) – see its article 5.3 (a).
[90] See the Yearbook of the International Law Commission, 1990, vol. II, (part two), p. 44.

mutual advantages for the Riparian Parties involved, promoting further and more effective cooperation.

257. The words “shall provide” found in the first sentence of article 9 (2) of the Convention stand for the direct obligation for the Riparian Parties to establish joint bodies as an essential institutional element of the bilateral or multilateral regulatory framework of cooperation on transboundary waters between them. On the one hand, the establishment of joint bodies is not to be considered the only form of institutional cooperation between Riparian Parties; on the other, the obligation of the Riparian Parties to establish joint bodies in agreements or other arrangements does not mean that every new agreement or other arrangement between Riparian Parties is to establish a new joint body. The Riparian Parties may entrust existing joint bodies to carry out further cooperation under subsequent agreements or other arrangements.

258. The definition of “joint body” is to be found in article 1 (5), of the Convention. Pursuant to it, “joint body” means any bilateral or multilateral commission or other appropriate arrangements for cooperation between the Riparian Parties”.

259. Joint commissions are the most common form of joint bodies between riparian States. The term “joint commission” is a collective term meant to cover also, for example, “joint water authority”, “committee”, “joint working group”, etc. Although the organizational structure of a joint commission may vary according to the specific needs of the riparian States involved, the majority of them share common features, namely:

(a) A commission is usually a permanent body meeting at reasonably regular intervals;

(b) A commission is usually composed of representatives of the riparian States, headed usually by officials, authorized for that purpose by governments;

(c) Country representation in a joint commission is not necessarily limited to representatives of water authorities and may also include officials from various ministries and agencies, regional and local or municipal authorities;

(d) A commission may have a decision-making body/ies, an executive body(ies) and subsidiary bodies, e.g. working or expert groups, monitoring, data collection and processing units; and

(e) A commission often avails itself of a secretariat. The work of the joint commissions may be supplemented by the establishment of an auditing commission, a network of national offices, a consultative group of donors, an information centre, a training centre or observers. Recent practice shows that joint commissions increasingly allow for the participation of representatives from the private sector and the public, including NGOs.

260. Another form of arrangements for cooperation between riparian States is the institution of "Plenipotentiaries for transboundary waters[91]. This practice is mainly followed in Central Europe and EECCA. A Plenipotentiary for transboundary waters is an official coming from a water management, environmental protection or other relevant national authority, appointed by a national government to facilitate and coordinate the implementation of a transboundary water agreement on behalf of a riparian State. Plenipotentiaries for transboundary waters hold meetings on a regular basis. They may have secretaries to support their work. Plenipotentiaries for transboundary waters are free to establish working groups, call upon expert advice and involve academia, private sector and the public in their activities. Plenipotentiaries for transboundary waters often rely in their work primarily on the ministry/agency they represent, acting as a focal point at the interministerial or interdepartmental level.

261. Article 9 (2) lists the tasks to be performed by a joint body. Through this provision, the Convention aims to promote basic consistency and substantive compatibility among different forms of institutional cooperation within its legal framework. Therefore, the list reflects the core set of tasks any joint body should be entitled and responsible for performing. However, Riparian Parties remain free to adjust the priorities of their joint bodies according to their specific needs. This is further confirmed by the term "inter alia" in article 9 (2), according to which the list of tasks is not exhaustive. This is in line with the framework character of the Convention, allowing Riparian Parties to tailor their institutional framework for cooperation to their specific needs in a given water basin. It implies the possibility to modify over time functions and powers of a joint body, or to vest it with additional tasks.

262. The wording "without prejudice to relevant existing agreements or arrangements" in the provision under review indicates that the list of tasks under the same provision is to be considered as complementary to the tasks or fields of activity of a joint body under agreements or other arrangements between the Riparian Parties existing at the time of the entry into force of the Convention for these Riparian Parties.

263. In performing the tasks listed in article 9 (2), a joint body should take due account of the activities that emerge from the relevant provisions of the Convention, as follows:[92]

(a) Collect, compile and evaluate data in order to identify pollution sources likely to cause transboundary impact (art. 11, art. 13 (1 (a and c)), art. 6);

(b) Elaborate joint monitoring programmes concerning water quality and quantity[93] (art. 4, art. 11, art. 3 (1 (b)), art. 13 (1 (a));

[91] This should not be confused with "Plenipotentiary", the term with which is sometimes called a head of delegation in a joint commission.
[92] See also the commentaries to the relevant provisions in this Guide.
[93] Detailed guidance on joint monitoring and assessment can be found in the document titled Strategies for monitoring and assessment of transboundary rivers, lakes and groundwaters (ECE/MP.WAT/20), as well as the Guidelines for the monitoring and assessment of transboundary rivers, lakes and groundwaters developed under the Convention (available at: http://www.unece.org/env/water/publications/pub74.htm).

(c) Draw up inventories and exchange information on the pollution sources (art. 3 (1 (a)), art. 13 (1 (c and e)), art. 11 (2));

(d) Elaborate emission limits for wastewater (art. 3 (3), art. 13 (1 (e) and 2), art. 11 (2));

(e) Evaluate the effectiveness of control programmes (art. 3 (1 (a), (b)), art. 11 (4));

(f) Elaborate joint water-quality objectives and criteria (art. 3 (3), annex III, art. 12);

(g) Propose relevant measures for maintaining and, where necessary, improving the existing water quality (art. 2 (2 (b), 7), art. 3 (1 (d and i)), art. 5 (1 (f)), art. 12);

(h) Develop concerted action programmes for the reduction of pollution loads from both point sources (e.g. municipal and industrial sources) and diffuse sources (particularly from agriculture) (art. 2 (3 and 6), art. 3 (1 (a), (b), (e), (f), (g)), art. 12);

(i) Establish warning and alarm procedures (art. 14, art. 3 (1 (j));

(j) Serve as a forum for the exchange of information on existing and planned uses of water and related installations that are likely to cause transboundary impacts (art. 6, art. 10);

(k) Promote cooperation and exchange of information on the best available technology (art. 1 (7), annex I, art. 3 (1 (c), (f)), art. 3 (2), art. 6, art. 13 (1 (b)), art. 13 (4), art. 3 (1 (g)) and annex II);

(l) Encourage cooperation in scientific research programmes (art. 5, art. 13 (1 (b)), art. 12);

(m) Participate in the implementation of EIAs relating to transboundary waters, in accordance with appropriate international regulations[94] (art. 3 (1 (h));

(n) Serve as a forum for consultations between the Riparian Parties within the meaning of article 10.[95]

264. Since the agreements or other arrangements under consideration may cover "the catchment area, or part(s) thereof" (art. 9 (1)) and the Riparian Parties are encouraged to develop policies, programmes and strategies "covering the relevant catchment areas, or parts thereof" (article 2 (6)), the scope of the activities of joint bodies may cover the entire catchment area, a part(s) thereof, more than one catchment area or all transboundary waters between the Riparian Parties that participate in such bodies. In case where two, or more, joint bodies exist in the same catchment area, the Convention provides that "they shall endeavour to coordinate their activities

[94] It should be stressed that the Convention does not require a joint body to conduct EIA, rather "participate in its implementation". In implementing this particular provision of art. 9 (2), due account should be taken of relevant provisions stipulated in the Espoo Convention.
[95] See commentary to article 10.

in order to strengthen the prevention, control and reduction of transboundary impact within that catchment area" (art. 9 (5)). Since cooperation is also aimed, at the protection of the marine environment, the joint bodies established under the Convention "shall invite joint bodies established by coastal States to cooperate in order to harmonize their work" (art. 9 (4)) for the prevention, control and reduction of the transboundary impact and protection of the marine environment.

2. Minimum requirements to comply with the provision

265. While drafting and negotiating new agreements or other arrangements, the Riparian Parties have to ensure that the agreements provide for the establishment of a joint body. The latter shall be entrusted to perform, at least, the set of tasks listed in the Convention. If existing agreements or other arrangements do not provide for the establishment of joint bodies, the Riparian Parties shall take steps to adjust such instruments accordingly. The Riparian Parties may adopt a gradual approach in the definition of the tasks for the joint bodies they establish, with a view to eventually cover all the tasks listed in the Convention.

266. International practice shows a wide range of existing joint bodies in terms of their mandates, powers, compositions, and structures. They may be bilateral or multilateral; they may be in charge of a particular watercourse or of all transboundary waters shared by the Parties; they may address the entire range of water-related activities and uses, or focus on specific sectors of the water management and utilization; they may involve the highest level of representation in interstate relations, up to Heads of States, or only technical experts; they may simply serve as a channel of communication or be entrusted with much broader responsibilities, including dispute settlement. There is no single model of cooperation that would be appropriate for all situations. This diversity is a major strength and is a consequence of the large variety of political and physical settings, various origins and mandates of the institutions, and the current and emerging problems they are required to address.

267. At the same time, there are some features that are generally essential for the efficiency of joint bodies. These include: wide competence and multi-sector representation, which would allow for implementation of integrated water resources management; clearly defined powers; an organizational structure that allows developing and adopting decisions, as well as implementing them. Such principles also encompass effective mechanisms for cooperation of a joint body with national authorities, clear reporting mechanisms, availability of financial means for implementation of joint programmes and for support of organizational structure, ensuring mechanisms for public participation and stakeholder involvement in the activity of a joint body. It is also important to aim at ensuring participation of all basin countries in a joint body. The conclusion of bilateral agreements and establishment of bilateral joint bodies is important, but shall not be regarded as a substitute to cooperation on the entire transboundary basin(s).[96]

268. In sum, an agreement or other arrangement establishing a joint body should expressly address, inter alia, its areas of operation, objectives, functions, tasks and powers, legal status, geographical scope, organizational structure, financial implications, and reporting mechanisms.

[96] River basin commissions and other institutions for transboundary water cooperation, UNECE, CWC series.

Provisions to ensure public participation should also be provided. Joint bodies should be entrusted with the power to develop their own rules of procedure and other internal regulations (financial regulations, staff regulations, rules for observers, etc.), as necessary for their activities.

3. Examples

Box 32. How the Plenipotentiaries of the Russian Federation and Ukraine coordinate transboundary water cooperation

The Agreement between the Government of Ukraine and the Government of the Russian Federation Concerning the Joint Use and Protection of Transboundary Waters was signed in 1992. To facilitate the implementation of the Agreement, each Party appoints a Plenipotentiary and two Deputy Plenipotentiaries. In early 2009, the Deputy Head of the Federal Agency for Water Resources was a Plenipotentiary of the Russian Federation, while the Chair of the State Committee for Water Management was a Plenipotentiary of Ukraine.

The Plenipotentiaries meet annually. Where necessary they may hold extraordinary meetings. The outcomes of all meetings are reflected in protocols. The major issues on the agenda of Plenipotentiaries' meetings include: preparedness to and management of spring floods, results of hydrochemical and radiological monitoring of surface and groundwaters, prompt information exchange, contingency planning, consideration of international programmes on revitalization of the Dnieper (Dnipro) River, and programmes and measures for revitalization and rehabilitation of small transboundary rivers.

