codex alimentarius commission

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

WORLD HEALTH ORGANIZATION

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**Agenda Item (3)** **CX/QFF 08/01/3**

**JOINT FAO/WHO FOOD STANDARDS PROGRAMME**

**AD HOC CODEX INTERGOVERNMENTAL TASK FORCE ON THE PROCESSING AND HANDLING OF QUICK FROZEN FOODS**

**E**

# PROPOSED DRAFT RECOMMENDED INTERNATIONAL CODE OF PRACTICE FOR THE PROCESSING AND HANDLING OF QUICK FROZEN FOODS

**(At Step 3)**

**Comments from Brazil, European Community, Japan, Kenya, Thailand, United States of America and EuroCommerce**

## BRAZIL

Brazil aims to congratulate Thailand and the United States for the new structure of the document, leading to more clearness and certitude.

Comments:

| *Section and sentence/paragraph* | *Type of change* | *Rationale* | *Proposed changes* |
|---|---|---|---|
| *3.1.4 Equipment Design and Constructions* | *Clarification.* | *It is not clear that unsuitable or hazard chemicals are of prohibited use* | *Include a list of prohibited cryogenic fluids or a reference for the objectionable use of high toxic or environment harmful fluids.* |
| *ANNEX*<br><br>*2.2.1 During Transport* | *Clarification* | *The indication of the figures (top and bottom) is not clear.*<br><br>*The fourth black bullet is loose.* | *Make clear references to Figures 1 and 2.*<br><br>*Create borders to include the figures. This is especially important to Figure 2 and its 5 white bullets.* |

## EUROPEAN COMMUNITY

**General comments**

The European Community and its 27 Member States (ECMS) wish to commend Thailand and the United States for the revision of the Code of Practice for the Processing and Handling of Quick Frozen Foods and are pleased to provide their comments in reply to Circular Letter CL 2007/35-QFF.

The ECMS appreciate the new structure of the document which is clearer, shorter, more focused and more universal. This is fully in line with the objective to establish a horizontal code of practice with the essential principles of the quick freezing process and distribution of quick frozen foods for which the cold chain is the only element which guarantee their preservation and where several steps of transport/storage can occur before the products reach the consumers.

As already stated in the reply to CL 2007/06-QFF, the ECMS:

a) Approve the deletion of the terms "Defect Action Point" (DAP) and "DAP analysis" and support the concept of "essential quality provisions" (EQPs). EQPs are associated with CCPs at the main steps of the process; this represents a huge improvement;

b) Support the new section 5 which merges the original section 4 (Cold Chain Control: Safety Aspects) and section 5 (Cold Chain Control: Quality Aspects);

c) Agree with the deletion of original annexes 1 and 2 which described practical examples of quick freezing (chicken nuggets).

An issue that still needs to be discussed seems to be the use of the term "CCP". Given a critical control point (CCP) is defined as *"a step at which control can be applied and is essential to prevent or eliminate to prevent or eliminate a food safety hazard or reduce it to an acceptable level"*[1], in our understanding some on the CCPs mentioned in proposed Code of Practice do not fulfil the criteria of this definition, for example the CCP mentioned in section 4.3 (2nd paragraph, last sentence: *"Freezing may be a CCP"*).

**Specific comments**

**INTRODUCTION**

Editorial comment: Paragraph 4: delete the word 'of' in the first line as follows:

"*…and must be used in conjunction with ~~of~~ the GPFH.*"

**1. SCOPE AND OBJECTIVE**

The ECMS propose to amend the first sentence as follows: "*This code applies to the receiving, preparation, processing, handling, storage, transport, distribution and retailing of quick frozen foods including fruits and vegetables, **and food of animal origin**, ~~fish, meat, poultry and their products~~.*"

In our opinion it would be preferable to use the wider term "*food of animal origin*" instead of *"fish, meat, poultry and their products"* to make sure that the Code of Practice covers all relevant products.

**2. DEFINITIONS**

-The definition for "Cold chain" should also encompass the professional users who receive and use quick frozen foods (canteens, restaurants, etc). The ECMS therefore suggest amending the definition as follows: "*A term embracing the continuity of successively employed means to maintain the temperature of foods, as appropriate, from receiving through processing, ~~and~~ retailing **and delivery to the final user**.*"

- The definition for "*Quick frozen foods*" should precise that the temperature should apply in all points in all cold chain. In addition, tolerances are foreseen in the text of the code and do not need to appear in the definition. The text of the definition could therefore be as follows: "*Quick frozen food: Food which has been subjected to a quick freezing process and maintained at -18°C or colder **at all points** in the cold chain, ~~subject to permitted tolerances,~~ and labelled as such.*"

- A definition for "*Glazing*" is introduced in footnote 4 ("*The application of a protective layer of ice formed on the surface of a frozen product by spraying it with, or dipping it into, potable water, or potable water with additives adopted by the Codex Alimentarius Commission, as appropriate.*"). It would be more logical to include this definition in section 2.

