

# National Jurisdiction over Offshore areas

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## 1. Introduction

It is improbable that the then Maltese ambassador, Arvid Pardo, when he made his epoch-making speech in the UN General Assembly in 1968, was aware of the far reaching effect it would have on international behaviour at sea, and on maritime legislation, in the years to come. Now, twenty years later, the maritime world has before it the new, 1982, Convention on the Law of the Sea (CONLOS), which may not be the ultimate ideal legal document cherished by the entire ocean-oriented community, but nonetheless is a remarkable achievement and an admirable documentation of most of the world's legal convictions where the aquatic domain is concerned.

It is a unique document in that it took some fifteen years of determined and seemingly endless negotiations by diplomats, marine scientists and users of the marine environment from all over the world. But also from another point of view CONLOS is a remarkable achievement, as it did not have the "benefit" of a draft prepared by the International Law Commission (ILC), because the codification aimed at not only covered legal problems, but issues of a scientific, conservational, economic and political nature as well.

The earlier 1958 Geneva Conventions were, all of them, prepared by the ILC. This may well have been one of the reasons for their soon becoming less practicable, because insufficiently applicable to the technical developments and problems which came up shortly after their entry into force.

The 1982 CONLOS, however, giving due attention to legal problems, has devoted many an article to the definition, the limits and delimitations of offshore areas, jurisdictional matters, development of the ocean's resources, conservational questions and a host of related issues. The impact this new convention will have on nautical and international comportment is still hard to assess, but it will be considerable. Also from the hydrographic surveyor's standpoint there is reason to regard this new convention with interest, as some of its wording or provisions will require his particular attention.

Seaward limits as well as lateral delimitation of certain maritime areas are of great importance to all marine engineering activities or mineral resources development and should, therefore, be clearly and unambiguously defined, while subject to relatively easy construction and, eventually, subsequent reproduction. As will be seen hereafter determination of certain of those limits will require, amongst other things, the experienced eye and geodetic insight of the hydrographer.

## 2. Offshore Delimitation

Under the 1958 conventions offshore delimitation was a comparatively simple affair. The seaward limit of the continental shelf coincided with the 200 meter isobath. When the exploitation of certain resources were to become possible beyond that isobath, the limit of the continental shelf, or rather the limit of the jurisdiction over the resources on, or

under, the sea floor "in situ", was to be extended accordingly. There was no indication of a limit further offshore, nor was it clear for whom this extended limit would have legal efficacy; for every coastal state, or only for the coastal state at whose continental shelf limit such extended exploitation could be carried out.

The 1982 CONLOS is much more specific and detailed on this matter. A very precise definition of the seaward limit of the Exclusive Economic Zone (EEZ) is found in CONLOS Article 57, which is worded as follows:

"The exclusive economic zone shall not extend beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured."

This is a straightforward definition, not open-ended as in the 1958 Convention, but clear, concise and unambiguous.

The new description of the seaward limit of the continental shelf, however, is based on an essentially different definition altogether. In CONLOS Article 76 this limit is described in much detail, taking many possible special circumstances into consideration. In the paragraphs 2 to 7 it is said:

" . . . . 2. The continental shelf of a coastal State shall not extend beyond the limits provided for in paragraphs 4 to 6.

3. The continental margin comprises the submerged prolongation of the land mass of the coastal State, and consists of the sea-bed and subsoil of the shelf, the slope and the rise. It does not include the deep ocean floor with its oceanic ridges or the subsoil thereof.

4. (a) For the purpose of this Convention, the coastal State shall establish the outer edge of the continental margin wherever the margin extends beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, by either:

(1) a line delineated in accordance with paragraph 7 by reference to the outermost fixed points at each of which the thickness of sedimentary rocks is at least 1 per cent of the shortest distance from such point to the foot of the continental slope; or

(2) a line delineated in accordance with paragraph 7 by reference to fixed points not more than 60 nautical miles from the foot of the continental slope.

(b) In the absence of evidence to the contrary, the foot of the continental slope shall be determined as the point of maximum change in the gradient at its base.

