

FSSAI - CHIFSS

FOOD SAFETY MANAGEMENT SYSTEM (FSMS)

Guidance Document

(Implementing Requirements and Best Practices)



Meat and Meat Products: Poultry

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Prepared by: CII-HUL Initiative on
Food Safety Sciences (CHIFSS)

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Acknowledgement

Food Safety is best achieved when all the stakeholders join hands and contribute in tandem for this noble cause. "Food Safety Management System (FSMS) Guidance Document for Meat and Meat Products- Poultry" is one such initiative, which we believe will go long way in ensuring the meat and meat products, produced in India, manufactured with scientifically validated processes that ensures safety for the consumers.

This document is prepared by **CHIFSS (CII-HUL Initiative for Food Safety Sciences)**.

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Preface

This **Food Safety Management System (FSMS) Guidance Document for Meat and Meat Products- Poultry** is prepared with intent to provide general guidance to Poultry Industry to ensure that critical food safety related aspects are addressed during the slaughtering and manufacturing process till it reaches retail outlet. This document mainly contains pragmatic approaches which a business can adopt during manufacturing of poultry. However, manufacturers may adopt higher stringent levels, depending on the needs.

It is advised that anyone involved in manufacturing of poultry is trained appropriately to implement the measures and to demonstrate the behaviours mentioned in the document.

It is to be noted that this guidance document does not intend to replace any legal provisions required by law as applicable from time to time. Further, wherever the provision of this document conflicts with Schedule IV of (regulation 2.1.2) of Food Safety Standards (Licensing and Registration of Food Business Operators) Regulations 2011 or any other regulations, for that matter, the provision given in the regulations shall prevail.

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7.	Walls and Pillar Protection
8.	Doors and windows covered with wire mesh to prevent entry of dirt, dust, pests and birds
9.	No paint peel off
10.	Install covered drainage system inside the premises
11.	Gender specific toilets; clean toilet facility
12.	Protected Tubelight
13.	Stunning
14.	Floor should be in kept clean and tidy
15.	Cleaning Materials and Placement
16.	Dedicated chemical (cleaning/ pest control) storage room with provision of lock and key
17.	Maintenance tools stored separately in designated and clean manner
18.	Glue traps
19.	Insecticutors should be switched on
20.	Rodent Box Sample
21.	Water Stagnation
22.	Arrangement of periodic medical check-ups and vaccinations in line with Schedule IV (FSSR 2011) for employees and food handlers
23.	Steps of hand-washing
24.	Touch free (hands free) taps at wash basins to avoid cross contamination
25.	Foot Operated Hand Washing System
26.	Automatic IPA hand sanitizer at entrance
27.	Auto shoe cover dispenser and Gum Boots
28.	Automatic hand-washing and foot cleaning system
29.	Provision of hand dryer for drying hands at entrance
30.	Usage of sanitizer (IPA) before going inside process
31.	Storage of personal hygiene clothing
32.	No usage of Gutkha/ tobacco inside the plant

List of Templates

Record No.	Record Title
1.	Mandatory Performas
1.1	Medical Fitness Certificate for Food handlers
1.2	FORM E
2.	Recommendatory Performa
2.1	Ante-mortem/Post-mortem Examination made by FSSAI
2.2	Incoming Vehicle Inspection Record (Template)
2.3	Glass & Brittle Plastic Monitoring record
2.4	Knife/ Other Utensil Monitoring record
2.5	Product Release Record
2.6	Operation Log Sheet
2.7	Rework Record
2.8	Non-conforming Material/Product
2.9	Outgoing Vehicle Inspection Record
2.10	Product Identification & Traceability
2.11	Product Recall record
2.12	Product Recall- Mock Drill report
2.13	Equipment Breakdown Maintenance report
2.14	List of Monitoring & Measuring Devices and Records of Calibration
2.15	Preventive Maintenance Schedule
2.16	Preventive Maintenance Record
2.17	Fire extinguishers inspection record
2.18	Pest Management Plan
2.19	Pest Monitoring record
2.20	Waste Disposal Record
2.21	Monitoring of personnel hygiene
2.22	Visitor Record
2.23	Product Information
2.24	Customer/ Consumer Complaint Log
2.25	Determination of Customer Satisfaction
2.26	Training Calendar
2.27	Training Need Identification
2.28	Training Record
2.29	Training Effectiveness record
2.30	Internal Audit Plan
2.31	Internal Audit Schedule
2.32	Internal Audit Observation & Non- conformance report
2.33	Correction & Corrective Action report