[1] See CAC/RCP-1-1969, Rev. 4-2003 - Annex

**3. PREREQUISITE PROGRAMME**

The ECMS suggest the text at paragraph 2 should read: "***Prerequisite programmes are associated with food safety, however properly operating prerequisite programmes will also contribute to product quality***". The ECMS have commented previously that the prerequisite programme should only deal with safety issues and not refer to quality, in line with the Recommended International Code of Practice: General Principles of Food Hygiene (GPFH). Prerequisite programmes, as referred to in the GPFH, clearly relate to HACCP / safety issues:

*"Prior to application of HACCP to any sector of the food chain, that sector should have in place prerequisite programs such as good hygienic practices according to the Codex General Principles of Food Hygiene, the appropriate Codex Codes of Practice, and appropriate food safety requirements. These prerequisite programs to HACCP, including training, should be well established, fully operational and verified in order to facilitate the successful application and implementation of the HACCP system."* (CAC/RCP 1-1969, Rev. 4-2003 – Annex)

The ECMS suggest adding the following paragraph after the first paragraph: "*All prerequisite programmes must be initially verified and validated and appropriate preventive measures and a monitoring system should be in place. Whereas a deviation from the limits set for the monitoring of prerequisites occurs, a proper corrective action should be applied and addressed under the HACCP plan.*"

**3.1 ESTABLISHMENT: DESIGN AND FACILITIES**

**3.1.2 Process Plant Design**

The title for the sub-section could be simplified to be "*Plant Design*" as it applies to plants in general.

Sub-sections 3.1.5 (*Facilities*) and 3.1.5.1 (*Electricity*) should be included in 3.1.2 as they relate to plants. In addition, original section 3.1.5.1 should be complemented to foresee a contingency plan concerning all premises and covering not only power losses but also various failures of the equipment. It could read as follows: "***It is necessary to foresee a contingency plan allowing maintaining the temperature of quick frozen foods in case of interruption of cold production***".

**3.1.3 Cold Store Design**

In this paragraph, a temperature inferior or equal to -18°C is recommended. Appropriate storage is a key step to maintain the quality of products. It is therefore important that storage temperature be stable, as low as possible, and inferior to -18°C. The first bullet could then be modified as follows: "*adequate refrigerating capacity provides and maintains a* ***stable*** *temperature* ***as low as possible and inferior or equal to*** ~~*of*~~ *-18°C* ~~*or colder*~~*.*"

Bullet 4: replace the word "*avoided*" with "*minimised*" as follows: "*loss of cold air and introduction of warm and humid air are* ~~*avoided*~~ ***minimised;"*** Realistically, it is not possible to completely avoid loss of cold air or introduction of warm air because this will occur when the door is opened.

**3.1.5.1 Electricity**

The contingency plan should not only address power losses but also interruption of cold production (e.g. compressor) and should take into consideration all production and storage facilities. In addition an alternative power source is not the only possibility to address the problem, it is also conceivable to move the products in another facility. The ECMS therefore propose the following amendments: *"In the case of power losses* ***or interruption of cold production****, the facility* ***(production and storage)*** *should have a contingency plan to provide* ***e.g.*** *an alternative power source in order to maintain the temperature of the quick frozen foods."*

**3.2.1.1 Traceability/Product Tracing**

In the first bullet, the ECMS suggest that the term '*recall*' be deleted from the text so that it reads, " .. *by appropriate procedures*". This is because there is possibility of confusion of using both terms "*withdrawal*" and "*recall*" in the same sentence, especially as there is no qualification of what is meant by these terms in this bullet. If the term "*recall*" were to be retained in this bullet, there needs to be an explanation of the context in which it is used.

**4. COLD CHAIN CONTROL**

In the second paragraph, the reference to other Codex documents could be deleted as this is already done in the introduction "~~*With respect to food hygiene, this Code should be used in conjunction with the GPFH and other relevant Codex texts…*~~"

In paragraph 3, the ECMS suggest deleting the following sentence: "*While control of essential quality provisions may be considered optional, control of food safety hazards….*" and add the following sentence in paragraph 2:"***Control of food safety hazards through prerequisite programs and a HACCP plan should be used, as appropriate, to ensure safety***"

The ECMS do not agree with the existing text which suggests that control of essential quality provisions may be treated as "optional".

**4.1 RAW MATERIALS**

In the third paragraph, second sentence, we propose to replace the word *"appropriately*" by "*regularly"*

"*Temperatures and duration of storage should be* ***regularly*** ~~*appropriately*~~ *controlled to minimize adverse microbial effects.*"

Temperature control is an important operation in the process and should be performed constantly, not on a case-by-case decision.

For coherence reasons in the order of operations, the 5th paragraph "*Producers should have appropriate procedures … shortest time possible.*" could be moved after the second paragraph.

**4.2 PROCESSING BEFORE FREEZING**

Editorial comment: Paragraph 3: change "*grazing*" to "*glazing*" as follows "*the impact of* ~~*grazing*~~ ***glazing*** *should therefore be assessed….*"

**4.3 QUICK FREEZING PROCESS**

This paragraph should be structured in two parts, first the process (i.e. 4.3.1 Process), and second (4.3.2) the impact of quick freezing on micro-organisms and parasites.