5. The fixed points comprising the line of the outer limits of the continental shelf on the sea-bed, drawn in accordance with paragraph 4 (a) (1) and (2), either shall not exceed 350 nautical miles from the baselines from which the breadth of the territorial sea is measured or

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shall not exceed 100 nautical miles from the 2,500 metre isobath, which is a line connecting the depths of 2,500 metres.

6. Notwithstanding the provisions of paragraph 5, on submarine ridges, the outer limits of the continental shelf shall not exceed 350 nautical miles from the baselines from which the breadth of the territorial sea is measured. This paragraph does not apply to submarine elevations that are natural components of the continental margin, such as plateaux, rises, caps, banks and spurs.

7. The coastal State shall delineate the outer limits of its continental shelf, where that shelf extends beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, by straight lines not exceeding 60 nautical miles in length, connecting fixed points, defined by co-ordinates of latitude and longitude. . . .”

It is clear that this complicated definition of the seaward limits of the continental shelf requires the activities and decisions of a number of experts, amongst them the hydrographic surveyor. But whatever the intricacies of this definition, once these seaward limits have been checked, approved and established, they shall be final and binding.

A completely different problem of delimitation is presented by lateral delimitation of seaward areas between coastal States adjacent to each other, i.e. having a common land boundary. In some instances the seaward limits between coastal States opposite to each other may also present specific problems, i.e. when the distance between those States is such that their seaward limits, established according to Article 76, paragraphs 2 to 7, would be overlapping.

In the 1958 Geneva Convention this delimitation of offshore areas between adjacent or opposite States was suggested in a simple way where it was said that in the absence of agreement between parties the equidistance method of delimitation should be employed. Experience has shown that this method of partitioning of maritime areas in the offing of coastal States having a common land boundary, chances to produce results incompatible with the notion of equity as entertained by either one of the States concerned. Especially further offshore lateral partitioning according to the equidistance method tends to yield an increasingly inequitable result.

Also in the case of a continental shelf area which has to be divided between two coastal States lying opposite each other, where the equidistance method will produce what is called a “median line”, the resulting approximate equality of the areas appertaining to the two States will not necessarily satisfy the notion of equity as seen by either or both parties.

It is for such occurrences of divergence between what is equal and what is seen as equitable, that over the last two decades a number of remedial measures have been devised and applied, aimed at undoing or lessening the presumed inequities which may result from the indiscriminate application of the equidistance method of partitioning. A rather well-known, though insufficiently defined, method was developed by Beazley<sup>1</sup> in his article on half-effect lines. Beazley’s method gives acceptable results only in a number of cases, while in other circumstances its result will depend on the interpretation which the user gives to the ambiguous definition of the method.

In general it can be said that whenever the objectively

constructed equidistance delineation is deviated, shifted, rotated or in any other way modified, an element of subjectivity, if not of arbitrariness, is introduced into the new dividing line thus thought up. Such a line often shows the effects of argumentation or controversy and in many cases, but not always, will have to be decided by an impartial body, such as the International Court of Justice.

### 3. *A new approach*

It cannot be denied that the strict application of the equidistance method of delimitation often gives rise to the expression of opposing views between parties regarding equity. Consequently, the unambiguously constructed equidistance delineation is often subject to a rather arbitrary correction to ensure its acceptance. Thus the final result will, more often than not, be constructed on the basis of subjectivity.

It should, therefore, be remarked that in CONLOS the application of the equidistance method of delimitation has not been emphasised anymore. Specifically in the Articles 74 and 83 on the delimitation of the Exclusive Economic Zone, respectively that of the Continental Shelf, the following wording is found:

“The delimitation of the (Exclusive Economic Zone: Art.74, c.q. Continental Shelf: Art.83) between States with opposite or adjacent coasts shall be effected by agreement on the basis of international law, as referred to in Article 38 of the Statute of the International Court of Justice, in order to achieve an equitable solution.”

The *method* of delimitation, consequently, is left to the parties concerned. This does not mean that the equidistance method is banned, but that it should be left to the discretion of parties either to employ that method or not. It can be used when parties agree, but any other method of delimitation may equally well, or better, serve the need to achieve equity in the final result.