Meetings of mixed Ukrainian-Russian working groups and meetings of the Deputy Plenipotentiaries take place in the framework of 1992 Agreement. Mixed working groups bring together the representatives of basin management units, water and soil monitoring laboratories from the hydrogeological meliorative expeditions of the State Committee of Ukraine for Water Management, representatives of water resources departments from several regions of the Russian Federation, Moskovsko-Oksky Basin Water Management Unit as well as Klintsevskaya Hydrochemical Laboratory of the Federal State Water Management Unit "Centrregionvodhoz" of the Russian Federation. The tasks of mixed working groups include, inter alia:

- Development and implementation of activity plans for the rehabilitation and protection of transboundary water bodies in the Dnieper (Dnipro) River Basin;
- Strengthening cooperation in the implementation of coordinated programmes for monitoring surface waters in transboundary water bodies of the basin, in the application of the methodology for measurement, sampling analyses and assessment of water quality, as well as in the international prompt exchange of information under the "Transhydrochem" programme;
- Preparatory activities and management of spring floods in transboundary rivers;
- Prompt exchange of hydrological information, water management data and information about natural and technical characteristics of the state of water bodies and hydrotechnical installations, as well as forecasting possible changes;
- Decision-making in emergency situations connected with pollution of surface waters and accidents at hydrotechnical installations, and development of scientifically based recommendations for safe water use.

The activities on the Seversky Donets River and the rivers of the Azov Sea region may serve as an example of actions to implement the Agreement. The Seversky-Donets Basin Water Resources Department (Ukraine) and the Don Basin Water Management Unit (Russian Federation) work in close cooperation and involve the administrations of bordering regions of the Russian Federation and Ukraine.

An Interregional Programme for Ecological Rehabilitation of the Seversky Donets basin was developed in the framework of the Council of Heads of the Border Regions of the Republic of Belarus, the Russian Federation and Ukraine. The Parties implement a joint analytical assessment programme for hydrochemical state of water bodies and have developed requirements for measuring hydrological and hydrochemical parameters at the border. Since 2005, they exchange test results through a system for exchange of transboundary water resources data, developed by the Seversky-Donets Basin Water Resources Department and the Don Basin Water Management Unit.

In the course of implementation of the Agreement, the Parties exchange data on a weekly basis about regimes of water reservoirs in border areas: Belgorodskoye (Russian Federation) and Pechenejskoye (Ukraine) on the Seversky Donets River; Starooskolskoye (Russian Federation) and Chervonooskolskoye (Ukraine) on the Oskol River; Shterovskoye (Ukraine) on the Mius River; Zuevskoye (Ukraine) on the Krinka River; and Dovjanskoye (Ukraine) on the Kundriucha River.

Box 33. Joint Finnish-Russian Transboundary Water Commission

Collaboration between Finland and the Russian Federation/Soviet Union under the framework of the Joint Finnish-Russian Transboundary Water Commission is an excellent example of successful bilateral cooperation on transboundary waters. The Commission was established on the basis of the 1964 Agreement between Finland and the Soviet Union on the Frontier Watercourses (adopted later by the Russian Federation) and began its work in 1966. Even if the Agreement by which the Commission was founded is almost a half-century old, the Commission is fully consistent with the provisions of the Water Convention.

The Commission is comprised of six members and five permanent working groups. Both Finland and the Russian Federation appoint three members and provide the Commission with experts and secretaries. The practical work of the Commission is mainly carried out by the following working groups:

- The integrated water management group,
- The water protection group,
- The fisheries group,
- The frontier guards group,
- The chairmen's group.

The task of the Commission is to deal with all of the matters laid down in the Agreement between Finland and the Russian Federation. The Agreement applies to all possible uses of water resources in 20 transboundary watercourses. It prohibits, inter alia, the alteration and pollution of watercourses and the blocking of main fairways. The provisions also cover water quality monitoring and general prescriptions regarding indemnities in the event of damage. This means that the Commission examines, at the request of the Contracting Parties or on its own initiative, all kinds of issues concerning the use of transboundary watercourses. In addition, it monitors the implementation of the Agreement and water quality in transboundary watercourses.

Finland and the Russian Federation may agree to refer matters concerning the prohibition of pollution (article 4 of the Agreement) or altering the course or flow of a waterway (article 2) to the Commission for a decision or opinion. Decisions are made unanimously and are binding on both Contracting Parties. If the Commission cannot reach consensus, it submits the issue to the governments of Finland and the Russian Federation (so far, this has not been necessary). Typically, the Commission gives opinions to

the national permit authorities. Although these opinions do not substitute the national permit procedure, they carry a lot of weight when permit decisions are made.

The Commission's cooperation has been successful and well respected, especially in the field of water protection. For example, the pollution load to transboundary waters from Finnish pulp and paper industry is now a fraction of the level of the early 1970s. Another significant result of the cooperation is the Discharge Rules of Lake Saimaa and Vuoksi River, enacted in 1991. These Rules provide for rapid and flexible changes in the discharge volumes.

Box 34. Joint commissions on transboundary waters shared by Hungary and the neighbouring countries

Before the political developments in Europe in the 1980s, Hungary had five neighbouring countries (Austria, Czechoslovakia, Romania, the Soviet Union and Yugoslavia) and had agreements on transboundary water-related issues with all of them. Nowadays Hungary is bordered by seven countries (Austria, Croatia, Serbia, Slovakia, Slovenia, Romania and Ukraine), only one of which did not change its official name (Austria), and only two of which still have the same territory (Austria and Romania).
Today, Hungary has seven Agreements in force and accordingly, seven Joint Commissions on Transboundary Waters (later joint bodies). With Croatia and Slovenia, Hungary signed the new agreement on joint body in 1994; the same with Ukraine in 1998 and with Romania in 2003. The updated Agreement with Slovakia is under preparation, and like the new agreement with Romania, it will be based on the EU WFD and the Danube River Protection Convention, building upon the Water Convention's framework provisions.

The general scheme is that each joint body consists of a Hungarian delegation and a delegation of the other Contracting Party. Each head of delegation, the plenipotentiary, has one or two deputies, all authorized by their Governments. The heads (plenipotentiaries) of these joint bodies in Hungary are nominated from the Ministry of Environment and Water and are authorized by the Ministry of Foreign Affairs. In the neighbouring countries, the head of the joint body is also nominated from the water- or environment-related ministry. There is no permanent secretariat. Each party has a responsible staff called "transboundary secretary" who is responsible for the coordination of the cooperation and for ensuring follow-up to the joint bodies' decisions. These persons are not independent; they usually work in water-related organizations (ministry or regional directorates), and this task is only one of their duties. As a rule, the joint bodies have one session per year led by heads of delegations and another by the deputies. In certain cases extra sessions are organized. Sub-committees, expert groups or working groups are organized under the joint bodies according to the rivers and/or functions (e.g. the Sub-Committee on the River Ipoly/Ipel in the Hungarian-Slovakian relation and the Sub-Committee on Water Management and Hydrometeorology in the Hungarian-Romanian relation). They also hold one or two meetings per year.

The number and competencies of the sub-committees are different from relation to relation. In certain cases ad hoc sub-committees have been established by the joint bodies (e.g. the Sub-Committee on the Elaboration of the New Agreement on Transboundary Waters, in the Hungarian-Romanian relation).

Cooperation on transboundary waters has a relatively long history for Hungary, going back to the Versailles Treaty which ended the First World War, when new frontiers were established that crossed catchment areas and turned national waters into transboundary waters. Due to the nature of problems prevailing at that time, the main focus of the agreements was (and in certain cases, is) security against floods, drainage of excess waters, financial questions, etc. New agreements were signed after the Second World War, however, without any common basis; that is why there are differences both in the structures

of the agreements and in the joint bodies. The first opportunity to place the agreements on a common basis was provided by the entry into force of the Water Convention and the Danube River Protection Convention, in 1996 and 1998, respectively, followed by the EU WFD in 2000, which became a new element in all relations. However, one still has to account for some differences even among the structures of the new and/or updated agreements in the seven neighbouring relations. Under the bilateral transboundary agreements, issues such as hydrological and water quality data exchange, flood defence, water-quality hazardous events, etc., are regulated in detail by jointly elaborated specific documents/regulations.

The scope of cooperation was progressively broadened, starting from only covering flood control issues to progressively addressing water resources management and water-quality issues. In the steps to come, more attention will be given to groundwater-related issues.
All the agreements are dealing with monitoring and assessment questions, but of course not in the same ways. All joint bodies have surface water quality sub-groups. The hydrological characteristics, but in most cases only for the surface water, are part of the activities of the joint bodies since the beginning. As a first step, daily operational data were exchanged, then the forecasts of flood events, next the exchange of discharge measurements and of data series, and finally the common data evaluation. Joint bodies have specific data exchange regulations.

In the beginning, the territorial scope of the agreements covered only a stretch of several kilometres along both sides of the State borders. The scope of cooperation is progressing towards the whole catchment area.

Under the ICPDR, all Danube countries, including non-EU countries, have committed themselves to jointly developing a Danube River Basin Management Plan in accordance with the EU WFD. To this end, sub-basin and national EU-related reports and plans, as well as bilateral transboundary cooperation and harmonization, are crucial.

C. Article 10. Holding of consultations

Article 10

Consultations shall be held between the Riparian Parties on the basis of reciprocity, good faith and good-neighbourliness, at the request of any such Party. Such consultations shall aim at cooperation regarding the issues covered by the provisions of this Convention. Any such consultations shall be conducted through a joint body established under article 9 of this Convention, where one exists.

1. Background explanations, analysis and clarification

269. Article 10 represents a specification of the general obligation of cooperation laid down in article 2 (6) of the Convention. The latter provides that consultations “aim at cooperation regarding the issues covered by the provisions of the Convention”. This implies that consultations are both a form of cooperation in themselves and a means for facilitation of further forms of cooperation.

270. The principle that consultations should take place between neighbouring States to discuss issues of common interest is a principle of general customary law, on the basis of a well

consolidated diplomatic and conventional practice concerning bilateral treaties of friendship and good-neighbourliness. International environmental protection adds a specific aspect to this general principle: i.e. the fact that each State has an obligation to consult its neighbour in case it envisages activities likely to cause transboundary impact. Principle 19 of the Rio Declaration provides that "States shall provide prior and timely notification and relevant information to potentially affected States on activities that may have a significant adverse transboundary environmental impact and shall consult with those States at an early stage and in good faith". At the pan-European level, this principle is the core provision of the Espoo Convention, embodied in its article 5.

271. Article 10 of the Water Convention provides for a general duty of consultation at the request of any Riparian Party. Its scope of application is a general one, in the sense that it is not just limited to cases of concrete activities likely to have transboundary impact.

2. Minimum requirements to comply with the provision

272. The provision under review provides for the obligation to enter into consultations upon request from any Riparian Party. It does not provide for an objective criterion – such as an imminent danger of transboundary impact – as a precondition, or trigger, for the holding of consultations. In concrete terms, this implies that the Riparian Party to whom the request is addressed cannot in principle ignore it, on the ground that there would be no valid motivations for requesting the opening of consultations. Consultations should be held without undue delay after the receipt of the request, and, given the generality of article 10, they may concern not only possibly critical events, but also usual matters for routine cooperation, such as exchange of information or joint monitoring and assessment.