**4.3.1 Process**

The ECMS propose the following modification to the second sentence of the first paragraph: *"With most products this is best achieved by ensuring that the product passes quickly through the temperature range of maximum ice crystallization, usually* ~~*-1°C to*~~ ***about*** *-5°C at the thermal centre of the product."*

Indeed we do not know any food product able to reach the temperature of maximum crystallization at -1°C.

The ECMS believe it is important to underline that the quick freezing process should include the thermal stabilisation at the thermal centre. In addition the necessity to avoid high moisture conditions in the 3rd paragraph should be stressed (this sentence could also be transferred to section 4.7 Transfer points). It could then be amended as follows: *"The quick freezing process should not be regarded as complete until the product temperature has reached -18°C or colder at the thermal centre* ***after thermal stabilisation****. On exit from the freezing apparatus, the product should be maintained at -18°C and not be exposed to warm temperatures* ***and/or high moisture conditions*** *and should be moved to a cold store as quickly as possible."*

**4.3.2 Impact of Quick Freezing on Microorganisms *and Parasites***

The first paragraph could be amended as follows to be more accurate: "*Freezing should not be considered as a lethal treatment for microbiological contamination in foods. However, freezing may result in the death of certain* ***parasites*** ~~*microorganisms*~~ *and will inhibit the growth of* ~~*others*~~ ***certain microorganisms***."

**4.4 PACKAGING AND LABELLING**

Page 7, second line, "*authorized tolerances*" are mentioned without clarifying by whom these tolerances are granted. The ECMS would welcome a clearer text by replacing "*authorized tolerances*" by "***within the tolerances authorized by national legislation****…*".

**4.6 TRANSPORT AND DISTRIBUTION**

The ECMS propose to add the following wording at the end of the first paragraph:

*" (...) maintains a product temperature of -18 ◦C [or colder]. **The product temperature should be -18 ◦C at the beginning of the transport. Any freezing during the transport process should be strictly avoided**."*

Freezing processes during transport are associated with serious hygiene risks and should be strictly avoided, as even modern refrigerated trucks do not dispose of adequate cooling capacity to ensure a rapid freezing process.

4th paragraph: The EC legislation does not allow a rising of temperature up to -12°C, however as reference is made to national legislation provisions which should be complied with, the ECMS could accept to keep these provisions, but suggest however to add a sentence underlining that the temperature should be lowered to -18°C as soon as possible. In line with previous comments, professional users should be mentioned.

*"Distribution of quick frozen foods to retailers **and professional users** should be carried out in such a way that any rise in product temperature warmer than -18ºC be kept to a minimum within, as appropriate, the limit set by national legislation and should not in any case be warmer than -12ºC in the warmest pack to ensure quality of the products. **After delivery, the temperature of quick frozen foods should be lowered to -18°C as soon as possible.**"*

The fifth paragraph could be moved to section 4.7 Transfer points.

**4.7 TRANSFER POINTS**

Bullets 1 and 5 both relating to handling could be merged.

**5. TEMPERATURE MANAGEMENT IN THE COLD CHAIN**

The ECMS support the new section 5 "Temperature management in the cold chain", in particular the reference to new monitoring techniques such as computerised temperature recorders.

**5.1 TEMPERATURE MONITORING**

The ECMS suggest that a further new point is made here in respect of the first paragraph of section 5.1 “Temperature Monitoring”. Namely, that previously, this section specified the temperature that quick frozen foods should be held at, i.e. -18ºC but acknowledged that national tolerances may apply. This concept remains valid and we suggest that the text of first paragraph of section 5.1 “Temperature Monitoring” is changed to read “ … *are maintained at -18ºC or colder. Tolerances to this temperature may apply in accordance with national legislation*”.

**5.2 STEPWISE APPROACH TO TEMPERATURE CONTROL**

The ECMS would like to stress that temperature monitoring records are generally not immediately available and that temperature should therefore be routinely checked while it is only recommended in the proposed document in case of doubts. In addition, operators and official services should always have the possibility to carry out a destructive temperature measurement when they judge it appropriate.

**5.3 TEMPERATURE VIOLATION**

Third sentence of this paragraph should be amended as follows "*It is the responsibility of the person in possession of the food to ensure that **any measures for protecting the consumer's health and preserving the food are taken, which according the gravity of the violation could be e.g. lowering the temperature, immediate consumption or destruction*** ~~*its temperature is brought down immediately, and, more generally, to take any necessary measures for preserving the food*~~*."* to reflect the fact that it is not always conceivable to just lower the temperature in order to correct the violation.

