COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 6.5.2003
COM(2003) 237 final
2003/0090 (CNS)

Proposal for a

COUNCIL REGULATION
establishing measures for the recovery of cod stocks
(presented by the Commission)

## EXPLANATORY MEMORANDUM

This proposal to establish measures for the recovery of cod stocks follows on from those previously made for cod and hake in December 2001 and 2002. (COM(2001) 724 final and COM (2002) 773 final) It also stems from a request of the Council at the December 2002 Fisheries Council for the Commission to propose a definitive recovery plan to replace the interim measures that were imposed in Annex XVII of the TAC and quota regulation. ((EC) No 2341/2002)

A proposal for the recovery of hake stocks will now be made separately.
The overall objective of the proposal is to ensure the safe recovery of the cod stocks to the precautionary stock sizes advised by scientists within a time frame of five to ten years.

The proposal is written as four chapters:
Chapter I sets out which cod stocks are covered by this proposal and, for each, what their lowest stock size should be to be in line with the precautionary approach. This chapter remains largely unchanged from the most recent proposal. The Commission maintains its proposal that the stocks of cod in the Irish Sea and Eastern Channel should be included in this recovery plan, including in respect of fishing effort limitation. Despite the existence of specific technical measures in the Irish Sea to protect cod spawning grounds, the state of this stock is still very serious and requires more stringent measures.

Chapter II sets out what the absolute minimum stock sizes should be, below which scientists indicate that the stocks are in significant danger of total collapse.

The chapter then lays down the guidelines for the setting of the levels of Total Allowable Catch (TAC) based on estimations of actual stock sizes by scientists. If this estimated stock size is below the recommended level but above or only slightly below the minimum level then the TAC will be set so as to aim for a $30 \%$ increase in stock size in the following year. If however the estimated stock size is well below the minimum level then more severe measures are proposed.

The chapter also sets out the details of the principle that the largest annual change, upwards or downwards, in any TAC from one year to the next should not be greater than $15 \%$ after the first year of implementation of a recovery plan.

However, these rules on the setting of TACs will be subject to the exception that the precautionary fishing mortality rates recommended by scientists - i.e. the maximum fishing mortality rate comparable with sustainable exploitation - should not be exceeded. The Commission considers that the breach of these rates would be incompatible with the precautionary approach.

Chapter III contains the Commission's proposals for the management of a fishing effort limitation scheme - i.e. restricting the time that the fishing vessels concerned may spend fishing to correspond with the TAC's. These proposals are considerably simplified compared to previous proposals. The system gives flexibility to Member States and fishermen in management and allocation of fishing effort to individual fishing vessels and ensures effective and proportionate reductions in fishing effort for each Member State and can be effectively monitored and controlled.

In simple terms the system works as follows:

- first the overall historical fishing effort of all vessels catching cod is calculated;
- then the reduction in fishing effort required to match the selected TAC is determined;
- this reduction is distributed across Member States in proportion to how much cod they have landed during the reference period in comparison to the total Community landings.

These effort limits, expressed in kilowatt-days, will be distributed among their vessels by Member States, within - but not between - the geographical areas occupied by the respective cod stocks. They will be fully transferable and usable at any time throughout the year.

Other features of the system - such as the exact definition of a day absent from port and exemptions from counting days under exceptional circumstances - have also been included, and are based on consultations in relation to the implementation of the interim cod recovery measures put in place in December 2002.

Chapter IV provides for measures in relation to improved monitoring, inspection and control for the vessels covered by the effort management system. These measures include details of prior notification, the requirement to land cod in designated ports and stowage and transport conditions.

This chapter remains largely unchanged from previous proposals although the rules concerning the use of VMS have been removed as they will be addressed in a new Regulation on this issue to be adopted as part of the CFP reform.

Technical conservation measures have not been included in this regulation. A number of technical measures aimed at assisting the recovery of cod stocks have already been implemented by Council Regulation (850/1998). Further evaluation of technical conservation measures in relation to the recovery of cod is currently underway and may be implemented at a later date.