The better method of delimitation will be the one that yields acceptable results straightaway, without the need to apply any remedial measures. Such a method of delimitation, able to accommodate a considerable number of conflicting viewpoints, should preferably meet the following conditions:

1. it must be unambiguously defined;
2. it must be applicable in all geographical circumstances;
3. it must be able to absorb a widely divergent view of what parties may consider to constitute equity; and
4. it must yield a (composite) boundary line that can be constructed easily and accurately.

With regard to the equidistance method of delimitation it is obvious that this method meets conditions 1, 2 and 4 above. Condition 3 cannot be met because of the rigidity of the method. This rigidity originates from the method’s definition which runs as follows:

“A boundary line between the offshore areas appertaining to two adjacent, or opposite, coastal States will be called an equidistance, or a median, line when every point of it has the same distance (is equidistant) from the nearest points of the baseline from which the breadth of the territorial sea of each of the two States is measured.”

It is this notion of the “same distance” from the nearest



points of the baseline of each of the two States which makes it impossible to cater for equitable solutions other than the one approaching equality. As there are many examples where one, or both, of the negotiating parties is not satisfied with such a result, it is better to try and come up, from the beginning, with a more acceptable delineation, instead of starting with the equidistance method and applying remedial measures afterwards. This means a method satisfying not only conditions 1, 2 and 4 above, but condition 3 as well.

Such a more pliable and adaptable method of delimitation has been developed on the basis of a more general concept than equality as will be shown hereafter.

#### 4. *The Equiratio Method*

A theoretical description was given by Langeraar<sup>2</sup> of a more pliable - and rigorously defined - method of delimitation, based on simple geometrical configurations. This new method, called the *equiratio method*, has the same applicability as the equidistance one, but, moreover, is able to take into account special viewpoints regarding equity. This equiratio method can be characterised as follows:

“A boundary line between offshore areas under the jurisdiction of two coastal States, with either adjacent or opposite shores, will be called an equiratio line when every point of it is defined by a constant ratio of its distances from the nearest points of the baselines from which the breadth of the territorial sea of each State is measured.”

From this definition it follows that the equidistance method is but one - special - case of the more general and mathematically subtler equiratio one; equidistance meaning that the ratio equals unity. To illustrate the superior usefulness of the equiratio method of delimitation the above mentioned article contains a number of examples, based on simple - and, consequently, theoretical - land/sea configurations.

In a later article<sup>3</sup> the great applicability of this new method to actual physical circumstances has been shown on the basis of a number of offshore boundary lines already negotiated. The boundary lines considered have in common that they all were originally based on the equidistance principle of delimitation, but that the results thus achieved were not accepted as sufficiently equitable by at least one of the negotiating parties. The mitigating measures which finally led to acceptance were either conceived by the parties concerned, or were laid down by judgment of the International Court of Justice. But in all the four cases quoted in the article the finally accepted boundary lines were invariably arrived at in a rather haphazard way.

In the article these arbitrarily achieved boundary lines were compared to those that would have been possible had the equiratio method of delimitation been utilised. This comparison shows the evident advantages and subtlety of the equiratio method. One of the cases quoted will be repeated here so as to underline these advantages.

#### 5. *North Sea continental shelf cases*

In the North Sea Continental Shelf Cases the Kingdoms of Denmark and the Netherlands on the one hand and the Federal Republic of Germany on the other, put their case before the International Court of Justice because of their inability to solve the question of delimitation of the relevant area of the continental shelf in the North Sea between them.

The decision to refer their case to the Court was taken after negotiations between the three countries broke down, mainly because Denmark and Holland wished the equidistance method of delimitation to be applied to the entire area under consideration, whereas Germany considered that the part thus appertaining to it would be inequitably small<sup>4</sup>.