Abbreviations

AM

Ante Mortem Examination

CCP

Critical Control Point

ETP

Effluent Treatment Plant

FEFO

First Expiry First Out

FIFO

First in First Out

FMFO

First Manufactured First Out

FSMS

Food Safety Management System

HACCP

Hazard Analysis Critical Control Point

QA

Quality Assurance

ISO

International Organization for Standardization

GMP

Good Manufacturing Practice

GHP

Good Hygiene Practice

PM

Post Mortem Examination

MSDS

Material Safety Data Sheet

»» Scope

This FSMS Guidance Document addresses the food safety including related hazards and risks covering Poultry slaughter and poultry meat processing along with its storage, distribution and retail.

“Poultry” can be defined as domestic fowls, including chickens, turkeys, geese and ducks, raised for the production of meat. This document is made for chickens which should be applicable for all other birds falling under Poultry species.

»» Guidance to Read the Document

This document is written with a purpose to guide small and medium industry, both existing and newly established businesses. The document has three main sections.

The first section is an introduction to process flow and a brief on relevance of main processing steps.

The second section is the critical part of this document and it contains the guidance on all the steps throughout the food chain, related to basic food safety. Readers will also find some recommended practices which are currently practiced in poultry industry. Though this section is in line with the Regulation requirements (Schedule 4) and have requirements with 'shall', yet the readers will find some additional guidance mentioned with 'should'. Readers are requested to make sure the difference between 'shall' and 'should' while reading, analysing, and using the document into practice.

Shall: "To be mandatorily implemented; as provided by rules and regulations"

Should: "Strongly advised for food safety operations"

The third section of this document has tried to help industry understand basic knowledge and implementation criteria of Hazard Analysis and Critical Control Point (HACCP). The readers will find two forms of tables: **Hazard Analysis** and **HACCP Plans**.

Tables of Hazard Analysis helps the readers (industry) to find out food safety risks related to each processing step, analyse, to identify the Critical Control Points (CCPs), recommended Corrective actions and other related information.

Tables of HACCP Plans have been given for understanding. They are just for reference for the readers and should not be considered as CCPs for their own industry, without the detailed risk / Hazard analysis.

This document is written keeping in mind poultry industry with the entire processing chain i.e. from slaughtering till retail.