The measures implemented by this Regulation for the recovery of cod stocks directly effect those fishing for associated species in relation to the proposed effort limitation scheme. It should be noted that, although no direct reference is made in the Regulation, there will also be consequences in relation to the Total Allowable Catches for other species and stocks associated with cod.

This proposal replaces the provisions set out in the modified proposal for a Council Regulation establishing measures for the recovery of cod and hake stocks. (COM(2002) 773 final)

Proposal for a

## COUNCIL REGULATION

## establishing measures for the recovery of cod stocks

## THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 37 thereof,

Having regard to the proposal from the Commission ${ }^{1}$,
Having regard to the opinion of the European Parliament ${ }^{2}$,
Whereas:
(1) Recent scientific advice from the International Council for the Exploration of the Sea (ICES) has indicated that a number of cod stocks in Community waters have been subjected to levels of mortality by fishing which have eroded the quantities of mature fish in the sea to the point at which the stocks may not be able to replenish themselves by reproduction and that these stocks are therefore threatened with collapse.
(2) These stocks are cod in the Kattegat, the North Sea including the Skagerrak and the Eastern Channel, to the west of Scotland and in the Irish Sea.
(3) Measures need to be taken to establish multi-annual programmes for the recovery of these stocks.
(4) It is expected that recovery of these stocks under the conditions of this Regulation will take between five and ten years.
(5) The objective of the programme concerning such measures should be considered to be achieved for a stock when, for two consecutive years, the quantity of mature cod has been greater than that decided upon by managers as being within safe biological limits.
(6) In order to achieve that objective, the levels of fishing mortality rates need to be controlled so that it is highly likely that the quantities of mature fish in the sea increase from year to year.
(7) Such control of fishing mortality rates can be achieved by establishing an appropriate method for the establishment of the level of the Total Allowable Catches (TACs) of the stocks concerned, and a system whereby fishing effort on those stocks is constrained to levels so that the TACs are unlikely to be exceeded.

[^0](8) Once recovery has been achieved the Commission should propose, and the Council should decide upon, follow-up measures in accordance with Article 6 of Council Regulation 2371/2002 of 20 December 2002 on the conservation and sustainable exploitation of fisheries resources under the Common Fisheries Policy ${ }^{3}$
(9) Control measures in addition to those laid down in Council Regulation (EEC) No 2847/93 of 12 October 1993 establishing a control system applicable to the common fisheries policy ${ }^{4}$, as last amended by Regulation (EC) No $2846 / 98^{5}$ are required to ensure compliance with the measures laid down in this Regulation.

HAS ADOPTED THIS REGULATION:

## CHAPTER I SUBJECT MATTER AND DEFINITIONS

## Article 1

## Subject-matter

This Regulation establishes a recovery programme for the following cod stocks (hereinafter referred to as "depleted cod stocks") :
(a) cod in the Kattegat;
(b) cod in the North Sea, in Skagerrak and the Eastern Channel;
(c) cod to the west of Scotland;
(d) cod in the Irish Sea.

## Article 2

## Definitions of geographical areas

For the purposes of this Regulation, the following definitions of geographical areas shall apply:
(a) "Kattegat" means that part of Division IIIa, as delineated by the International Council for the Exploration of the Sea (IECS), that is bounded on the north by a line drawn from the Skagen lighthouse to the Tistlarna lighthouse and from this point to the nearest point on the Swedish coast and on the south by a line drawn from Hasenore to Gnibens Spids, from Korshage to Spodsbjerg and from Gilbjerg Hoved to Kullen;

[^1](b) "North Sea" means ICES Sub-area IV and that part of ICES Division IIIa not covered by the Skagerrak and that part of ICES Division IIa which lies within waters under the sovereignty or jurisdiction of Member States;
(c) "Skagerrak" means that part of ICES Division IIIa bounded on the west by a line drawn from the Hanstholm lighthouse to the Lindesnes lighthouse and on the south by a line drawn from the Skagen lighthouse to the Tistlarna lighthouse and from that point to the nearest point on the Swedish coast;
(d) "Eastern Channel" means ICES Division VIId;
(e) "Irish Sea" means ICES Division VIIa;
(f) "West of Scotland" means ICES Division VIa and that part of ICES Division Vb which lies within waters under the sovereignty or jurisdiction of Member States.