The judgment of the Court, arrived at by 11 votes to 6, was remarkably far-sighted in that several of its statements served as a model for a number of relevant articles of CONLOS about a decade later. The Court found that:

1. in each case the use of the equidistance method of delimitation is not obligatory as between parties;
2. there is no single method of delimitation the use of which is in all circumstances obligatory; and further
3. the principles and rules of international law, applicable to the delimitation as between parties of the areas of the continental shelf, include that delimitation is to be effected by agreement in accordance with equitable principles and taking account of all the relevant circumstances, in such a way as to leave as much as possible to each party all those parts of the continental shelf that constitute a natural prolongation of its land territory into and under the sea, without encroachment on the natural prolongation of the land territory of the other.

After summing up the relevant circumstances which should be taken into account, the Court adjudged that parties were to start new negotiations in order to arrive at an equitable solution. Such negotiations were carried into effect and in 1971 the three countries agreed on a set of acceptable boundary lines.

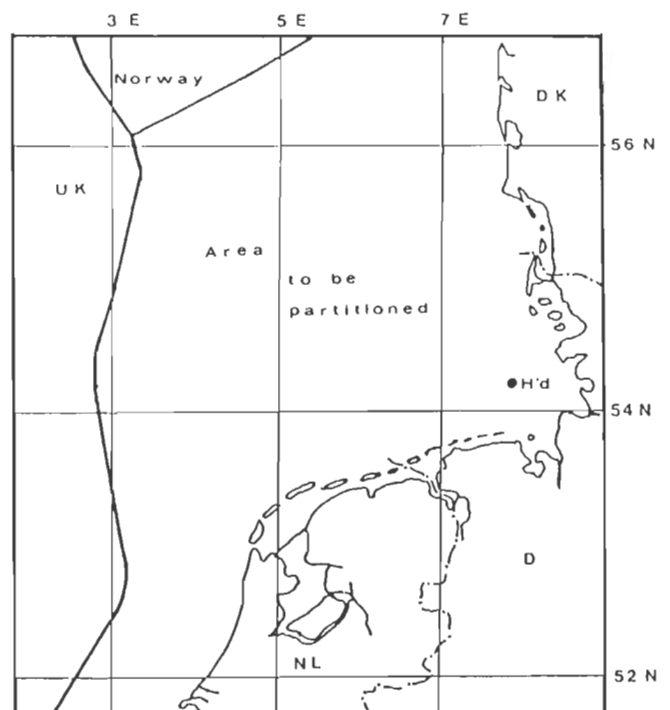


Fig. 1: The continental shelf areas of Norway and of the United Kingdom are shown. Their boundary lines are based on bilateral agreements between the relevant nations.

In Figure 1 the area of the continental shelf adjacent to the shores of the Kingdoms of the Netherlands and of Denmark,

as well as to that of the Federal Republic of Germany, is shown. The figure also shows the boundary lines delimiting the continental shelf areas which are falling under the jurisdiction of the United Kingdom and Norway.

Figure 2 shows the situation before and after 1971. In a full line is given the situation as it would present itself if the equidistance method of delimitation were to be employed indiscriminately. The line A-B-C would be the boundary line between the continental shelf areas of the Netherlands and of Germany. The line E-D-C would be the one between Denmark and Germany, whereas the Netherlands and Denmark already had agreed upon the boundary line C-F.

