

European Community Comments on Codex Circular Letter CL 2007/35-QFF

Subject: Request for comments on the Proposed Draft Recommended International Code of Practice for the Processing and Handling of Quick Frozen Foods (at Step 3)

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

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

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.

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** ~~-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 -18°C be kept to a 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. **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. -18°C 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 -18°C 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 m³ 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."*