The penultimate sentence could also be amended in order to foresee the information of all involved parties: "*In cases of compromised safety or quality, the supplier, as well as* ~~*the buyer (if known)*~~ ***all involved parties,*** *should be informed of the incident.*"

This section deals with the issue of 'Temperature Violation' but does not address the situation where a product is still considered safe, but it no longer meets the Code of Practice requirements for quick frozen foods in respect of permitted temperature tolerances. In these cases, the existing product would be labelled as 'quick frozen' however it should be clear that such a product cannot be offered for sale as such. The ECMS therefore suggest a new sentence is added at the end of the paragraph as follows: "***In the case where safety has not been compromised, but the product no longer meets the specific requirements in the Code of Practice for a quick frozen food, the product shall not be labelled as 'quick frozen' nor offered for sale as such***."

**ANNEX: SPECIFIC INFORMATION ON TEMPERATURE MONITORING AND CONTROL IN THE COLD CHAIN**

The details provided in Annex are considered to be of great importance. For this reason, the Annex should be retained and incorporated in the text of the Code of practice; we consider that air and product temperature monitoring during the cold chain are essential to guarantee the integrity and quality of the quick frozen products. The same applies for the sampling procedure.

**1.2 AIR TEMPERATURE MONITORING OF COLD STORES**

The amount of sensors stated here seems to be quite high. In some companies with for example a storage capacity of 200,000 $m^3$ only two sensors are needed at present. According to these new provisions, there would have to be a minimum of six sensors. The ECMS would suggest that the minimum amount of sensors is not an absolute requirement but a recommended figure.

The following text is proposed in replacement of 1.2:

***"Sensors should be placed high up, in indicative locations within the cold store, away from all possible positions causing uncontrolled temperature fluctuations such as cooler fans, the entrance or the exit (if different from the entrance) in order to enable precise recording.***

***The position of sensors must be chosen in such a way as to take under consideration the cold air circulation and furthermore to give as accurately as possible the temperature conditions of the cold store. Recommended locations can be in the beginning, the middle and the end of the cold store.***

***The sensor recorders are recommended to be positioned outside the cold stores in a convenient place, chosen for this reason.***

***As far as the number of sensors is concerned, each food business operator should evaluate its processes and make a documented decision on the number of sensors required, as part of the validation of the HACCP plan. As indicative figures, it could be considered that small cold stores (less than 500 m3) may need only one sensor, whereas, those with a volume of less than 30,000 m3 may require two sensors. Stores with a volume from 30,000 m3 to 60,000 m3 may require 4 sensors, and those with a volume above 60,000 m3 may require 6 sensors. Retail stores with a volume of less than 10 m3 can be equipped with only a visible thermometer."***

**3. OPTIONAL APPROACHES TO TEMPERATURE MONITORING: INDIRECT TEMPERATURE MEASUREMENT**

**3.3 NON-CONTACT THERMOMETERS**

A new sentence could be added at the end of the first paragraph to warn users when carrying out measurements from short distance:

***"Measurements carried out from a short distance to the product must be done with caution as this can affect the validity of the results."***

**3.4 TEMPERATURE INDICATORS (TIS) AND TIME-TEMPERATURE INDICATORS (TTIS)**

It seems appropriate to underline the lack of fiability at this stage of TIs and TTIs. The ECMS therefore suggest to amend this paragraph as follows:

*"These devices give a colour change, either when a specific temperature has been exceeded (TIs), or when the integrated exposure to a temperature over a period of time has been exceeded (TTIs). There has been a reluctance to use TIs and TTIs on retail packs for a number of reasons, in particular* ***due to their lack of fiability*** *because they are on the surface of packs and not inside the food, and because of their possible conflict with durability dates. However, TIs and TTIs may be used on the outside of cartons or pallets to detect temperature abuse during distribution from cold stores to holding stores at retail, and they can monitor transfer of quick frozen foods where monitoring records may not be available."*

## JAPAN

### GENERAL COMMENTS

We appreciate the integration of food safety aspects and quality aspects so as to simplify the Code and prevent duplication. On the other hand, it results in confusion in terms of what is mandatory, what is optional. We support the inserted sentence to the end of Section 4, "While control of essential quality provisions may be considered optional, control of food safety hazards through prerequisite programs and a HACCP plan should be used, as appropriate, to ensure safety." to make it clear that safety provision are mandatory, while quality provision are optional.

While the new concept of "essential quality provisions" instead of DAP concept was introduced and explained in the footnote, this explanation is not sufficient and unclear. Which provisions are the essential quality provisions should be identified in the Code.

### SPECIFIC COMMENTS

### 3.1 ESTABLISHMENT: DESIGN AND FACILITIES

#### 3.1.1 Location

Food safety hazard factors affecting highly perishable raw materials are temperature and time during transportation, which highly depends on transportation infrastructure rather than distance. We suggest modifying the paragraph as follows:

"In case that raw materials used for quick frozen foods are highly perishable, processing facilities should be located where the transportation infrastructure is appropriately developed so as to minimize changes of quality and safety of the raw materials".

### 4.1 RAW MATERIALS

2nd paragraph

We suggest the text "Freezing cannot improve quality," should be deleted, because it is quite natural in food processing to use raw materials of the best quality regardless of freezing effects.

5st paragraph

The following sentence should be added, "Producers should carry out necessary inspection on incoming materials for the purpose of judging their suitability for processing."