273. According to article 10, consultations are to be conducted through a joint body to be established under article 9 (2), where, of course, such a body exists. This obligation is an innovative element with respect to general practice. As an example of the latter, under article 5 of the Espoo Convention, consultations "may be conducted" through a joint body. Article 10 indicates clearly the intention of the drafters of the Convention to render the joint bodies the main channel of cooperation between the Riparian Parties. Therefore, article 10 may also provide legal ground for convening extraordinary meetings of the joint bodies established pursuant to article 9 of the Convention. This is often provided for in many bilateral or regional water agreements.

274. Where agreements, or arrangements, of the kind provided for under article 9 do not yet exist, the negotiation and conclusion of such agreements, or arrangements, should be a priority in the context of those consultations.

275. According to article 10, consultations shall be held on the basis of reciprocity, good faith and good-neighbourliness. This means that they should not be a formalistic exchange of views but a substantive process in which each Riparian State should conduct itself taking into account the legitimate interests of the other Party. This reflects general customary law, as also codified in article 17 (2) of the New York Convention**.**

3. Examples

Box 35. Consultations on implementing the EU Water Framework Directive in the Rhine basin

When the EU WFD entered into force in 2000, the States in the Rhine River basin considered how to enable cooperation and coordination in implementing it. The new Convention on the Protection of the Rhine (Rhine Convention) had just been signed in 1999, but it only covers the Rhine riparian States (France, Germany, Luxembourg, the Netherlands and Switzerland, together with the European Community), i.e. not all the States in the whole basin – Austria, Liechtenstein and the Walloon Region of Belgium are in the Rhine basin but are not Parties to the Rhine Convention. Renegotiating this instrument was not a solution, as it would have taken too long.

Therefore, in 2001 the States took up a pragmatic solution by establishing the so-called Coordination Committee, not by an international agreement, but by a decision of a ministerial conference. The Coordination Committee was entrusted with coordinating all States in the Rhine River basin with regard to the EU WFD. Switzerland, as a non-EU State, agreed to cooperate on a voluntary basis. In the beginning, the International Commission for the Protection of the Rhine (ICPR) and the Coordination Committee held parallel meetings to decide on relevant issues. After some years, it was obvious that many issues under the Rhine Convention and the EU WFD were overlapping and that it made no sense to discuss and decide on topics twice. Thus from 2006 onwards there has been only one joint meeting. Nevertheless, there are separate financing provisions, and the ICPR rules of procedure are not valid for the non-ICPR States.

The results of the joint discussion on the EU WFD have included, to date, the international reports on the status of water bodies, the monitoring programmes and the draft international part of the Rhine River basin management plan.

Box 36. National Policy Dialogues

National Policy Dialogues on integrated water resources management and water supply and sanitation are the main operational instrument of the European Union Water Initiative (EUWI). This initiative, including its component for the EECCA countries, was launched at the Johannesburg World Summit on Sustainable Development in 2002. UNECE acts as strategic partner supporting the policy dialogue process on integrated water resources management, as OECD does on water supply and sanitation issues.

The dialogue process in EECCA countries deals with country-specific themes, including issues of cooperation on transboundary waters. The focus is on assistance to strengthen integrated water resources management in line with the principles of the UNECE Water Convention, the Protocol on Water and Health, the EU WFD and other UNECE and EU instruments. National Steering Committees comprise all relevant ministries (usually at the level of vice-ministers or other senior officials), agencies and institutions (including academia) and NGOs.

The National Policy Dialogues are becoming an additional means of "consultations among riparian countries". This is the case for Kyrgyzstan, where the stakeholders of the dialogue process include representatives of the Joint Kyrgyz-Kazakh Commission on the Chu and Talas rivers[97] as well as governmental representatives of Kazakhstan. A similar process has started in the Republic of Moldova

[97] Commission of the Republic of Kazakhstan and the Kyrgyz Republic on the Use of Water Management Facilities of Intergovernmental Status on the Rivers Chu and Talas.

and Ukraine, where issues of transboundary water cooperation are on the agenda of the respective Steering Committee meetings.

Box 37. Experience under the International Commission for the Protection of the Danube River

Consultations among contracting Parties of the Danube River Protection Convention are regularly held at the meetings of ICPDR. Officially approved ICPDR observers also have the right to participate in the discussion. The agenda of the (annual) ordinary meetings provides a permanent opportunity to present information on projects of transboundary relevance or projects with possible transboundary effects/consequences. The Commission provides a forum for discussion and the exchange of information and views, and may also formulate resolutions on the issues. However, it does not act as a dispute settlement organ or court.

Regular information exchange and dialogue ensure first-hand information exchange and at the same time can facilitate mutual understanding. Final solution to the debate should be however found among the interested parties in line with the existing pieces of international and domestic law.
Examples of these kinds of functions/roles of a joint body are the discussions on the Danube-Black Sea Deep Navigation Channel (Romania and Ukraine) and the Giurgiulescu refinery (Republic of Moldova and Ukraine). More information on these cases and others can be found on the ICPDR website (www.icpdr.org).

D. Article 11. Joint programmes for monitoring and joint or coordinated assessments

Article 11

1. In the framework of general cooperation mentioned in article 9 of this Convention, or specific arrangements, the Riparian Parties shall establish and implement joint programmes for monitoring the conditions of transboundary waters, including floods and ice drifts, as well as transboundary impact.
2. The Riparian Parties shall agree upon pollution parameters and pollutants whose discharges and concentration in transboundary waters shall be regularly monitored.
3. The Riparian Parties shall, at regular intervals, carry out joint or coordinated assessments of the conditions of transboundary waters and the effectiveness of measures taken for the prevention, control and reduction of transboundary impact. The results of these assessments shall be made available to the public in accordance with the provisions set out in article 16 of this Convention.
4. For these purposes, the Riparian Parties shall harmonize rules for the setting up and operation of monitoring programmes, measurement systems, devices, analytical techniques, data processing and evaluation procedures, and methods for the registration of pollutants discharged.

1. Background explanations, analysis and clarification

276. Information received from jointly organized monitoring programmes is a fundamental part of the integrated water management of a whole river basin or bilateral transboundary waters. It helps decision makers to propose and implement adequate measures to prevent, control and reduce transboundary impacts and allows for verification of their effectiveness vis-à-vis water and the environment. The Convention requires Riparian Parties to establish and implement joint

monitoring programmes and carry out joint or coordinated assessment of the conditions of transboundary waters. Several guidance documents to help countries to establish and implement JMP have been produced under the Convention.[98]

2. Minimum requirements to comply with the provision

277. To establish effectively functioning joint monitoring and assessment programmes, Riparian Parties should ensure that all necessary legislative, institutional and financial measures are in place. They can set up a specific joint expert/working body to develop, operate and maintain the joint monitoring and assessment programme, either in the framework of the existing settings of transboundary cooperation (e.g. river basin commissions, meetings of plenipotentiaries) or as a subject of a stand-alone agreement specifically dedicated to this issue. Joint monitoring programmes can be implemented for a whole river basin or for certain transboundary waters through a bilateral agreement.

278. The basic elements that should be jointly agreed for such joint monitoring and assessment programmes include:

(a) Objectives/needs to be achieved in terms of policy relevant information to be obtained;

(b) Identification of monitoring sites. The stations can be selected from the national monitoring network on the basis of joint stated criteria (e.g. location upstream/downstream of an international border, upstream of confluence of the main river with its tributaries, or main river with the sea, downstream of major pollution sources, upstream of important drinking water abstraction, existence of shared aquifers etc.);

(c) Selection of determinants for surface water, ground water, suspended solids and sediments, if needed (qualitative and quantitative elements, physical, chemical, biological and hydro-morphological; ordinary used chemical determinants can be supplemented by others, e.g. selected priority substances relevant for the river basin);

(d) Sampling frequency;

(e) Sampling and analytical methods, control of laboratory performance (quality assurance/quality control, or QA/QC);

(f) Data management (quality and format of data, methods of collection, frequency and storage, technique of maintenance and exchange);

(g) Method of data assessment;

[98] See the Guidelines on Water Quality Monitoring and Assessment of Transboundary Rivers (1996), Guidelines on Monitoring and Assessment of Transboundary Rivers (2000), the Guidelines on Monitoring and Assessment of Transboundary Groundwaters (2000), the Guidelines on Monitoring and Assessment of Transboundary and International Lakes (2003) and the Strategies for monitoring and assessment of transboundary rivers, lakes and groundwaters (2006), available at http://www.unece.org/env/water/publications/pub74.htm.

(h) Presentation and publishing of results;

(i) Analytical quality control and intercalibration.

279. On the basis of internationally agreed procedures sampling, analysis and assessment of data can be, if not agreed otherwise, carried out on the national level. Data harmonization and coordinated assessment/evaluation have to be implemented regularly. It should be noted that monitoring and assessment programmes should not only rely on information from measurements but other relevant data, such as data on emissions and releases, should also be taken into account.

280. Moreover, the joint monitoring and assessment programmes should be evaluated periodically, especially if the general situation or any particular influence on the environment is changed, either naturally or by measures taken in the catchment area.

3. Example

Box 38. Transnational Monitoring Network in the Danube River Basin

Contracting Parties of the Danube River Protection Convention and Member States of ICPDR agreed to set up the Transnational Monitoring Network (TNMN). For this purpose, an expert group for monitoring, laboratory and information management was established under ICPDR. The results obtained from the operation of the TNMN have been regularly published in the TNMN Yearbook. The Yearbook contains tables with lists of determinants for water and sediments monitoring, lists of sample stations and their characterization, descriptions of the classification method, results of laboratories analytical quality control, and maps showing the annual mean values of BOD_5, ortho-phosphate-P, NH_4-N, NO_3-N in the whole river basin. The main part of the Yearbook contains tables with lists of determinants in different stations, their minimum, mean and maximum values, and calculated 50 percentile and 90 percentile values of concentration C50 and C90 and data on mean discharge in different quarters of the year. The first TNMN Yearbook shows data from 1996; the last Yearbook in this form is from 2006.

For the purposes of EU WFD common implementation, a new structure of ICPDR expert groups was established in 2006. The Expert Group on Monitoring and Assessment prepared the programmes for monitoring in the Danube River Basin District in line with the requirements of the article 8 of the EU WFD. The TNMN Yearbook 2007 corresponding to the new requirements is under development.

The EU WFD requires EU Member States to develop programmes for monitoring the status of surface waters, groundwaters and protected areas at the national and international levels. Surface waters are categorized into categories (rivers, lakes, transitional waters or coastal waters and artificial water bodies and heavily modified water bodies). Each water body in the category is classified according to its type, in line with the biological, physico-chemical, chemical and hydro-morphological specifications stated in the EU WFD. The classifications are related to the reference surface water body of a given type corresponding to high ecological status. In the case of heavily modified or artificial water bodies, reference is made to high ecological potential. The ecological and chemical status/potential is defined for surface waters, and chemical and quantitative status for groundwaters.