## CHAPTER II <br> Target levels

Article 3
Purpose of the recovery plan
The recovery plan referred to in Article 1 shall aim to increase the quantities of mature fish to values equal to or greater than the target levels specified in the following table :

## Stock

Cod in the Kattegat
Target Levels in tonnes

Cod in the North Sea, Skagerrak and Eastern Channel 150000
Cod to the west of Scotland
Cod in the Irish Sea
22000
10000

## Article 4

## Reaching of target levels

Where the Commission finds, on the basis of advice from ICES and following agreement on that advice by the Scientific Technical and Economic Committee for Fisheries (STECF), that for two consecutive years the target level for any cod stock concerned has been reached, the Council shall decide by qualified majority on a proposal from the Commission to remove that stock from the scope of this Regulation and to establish a management plan for that stock in accordance with Article 6 of Regulation 2371/2002.

# CHAPTER III <br> Total Allowable Catches 

## Article 5

## Setting of Total Allowable Catches

A TAC shall be set in accordance with Article 6 where the quantities of mature cod have been estimated by the STECF in the light of the most recent report of ICES, to be equal to or above the minimum levels specified in the following table:

## Stock

## Minimum <br> levels in Tonnes

Cod in the Kattegat 6400

Cod in the North Sea, Skagerrak and Eastern Channel 70000
Cod to the West of Scotland 14000
Cod in the Irish Sea 6000

## Article 6

## Procedure for setting Total Allowable Catches

1. Each year, the Council shall decide by qualified majority on the basis of a proposal from the Commission on a TAC for the following year for each of the depleted cod stocks.

2 The TACs shall not exceed a level of catches which a scientific evaluation carried out by the STECF in the light of the most recent report has indicated will result in an increase of $30 \%$ in the quantities of mature fish in the sea at the end of the year of their application compared to the quantities estimated to have been in the sea at the start of that year.
3. The Council shall not adopt a TAC whose capture is predicted by the STECF, in the light of the most recent report of the ICES, to generate in its year of application a fishing mortality rate greater than the following values:

## Concerned fish stock

Cod in the Kattegat
Fishing mortality rate

Cod in the North Sea, Skagerrak and 0.65
Eastern Channel
Cod to the West of Scotland
4. Where it is expected that application of paragraph 2 will result in a quantity of mature fish at the end of the year of application of the TAC in excess of the quantity indicated in Article 3, the TAC shall be set at a level of catches which, following a scientific evaluation carried out by the STECF in the light of the most recent report of ICES, will result in a quantity of mature fish at the end of the year being equal to the target level indicated in Article 3.
5. Except for the first year of application of this Article,
(a) in the event that the rules provided for in paragraphs 2 or 4 would lead to a TAC which exceeds the TAC of the preceding year by more than $15 \%$, the Council shall adopt a TAC which shall not be more than $15 \%$ greater than the TAC of that year or;
(b) in the event that the rule provided for in paragraphs 2 or 4 would lead to a TAC which is more than $15 \%$ less than the TAC of the preceding year, the Council shall adopt a TAC which is not more than $15 \%$ less than the TAC of that year.
6. Paragraphs 4 or 5 shall not apply when their application would entail an exceeding of the values laid down in paragraph 3.