### 4.2 PROCESSING BEFORE FREEZING

3rd Paragraph

This paragraph refers to glazing process. Generally, glazing is conducted not before freezing but before packing after freezing. We suggest creating a new section "**PROCESSING AFTER FREEZING",** between **4.3** and **4. 4** and move this paragraph to this new section.

### 4.6 TRANSPORT AND DISTRIBUTION

3rd Paragraph -1st bullet "adequate supervision of product temperatures at the moment of loading;" should be revised as "adequate supervision of ~~product~~ **air** temperatures **in the refrigerated** system at the moment of loading;".

**4.7 TRANSFER POINTS**

4th bullet "The temperature of quick frozen food should be checked as it is received or dispatched and a record of these measurements retained for a period that exceeds the shelf-life of the product." should be revised as "**Where practical,** the **product** temperature ~~quick frozen food should~~ **may** be checked as it is received or dispatched and a record of these measurements retained for a period that exceeds the shelf-life of the product.".

These sentences require product temperature monitoring. If transporter has to implement sampling of products and measurement of the product temperature, the consignment product temperature may rise during sampling and measurement depending on the conditions. In addition, shortening loading time is strict conditions for the business sector. Actually this kind of operation is often not practical in the industry under normal circumstances as described in 5.1.2 of Appendix I.. We suggest these provisions should be revised as above stated not to confuse the industry.

**4.6 TRANSPORT AND DISTRIBUTION**

4th and 6th paragraphs

We do not understand the reason of the paragraph, "Distribution of quick frozen foods to retailers should be carried out in such a way that any rise in product temperature warmer than -18°C be kept to minimum within, as appropriate, the limit set by national legislation and should not in any case be warmer than -12°C in the warmest pack to ensure quality of the products". The period of time that products are kept warmer than -18 °C is an important factor, but it is not mentioned in the paragraph and that is a problem. If the product temperature rises to -12 °C somewhere in the cold chain, the quality of the products will be lower than the quality at -18 °C and there will be no meaning to keep other processes at -18 °C. Thus, we suggest amending the paragraph to "Distribution of quick frozen foods to retailers should be carried out at -18 °C or colder".

In addition, we suggest to deleting the sixth paragraph "After delivery, the product temperature should be reduced to -18 °C as soon as possible".

**4.8 RETAIL SALE**

1st paragraph, 2nd sentence

We suggest the following sentence should be deleted for the same reason as the above **4.6 TRANSPORT AND DISTRIBUTION**: "A rise in product temperature may be tolerated for short periods, with any rise warmer than -18 °C kept to a minimum, within, as appropriate, the limit set by national legislation, and should not in any case by warmer than -12 °C in the warmest pack".

**5.1 TEMPERATURE MONITORING**

1st paragraph

The first sentence refers to "tamper-proof system" for monitoring air temperature from freezing process to the cold chain. This system is optimal; however, installing this system is quite limited through the entire cold chain in terms of feasibility aspect. We propose to modify this sentence as follows:

"Installing tamper-proof systems in place is desirable to monitor air temperatures during …"

**5.2 STEPWISE APPROACH TO TEMPERATURE CONTROL**

Step 4 refers to "destructive" temperature measurement. Generally, a number of cold storage and carriers are third party operators in Japan. Consignment is not own property of cold storage and/or transporter. In that case, although destructive measurement is possible physically, it is impossible to destruct the client's consignment on business custom. We suggest revising Section 5.2 by inserting the text "in the case of own property" in the end of the first sentence of Section 5.2 Step 4.

## KENYA

**BACKGROUND**

2. A Circular letter 2007/06-QFF was issued in February, 2007, requesting comments on the Code which had been revised by Thailand, with the assistance of the United States. The Code had been revised to: a) delete the term "Defect Action Point" (DAP) and DAP analysis, as it was controversial, but retained the concept of essential quality provisions; b) combine Section 4 (Cold Chain Control: Safety Aspects ) and Section 5 (Cold Chain Control: Quality Aspects) as suggested by several countries to avoid confusion in interpretation of safety and quality aspects and to avoid overlap; c) delete original Annexes 1 and 2 since HACCP is well understood and specific examples are unnecessary and the DAP analysis had been deleted; d) delete many of the definitions since they were terms commonly understood; e) incorporate portions of original Annex 3 into the main document while continuing to retain most of the content as a separate Annex; and, f) otherwise edit and streamline the document. Further, CL 2007/06-QFF asked for comments on four specific areas, as follows:

(a) The removal of the Defect Action Point Analysis concept in the Code and its replacement by reference to essential quality provisions; ***Kenya has no objection with the replacement of this clause.***

(b) Whether the safety and quality provisions are adequately addressed in the Code, keeping in mind that the safety provisions are supplemental to those in the *International Recommended Code of Practice: General Principles of Food Hygiene*;

(c) The necessity of retaining the content of Annex 1 (Specific Information on Temperature Monitoring and Control in the Food Chain) and if retained, whether the content should remain as an Annex, be incorporated into the Code in its entirely or partially; and

***Kenya proposes that we retain the annex because it provides detailed information on temperature monitoring and therefore should remain as an annex to give more guidance to users.***

(d) Any other outstanding issues.