The EU WFD defines three types of monitoring: surveillance, operational and investigative. Surveillance monitoring serves for assessment of long- term changes. Operational monitoring is

designed in terms of place, frequency of sampling, and indicators for specific purpose, e.g. for the assessment of changes resulting from implemented measures or for examination of such water bodies, whose status is identified at risk of failing environmental objectives. Investigative monitoring is supposed to fill in gaps in the case of accidents or emissions of unknown origin. It is not strictly part of the Programme for Monitoring.

Results achieved under Programme for Monitoring give a full overview of the status of surface and ground water bodies and serve, among others, for development of programmes of measures and for the assessment of achievement of environmental objectives stated according to the EU WFD.

E. Article 13. Exchange of information between Riparian Parties

Article 13

1. The Riparian Parties shall, within the framework of relevant agreements or other arrangements according to article 9 of this Convention, exchange reasonably available data, inter alia, on:
(a) Environmental conditions of transboundary waters;
(b) Experience gained in the application and operation of best available technology and results of research and development;
(c) Emission and monitoring data;
(d) Measures taken and planned to be taken to prevent, control and reduce transboundary impact;
(e) Permits or regulations for wastewater discharges issued by the competent authority or appropriate body.

2. In order to harmonize emission limits, the Riparian Parties shall undertake the exchange of information on their national regulations.

3. If a Riparian Party is requested by another Riparian Party to provide data or information that is not available, the former shall endeavour to comply with the request but may condition its compliance upon the payment, by the requesting Party, of reasonable charges for collecting and, where appropriate, processing such data or information.

4. For the purposes of the implementation of this Convention, the Riparian Parties shall facilitate the exchange of best available technology, particularly through the promotion of: the commercial exchange of available technology; direct industrial contacts and cooperation, including joint ventures; the exchange of information and experience; and the provision of technical assistance. The Riparian Parties shall also undertake joint training programmes and the organization of relevant seminars and meetings.

1. Background explanations, analysis and clarification

281. The rationale of regular exchange of data and information is that it lays down the foundations for cooperation to ensure effective protection of transboundary waters, management of water quality and quantity as well as the prevention, control and reduction of transboundary impacts. It is the first step in cooperation between Riparian Parties, being a necessary

precondition for the realization of higher degrees of cooperation, and it helps to build trust between them.

282. Article 13 is a specific application of the general obligation to cooperate set out in article 2 (6), and of the general obligation to exchange information laid down in article 6 of the Convention. It is made clear in paragraph 1 that the envisioned exchange of information should take place within the framework of the relevant agreements or other arrangements provided for under article 9 of the Convention.

283. The term "reasonably available" in article 13 does not substantially differ from the term "readily available" to be found in article 9 of the New York Convention. According to the ILC commentary to article 9, the expression "readily available" is used to indicate that, as a matter of general legal duty, a Riparian Party is under an obligation to provide only such information as is readily at its disposal, for example that which it has already collected for its own use or is easily accessible. Thus, the Party in question cannot be called upon to provide information which is not pertinent and cannot be subjected to the expense and trouble of securing statistics and other data which are not already at hand or readily obtainable. In a specific case, whether data and information was "readily" available would depend upon an objective evaluation of such factors as the effort and cost its provision would entail, taking into account the human, technical, financial and other relevant resources of the requested Party.[99]

284. Paragraph 1 contains a non-exhaustive list of data categories which are to be exchanged between Riparian Parties on an ordinary basis, while under paragraph 2 Riparian Parties are to exchange information on their national regulations concerning emission limits in order to harmonize them.

285. Bearing in mind the fact that the list of data categories in paragraphs 1 and 2 is non-exhaustive and that all Parties are under the general obligation to exchange information (art. 6), the Convention encourages the Riparian Parties to continuously expand the spectrum of information to be exchanged.

286. Measures taken and planned to be taken to prevent, control and reduce transboundary impact referred to in paragraph 1 (d) should not be confused with the obligation to inform and consult on planned measures, i.e. planned uses, projects, plans or activities that are likely to cause transboundary impact.[100]

287. Whereas paragraph 1 refers to a two-way flow of available data and basically active information sharing, paragraph 3 concerns requests for data or information that is not available to the Riparian Party from which it is sought. In such cases, the requested Riparian Party is to "endeavour" to comply with the request. That is to say that the latter is to act in good faith and in a spirit of cooperation in doing its best to provide the data or information sought by the requesting Riparian Party. The due diligence character of the obligation to provide requested information avoids imposing absolute standards that would not take into account the different degrees of technological and economic development of Riparian Parties.

[99] See the Yearbook of the International Law Commission, 1994, vol. II, (part two), p. 108.
[100] See commentary to article 10.

288. In order to prevent the abuse of the right to request data and information, the Convention allows a Riparian Party to make the submission of information conditional upon the payment, by requesting Party, of reasonable charges for collecting and, where appropriate, processing requested data and information. One can presume that a reasonable charge shall not exceed the costs for collecting and processing data and information. The provision does not indicate whether prior payment can be requested. However, taking into account the safeguard nature of this provision, one can assume that in case of expected high costs it would be reasonable to condition the collection and provision of information upon prior payment.

289. The expression "where appropriate" in paragraph 3 is used to provide a measure of flexibility, which is necessary for several reasons. In some cases, it may not be necessary to process data and information in order to render it usable by the requesting Riparian Party. In other cases, such processing may be necessary in order to ensure that the material is usable by the requesting Riparian Party, but this may entail undue burden for the Riparian Party providing the data or information.

290. It shall be emphasized that the obligation to exchange data under article 13 (1), and to endeavour to provide information upon request under article 13 (3), exists for all Riparian Parties, whether situated upstream or downstream. Therefore, any downstream Riparian Party may not refuse to provide information or exchange data with any upstream Riparian Party on the assumption of their irrelevance for the upstream Riparian Party or absence of transboundary meaning in it. Indeed, measures downstream often have a transboundary impact upstream (e.g. deterioration of spawning conditions upstream due to installations or overfishing downstream). The purpose of requiring all Riparian Parties to exchange data and provide information upon request is to enable them to implement the Convention's core obligation of cooperation (article 2 (6)), aimed at protection of the environment of transboundary waters, as a shared resource, as well as the marine environment. The holistic nature of the concept of the environment under the Convention requires efforts from all riparians. Since the exchange of information and the provision of information upon request are forms of cooperation, the above considerations are further confirmed by the fact that under the same article 2 (6) the Riparian Parties have to cooperate "on the basis of equality and reciprocity".

291. Paragraph 4 requires Riparian Parties to facilitate the exchange of best available technology[101], particularly through the promotion of the commercial exchange of available technology; direct industrial contacts and cooperation, including joint ventures; the exchange of information and experience; and the provision of technical assistance. By mentioning the "provision of technical assistance" as one of the ways to facilitate the exchange of best available technology, the Convention takes into account possible different levels of technological and economical development of Riparian Parties and encourages cooperation to narrow the gap. The Convention also prescribes that the tasks of a joint body shall include "to promote cooperation and exchange of information on the best available technology in accordance with the provisions of article 13 of this Convention, as well as to encourage cooperation in scientific research programmes" (article 9 (2 (i)).

[101] See explanation on best available technology in the commentary to article 3.

292. The obligation to exchange information under article 13 may be subject to "protection of information" limitations. Article 8 allows Parties in accordance with their national legal systems and applicable supranational regulations to protect information related to industrial and commercial secrecy, including intellectual property, or national security.

293. For a better understanding of the relationship between article 8 and 13 (1) useful guidance can be drawn from the Aarhus Convention, which elaborates on the limitations on access to environmental information. To that end, it should be recalled that the closing sentence of article 4 (4) of the Aarhus Convention calls for Parties to interpret the grounds of refusing access to information in a restrictive way, particularly when the data requested relate to emissions into the environment. Therefore, in light of the cooperative and reciprocal spirit of the Water Convention, Parties should apply article 8 restrictively with regard to requests for information from other Parties, especially when these concern data relating to discharges into transboundary waters.

2. Minimum requirements to comply with the provision

294. Establishing mechanisms or procedures for exchange of information and ensuring the availability of certain data are important minimum requirements to comply with article 13.

295. Mechanisms or procedures for exchange of data shall be set up within the framework of relevant agreements or other arrangements under article 9. If such bilateral or multilateral agreements are not yet in place, cooperation on exchange of information could start with other arrangements (for example, memorandum of understanding between competent authorities or appropriate governmental bodies with regard to selected categories of data). These arrangements should specify the format and frequency of data exchange. Reasonably available data and information shall be exchanged free of charge.

296. To enable the exchange of information, Riparian Parties shall ensure the availability of, at least, the data listed in article 13 (1, 2).

3. Example

Box 39. Databases of the International Commission for the Protection of the Danube River

ICPDR facilitates, among other things, the exchange of information between the Contracting Parties to Danube River Protection Convention. To ensure regular information exchange and to serve the decision-making process, the ICPDR organizes data collection and processes the data received. ICPDR also runs and updates several international databases. These include the Transnational Monitoring Network Database with water quality data from 1996, the Bucharest Declaration database with water-quality data from 1992–1998, the Danube Surveys Database, the Emission Inventory Database and the Projects Database. The databases are available online through DANUBIS-ICPDR Information System, maintained by the ICPDR secretariat. Registration is necessary to access the system. Data and information are also exchanged through reporting obligations of Contracting Parties. See http://www.icpdr.org/icpdr-pages/databases.htm

F. Article 14. Warning and alarm systems

Article 14

The Riparian Parties shall without delay inform each other about any critical situation that may have transboundary impact. The Riparian Parties shall set up, where appropriate, and operate coordinated or joint communication, warning and alarm systems with the aim of obtaining and transmitting information. These systems shall operate on the basis of compatible data transmission and treatment procedures and facilities to be agreed upon by the Riparian Parties. The Riparian Parties shall inform each other about competent authorities or points of contact designated for this purpose.

1. Background explanations, analysis and clarification

Legal

297. On the one hand, the rationale behind the obligation to share information about critical situations without delay is to enable Riparian Parties to take timely and necessary measures to prevent, to control and reduce transboundary impact and to protect human health and the environment. On the other, the rationale behind the obligation to set up and operate communication, warning and alarm systems is to provide Riparian Parties with one of the tools for timely and effective implementation of the obligation to inform one another about critical situations.

298. By requesting Riparian Parties to inform each other "without delay" about any critical situation that may have transboundary impact, the Convention requires them to transmit such information immediately after it became known to them and to avoid unreasonable holdups. The most expeditious means available shall be used in such cases.[102]

299. Reference to "any critical situation that may have transboundary impact" refers to a situation that poses a threat of causing transboundary impact. Such a situation may occur suddenly or may develop over a period of time and reach, at some point, a level which poses a threat of causing transboundary impact (for example, the continuous raise of water level during a flood, becoming at some point dangerous to the safety of a dam). Article 14 does not fix the threshold or scale of possible transboundary impact. The lack of any threshold together with a reference to "any" critical situation serve to ensure that the Riparian Parties avoid losing time and inform each other about wider range of situations at the earliest stage. It is important to note that the provisions of this article shall also apply to a situation already causing transboundary impact, if the information had not been provided earlier.

300. The obligation to inform about any critical situation that may have transboundary impact covers critical situations irrespective of their origins, whether these are natural phenomena (e.g. floods, ice drifts, storms, earthquakes) or human conduct (e.g. industrial accidents, man-made floods).