A. Manufacturing/ Processing Parameters for Poultry

I. Flow and Process Details

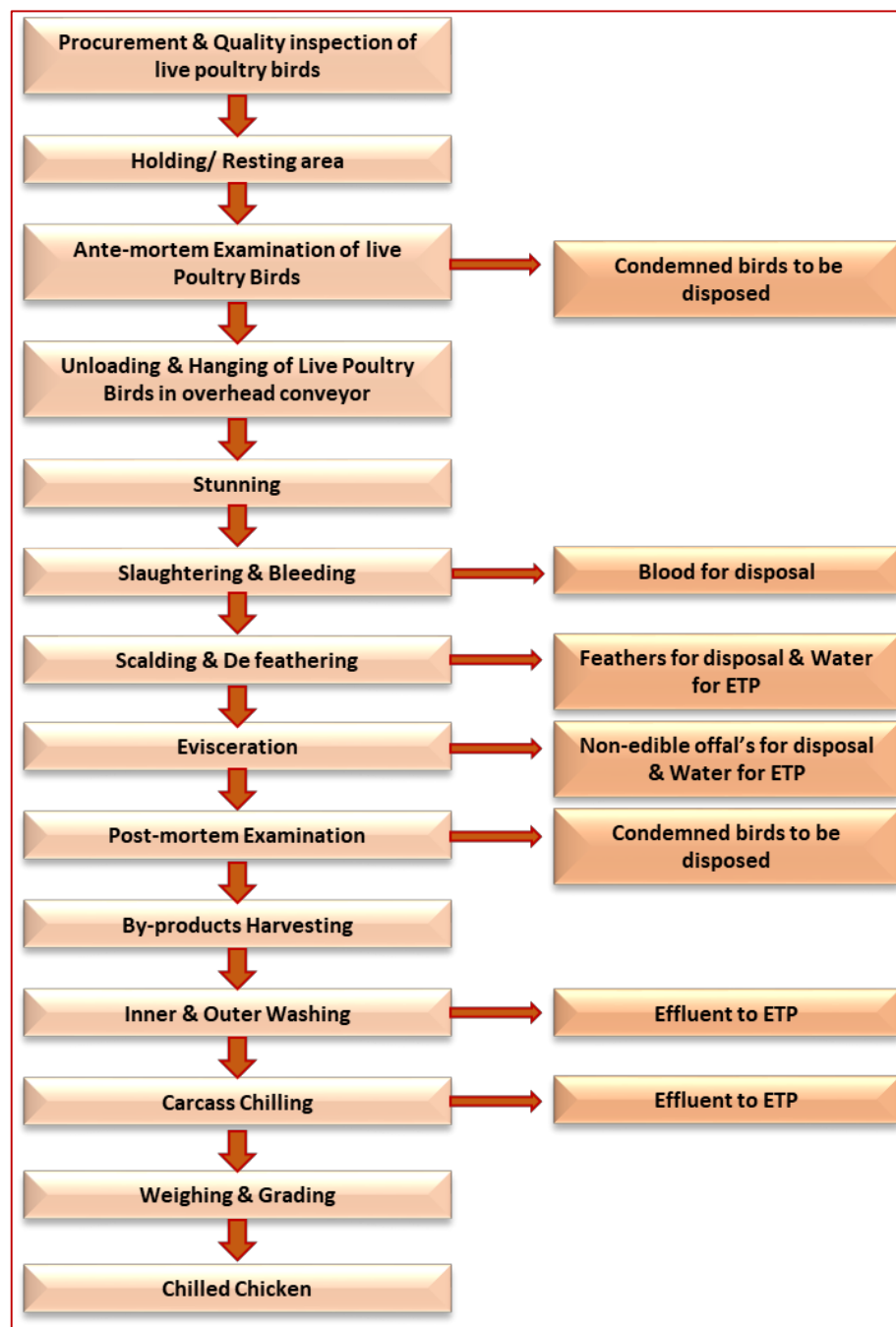


Figure A: Process Flow of Slaughter & Dressing of Poultry

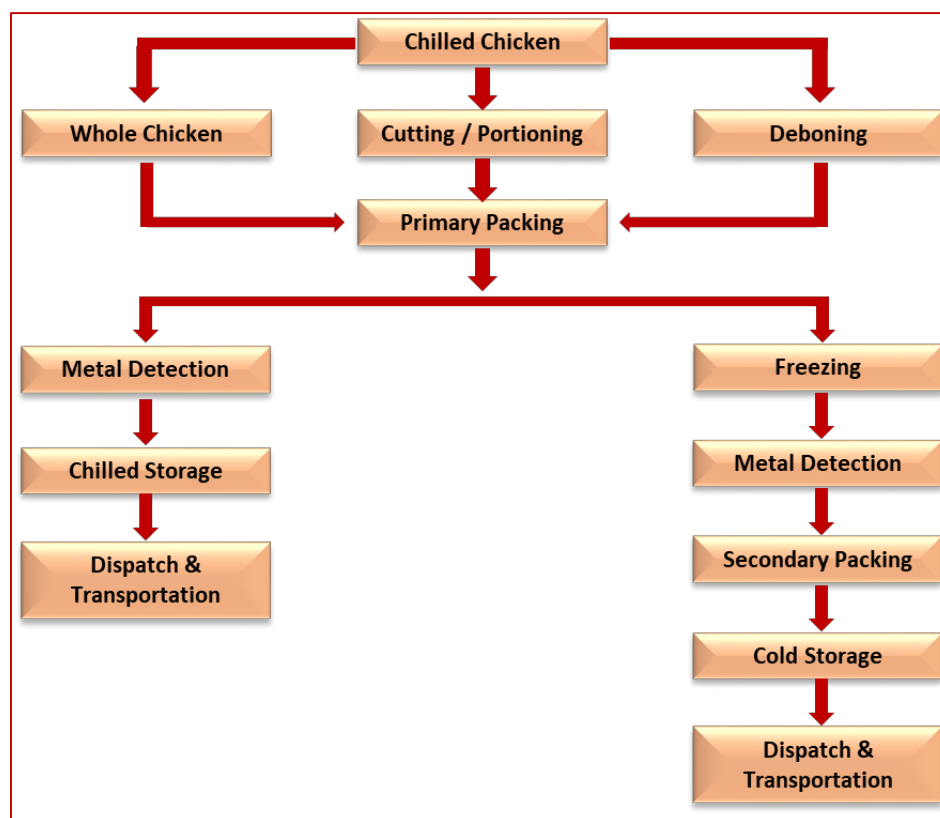


Figure B: Process Flow of Portioning, Deboning & Packing of Poultry Meat

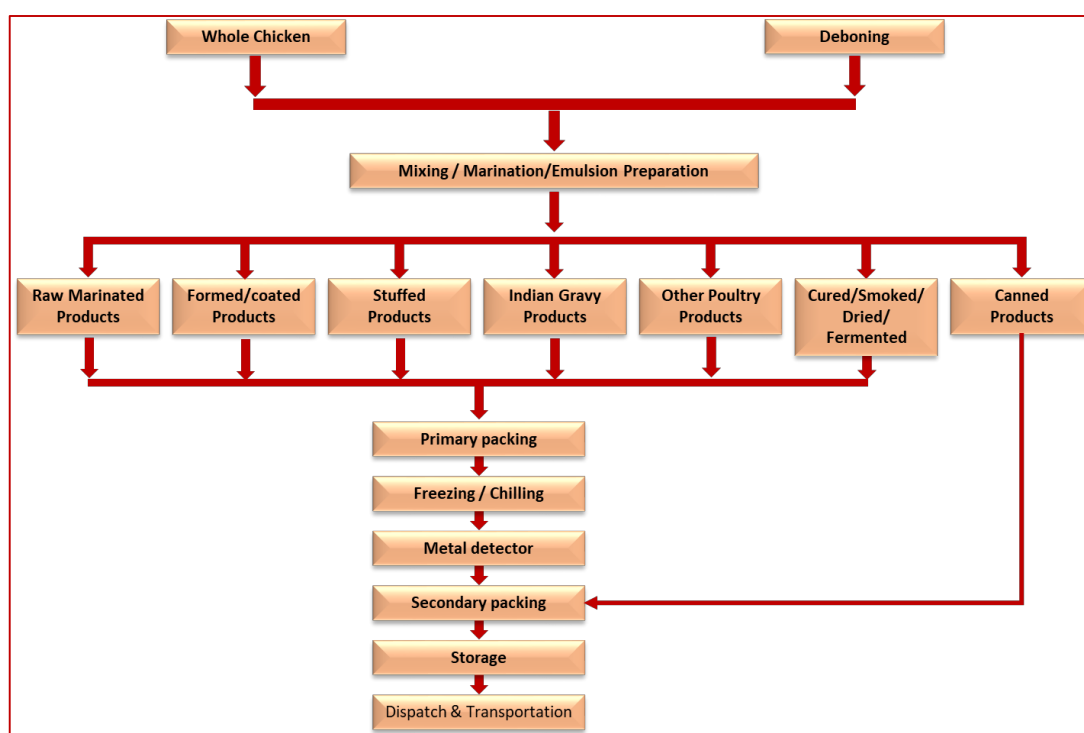


Figure C: Process Flow of Processed Poultry Products

Brief on Process Details

Procurement & Quality inspection of raw material (Live Poultry Birds)

Poultry intended for slaughter shall be in good health. Precaution shall be taken to minimize injury to poultry birds. Flock health examination shall be done by qualified veterinary practitioner. Only healthy poultry / birds shall be transported in a well-ventilated transport system. Coops preferably made of plastic and specially designed to be used for transport of poultry shall be in good conditions to avoid injuries to poultry. Transport coops should not be over-crowded & it should provide enough space for birds. It is advisable not to use any damaged coops, crates or cages to avoid injury to birds during transportation.

Holding / Resting area

The holding/ resting area shall be adequate in size to rest the birds. The bird vehicle holding / resting area shall have suitable facilities to prevent excessive heat and must have overhead protective shelter. The holding area must have humidification and adequate air ventilation facility to provide comfort during summer season.

The bird's vehicle holding yard / resting area shall have suitable facilities to park transport vehicles in areas that are well ventilated, and are protected from direct sunlight, inclement weather and extremes of temperature.

Ante-mortem Examination of Birds

Poultry birds shall subject to ante mortem examination by veterinarian before slaughter. Ante mortem examination shall be done on a lot basis while poultry birds are in the coops before or after their removal from the vehicle. A lot is made up of birds from a single house of poultry grown on a particular farm, but it may be as large as several houses of poultry. Lot size determination depends upon the criteria defined by the establishment. For Ante-Mortem, birds shall be taken out from the sample coops for physical examination for any sign of disease or sickness, if required. If in case of any sickness or disease noticed in the poultry birds, the entire lot to be put under examination and sick and disease birds shall be condemned.