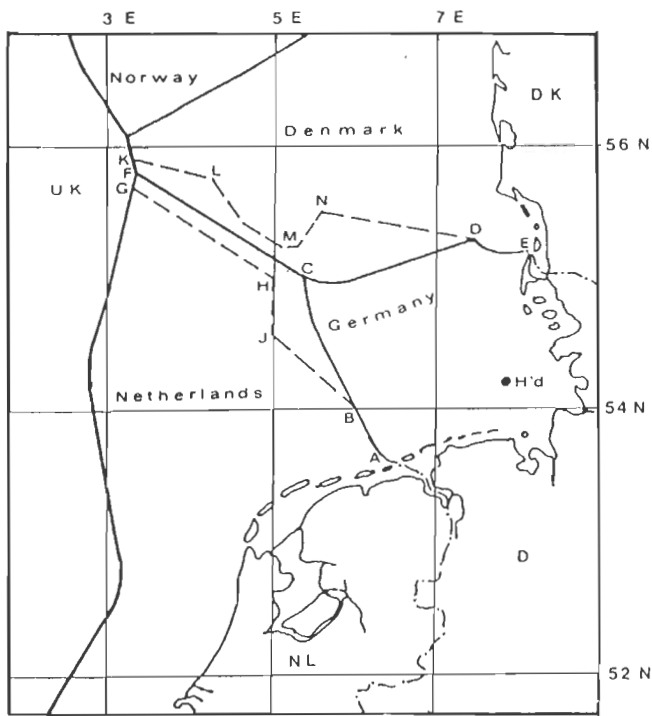


Fig. 2: The drawn lines A-B-C, C-D-E and C-F show the boundary lines between the F.R. and the Netherlands, the F.R. and Denmark and between the Netherlands and Denmark respectively if the equidistance method of delimitation were to be employed. The dashed lines show the situation as finally agreed upon and referred to in the text.

Germany considered the area A-B-C-D-E, i.e. that part of the continental shelf which would fall to the Federal Republic, as constituting an inequitably small portion of the entire area to be delimited and demanded a larger part, less under the influence of its concave coastline.

After the judgment of the International Court of Justice and the subsequent renewed negotiations, the three countries agreed on the boundary lines shown in Figure 2 as dashed lines. The boundary between the Netherlands and Germany, formed by the line A-B-J-H-G and that between Denmark and Germany by E-D-N-M-L-K. It is clear that these new demarcation lines do not specifically leave to the parties concerned those parts of the continental shelf that constitute natural prolongations of their land territories into and under the sea, but rather are more or less arbitrarily chosen corrections to the equidistance lines. These corrections being, in this case of course, all in favour of the Federal Republic.

It goes without saying that it took much time and many meetings to arrive at this result, a set of arbitrarily drawn lines needed to remedy the unacceptably inequitable result of the use of the equidistance method of delimitation. The equiratio method on the other hand, has the advantage that it is necessary to devote more time to arrive at a mutually acceptable equitable relationship, but once this is achieved the construction of the boundary line(s) actualising such a relationship is unambiguous, applicable in all geographical circumstances and can be carried out easily and accurately.

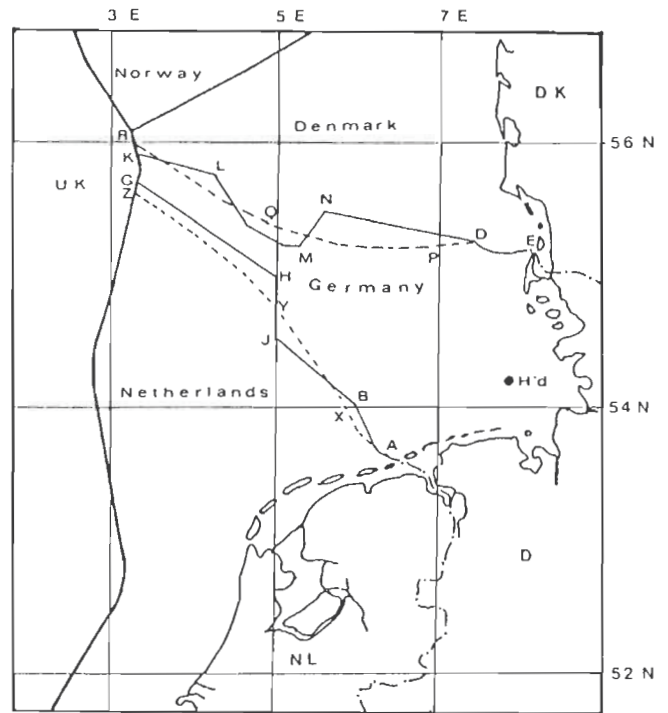


Fig. 3: The drawn boundary lines are the same as the dashed ones in Figure 2. The dashed lines A-X-Y-Z and D-P-Q-R represent boundary lines that would have been found if the 0,9 equiratio method of delimitation had been applied.