## Article 7

## Setting TACs in exceptional circumstances

Where the quantities of mature fish of any of the cod stocks concerned have been estimated by the STECF, in the light of the most recent report of the ICES, to be less than the quantities set out in Article 5, the following rules shall apply :
(a) Article 6 shall apply where its application is expected to result in an increase in the quantities of mature fish at the end of the year of application of the TAC to a quantity equal to or greater than the quantity indicated in Article 5;
(b) where the application of Article 6 is not expected to result in an increase in the quantities of mature fish at the end of the year of application of the TAC to a quantity equal to or greater than the quantity indicated in Article 5, the Council shall decide by a qualified majority, on a proposal from the Commission on a TAC for the following year such that the quantity of mature fish at the end of the year of application of the TAC is expected to be greater than the quantity indicated in Article 5 or;

# CHAPTER IV <br> FISHING EFFORT LIMITATION 

## Article 8

## Setting of maximum permissible kilo-watt days

The Council shall decide by qualified majority on a proposal from the Commission on the maximum permissible level of kilowatt-days not in excess of a quantity calculated in accordance with conditions laid down in Annex I for groups of fishing vessels of each Member State, fishing for the cod stocks concerned in the forthcoming year.

## Article 9

## Establishment and composition of a data base

1. Each Member State shall establish a data base containing for each of the geographical areas defined in Article 2, for each year of the reference period referred to in paragraph 2 of this Article and for each vessel flying its flag and registered within the Community which has landed any quantity of cod, sandeel or Norway pout in that period, the following information :
(a) the name and internal registration number of the vessel;
(b) the installed engine power of the vessel in kilowatts measured in accordance with Council Regulation (EEC) No 2930/86 ${ }^{6}$;
(c) the number of days absent from port as defined in Article 13;
(d) the quantity of cod landed in tonnes;
(e) the quantity of sandeel landed in tonnes;
(f) the quantity of Norway pout landed in tonnes;
$(\mathrm{g})$ the kilowatt-days as the product of the number of days absent from port and the installed engine power in kilowatts.
2. The data base shall be established no later than the following dates :
(a) 31 October 2003, in respect of the three-year reference period 2000, 2001 and 2002;
(b) 15 July of each year subsequent to 2003 in respect of the preceding three-year period.
3. The data base shall be communicated to the Commission in written form and in computer-accessible form 15 November 2003 in respect of the reference period provided for in point 2 (a) and by 30 July of the year concerned in respect of the reference period provided for in point 2(b).
[^2]
## Article 10

## Calculations to be carried out by Member States

1. For each of the geographical areas defined in Article 2, the following quantities shall be calculated by each Member State:
(a) the average kilowatt- days for the reference period for each vessel included in the data base referred to in Article 9;
(b) the total of the average kilowatt-days for vessels as the sum of the average kilowatt-days calculated in point (a) for those vessels which during the reference period and according to the data included in the data base:
(i) have landed cod;
(ii) have landed sandeels and/or Norway pout and have landed no cod.
2. Member States shall ensure that the calculation under paragraph 1(a) shall be adjusted where necessary to take into account any limits on fishing effort resulting from obligations entered into under Council Decision No 97/413/EC.
3. The results of the calculations shall be communicated to the Commission within the same deadlines as those indicated in Article 9(3).

## Article 11

## Allocation of kilowatt-days

1. For each geographical area referred to in Article 2 each Member State shall decide on the distribution of the maximum permissible kilowatt-day among vessels flying its flag and registered in the Community.
2. The transfer of kilowatt-day shall be prohibited :

- between the areas defined in Article 2 and;
- between vessels included in List 1 or List 2 as defined in Article 12.


## Article 12

## List of vessels

1. Each Member State shall communicate to the Commission for each of the areas defined in Article 2, two lists with the name the name and internal registration number of vessels to which kilo-watt days have been allocated. These lists shall be drawn up in accordance with the following provisions:
(a) List 1 shall contain the vessels authorised to land cod;
(b) List 2 shall contain the name authorised to land sandeels and/or Norway pout and not authorised to land cod;

All vessels which appear in the data base specified in Article 9 shall be included in List 1 or List 2 and vessels which do not appear in that data base may also be included in List 1 or List 2.

No vessel may be included in both lists.
2. Until a Member State communicates lists to the Commission under paragraph 1, the lists most recently communicated to the Commission shall continue to apply.