1) ***Kenya proposes that the scope of the code covers production and transportation of raw materials, because quality and safety starts from the production site. Measures must be in place to ensure quality and safety of incoming material***

**CLAUSE 4.2 PROCESSING BEFORE FREEZING PAGE 6, APPENDIX. I**

***We propose that the clause should be subdivided into 5 sub clauses including blanching, glazing, storage of intermediate ingredients, heat treatment and thawing of the products, for ease of reference.***

**PROPOSED DRAFT RECOMMENDED INTERNATIONAL CODE OF PRACTICE FOR THE PROCESSING AND HANDLING OF QUICK FROZEN FOODS**

**1. SCOPE AND OBJECTIVE**

This Code applies to the receiving, preparation, processing, handling, storage, transport, distribution, and retailing of quick frozen foods including fruits and vegetables, fish, meat, poultry and their products. The Code does not apply to edible ices. ***See kenya comments under (d) 1) mentioned above***

**3.1.3 Cold Store Design**

The cold store walls, floor, ceiling, and doors should be properly insulated in order to help maintain appropriate product temperatures. It is important that the design of the cold store ensures that:

• adequate refrigeration capacity that should provide and maintain a product temperature of -18°C [or colder]***; Kenya proposes for the bracket to be removed from bullet one of this clause.***

• air is distributed uniformly around the stored foods;

• temperatures are controlled and recorded on a regular basis;

• loss of cold air and introduction of warm and humid air are avoided; and

• leaks of any refrigerant are prevented. In case of a leak, immediate corrective action ought to be applied in order to eliminate the problem.

**3.1.4 Equipment Design and Construction**

The equipment should be designed and constructed in such a manner that physical damage to the raw materials and product is minimized, e.g., by ensuring there are no sharp inside corners or projections, ***use of stainless steel equipments*** and that chemical or biological hazard are not introduced into the product. Freezers should be designed and constructed so that, when properly operated, they meet the requirements of a quick freezing process. ***Kenya proposes that the word "use of stainless steel equipments"***

**We propose the arrangements of clause 4.2 to be in sub-clauses for clarity as follows:**

**4.2.1 GLAZING**

Glazing4 may be used to limit dehydration during frozen storage. Such dehydration may affect the appearance and other quality parameters of the food and the impact of ~~grazing~~ (glazing) should therefore be assessed and addressed as appropriate. We believe the word "grazing"(typing error) was meant to be "**glazing**"in the above sentence.

***4.2.2 STORAGE OF INGRIDIENTS OR PRODUCT***

If storage of intermediate ingredients (e.g., a QFF vegetable that is to be combined with other QFF vegetables or other ingredients into a final product) is necessary prior to further processing, the storage conditions, especially temperature, should be appropriate to the foodstuff concerned and if necessary, take into account future use or further processing of the food.

***4.2.3 HEAT TREATMENT***

The heat treatment of many pre-cooked foods, e.g., prepared meals, should be sufficient to ensure inactivation of pathogens of concern. In certain cases, based on the hazards and controls specified for an operation, the time-temperature treatment and subsequent cooling may be considered as CCPs.

***4.2.4 THAWING***

If frozen raw materials are used and a thawing process is included, the thawing method should be clearly defined and the thawing schedule (time and temperature parameters) should be carefully monitored. Selection of the thawing method should take into account the thickness and uniformity of size of the products in particular. Thawing should be done in a manner such that the growth of microorganisms is controlled. Thawing time and temperature parameters may be a CCP and/or an essential quality provision.

**4.3.1 Impact of Quick Freezing on Microorganisms**

Freezing should not be considered as a lethal treatment for microbiological contamination in foods. However, freezing may result in the death of certain microorganisms and will inhibit the growth of others.

***We propose that clause 4.3.1 mentioned above to be divided into two clauses whereby the second clause covers products intended for raw consumption or partially cooked products for clarity as indicated below.***

***4.3.2 Impact of quick freezing on Raw or partially cooked foods***

***In products intended for raw consumption or not fully cooked prior to consumption***, ~~freezing can be used to control hazards e.g., in fish from live helminth (nematode, trematode, cestode) parasites, such as anasakine nematodes and trichinae in pork.~~ ***freezing may serve as a control mechanism when developing HACCP plans for marinating, pickling, or other final preparations which do not supply sufficient heat from cooking to inactivate any potentially harmful parasites***.

***The conditions required for effective parasite control using freezing include the final temperature and time of holding in the frozen state. These parameters vary depending on a number of factors which may include the host species, species of parasite, thickness of the product, and arrangement of product in the freezer. The use of freezing as a food safety control measure should, as with all food safety control measures, be appropriately validated to ensure that the measure is capable of controlling the hazard5.***

**4.4 PACKAGING AND LABELLING**

***Kenya proposes to separate the two clauses" packaging and labeling" for clarity***

***4.4.1 Packaging***

In general, the packaging should:

• protect the product against dehydration;

• protect the food against microbial and other contamination that could ~~adversely~~ affect safety and quality; ***the word" adversely" is misleading to the consumer.***

• protect the sensory and other quality characteristics of the food; and

• not add to the food any substance that may influence the safety and quality of the food.