In figure 3, once more, is shown the delimitation as agreed upon and in force today, i.e. the boundary lines A-B-J-H-G and E-D-N-M-L-K referred to above between the Federal Republic of Germany and the Netherlands and Denmark respectively. In the figure these are drawn as full lines. To illustrate the versatility of the equiratio method the dashed lines in the figure, i.e. A-X-Y-Z between the Federal Republic of Germany and the Netherlands and D-P-Q-R between Germany and Denmark, represent (approximately) the 0.9 equiratio boundary lines to the advantage of the Federal Republic of Germany. This means that the distance of each of the points of line A-X-Y-Z from the nearest points on the low-water line (the base line) of the Netherlands equals nine tenths of the distance of the same points from the nearest points on the low-water line along the German coast. A similar definition is valid for the points on the 0.9 equiratio line D-P-Q-R with respect to the distances from the nearest points on the Danish base line and the German one.

From Figure 3 it follows that the 0.9 equiratio lines could fairly well replace the boundary lines existing at present. Careful construction, however, on an up to date and large-scale chart would probably reveal still better possibilities of conformity, even though this might mean a more careful



choice of the ratio, such as e.g. 0.89 or 0.91. Moreover it should be remarked that the ratios on the Danish and on the Dutch sides need not necessarily be equal.

We come to recognise, however, that the situation might have been completely different in that an initial proposal by the Netherlands and Denmark to Germany to delimit the available offshore area in accordance with an equiratio anywhere around 0.90 might have been acceptable to the Federal Republic of Germany, taking into account the boundary lines it finally agreed to. Such an initiative might have made unnecessary the appeal to the International Court of Justice.

#### 6. Final remarks and conclusions

Though there exists no single method of delimitation of offshore areas which will produce an equitable result in all circumstances, the equiratio method, better than any other system, enables negotiators to introduce the notion of equity (even of a complicated nature) into a mathematically unambiguous construction of the boundary line.

The present article does not contain any mathematical background to substantiate the effectiveness of the equiratio method of delimitation. However, when needed the reader can find these in an earlier article<sup>5</sup>.

Application of the equiratio method of delimitation to a number of (hypothetical) situations, where the geographical circumstances appear to put a shelf-locked coastal State at a

disadvantage, was attempted in an article by the author in 1986<sup>6</sup>.

In essence the construction of an equiratio boundary line does not differ from that of an equidistance one, which latter is clearly described in Shalowitz's book<sup>7</sup>. In the former case, however, the distances from the nearest points of the base lines in both countries, instead of obeying the condition of "equidistance", must satisfy a certain, predetermined and agreed, "ratio".

#### References

<sup>1</sup>Beazley P.B. 1979. *Half-effect applied to equidistance lines*. International Hydrographic Review, L.VI (1) January 1979 pp.153-160.

<sup>2</sup>Langeraar W. 1985. *Equitable Apportionment of Maritime Areas Through the Equiratio Method*. The Hydrographic Journal, No.36 April 1985 pp.19-28.

<sup>3</sup>Langeraar W. 1986. *Maritime Delimitation. The Equiratio Method - a New Approach*. Marine Policy, Vol.10, No.1 January 1986 pp.3-18.

<sup>4</sup>International Court of Justice. *North Sea Continental Shelf Cases (Federal Republic of Germany/Denmark; Federal Republic of Germany/Netherlands)*. Judgment of 20 February 1969 pp.258.

<sup>5</sup>See note<sup>2</sup>

<sup>6</sup>Langeraar W. 1986. *Delimitation of Continental Shelf Areas: A New Approach*. Journal of Maritime Law and Commerce, Vol.17, No.3, July 1986 pp.389-406.

<sup>7</sup>Shalowitz A.L. 1962. *Shore and Sea Boundaries*. pp.230-235. US Department of Commerce, Coast & Geodetic Survey, Vol.1 1962 pp.420.

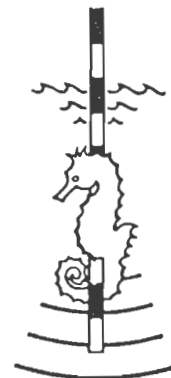
The Hydrographic Journal No. 51 January 1989

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