Fig 1: Ante-Mortem of Poultry

Unloading & Hanging of Birds in overhead conveyor

Unloading of the birds from vehicle shall be done with due care. Throwing of coops must be avoided.

Birds shall be held with care and hanged by legs on the shackle of the processing line in a dimly lit room with blue light (avoid bright lighting). During the hanging process care shall be taken to avoid fluttering of poultry birds.

Stunning

Prior to slaughter poultry shall be made unconscious by using any suitable method of stunning (water bath electrical stunning, gas stunning etc.). It induces temporary loss of consciousness and minimizes the reaction of fear, anxiety, pain and distress to the birds.

Stunning equipment shall be properly maintained to confirm that poultry are unconscious prior to slaughter. Stunning efficiency is to be ensured in such a way that the recovery time of bird is maintained within 120 seconds.

Slaughtering & Bleeding

Slaughtering can be done by different methods of slaughter (like Halal, Jhatka, Mechanical etc.). After slaughtering, sufficient time shall be allowed to bleed out the poultry bird effectively. Minimum 150 seconds shall be allowed to bleed out the slaughtered birds before entering the scalding tank. No live bird shall enter scalding tank.

Blood collected in bleeding tank to be removed on regular intervals to avoid contamination.

Scalding & De feathering

Scalding means passing the bird through hot water so as to loosen the feather follicle so that de-feathering of bird will be done effectively. Scalding shall be carried out at appropriate temperature depending upon size of the bird to loosen feather follicles. Scalding process efficiency is determined by the time and temperature combination and it will be vary as per machine manufacturer and speed of line.

De-feathering means removal of loosed feather immediately after scalding. De-feathering is done through a mechanical de-feathering machine with rubber fingers. It can be done in multiple stages to have better quality. Care shall be taken to maintain the rubber fingers softness to get better de-feathering quality and avoid rupturing of skin.

Feathers collected during de-feathering operations must be removed regularly or continuously.

Evisceration

Evisceration consists of removal of all internal organs from the slaughter birds. After evisceration carcass along with the viscera and edible offal's shall be subjected to post-

examination by the veterinary doctor. The Evisceration process is to be carried out in such a way that the internal organs are ruptured minimally to avoid contamination.

General requirements of Slaughter area:

- The slaughtering area, equipment and implement must be clean, hygienic and sanitized.
- All tools or equipment's used in slaughtering shall be made of stainless steel and maintained clean and sharp.
- A qualified and trained veterinarian shall be appointed and be responsible for approving healthy birds for slaughter and to check that the birds are properly slaughtered.
- Dressing of carcass should only commence after ascertaining that the bird is dead.
- Non-edible offal shall be removed regularly from the evisceration section to avoid contamination.
- Post mortem reports shall be prepared.

Post Mortem Examination

Post mortem examination means systematic examination of dressed poultry carcass and visceral organs by the veterinarian for evidence of any abnormal condition. The records shall be maintained as per the lot.

Poultry carcass received directly from other slaughter houses (Municipal / Government / Private) for further processing must be verified for whether their post mortem reports are duly received and in order.

By-products Harvesting

It consists of harvesting/collection of edible poultry organs. In Poultry the edible by-products includes – Liver, Gizzards, Heart, Feet and Head.

Harvesting of by-products can be done manually or mechanically, depending on availability of facility.

Inner & Outer washing

Carcass shall be properly washed from inside as well as outside before chilling. The water should be potable water and should be internally tested for physical, microbial and chemical parameters. Wash station nozzles and their angles to be maintained for effective cleaning.



Fig 2: Washed Carcass after Inner & Outer Washing

Carcass Chilling

All dressed carcasses shall be chilled at or below 4°C by appropriate method within 4 hours from slaughter. Dressed birds shall be sanitized with appropriate sanitizer before or during the chilling of bird.

Types of Birds Chilling

- Immersion Chilling
- Spray Chilling
- Air Chilling

Once carcass is chilled to less than 4°C, it can be utilised for further purpose.

Weighing & Grading

Grading of chilled chicken can be done manually or with automatic grading machine

Cutting & Portioning

The above chilled carcasses are then transferred to processing hall. The processing hall temperature shall be maintained at an appropriate temperature to maintain quality of the product.

Cutting & Portioning consist of cutting of whole chicken in to pieces as per customer requirement.

These knives and other accessories are properly sanitized before, at regular interval and after use. All the storage bins, crates, and other storage facilities shall be cleaned and sanitized before and after use.