Where no such lists have been previously communicated to the Commission, the following rules shall apply :
(a) List 1 shall be deemed to include the vessels whose names and internal registration number are included in the data base for the most recent reference period and which have landed no sandeels and/or Norway pout during that period and;
(b) List 2 shall be deemed to include any vessels not referred to in point (a).

## Article 13

## Days absent from port

The kilowatt-days allocated to an individual vessel shall be transformed into an equivalent number of days absent from port by dividing these kilowatt-days by the installed engine power in kilowatts of that vessel, adding 0.5 to the result of this calculation and ignoring any decimal or other fraction in the resultant value.

A day absent from port shall be any continuous period of 24 hours from the time of entry into a geographical area defined in Article 2 or any part of such a period.

## Article 14

## Obligations of Member States

Member States shall ensure that each vessel included in the lists referred to in Article 12(1) is not absent from port and present within any of the geographical areas referred to in Article 2 for more than the number of days calculated under paragraph 1.

## Article 15

## Prohibitions on landing and transhipping

1. A vessel which has not been included in List 1 or List 2 as defined in Article 12 shall be prohibited from landing or transhipping cod, haddock, whiting, plaice, sole, sandeels or Norway pout caught in any of the geographical areas referred to in Article 2 and shall also be prohibited from landing Norway lobsters caught in those areas unless the latter have been caught using creels.
2. Until a Member State establishes a data base and supplies it to the Commission in conformity with Article 9, all vessels of that Member State shall be prohibited from landing cod, haddock, whiting, plaice, sole, sandeels or Norway pout caught in any of the geographical areas referred to in Article 2.

# CHAPTER V <br> MONITORING, INSPECTION AND SURVEILLANCE 

Article 16

## Fishing Effort messages

The provisions of Title IIA of Regulation (EEC) No 2847/93 shall apply to vessels included in the lists referred to Article 9(2) and (3) operating in the zones listed in Annex II.

## Article 17

## Prior notification

1. The master of a Community fishing vessel, or his representative, prior to any entry into port or any landing location of a Member State carrying more than one tonne of cod on board shall inform the competent authorities of that Member State, at least four hours in advance of such entry, of:
(a) the port or landing location;
(b) the estimated time of arrival at that port or landing location ;
(c) the quantities in kilograms live weight of cod retained on board;
(d) the quantities in kilograms live weight of cod to be landed, discharged or transhipped.
2. The competent authorities of a Member State in which a landing of more than one tonne of cod is to be made, may require that the discharge of catch retained on board shall not commence until authorised by those authorities.
3. The master of a Community fishing vessel or his representative wishing to tranship or discharge at sea any quantity retained on board or to land in a port or landing location of a third country shall inform the competent authorities of the flag Member State at least 24 hours prior to tranship or discharge at sea or to landing in a third country the information referred to in paragraph 1 .

## Article 18

## Designated ports

1. Where more than two tonnes of cod are to be landed in the Community from a Community fishing vessel, the master of the vessel shall ensure that such landings are made only at designated ports.
2. Each Member State shall designate ports into which any landing of cod in excess of two tonnes shall take place.
3. Each Member State shall transmit to the Commission within 15 days of the date of entry into force of this Regulation the list of designated ports and, within 30 days thereafter, associated inspection and surveillance procedures including the terms and conditions for recording and reporting the quantities of cod within each landing.

The Commission shall transmit this information to all Member States.

## Article 19

## Separate stowage of cod

1. It shall be prohibited to retain on board a Community fishing vessel in any individual box or other container any quantity of cod mixed with any other species of marine organisms.
2. The masters of Community fishing vessels shall provide the necessary assistance to inspectors of Member States to enable the quantities declared in the logbook and the catches of cod retained on board to be cross-checked for verification purposes.

## Article 20

## Transport of cod

1. The competent authorities of a Member State may require that any quantity of cod caught in any of the geographical areas referred to in Article 2 and first landed in that Member State is weighed before being transported elsewhere from the port of first landing.
2. By way of derogation from the conditions laid down in Article 13 of Council Regulation (EEC) No 2847/93, all quantities of cod which are transported to a place other than that of first landing or import shall be accompanied by a copy of one of the declarations provided for in Article 8(1) of that Regulation pertaining to the quantities of those species transported. The exemption provided for in Article 13(4)(b) of that Regulation shall not apply.