The packaging or re-packing of quick frozen foods should be carried out in such a manner that an increase in temperature, within the authorized tolerances of the quick frozen foods, does not adversely affect the safety and quality of the product.

***4.4.2 Labelling***

The labelling of packaged quick frozen foods should comply with the requirements of the *General Standard for the Labelling of Prepackaged Foods* (CODEX STAN 1-1985).

• efficient operation of the refrigerating unit during transit, including the correct thermostat setting;

5 See *Guidelines for the Validation of Food Safety Control Measures* (under development).

• an appropriate method of unloading at the points of arrival (particularly the frequency and duration of door openings);

• proper maintenance of the insulated body and the refrigeration system; and

• proper cleaning of the vehicle or container.

Distribution of quick frozen foods to retailers should be carried out in such a way that any rise in product temperature warmer than -18ºC be kept to a minimum within, as appropriate, the limit set by national legislation and should not in any case be warmer than -12ºC in the warmest pack to ensure quality of the products.

Loading into and unloading from vehicles and loading into and unloading from cold stores should be as fast as practicable and the methods used should minimize product temperature rise.

After delivery, the product temperature should be reduced to -18°C as soon as possible.

***Kenya recommends that the annex to be retained and clause 1.2 in italic (Air temperature monitoring of cold store) to be incorporated in the annex as indicated below.***

**ANNEX**

**SPECIFIC INFORMATION ON TEMPERATURE MONITORING AND CONTROL IN THE COLD CHAIN**

**1.2 AIR TEMPERATURE MONITORING OF COLD STORES**

~~Sensors should be placed in the chamber in the warmest positions. The recorders can be placed more conveniently outside the cold store or in control offices.~~

~~Sensors should be located high up and well away from the cooler fans and well away from the entry and exit doors, to avoid exaggeratedly low temperatures or wide fluctuations.~~

~~Small cold stores (less than 500 m3) may need only one sensor, whereas, those with a volume of less than 30,000 m3 should be equipped with two sensors. Stores with a volume from 30,000 m3 to 60,000 m3 will require 4 sensors, and those with a volume above 60,000 m3 should be equipped with 6 sensors.~~

~~Retail stores with a volume of less than 10 m3 can be equipped with only a visible thermometer.~~

[Alternative language proposed by the EC]:

***Kenya would prefer to use the clause indicated below than the one stated above***

*Sensors should be placed high up, in indicative locations within the cold store, away from all positions causing uncontrolled temperature fluctuations such as cooler fans, the entrance or the exit (if different from the entrance) in order to enable precise recording. The position of the sensors should be chosen taking into account the cold air circulation and in such a manner to give an accurate determination of the temperature conditions. Sensor recorders are recommended to be placed outside the cold stores in a convenient location selected for this purpose.*

*As far as the number of sensors concerned, each food business operator should, as a component of the validation of the HACCP plan, evaluate its processes and make a documented decision on the number of sensors required. As indicative figures, small cold stores (less than 500 m³) may need only one sensor, those with a volume of less than 30,000 m³s may require two sensors, those with a volume from 30,000 m³-60,000 m³ may require four sensors, and those with a volume greater than 60,000 m³ may require 6 sensors. Retail stores with a volume less than 10 m³ can be equipped with only a visible thermometer.*

## THAILAND

Thailand would like to provide additional comments to the specific section of the Code as follows:

<u>4.4 Packaging and Labelling</u>

<u>Second paragraph</u>

We are of the view that the term " authorized tolerance" is not sufficiently clear for the producer of quick frozen foods. In fact, the term "tolerances" is defined in section 2. Definition as "Short term fluctuations of temperature of the product in the cold chain, within limits permitted in this Code of Practice and which do not affect safety and quality." The temperature fluctuation of quick frozen foods during packaging and labelling is normally at a short-term nature. However, it can vary depending on types and sizes of quick frozen foods. It would be difficult to suggest a specific value of tolerance at this processing step. In addition, the application of process control under good manufacturing practice (GMP) can minimize the temperature fluctuation at this processing step.

We would suggest amending the text in this paragraph to read:

" The packing or repackaging of quick frozen foods should be carried out <u>base on GMP and</u> in such a manner that an increase in temperature, within the ~~authorized~~ tolerances of the quick frozen foods, dose not adversely affect the safety and quality of the product."

<u>Section 5 Temperature measurement in the cold chain and the Annex</u>

The Annex provides specific information on temperature monitoring and control in the cold chain however we are of the view that the status of information presented in the Annex need to be clarified. We would like to suggest adding the following text at the end of the first paragraph of Section 5.

"Annex provides an additional information and explanation on current available technology on the temperature monitoring and control in cold chain."