Fig 3- Processing hall for Deboning & Cutting Portioning

Deboning

Process of removal of bones and cartilages from whole chicken to get boneless meat. It can be done manually or semi-automatic or in automatic line. The temperature in rooms for deboning out and trimming should be controlled at appropriate temperature such a way that the hygiene standard is maintained. Care shall be taken to maintain the product temperature at or below 7 Degree Celsius. The carcass or shell shall be collected, packed and removed from the section at regular interval.

Raw marinated products:

Poultry meat with or without bones marinated with ingredients and with or without additives categorised under "raw marinated products." It includes both whole pieces / cuts and comminuted products. Examples include Marinated Chicken Pieces, Marinated Chicken Tikka, Marinated Chicken Lollipop etc.

Formed/Coated Products:

These products are prepared by mixing of poultry meat with or without bones with ingredient(s) and/or permitted additive(s). They may or may not be subjected to different processes like marination, forming, pre-dusting, battering, breading, coating fixation / forming and fried in fryer etc. Marination can be achieved by simple mixing or tumbling or by injecting marination. Products may be raw, semi cooked, partially cooked or cooked. It includes whole pieces, cuts and comminuted products. Examples of such products include, coated / uncoated products, Chicken Nuggets, Chicken Patty, Coated bone-in products etc.

All the raw materials such as spices, batter and bread crumbs and other ingredients shall, be sourced from certified approved vendors and stored in plant premises as per the storage requirements.

Stuffed Products:

Poultry meat mixed/marinated/emulsified with ingredients and with or without additives, stuffed in casing, cooked, peeling of casing or with casing, may be sliced or diced, and frozen. Products may be semi-cooked/partially cooked or cooked. Examples of such product include Chicken Sausages, Chicken Mortadella & Salami, Chicken Ham, Chicken Bacon etc.

Care shall be taken to ensure cleaning and sanitation of Bowl choppers, mixers, extruders, fillers etc before and after use for production.

All the raw materials such as spices, batter and bread crumbs and other ingredients shall, be sourced from certified approved vendors and stored in plant premises as per the storage requirements.

Critical temperatures monitoring devices must be calibrated at regular interval.

Indian Gravy Products:

Products with poultry meat with or without bones, mixed / marinated with ingredients and with or without additives, cooked and frozen. It includes both whole pieces and cuts and comminuted products.

Examples include Butter Chicken, Kadhai Chicken, Murg Masala, Chicken Biryani, Cooked Chicken Kheema etc.

Cleaning and sanitation of required for manufacturing plant and machinery are of great importance. Hence, care shall be taken to ensure cleaning and sanitation before and after use for production.

All the raw materials such as spices, additives and other ingredients shall, be sourced from certified approved vendors and stored in plant premises as per the storage requirements.

Critical temperatures monitoring devices must be calibrated at regular interval.

Other Poultry Products:

It includes whole pieces and cuts, comminuted products and formed & chopped products. Examples are Chicken Toppings, etc.

Cleaning and sanitation of required for manufacturing plant and machinery are of great importance. Hence, care shall be taken to ensure cleaning and sanitation before and after use for production.

Cured (including salted) / Smoked Products –

Non-heat treated processed meat and poultry product. Salted products are treated with sodium chloride. Dry cured (dry pickled) products are prepared by rubbing salt directly on the meat surface. Wet pickle cured products are prepared by submerging the meat in a brine solution. Pump cured products are prepared by injecting brine into the meat. Curing may also be achieved by addition of additives. Smoked products are also included here. It includes whole pieces and cuts and comminuted products.

Cleaning and sanitation of required for manufacturing plant and machinery are of great importance. Hence, care shall be taken to ensure cleaning and sanitation before and after use for production.

Cured (including salted) and dried

These products are non-heat treated processed poultry products which may be cured or salted as described in **Cured (including salted)**, and then dried, or they may only be dried. Drying is achieved either in hot air or in vacuum. It includes whole pieces, cuts and comminuted products.

Fermented Products

Non-heat treated processed poultry products, which are a type of pickled product produced by the action of lactic acid bacteria in the presence of salt. It includes both whole pieces and Cuts and comminuted products.

Canned Products

These products are “canned / retort pouch poultry products” which are heat treated processed poultry products in whole pieces or cuts or in comminuted form. These products are prepared by mixing of poultry meat with other ingredient(s) and permitted additive(s). The product may be smoked. The packing medium and other ingredients shall be of food grade quality.

These products shall be packed in hermetically sealed container and subjected to adequate heat treatment followed by rapid cooling to ensure that the product is self-stable and safe for consumption.