[102] Using the most expeditious means available is required by the New York Convention's article 28 (2).

301. The obligation to inform about "any critical situation that may have transboundary impact" exists for all Riparian Parties, whether located upstream or downstream.[103] The implementation of the obligation to inform under article 14 would help the Riparian Parties implement their core obligation to cooperate "on the basis of equality and reciprocity", embodied in article 2 (6). This would also provide valuable input for the efforts of Riparian Parties to set up and operate communication, warning and alarm systems, pursuant to article 14, and provide mutual assistance upon request, pursuant to article 15 of the Convention.

302. In requesting Riparian Parties to set up, where appropriate, and operate coordinated or joint communication, warning and alarm systems, article 14 stresses that the aim of setting up and operating such systems is that of "obtaining and transmitting information". Although joint response is not the primary aim of operating communication, as well as warning and alarm systems, such communication and systems are essential for effective implementation of the obligation for Riparian Parties to provide mutual assistance in critical situations upon request, pursuant to article 15 of the Convention.

303. The term "where appropriate" in this article is used to acknowledge that in those instances where the Riparian Parties have already established joint or coordinated communication, warning and alarm systems, they do not need to set them up over again. Reference to "where appropriate" is in contrast to "where these do not yet exist" (as in article 9 (1)) and aims to cover also those cases where:

(a) Warning and alarm systems exist but require revision in order to fully conform to the provisions of article 14;

(b) Such systems do not cover all possible threats, e.g. where they, cover floods but not industrial accidents;

(c) The riparian Parties concerned are convinced that there is no need for a more advanced warning and alarm system, e.g. when cooperation between them applies to a minor river, and measures to inform about a critical situation are already in place.

304. The fact that communication, warning and alarm systems can be "coordinated or joint", reflects the possibility of different levels of cooperation between the Riparian Parties in operating such systems.

305. The obligation for the Riparian Parties to inform each other about any critical situation that may have transboundary impact as well as to set up and operate warning and alarm systems exist irrespectively of whether there is a joint body established by the Riparian Parties or whether the Riparian Parties have entered into an agreement or arrangement according to article 9 of the Convention. It is important to note, however, that the list of tasks of joint bodies in article 9 (2) includes the task "to establish warning and alarm procedures", since joint bodies are the most suitable structures to implement such a task.

[103] See commentary to article 13.

306. In implementing the obligation to set up and operate warning and alarm systems that address industrial accidents, the Riparian Parties shall also be guided by the corresponding provisions of the Industrial Accidents Convention, if they are Parties to this Convention.

307. Article 14 articulates an obligation for Riparian Parties to inform each other about competent authorities or points of contact. It is important that the information about competent authorities or points of contact designated to obtain and transmit information about any critical situation that may have transboundary impact is updated on a regular basis.

308. It is important to stress that the obligation of the Riparian Parties to inform each other without delay about any critical situation that may have transboundary impact and to set up and operate warning and alarm systems should be read in conjunction with their obligation to develop contingency planning under article 3 (1 (j)), especially in a transboundary context.[104]

Technical

309. Although article 14 does not differentiate between communication, warning and alarm systems for floods, industrial accidents or for other potential threats, the Riparian Parties may develop different systems for these purposes.

310. Setting up communication, warning and alarm systems may follow a step-by-step approach. Steps may include:

(a) An inventory of potential sources of accidental pollution and a risk analysis;

(b) Agreeing upon early warning criteria/parameters/threshold and upon measurement or data processing systems;

(c) Establishment of a network of points of contact or alert centres;

(d) Agreeing upon alerting procedures (content of information, forms, methods); and

(e) Other measures. As required by article 14, compatible data transmission and treatment procedures and facilities shall be agreed by the Riparian Parties.

311. It is recommended that the Riparian Parties aim at setting up river basin communication, warning and alarm systems. Also, the Riparian Parties may integrate monitoring and early warning systems. Close cooperation with civil protection and rescue system should be established. It is crucial to develop strategies for communication to the public in critical situations, as well as to ensure public participation in developing communication, warning and alarm systems.

[104] See commentary to article 3 (1(j)).

312. In order to identify measures and steps for the implementation of article 14 of the Convention, the Model Provisions on Transboundary Flood Management (2006), the UNECE Guidelines on Sustainable Flood Management (2000), conclusions and recommendations of the UNECE Seminar on the Prevention of Chemical Accidents and Limitation of Their Impact on Transboundary Waters (1999) and the *Good Practice for Monitoring and Assessment of Transboundary Rivers, Lakes and Groundwaters* (2006) may be consulted for guidance.

2. Minimum requirements to comply with the provision

313. Riparian Parties shall appoint and inform each other about competent authorities or points of contact designated to issue and receive information about any critical situation that may have transboundary impact. The Riparian Parties should agree upon notification procedures, at least upon means of notification and communication. It is important to stress that if coordinated or joint communication, warning and alarm systems do not yet exist or do not cover all possible threats, the Riparian Parties are still under obligation to provide information about any critical situation that may have transboundary impact.

314. Setting up communication, warning and alarm systems would require efforts and expertise in legal and institutional areas to develop and agree upon measured parameters, measurement systems, compatible data transmission procedures as well as capacity-building activities to test the systems and train the personnel. Evaluation and update of communication, warning and alarm systems should be envisaged. Those systems should be in operation 24 hours per day and regularly tested.

3. Examples

Box 40. Accident Emergency Warning System for the Danube

The Accident Emergency Warning System (AEWS) is maintained by the secretariat of ICPDR. AEWS is activated whenever there is a risk of transboundary water pollution, or threshold danger levels of hazardous substances are exceeded. AEWS sends out international warning messages to countries downstream. This helps the authorities to put environmental protection and public safety measures into action.

AEWS operates on a network of Principal International Alert Centres (PIACs) in each of the participating countries. These centres are made up of three basic units:

- The Communication Unit (operating 24 hours a day), which sends and receives warning messages;
- The Expert Unit, which evaluates the possible transboundary impact of any accident, using the database of dangerous substances and the Danube Basin Alarm Model;
- The Decision Unit, which decides when international warnings are to be sent.

The first stage of AEWS came into operation in 1997 in Austria, Bulgaria, Croatia, Czech Republic, Germany, Hungary, Romania, Slovakia and Slovenia. Republic of Moldova and Ukraine joined the system in 1999; and Bosnia and Herzegovina and Serbia have been on board since 2005.

An essential improvement of AEWS was carried out in 2003/2004 with the support of the UNDP/GEF Danube Regional Project. The goal of this upgrade was to increase the effectiveness and cost-efficiency of the warning system by replacing the satellite communication with an Internet-based information system using GSM/SMS messages for alerting the PIAC staff.

In 2007, the Danube AEWS was activated by five accidents. At present, the AEWS only deals with accidental spills, but there are already plans for ice and flood warnings to be included in the system.

Sources: the ICPDR webpage (http://www.icpdr.org/icpdr-pages/aews.htm) and the ICPDR Annual Report 2007.

Box 41. Warning and Alarm System "Rhine" and Action Plan on Floods for the Rhine River

ICPR operates the Warning and Alarm System "Rhine". Between Basel and the German-Dutch frontier, six main international warning centres "share" the Rhine. Another two warning centres are located on the Moselle. Each main international warning centre is responsible for a certain part of the Rhine or for the tributaries. In cases of accident, the warning centre concerned sends a "first report" to all centres downstream as well as to the ICPR Secretariat in Koblenz. Normally, this report is only classified as "information". A "warning" is emitted if the water quality is seriously threatened. Those concerned downstream may then take preventive action as rapidly as possible. The challenges include continually improving this system and introducing new technology. Due to a recently developed computer-generated alarm system, the relevant authorities can now rapidly and reliably predict the passage of pollution in the Rhine and the expected contaminant concentration.

The Action Plan on Floods facilitates, inter alia, intensified cooperation between flood warning and flood forecasting centres along the Rhine. By 2005, its target to prolong forecasting periods by 100 per cent has been achieved. Forecasting periods have been prolonged from 24 to 48 hours for the Upper and Middle Rhine and from 48 to 96 hours for the Lower Rhine and the Delta area. Internet websites give cross-border access to the forecasting centres along the Rhine. These possibilities largely contribute to flood preparedness and to reducing damages and, among others, constitute the basis for actions following the first flood announcement.

Source: the ICPR publication *Action Plan on Floods (1995–2005). Action Targets, Implementation and Results* and ICPR website (http://www.iksr.org).

Box 42. The Republic of Moldova and Ukraine take steps towards setting up warning systems to address floods and pollution

In 2006, to facilitate the implementation of the Agreement between the Government of the Republic of Moldova and the Government of Ukraine on Joint Use and Protection of Transboundary Waters (1994), the Plenipotentiaries of the Republic of Moldova and Ukraine adopted two Regulations, setting up bilateral early warning and alarm systems for floods and for accidental pollution.

The Regulation on Flood Protection at Transboundary Watercourses and Inland Waters provides for the regular exchange of information between water management authorities and describes warning and protection measures to be taken during floods and ice-breaking. The flood period is divided into three subperiods. Frequency and content of information messages vary during these subperiods. The annexes include contact information of competent water management authorities and a list of water measurement stations in the Republic of Moldova and in Ukraine that can provide warnings and information on critical levels that indicate the start of protective measures.

The Regulation on Measures to Address Unavoidable Hazardous and Extreme Accidental Pollution at Transboundary Rivers provides criteria for high and extreme water pollution, lists competent water management authorities, and includes a standard form for the warning about pollution. It provides for the obligation of water management authorities to communicate without delay through all accessible means all available data about the pollution with further information about the way it spreads. The frequency of communications to be made in the process of taking measures to mitigate and eliminate the consequences of pollution is determined by the Parties on a case-by-case basis. Joint water quality measurements and assessments may be performed upon request by a Party.

Box 43. Hydrological cooperation including flood forecasting and warning system: the experience of Slovakia

Slovakia has signed bilateral agreements on cooperation on transboundary waters with all its neighbouring countries. Bilateral commissions for transboundary waters have been established and under umbrella of these commissions working groups focusing on different topics of bilateral cooperation have been set up. Riparian countries have nominated national experts into each working group. One is the working group for hydrology established under each bilateral commission.

Working groups have elaborated own rules of procedure in which are specified topics of cooperation and annually elaborate working plans for the next year and draft working plans for further year. Working plans are approved by the respective bilateral commission, which meets once per year.

Main subjects for bilateral hydrological cooperation include:

(a) Comparison and harmonization of hydrological data: Working group members meet twice per year and compare and harmonize measured data in accordance with of the rules of procedure, which specify selected profiles, measured parameters, discharges, discharges' rating curves, the frequency of measurement, the handling of data, the assessment of results, etc. Results (harmonized hydrological data) are submitted to the Commission for approval and are included into the Protocol of the Commission.

(b) Under the umbrella of the working group for hydrology, experts by both countries work on flood forecasting. Their role is crucial, as they have to communicate directly and immediately with partners in neighbouring countries without delay in the event of possible critical situations and emergencies. To ensure proper communication, a list of these experts, including all coordinates, is regularly updated and is part of the documents of the working group and subsequently part of the Protocol of the Commission. The Protocol is submitted to the Government for approval.