## Article 21

## Specific monitoring programme

By way of derogation from Article $34 \mathrm{c}(1)$ of Regulation (EEC) $\mathrm{N}^{\circ}$ 2847/93, the specific monitoring programmes for the cod stocks concerned may last more than two years from their date of entry into force.

## CHAPTER VI <br> FINAL PROVISIONS

## Article 22

## Entry into force

This Regulation shall enter into force on the $20^{\text {th }}$ day following its publication in the Official Journal of the European Union.

This Regulation shall be binding in its entirety and directly applicable in all Member States.
Done at Brussels,

For the Council
The President

## Annex I

The Commission will be responsible for carrying out the calculations described in this Annex.

## Calculation of maximum permissible kilowatt-days for each Member State in each geographical area.

## Part 1: Expected fishing mortality rate associated with a TAC.

The expected fishing mortality rate associated with a TAC for the forthcoming year shall be the value of fishing mortality rate which is consistent with the uptake of that TAC as stated in or derived from the most recent report of ICES. This value will be referred to hereafter as " $\mathrm{F}_{\text {tac }}$ ".

## Part 2: Calculation of the average fishing mortality rate during the reference period.

The values of the total international fishing mortality rate provided in the most recent report of ICES in each of the three years of the reference period shall be added together and the result of this calculation shall be divided by three. This value will be referred to hereafter as "Fref".

## Part 3: Calculation of the maximum permissible kilowatt-days for each Member State.

## 1. Vessels which have landed or are likely to land cod and hence are included in List 1 of Article $9^{7}$.

[^3](a) The proportion of the landings of cod generated by each Member State during the reference period shall be calculated as follows:
(i) For each of the three years of the reference period and using the data on landings provided in the most recent report of ICES or, if the latter quantities are not available, data provided by the data base of a Member State under Article 7, the total quantity of cod landed by each Member State shall be divided by the total quantity of cod landed by all Member States.
(ii) For each Member State, the quantities calculated in paragraph 1 shall be added together and the resultant quantity shall be divided by three.
(b) The squared values of each of the values calculated in (a) shall be calculated
(c) Each of the values calculated in (b) shall be multiplied by $\mathrm{F}_{\text {ref }}$ as calculated in Part 2.
(d) The values calculated for each Member State in (c) shall be divided by the kilo-watt days for that Member State as calculated under Article 8(1)(b)(i).
(e) The values calculated in (d) shall be added together.
(f) The value of $\mathrm{F}_{\text {tac }}$, as obtained in Part 1, minus $\mathrm{F}_{\text {ref }}$, as calculated in Part 2, shall be divided by the value calculated in (e)
(g) The value calculated in (f) shall be multiplied by the value for each Member State calculated in (a)(ii).
(h) Each of the values calculated in (g) shall be added to the kilo-watt days calculated by each Member State under Article 8(1)(b)(i).

## 2. Vessels which have landed or are likely to land sandeels and/or Norway pout with no landings of cod and hence are included in List 2 of Article 9.

The quantity of kilowatt days calculated by each Member State in accordance with Article $8(1)(b)(i i)$ shall be multiplied by 0.9 .

## Part 4: Comparison of effort allocation with previous effort limits set out under the Multi Annual Guidance Programmes (MAGPs)

For Member States who managed certain fleet segments with effort limits under the MAGP programmes, these limits and the vessels covered by them will be compared to the new

The next move is to distribute the total adjustment among Member States according to the proportion of the total landings of cod by all Member States which was taken by each Member State during the reference period.
Paragraph (g) distributes this total adjustment among Member States by the proportion of the total cod landings taken be each Member State during the reference period (these proportions were calculated in paragraph (a))
Paragraph (h) adjusts the kilo-watt days of each Member State by the appropriate quantity calculated in paragraph (g) to derive the resultant maximum permissible kilo-watt days for each Member State to ensure that Ftac and hence the TAC itself will not be exceeded.