Primary Packing

Processed material is weighed and packed in standard packing material which should confirm FSSRs. (Packaging & Labelling).

The food grade declaration/ certificate to be verified on COA during receiving of the packing material

Packing of chicken meat & chicken meat products can be done as per the customer requirement and applicable regulation specified in FSSRs. (Packaging & Labelling) & Legal metrology (Packaged Commodities).

Freezing

Freezing can be done either using blast freezer, Plate freezer or IQF. During Freezing core temperature of the product should be at or below – 18°C.

Metal Detection

All finished product shall be passed through metal detector.

Metal detector shall be calibrated/ verification at frequency appropriate to assure food safety.

Sensitivity of the metal detectors shall be always less than as required or 7.0 mm for any kind of metal

Secondary Packing

Frozen meat / meat products after passing through metal detector shall be packed in suitable container. Secondary Packing material shall be secure to prevent spoilage and contamination during transit and storage.

Chilled Storage

Chilled Poultry meat and Poultry meat product shall be stored in the chiller at or below 4°C.

Cold Storage

Frozen poultry meat and poultry meat product shall be stored in cold store at or below minus 18 degrees Celsius till dispatch.

Cold store temperature shall be maintained at or below minus 18 degrees Celsius except during defrosting cycle. FIFO / FMFO / FEFO method shall be followed in the cold storage for despatch of product.

Quality Evaluation

Finished products are tested in internal / external laboratory as per the sampling plan identified by the processing plant, for microbiological & applicable physio-chemical parameters as defined by FSSAI.

II. Loading, Dispatch, Warehousing, Transportation, Retail Precautions related to Food Safety & Quality

The product temperature shall be maintained at or below minus 18 degree Celsius for frozen & at or below 4 degree Celsius for chilled products in any part of the cold chain, during storage, transport, distribution, and merchandising in retail stores.

Loading and dispatch of finished products

Dispatch vehicle shall be checked for presence of any contaminants, cleanliness, unacceptable odour and proper working of refrigeration system before loading. Loading should be done in shortest possible time. Dispatch vehicles shall be cleaned and sanitized using appropriate cleaning and sanitizing agents regularly to maintain the hygiene standard.

Warehousing

Stacking methods and height depend on several factors: resistance of the package, handling techniques and thermal state. Packaged and frozen meat is usually handled mechanically, combining forklift trucks with pallet. Storage temperature of warehousing should be at or below minus 18 Degrees Celsius except during defrosting cycle in case of frozen product and at or below 4 degree Celsius in case of chilled product.

Transportation

All the transportation systems are expected to maintain the temperature of the processed meat and meat products within close limits to ensure its optimum safety and recommended shelf life. It is important that the processed meat and meat products is at the correct temperature before loading since the refrigeration systems used in most transport containers are not designed to extract heat from the product but to maintain the temperature of the product. In large containers used for long distance transportation, food temperature can be kept within recommended frozen temperature (at or below minus 18 degrees Celsius for frozen and at or below 4 degrees Celsius for chilled products).

Ensure proper air circulation is available to maintain product temperature during transportation.

Different modes of transportation:

- a) **Air- freight:** This is used for highly perishable frozen food products. Although this provides a rapid method of serving distant markets, the main challenge faced is the product is mainly unprotected by refrigeration for much of its journey; due to the intermittent holding time. Standard containers with insulated linings and /or dry ice are used.
- b) **Road/ Rail:** Refrigerated containers (for long distance) and Small Insulated / Refrigerated / Eutectic vans (for short distance) are used to supply food to local retail outlets or directly to the consumers. All vehicles shall have the temperature monitoring device.

Retail and display

During display; the temperature, temperature fluctuations and visual monitoring (like colour of product, packaging intact, etc.) are the main parameters that determine the quality. Ensure that products are:

- Stored in clean display cases which are covered at all times.
- See-through insulated lids are for consumer to look at the product at retail shops.
- Ensure products are stored at appropriate temperatures.
- Temperature differential or range should be kept minimum.
- Adopt first-in-first-out (FIFO) method in the display of products for sale.
- Proper declaration on the products is needed & it should comply requirements of FSSRs. (Packaging & Labelling). All containers should be cleaned and disinfected daily.



Fig 4 - Retail Shop Display

B. Pre- Requisite Programs

I. Establishment- Design and Facilities

1. Location and Surroundings

- No Objection Certificate from the Municipality or Panchayat and State Pollution Control Board to be obtained.