(c) Implementation of the Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on the assessment and management of flood risks.

G. Article 15. Mutual assistance

Article 15

1. If a critical situation should arise, the Riparian Parties shall provide mutual assistance upon request, following procedures to be established in accordance with paragraph 2 of this article.

2. The Riparian Parties shall elaborate and agree upon procedures for mutual assistance addressing, inter alia, the following issues:
(a) The direction, control, coordination and supervision of assistance;
(b) Local facilities and services to be rendered by the Party requesting assistance, including, where necessary, the facilitation of border-crossing formalities;
(c) Arrangements for holding harmless, indemnifying and/or compensating the assisting Party and/or its personnel, as well as for transit through territories of third Parties, where necessary;
(d) Methods of reimbursing assistance services.

1. Background explanations, analysis and clarification

315. Article 15 stipulates that the Riparian Parties shall provide assistance to each other in critical situations upon request and lays down some of the essential procedural matters the Riparian Parties shall agree upon in order for such assistance to effectively take place. The rationale behind this provision is that the effectiveness of response measures aimed at prevention, control or reduction of possible transboundary impact, protection of human health and the environment in a critical situation is considerably greater if the Riparian Parties coordinate their activities and assist each other in mitigating and eliminating harmful effects thereof. Moreover, the effectiveness of mutual assistance in of the event of an emergency very often depends on how prompt, coordinated, logistically well-administered and controlled – as well as complementary to domestic measures – the international aid is, and also that a proper professional and skilled personnel are used.

316. Provisions of article 15 of the Convention should be read and applied in conjunction with relevant provisions of article 14, the latter being a precondition for effective application of the former.

317. Article 15 deals with the specific conditions for providing mutual assistance by the Riparian Parties. Hence its provisions should not be regarded as placing any restrictions on the Riparian Parties if they decide to provide assistance in other forms or of other types, to any other riparian country, and under any terms they agree upon or find appropriate. At the same time, the Riparian Parties are not directly obliged to provide mutual assistance other than stipulated in the mentioned article.

318. Paragraph 1 emphasizes that mutual assistance shall be provided "if a critical situation should arise". Since articles 14 and 15 are interrelated, the core understanding of the term "critical situation" should be similar.[105] However, the nature of obligations of the Riparian Parties stipulated in these articles is somewhat different. While article 14 in its first sentence establishes a clear obligation of the Riparian Parties to inform each other about "any critical situation that may have transboundary impact", article 15 speaks of "a critical situation" only. Thus it should be stressed that pursuant to article 15, the Riparian Parties shall provide mutual assistance in any critical situation independent of whether it may or may not have transboundary impact.

[105] See commentary to article 14.

319. The term "shall provide" stands for the mandatory requirement – a clear-cut obligation – of a Riparian Party to provide assistance in a critical situation. Such assistance should be provided to other Riparian Party on a mutual basis and regardless of whether the latter is experiencing in any way significant harm arising from a critical situation. It is important to note that pursuant to article 15 (1), mutual assistance should be provided "upon request". This obligation contains a twofold requirement. One is vested with the affected Riparian Party, which in a critical situation should evaluate it and decide without undue delay whether or not to request external assistance from the other Riparian Party(ies). It is expected, therefore, that the affected Riparian Party should seek assistance when a disaster situation exceeds its national coping capacities. Its request for assistance should be explicit. The other part of the above requirement rests on the shoulders of the requested Riparian Party(ies). As soon as an explicit request for assistance by the affected Riparian Party is submitted, other Riparian Party(ies) is(are) obliged to provide such assistance.

320. To the contrary, the provision "shall provide mutual assistance upon request" shall not be considered as limiting the rights of any Riparian Party to offer assistance to the affected Riparian Party in a critical situation without waiting for the request to be submitted. In other words, in a critical situation, mutual assistance may be initiated either on the basis of a request by the affected Riparian Party or through acceptance by the affected Riparian Party of an offer from assisting Riparian Party(ies).

321. It is important to note that, aside from the mutual assistance the affected Riparian Parties may rely upon under the Convention, such Parties should do their best to reduce an impact already occurred on their territory. This obligation stems from the key provisions contained in article 2 (1), which codifies the main objective of the Convention, i.e. to prevent, control and reduce any transboundary impact. Likewise, article 28 (3) of the New York Convention provides that a State within whose territory an emergency originated shall "immediately take all practicable measures … to prevent, mitigate and eliminate any harmful effects of the emergency". To the same end, under the Model Provisions on Transboundary Flood Management (2006), whenever one Party ascertains the existence of a situation likely to cause flooding in the other Parties' territory or in the process of flooding the other Parties' territory, it shall adopt, to the extent possible, all appropriate measures to prevent or mitigate the adverse impact of the flood in the other Parties' territory.

322. Since at a time of a critical situation national and local administrations of the affected Party are under stress and that Party's capacities may be affected, reducing its ability to provide facilities, preparatory work for mutual assistance should be undertaken well in advance. To this end, the Convention in its article 15 (2) requires Riparian Parties to "elaborate and agree upon procedures for mutual assistance". The words "shall elaborate and agree" in this provision represent another obligation of result under the Convention. The rationale behind the Convention's requirement to agree upon procedures for mutual assistance in advance is to ensure prompt and effective response in critical situations and prevent undue delay and unreasonably high costs in providing assistance. Besides, negotiating an agreement on mutual assistance in advance could contribute to identifying weaknesses and strengthening preparedness of the Riparian Parties.

323. The Convention does not specify the form the procedures for mutual assistance should follow. Hence, the Riparian Parties may elaborate them as a separate section in the bilateral or multilateral agreement on cooperation concluded pursuant to article 9 of the Convention, as a self-standing agreement on mutual assistance in critical situations on transboundary waters, as a protocol or regulation to the existing agreement or as part of a general agreement on civil protection. Provisions on coordination of mutual assistance could also be among the tasks of a joint body established by the Riparian Parties.

324. Pursuant to article 15 (2), procedures for mutual assistance shall, inter alia, address the following issues:

(a) The direction, control, coordination and supervision of assistance;

(b) Local facilities and services to be rendered by the Party requesting assistance, including, where necessary, the facilitation of border-crossing formalities;

(c) Arrangements for holding harmless, indemnifying and/or compensating the assisting Party and/or its personnel, as well as for transit through territories of third Parties, where necessary;

(d) Methods of reimbursing assistance services.

325. It is worth mentioning that the words “inter alia” mean that the mentioned list, though mandatory, is not exhaustive and the Riparian Parties may establish other procedural terms and conditions, as well as regulations of mutual assistance. It should be also noted that the list provides for cooperation with other (transit) States (third Parties), which implies that agreements on mutual assistance in critical situations could be both bilateral and multilateral, and involve not only affected and assisting Riparian Parties.

2. Minimum requirements to comply with the provision

326. The Riparian Parties shall elaborate and agree upon procedures for mutual assistance in critical situations at the earliest stage of their cooperation. The framework should adequately address the initiation, facilitation, transit, direction, control, coordination and supervision of assistance consistent with provisions of the Convention. The Riparian Parties should clearly designate domestic governmental entities with responsibility and authority in these areas. Consideration should be given to establishing a central focal point to liaise between international and government actors at all levels. The procedures should be as simple and expeditious as possible and allow for determinations in advance of a critical situation. Information about the procedures should be clearly stated and made freely available.

327. With regard to emergency response personnel the procedures for mutual assistance may deal, inter alia, with: entry/exit visas and work permits; temporary recognition of foreign medical qualifications, drivers or other types of licences; and freedom of access to and freedom of movement in the area where the critical situation occurred.

328. With regard to response equipment and supplies consideration may be given, inter alia, to: their exemption from all Customs duties, taxes, tariffs or charges; export, transit, and import restrictions; simplification and minimization of documentation requirements for export, transit and import; waiver or reduction of inspection requirements; authorization for land, sea and air vehicles to operate within the territory of the affected Party; and importation and re-exportation of medications and medical equipment.

329. When agreeing upon procedures for mutual assistance in critical situations, the Riparian Parties may agree on the reimbursement of certain costs by the affected Riparian Party to assisting Riparian Party(ies). In this case, the methodology for calculating reimbursements, as well as the nature of costs to be reimbursed, should be agreed by the Riparian Parties in advance.

330. In case of a critical situation, the affected Riparian Party should assess without delay its capacity to take necessary and effective measures and should not hesitate to request assistance from other Riparian Party(ies), when such assistance could help in prevention, control or reduction of transboundary impact.

331. The effective measures to counteract most critical situations should be tailored to the situation involved, should be reasonable in view of the circumstances of the affected Riparian Party, should take into account the capabilities of that Riparian Party and possible effects on other States, and should be inclusive of domestic civil society and local knowledge, empowering communities to contribute to their own safety and protection. As an essential element of domestic measures, the affected Riparian Party should prepare itself, and be able to accept, receive, direct, coordinate and control external assistance.

332. When a critical situation ceases to exist, the Riparian Parties should jointly evaluate the response measures and the mutual assistance provided, aiming at addressing gaps and improving efficacy of mutual assistance in future.

3. Example

Box 44. Assisting Romania with mitigating floods

The Agreement between the Government of Romania and the Government of Republic of Hungary regarding the cooperation and mutual assistance in case of disasters was signed in Budapest on 9 April 2003. In 2005, based on this Agreement, the Ministry of Environment and Water Management of Romania asked for Hungarian support, through the Ministry of Environment and Water, for water discharge from the flooded areas situated in Timis county.

The assistance has been granted: 16 high-capacity discharge pumps, along with the entire additional infrastructure, including the fuel tanks, mobile workshops for technical assistance and pipes for water discharge. For this equipment, the Customs formalities were simplified according to existing legal provisions regarding exemption from Customs and other taxation.

H. Article 16. Public information

Article 16

1. The Riparian Parties shall ensure that information on the conditions of transboundary waters, measures taken or planned to be taken to prevent, control and reduce transboundary impact, and the effectiveness of those measures, is made available to the public. For this purpose, the Riparian Parties shall ensure that the following information is made available to the public:
(a) Water-quality objectives;
(b) Permits issued and the conditions required to be met;
(c) Results of water and effluent sampling carried out for the purposes of monitoring and assessment, as well as results of checking compliance with the water-quality objectives or the permit conditions.
2. The Riparian Parties shall ensure that this information shall be available to the public at all reasonable times for inspection free of charge, and shall provide members of the public with reasonable facilities for obtaining from the Riparian Parties, on payment of reasonable charges, copies of such information.

1. Background explanations, analysis and clarification

333. Article 16 partly echoes principle 10 of the Rio Declaration, which inter alia states that "at the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities" and that "States shall facilitate and encourage public awareness and participation by making information widely available". The rationale behind the obligation to make information available to the public is to raise the citizens' awareness of:

(a) The conditions of transboundary waters;

(b) The measures taken or planned to be taken to prevent, control and reduce transboundary impact; and

(c) The effectiveness of those measures. The obligation also seeks to enable the public to participate effectively in the relevant decision-making processes.