## In Part 3(2)

The kilo-watt days during the reference period of vessels which have not landed cod but have landed sandeels and/or Norway pout are reduced by $10 \%$.
limitations and vessels covered by this Regulation. These new limitations must be less than or equal to those previously set.

## Part 5: Concluding comments

The quantities of kilowatt days calculated in paragraph 1(h) and paragraph 2 of Part 3 are, respectively, the maximum permissible kilo-watt days for vessels appearing on List 1 and list 2 as defined in paragraphs 3 or 4 of Article 9.

## Annex II

## Effort Zones

IIIa (Kattegat)
IV, IIa (North Sea), IIIa (Skagerrak) and VIId (eastern Channel)
Vb, and VIa (West Scotland)
VIIa (Irish Sea)


[^0]:    1 OJ C, , p.
    OJ C, , p. .

[^1]:    3
    $4 \quad$ OJ L 358, 31.12.2002, p. 59
    $4 \quad$ OJ L 261, 20.10.1993, p. 1
    OJ L 358, 31.12.1998, p. 5

[^2]:    ${ }^{6} \quad$ OJ L 274, 25.09.1986, p. 1

[^3]:    7 The computations defined in Part 3 of this Annex result in values of maximum permissible kilo-watt days for each Member State in relation to the proportion of cod landed by each Member State during the reference period. Part 3 (1) calculates these values for vessels which appear on List 1 and Part 3 (2) calculates analogous values for vessels which appear on List 2.

    ## In Part 3(1)

    The first move in these calculations is to evaluate the total adjustment to kilo-watt days across all Member State during the reference period which is required to ensure that the kilo-watt days associated with the uptake of the TAC and hence the fishing mortality rate associated with the TAC will not be exceeded.
    This total adjustment $(\mathrm{K})$ is calculated from the following equation:
    $\mathrm{K}=\left(\mathrm{F}_{\text {tac }}-\mathrm{F}_{\text {ref }}\right) / \Sigma_{\mathrm{ms}}\left(\mathrm{F}_{\text {ref }} \times \mathrm{P}_{\text {ref,ms }}^{2} / \mathrm{D}_{\text {ref,ms }}\right)$
    Where:
    $\mathrm{F}_{\text {tac }}$ is the Fishing mortality rate required to take the TAC as obtained in Part 1
    $\mathrm{F}_{\text {ref }}$ is the fishing mortality rate during the reference period as calculated in Part 2
    $\mathrm{P}_{\text {ref,ms }}$ is the proportion of the landings of cod by all Member States taken by an individual Member State during the reference period.
    $\mathrm{D}_{\text {ref,ms }}$ is the average kilo-watt days expended per year by a Member State during the reference period as calcilated by Member States in Article 8(1)(b)(i)
    K is the total reduction in kilo-watt days across all Member States
    Paragraph (a) calculates for each Member State the value of $\mathrm{P}^{2}$ ref,ms
    Paragraph (b) calculates for each Member State the value of $\mathrm{P}^{2}$ ref,ms
    Paragraph (c) calculates for each Member State the value of $\mathrm{F}_{\text {ref }} \times \mathrm{P}^{2}$ ref,ms
    Paragraph (d) calculates for each Member State the value of $\mathrm{F}_{\text {ref }} \times \mathrm{P}_{\text {ref,ms }}^{2} / \mathrm{D}_{\text {ref,ms }}$
    Paragraph (e) adds together the values for each Member State obtained in paragraph (d) as indicated by the summation operator $\left(\Sigma_{\mathrm{ms}}\right)$ in the equation above
    Paragraph (f) divides the difference between Ftac and Fref by the result obtained in paragraph (e). The resultant value is K in the equation above which is the total adjustment of kilo-watt days compared to those of the reference period required to ensure that Ftac will not be exceeded.