<u>Annex</u>

<u>1.2 Air temperature monitoring of cold stores</u>

We are of the opinion that the alternative language proposed by the EC provides better understanding on the application of this section. We would like to support adoption of this text with minor amendment in the first sentence of the second paragraph as follows:

"As far as the number of the sensors concerned, each food business operator should ~~,as a component of the validation of the HACCP plan,~~ evaluate its processes and make a documented decision on the number of sensors required."

This is to provide flexibility in its application so that the evaluation can be under HACCP plan or within other systems.

## UNITED STATES OF AMERICA

### GENERAL COMMENTS

The United States appreciates the work of Thailand in revising the *Recommended International Code of Practice for the Processing and Handling of Quick Frozen Foods.* We believe the revisions to date have substantially improved the Code. The United States has no further comments beyond those submitted previously under CL 2007/06-QFF.

## EUROCOMMERCE

1. EuroCommerce is pleased with the improvements made to this new draft, which is clearer now that it has been simplified.

2. EuroCommerce would like the Task Force meeting at the end of February to arrive at a consensus for a recommendation making it possible to guarantee the quality of frozen foods traded worldwide, resulting in this recommendation being a tool for the development of international trade. Within this context, EuroCommerce, as an observer, presents the following remarks to improve the code of recommended practices.

3. As stated in the introduction, it would seem pointless to include the provisions of the international codes of recommended practices already in force, such as those relative to hygiene, labelling, etc.

Nonetheless, it may be useful to recall in this recommendation specific to frozen foods, when and under what conditions these provisions apply, and EuroCommerce sees no issue with a reminder thereto whenever it contributes to the good understanding of the obligations of the stakeholders in the chain.

4. Certain terms specific to frozen foods would be more appropriately placed in the definitions than in footnotes (product thermal centre and glazing, for example).

5. Given that the concepts of the ISO 22000 standard are not sufficiently widespread in the world, EuroCommerce believes it would be preferable to stick to the known notions of CCP and the essential provisions for quality, as stipulated in this draft and existing *Codex* standards.

As the code of practice refers to the handling of foods, it would seem desirable that it more frequently recall that certain stages involve essential provisions in terms of safety or quality, which may be CCPs. This detail is lacking in §4.7 and §4.8, despite their being very sensitive with regard to transfer points and retail sales.

6. EuroCommerce appreciates the solution that consists in accepting tolerances limited to the final stage subject to and within the context of national legislation as the latter allows for adaptation to the situation in each country. As these tolerances are the exceptions to the rule, it is not appropriate to include them in the definition of quick frozen food (§2).

The cold chain must and can be controlled at all stages in transport and storage providing that the appropriate means are used and that handling outside cold storage, carried out speedily, is also controlled. If this tolerance has been included in the definition to reflect the recommendation authors' desire to recognise the possibility of variations during load ruptures that can occur upstream in the cold chain, then the place for this tolerance, of lesser extent than that admitted for retail, is in §4.7 regarding transfer points. Then it should also be stated that this tolerance is smaller and only affects the surface temperature.

7. EuroCommerce points out that a significant share of the consumption of frozen foods, worldwide, is in restaurant establishments and would like this recommendation to reflect this. It is inexact to limit the final stage to retail sale (§4.8); restaurant establishments are generally supplied by wholesalers who deliver the products within the cold chain.

Further, sale to consumers is not only made from sales cabinets, as home delivery has also been developed in many countries.

8. With regard to the principles, the recommendation should remind professionals that they have an obligation to control the cold chain for the products under their care.

9. In this respect, EuroCommerce asks that particular attention be paid to translations to avoid confusion between the essential notions of control and monitoring (§4 in particular).

10. With regard to monitoring, EuroCommerce again emphasises the need to retain a realistic graduation in temperature readings in accordance with practices:

- Visual check,
- Non-destructive routine check
- Destructive in-depth check of products and/or packaging in the event of a doubt about the actual temperature of the products.

The air temperature recording made during transport is generally not available at vehicle arrival. The data recorded is read at a later stage, to provide a report of the transport history and explain, if applicable, an excessively high temperature. (§5.2)

11. Detailed specifications are required for the product temperature monitoring equipment used. The exactitude and reliability of the equipment used must be ensured, both for recording the air temperature and for checking the product temperature. Certain criteria, such as the display resolution, may be considered unnecessarily demanding.

12. Sampling must above all be recommended for in-depth checks when a non-compliance is suspected. In routine delivery checks, the sampling described in the recommendation (§221 of the annex) is only valid for a homogeneous load, only found at the start of the chain. At the end of the chain, loads are mixed and so it is important to check the products as a function of their type, taking into account their successive loadings.

13. §5.3 on temperature violations must clearly note what is to be done with the products for which the temperature has been found to be non-compliant. It is not sufficient to “suspend” their sale; they must be given a new destination, which can be left up to the holder’s discretion given the many possibilities, destruction being the last resort. These products can no longer benefit from the description “Quick frozen”, as defined in this code and in Europe by the Community Directive 89/108.

14. This latter point raises an issue that is worth further investigation about the appropriateness of defining a code of international practice for frozen products that no longer meet the conditions required to benefit from the description “Quick frozen”.