334. Article 16 and other relevant provisions of the Convention do not define or clarify the meaning of the term "the public". However, this term is defined in a number of international instruments, primarily applying the "any person" principle. For our purposes, both the Aarhus Convention and the Water Convention's Protocol on Water and Health, refer to the public as to "one or more natural or legal persons, and, in accordance with national legislation or practice, their associations, organizations or groups". This definition implies that Riparian Parties make information available to the public without discrimination as to citizenship, nationality or domicile and, in the case of a legal person, without discrimination as to where it has its registered seat or an effective centre of its activities. Moreover, under this definition, associations, organizations or groups without legal personality may also be considered to be members of the

public if they are so considered according to their national legislation or practice. This is to say that ad hoc groups can only be considered to be members of the public, for the purposes of the Convention, if the requirements to be considered as such in national legislation or practice – if any – are met.[106]

335. The expressions "information is made available to the public" and "information shall be available to the public" both stand for the obligation to actively disseminate and supply information to members of the public on the one hand, and for the obligation to provide information upon their request on the other.

336. Notwithstanding the fact that article 16 belongs to of the Convention's part II ("Provisions relating to Riparian Parties"), its obligations are of a twofold nature requiring action on both the national and international levels. Article 16 is not specific as to which body or authority is responsible for making the information available. However, each Riparian Party is to ensure that active information dissemination and provision of information on request are implemented by its public authorities. In their national legislation, Riparian Parties may also encourage or require operators whose activities may have transboundary impact to provide information directly to the public. It is also for Riparian Parties to ensure that the joint bodies established pursuant to article 9 (2), of the Convention make information available to the public through both active information dissemination and through provision of information upon request.

337. Article 16 (1) sets out the types of information which the public is entitled to receive, namely "information on the conditions of transboundary waters, measures taken or planned to be taken to prevent, control and reduce transboundary impact, and the effectiveness of those measures"[107]. Moreover, paragraph 1, by using the expression "for this purpose", further clarifies the minimum information which is to be made available to the public in order to meet the above objective. This information refers to:

(a) Water-quality objectives; permits issued and the conditions required to be met;

(b) Results of water and effluent sampling carried out for the purposes of monitoring and assessment; and

(c) The results of checking compliance with the water-quality objectives or the permit conditions.

338. When participating in the implementation of environmental impact assessments pursuant to article 9 (2 (j)), joint bodies established by the Riparian Parties under article 9 (2) of the Convention are to comply with the provisions on access to information of the Espoo Convention, if Riparian Parties are Parties to this Convention.

339. By requesting that the Riparian Parties shall ensure that information shall be available to the public at **"**all reasonable times for inspection", the Convention enables the public to have an

[106] See "The Aarhus Convention: an implementation guide", p. 40.
[107] See commentary to article 11 (3).

oversight role in the conduct of transboundary cooperation by Riparian Parties. “Reasonable times” also means that a response should be provided by public authorities and joint bodies to a person requesting information within a reasonable period of time or at the earliest stage of a decision-making process in order to allow for the most effective public participation on the relevant matters. The term “for inspection” also means that public authorities and joint bodies should also have the opportunity to receive and consider information and comments from the public.

340. The rationale behind paragraph 2 is that in order for information to be truly accessible, it must also be affordable. To this end, the Convention requires that information shall be made available to the public for inspection free of charge, and any person requesting information should be provided with reasonable facilities for obtaining copies of such information, upon payment of reasonable charges. The “reasonable charges” are those that cover the cost of reproduction and dissemination and that are not prohibitively high. It is important to note that paragraph 2 explicitly requires making available “copies” of the actual documents containing the information, rather than summaries of or excerpts from them, thus ensuring that members of the public are able to see the specific information requested in full, in the original language and in context.

341. The obligation to make information available to the public may be subject to the “protection of information” limitations of article 8 of the Convention. However, in line with principle 10 of the Rio Declaration, such limitations are to be given restrictive interpretation and application according to the rationale of principle 10, according to which that the public interest is generally best served by the widest possible disclosure of information. Refusal to access to information has always to be motivated.[108]

342. In order to provide for effective access to information at the national level, it is important that each Riparian Party guarantees the right to information through its national legislation. Appropriate contextual interpretation of the provisions of the Convention required such a right a right of information be taken duly into consideration in the establishment and operation of the relevant bilateral or multilateral agreements or arrangements developed under article 9 (1) of the Convention.

343. Riparian Parties should make sure that when public authorities and joint bodies make information available, they do so openly (transparently) and ensure that the information is really effectively accessible. Transparency means that the public can clearly follow the path of information, understanding its origin, the criteria that govern its collection, holding and dissemination, and how it can be obtained. Records, databases and documents can be considered effectively accessible when, for example, the public can search for specific pieces of information, or when the public has easy access through convenient office hours, locations, equipment such as copy machines, etc.[109]

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[108] Article 4 of the Aarhus Convention provides a list of options for possible refusal of the information. This article also spells out a procedure for refusal of an information request including the requirement of stating the reasons for the refusal, giving information on access to the review procedure and the time frame for the decision on the refusal.
[109] See *The Aarhus Convention: an implementation guide*, p. 71–72.

344. Riparian Parties should ensure that public authorities and joint bodies make information available to all members of the public without the need to state an interest. Governmental institutions and implementing agencies should also provide public access to information about policies and strategies. The procedures for granting permits (e.g. groundwater withdrawal, discharge of wastewater) should provide for access to information by the public. The public should also be actively informed in critical situations, such as (threat of) flooding, accidental water pollution, water scarcity, etc. Adequate procedures are to be established to provide the public with the information essential for participation in EIA. Where the public interest is served by the disclosure of information contained in working documents (documents in the course of completion and drafts) and comments thereon, the Riparian Parties and joint bodies should consider affording the public with access to such working documents as well as the possibility to comment on them.

345. Riparian Parties should explicitly describe relevant procedures for active information dissemination[110] and provision of information upon request in their national legislation. The Riparian Parties should also lay down the procedures for making information available to the public in bilateral or multilateral agreements or arrangements, or supplementary thematic protocols to such agreements. Joint bodies may develop specific regulations on active information dissemination and provision of information upon request.

346. In order to ensure that information is available and effectively accessible for inspection free of charge, Riparian Parties and joint bodies may set up and operate documentation centres, libraries, databases and websites. As one of the means to inform the public, electronic forms of communication should be used.

347. Riparian Parties and joint bodies should consider granting access to agendas, minutes and other documents of joint bodies and their subsidiary organs. Riparian Parties and joint bodies could provide for the participation of the public as non-voting participants in meetings of joint bodies and subsidiary organs of joint bodies as another means for active dissemination of information. Joint bodies or the Riparian Parties jointly may consider developing a public communication strategy and establishing a focal point for liaison with the public. The public should be given the opportunity to submit inquires in writing to the joint body, in order to oversee the work of the latter, according to the Convention, and to establish an open dialogue with it.

348. Detailed guidance and best practices with regard to the obligation of Riparian Parties to make information available to the public can be found in the UNECE/UNEP publication, *Water Management: Guidance on Public Participation and Compliance with Agreements* (2000).[111]

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[110] Information dissemination means giving the information to the public through means such as publications, mailings or electronic posting. It can also mean letting the public know that certain kinds of information are available, telling the public where and how to access the full text of the information, and making that information accessible to the public at little or no cost.

[111] *Water Management: Guidance on Public Participation and Compliance with Agreements.* UNECE/UNEP Network of Expert on Public Participation and Compliance, Geneva, 2000.

2. Minimum requirements to comply with the provision

349. Public authorities and joint bodies established by the Riparian Parties should possess information (the minimum list of information is outlined in article 16 (1)) by collecting and, where appropriate, processing it in order to be able to make it available to the public. Information should be regularly updated. The Riparian Parties should establish systems that ensure a regular flow of information from the operators, bodies and institutions responsible for monitoring and assessment (art. 11), and others to the responsible public authorities.

350. Public authorities and joint bodies established by the Riparian Parties should be equipped with clear, comprehensive and transparent procedures for making information available to the public, including basic terms and conditions under which the information is available and the process by which it can be obtained. To effectively implement article 16, the Parties should also let the public know which public authority holds which type of information via information publications, announcements in government publications and on governmental websites, television or radio public service announcements, or as part of environmental information catalogues.

351. When developing new or revising existing bilateral or multilateral agreements or arrangements under article 9, Riparian Parties should provide clear provisions to ensure access to information by the public. Joint bodies established by the Riparian Parties should consider developing to the extent of their capacity clear and detailed procedures to ensure access to information for the public as a prerequisite for effective participation in management and use of transboundary waters.

352. To ensure effective implementation of the obligation to make information available to the public, Riparian Parties may organize trainings for government officials on access-to-information laws, effective management of information and relations with the public.

3. Examples

Box 45. The Plenipotentiaries of the Republic of Moldova and Ukraine adopt rules on stakeholder participation

The Plenipotentiaries of Moldova and Ukraine facilitate the implementation of the bilateral Agreement on Joint Use and Protection of Transboundary Waters of 1994. In 2007, they adopted a Regulation aimed at ensuring public participation in the activities of this joint body. This became the first example of formalized rules for dissemination of information and public participation in the activities of joint bodies in the EECCA region.

The Regulation on Stakeholder Participation in the Activities of the Plenipotentiaries provides for the development of a Register of Stakeholders. Stakeholders are defined as any public authority, non-governmental organization and their associations, as well as legal persons with an interest in transboundary water management. The Register is composed of a Moldovan part and a Ukrainian part. Each Plenipotentiary is responsible for maintaining respective part of the Register. The Register is accessible on the Internet.

Thirty days before their ordinary meeting, the Plenipotentiaries inform stakeholders about all decisions made since the last meeting and about workplans. Twenty days before their meeting or event, the Plenipotentiaries inform stakeholders about date, agenda and documents of the upcoming meeting.

The Regulation provides for rights of stakeholders to suggest issues to be discussed by the Plenipotentiaries and to submit written and/or oral comments concerning draft documents together with suggestions and amendments to the draft texts. Draft documents and invitations to submit comments to them are to be published on the Internet. Comments made by stakeholders are to be taken into account when making the final decision.

In December 2007, the Plenipotentiaries also agreed to maintain a joint website for the Dniester River basin (see http://www.dniester.org).

Box 46. Capacity-building to support access to information and public participation in the Danube Basin

Between 2004 and 2006, the Regional Environmental Centre (REC-CEE), Resources for the Future (a think tank in Washington, D.C.), and the New York University School of Law implemented a project called "Enhancing Access to Information and Public Participation in Environmental Decision-making". The Project was supported by GEF and the UNDP as part of the Danube Regional Project, a 13-country initiative to clean up and protect the Danube River.

The project strengthened public access to information and participation concerning water-related issues in the Danube Basin. At the national level, it helped to build the capacities of responsible government authorities in five Danube countries –Bosnia and Herzegovina, Bulgaria, Croatia, Montenegro, Romania, and Serbia – to provide access to water-related environmental information to the public and facilitate public participation in decision-making as required by the EU WFD. It strengthened the ability of ICPDR to support stakeholder access to information and participation in water management. It also reinforced community involvement in solving water pollution-related issues at selected local hot spots and carried out five pilot demonstration projects in the Danube River basin.

The project worked with public officials and NGOs at the national, regional, and local levels in the five countries. At the national level, it identified the main barriers to public access to information and involvement in environmental decision-making, and it helped government officials and NGOs develop tools and strategies for overcoming them.

Major barriers that were found include:

- Officials had little guidance on how to carry out their responsibilities to provide water-related environmental information or consult with the public on water management issues;
- The lack of centralized databases made it difficult to know where environmental information was located within government;
- NGOs and citizens did not know their rights to obtain environmental information, and participate in water-related decision-making, or they did not understand how to exercise these rights;
- Officials were uncertain about what information should be regarded as "confidential" and withheld from disclosure, and what procedure should be applied to substantiate confidentiality claim;
- Procedures to involve stakeholders in river basin management planning and consult with the

public were inadequate.

To overcome those barriers, project participants studied "good practices" – techniques that have been effective elsewhere – and used them to develop tools and strategies adapted to their own needs and circumstances. Most chose to develop very practical written aids and tools.

For government officials, these included manuals and guidelines for ensuring access to information when carrying out their responsibilities: how to provide better access to environmental and water-related information and what to do when confidential information is involved, how to communicate with the public and how to promote the broader involvement of the public. For NGOs and the public, these included brochures and other written guides on how and where to obtain environmental information, what information should be made available, and what to do when access to information is denied and how to become engaged in water-related environmental decision-making.

At the national level, the Project inspired recommendations (including draft language or text) for changes in legislation, guidelines for handling confidential information, meta-information systems that help environmental or water officials and the public know which authority holds what information and how to obtain it, and improved websites for better communication with the public. Many of these activities were accompanied by a series of capacity-building measures, including study tours to the United States and the Netherlands and a series of regional and national workshops and training sessions for officials, to advance their knowledge on carrying out their responsibilities in practice, and for NGOs, to enable them to practice their rights and ensure that the written aids would be understood and used.

Project results are available at:
http://www.rec.org/REC/Programs/PublicParticipation/DanubeRiverBasin/default.html

I. Article 22- Settlement of disputes

Article 22

1. If a dispute arises between two or more Parties about the interpretation or application of this Convention, they shall seek a solution by negotiation or by any other means of dispute settlement acceptable to the parties to the dispute.
2. When signing, ratifying, accepting, approving or acceding to this Convention, or at any time thereafter, a Party may declare in writing to the Depositary that, for a dispute not resolved in accordance with paragraph 1 of this article, it accepts one or both of the following means of dispute settlement as compulsory in relation to any Party accepting the same obligation:
(a) Submission of the dispute to the International Court of Justice;
(b) Arbitration in accordance with the procedure set out in annex IV.
3. If the parties to the dispute have accepted both means of dispute settlement referred to in paragraph 2 of this article, the dispute may be submitted only to the International Court of Justice, unless the parties agree otherwise.

1. Background explanations, analysis and clarification

353. Article 22 (1) of the Convention provides that if a dispute arises between two or more Parties about the interpretation or application of the Convention, they shall seek a solution through negotiation or any other means of dispute settlement acceptable to them. With respect to

a dispute that could not be resolved in accordance with paragraph 1, paragraph 2 provides an "opt in" formula for compulsory arbitration or adjudication. Finally, in the case that the disputing Parties have accepted both means of dispute settlement referred to in paragraph 2, the dispute may be submitted only to the International Court of Justice, unless the Parties agree otherwise.

354. The obligation of peaceful settlement of disputes covers any interstate dispute irrespective of its subject matter or its gravity, as it is clearly enunciated in the Manila Declaration on the Peaceful Settlement of International Disputes (Manila Declaration), adopted in 1982 by the United Nations General Assembly[112]. Water disputes provide no exception to this rule. In fact, not only the Water Convention but also the New York Convention contains elaborated provisions addressing dispute settlement.

355. Article 22 of the Water Convention echoes the principle contained in articles 2 (3) and 33 of the United Nations Charter, which provide for the obligation of States to settle their disputes peacefully, while ensuring the freedom of choice of the means of dispute settlement among those enumerated in article 33 of the Charter.

356. Article 22 (1) provides for the obligation to try to settle the dispute through "negotiation or by any other means acceptable to the parties", to be conducted in good faith. This obligation can be said to be encompassed by the general principle of cooperation codified in most advanced and mandatory terms under the Convention, among others in article 2 (6), on the obligation of cooperation, and in article 9, on the conclusion of bilateral and multilateral agreements and the establishment of joint bodies.

357. Although the "other means of dispute settlement acceptable to the parties to the dispute" are not enumerated in the wording of paragraph 1, according to article 33 of the United Nations Charter, as well as the Manila Declaration, such other means are mediation, inquiry, conciliation, arbitration, judicial settlement or recourse to regional arrangements or agencies, or other peaceful means of the choice of the Parties, including good offices[113].

358. The provision under review is flexible enough so as to allow the parties to the dispute to agree on such peaceful means as may be appropriate to the circumstances and the nature of their dispute. However, if they do not agree on a specific means, article 22 (1) imposes an obligation to seek a solution through negotiation, which appears thereby as the default means of settlement of the Convention. This is due to the fact that negotiation is the means of settlement the most commonly used in international practice as well as the most effective and flexible one.

359. Some transboundary waters agreements provide for negotiations in case a dispute arises which cannot be resolved in the context of the relevant joint body. Under the prevailing conventional practice, good faith attempts at a negotiated settlement often constitute an admissibility requirement for the purposes of arbitration or adjudication

[112] General Assembly resolution 37/10.
[113] A means of dispute settlement by which a third party seeks to facilitate contact and dialogue between the disputing parties. The third party exercising good offices, differently from mediation, does not submit proposals for the settlement of the dispute. Often, good offices, with the consent of the disputing parties, evolve into mediation.

360. The EU WFD provides for a case of third party institutional involvement by the European Commission.

361. In the past, recourse to judicial or arbitral proceedings for the settlement of water disputes has not been frequent in international practice. However, cases such as the arbitral award in the Lac Lanoux case (1957) and the International Court of Justice's decision in the Gabcikovo-Nagymaros case (1997) have been landmarks in international water law. The Case Concerning Pulp Mills on the Uruguay River between Argentina and Paraguay before the International Court of Justice, pending at the time of the drafting of the present Guide, reflects the conviction of States that international adjudication is a suitable means to handle water disputes.

362. It may seem lamentable that arbitration and adjudication are not compulsory under the Convention, but only optional, like in general international law. However, under the Water Convention, such an assumed weakness is partly balanced by the dispute prevention and assistance functions that are performed by the Meeting of the Parties and its subsidiary bodies. The establishment of non-confrontational, non-judicial and consultative mechanisms, such as those provided for by "compliance committees", could only strengthen the exercise of such functions by the Meeting of the Parties.[114] Finally, the optional nature of judicial and arbitral dispute settlement under the Convention – just like in the large majority of international multilateral agreements, particularly MEAs – should be considered in light of the obligation to establish joint bodies for bilateral and multilateral cooperation under article 9, in so far as such bodies largely exercise functions close to dispute prevention and management.

2. Minimum requirements to comply with the provision

363. The obligation to settle a dispute through negotiation or other commonly agreed means is triggered every time there is a dispute concerning the interpretation or application of the Convention. In fact this will most probably happen when it appears that it is not possible to settle the matter in the context of the relevant joint body, even though, for article 22 to come into play, there is no legal requirement to exhaust every possibility to settle it within the context of such a body. Also, given that it is a framework convention, the dispute might not be limited to the provisions of the Water Convention and their proper application in a particular case, but also encompass the interpretation or application of the agreements referred to in article 9 of the Convention.

364. Whenever such a dispute arises, the Parties are, in the spirit of paragraph 1, under the obligation to seek a settlement of it. They have to conduct them in good faith, taking into account the legitimate interests of the other Party,[115] so that the dispute settlement procedure is not deprived of any meaning, and have try to avoid any action which might aggravate the dispute. In the case that they have recourse to a third party for advice (either through mediation or good offices), they should also give sympathetic consideration to its findings or conclusions. If despite all efforts a settlement has not been reached, the obligation to pursue the negotiated settlement in a good faith is not to be considered to have been breached.

[114] This sentence might be revised in light of the decision by the fifth session of the Meeting of the Parties (10–12 November 2009).
[115] See also commentary to article 10.

365. The recourse to the International Court of Justice or to the arbitration procedure may be activated only from a Party which has made to the Depositary a declaration of acceptance of one or both of those means of settlement, as described in paragraph 2, and only against a Party which has accepted the same obligation. The arbitration procedure is conducted in accordance with the procedure described in annex IV of the Convention, while adjudication before the International Court of Justice is conducted in accordance with its Statute and Rules. Awards of arbitral tribunals as well as decisions of the International Court of Justice are binding upon the parties to the dispute.

3. Examples

Box 47. Examples of dispute settlement provisions

A. Interstate dispute settlement provisions under transboundary waters agreements

A considerable number of agreements falling under the scope of the Convention reflect its article 22, confirming, through slightly different formulas, its gradual and optional approach to the means of peaceful settlement of disputes.

Article 16 of the 1999 Convention on the Protection of the Rhine provides that "1. If a dispute arises between Contracting Parties regarding the interpretation or application of this Convention, the Parties concerned shall seek a solution through negotiation or any other form of dispute settlement acceptable to them. 2. If the dispute cannot be settled in this manner, it shall, unless the Parties to the dispute decide otherwise, be submitted, at the request of one of them, to arbitration".

Likewise, the Danube River Protection Convention provides for the obligation to seek first of all a solution by negotiation or by other means of dispute settlement - if appropriate, also with the assistance by the joint body established under the Convention. Only if the dispute is not settled through diplomatic means, shall it be submitted to the International Court of Justice or to arbitration.

Other agreements contain even more concise, if general, formulas on the point at issue. Under article 8 of the agreement on the Meuse River, signed in 2002, Parties shall seek a solution by negotiation or by any other means of dispute settlement acceptable to the parties to the dispute. Furthermore, in the 1961 Protocol instituting an international commission for the protection of the Saar, the Parties agreed to settle their future disputes on the interpretation or application of the Protocol only through diplomatic means (article 11).

B. Alternative interstate dispute settlement under the European Union Water Framework Directive

The EU WFD establishes an innovative and, in the EU context, rather unusual dispute settlement mechanism. Article 12 stipulates that "where a Member State identifies an issue that has an impact on the management of its water but cannot be resolved by that Member State, it may report the issue to the Commission and any other Member State concerned and may make recommendations for the resolution of it". The Commission has six months to respond to any such report and recommendation.

Effectively, article 12 allows one Member State that cannot resolve a water management issue relating to another Member State to call in the intervention of the Commission. Although the Commission is

not provided with any particular powers to settle the dispute abetwenn the Member States concerned, and so far no formal request has been recorded to do so, article 12 remains an important *ultima ratio* possibility for countries to raise unresolved transboundary issues.

Hungary has already referred to the possible recourse to article 12 in a bilateral water dispute with one of its neighbours, which greatly contributed to the early and successful resolution of the issue.

Appendix

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