Figure5: Entry to food establishment

- Slaughter Houses/ meat processing unit shall be in located away from areas subject to flooding unless sufficient safeguards have been provided.

Slaughter house/processing unit shall be located away from environmentally polluted areas and industrial activities that produce disagreeable or obnoxious odour, fumes, excessive soot, dust, smoke, chemical or biological emissions and pollutants that pose a serious threat to food safety. In case there are hazards from other environment polluting industries located nearby, appropriate measures shall be taken to protect the area from any potential contamination

- There shall be adequate drainage and provision for cleaning. The premises shall be constructed / located in a way that drains / storm water should not enter the premises, to avoid contamination of meat.
- No portion of the Slaughter Houses/ processing unit premises shall ever be used for any purpose other than it is meant for.



Figure 6: Outer Area Condition

- Access shall be controlled at the entry. Dogs, cats or other pet animals should be not allowed to enter meat processing unit
- The land outside the factory building shall be maintained free of debris and refuse, and free from any source of pollution.
- The roadways and areas serving poultry meat processing unit which are within its boundaries shall be maintained properly to avoid contamination by dust or permit any stagnation of water.
- The premises, raw material receiving and finished product dispatch areas shall be maintained so that they do not contribute to contamination of food by seepage/foot-born filth or provide a breeding place for pests outside the facility.
- The garden and the surrounding area shall be maintained to prevent harbourage or provide breeding place for pests.

2. Premises and Rooms- Construction, Design, Layouts, Internal Structures and Fittings

**Premises refer to all the elements of building and building surroundings.*

Construction, design, layout, Internal Structure and fittings

The correct plant layout is crucial to produce safe products.

Continuous forward movement:

There shall be no possibility of reversal, intersection or overlapping between the live bird & meat, and between meat & by-products or waste.

The slaughter house shall have separation between clean and dirty sections and shall be organized.

2.1 Construction, Design and Layout

Plant layout should be designed, constructed and maintained in order to facilitate good manufacturing and hygienic practices.

Adequate working space is required for the satisfactory performance of all operations. The slaughter house shall have

- **Bird's vehicle holding yard / resting area** for resting of bird before slaughter.
 - The bird vehicle holding yard / resting area shall have suitable facilities to park transport vehicles in areas that are well ventilated, and are protected from direct sunlight and extremes of temperature.
 - The bird vehicle holding yard / resting area shall be adequate in size.
 - Ante Mortem Inspection of birds before slaughter is done in the holding yard / resting area or at unloading point.
- **Slaughter hall**
 - Every such establishment / Slaughter House shall make separate provision in the slaughter hall for different methods of slaughter (like Halal, Jewish, Jhatka, mechanical etc).
 - After every type of operation, the slaughter house shall be cleaned, washed and sanitized thoroughly.
 - Areas for scalding, de-feathering, evisceration (or similar operations) should also be appropriately separated from dressing/ portioning and processing areas.
 - Stunning and bleeding areas should be physically separated from defeathering area, so that cross contamination is minimised.
 - Slaughter hall shall have provision of collection of blood and wastes & holding area for suspected carcass / condemned carcass.
 - Adequate facility for chilling of carcass etc.
- **Portioning / Deboning Section**
 - Portioning / Deboning section should be separate from slaughter, de-feathering and evisceration area.
 - Entry to this section should be separate to maintain required hygiene standard
 - Protective clothing of staff and workmen should be different to that of slaughter / de-feathering / Evisceration area
 - Appropriate hall temperature shall be ensured to maintain quality of meat.
 - Effective cleaning & sanitation program to be in place and carried out maintain the hygiene standard.

- **Processed Product Section**

- Separate entry to be provided to Processed Product Section
- Separate workmen should be deployed in this section and they shall not be permitted to work in slaughter / de-feathering / Portioning & deboning area
- Appropriate hall temperature shall be ensured to maintain quality of meat.
- Effective cleaning & sanitation program to be in place and carried out maintain the hygiene standard.

Note: Meat Portioning and processing section shall be laid out and equipped so as to ensure that edible meat does not come into contact with floors, walls or other fixed structures, except those which are specifically designed for contact with meat

2.2 Internal Structure

- **Floors** should be hard, impervious, washable, non-slippery and made of nontoxic materials, without crevices and should be easy to clean and sufficient slope to allow adequate drainage.
- **Walls** should be made of impervious materials, smooth and without crevices for easy cleaning and sanitation and to avoid accumulation/absorption of dust, blood/meat particles, and microbial/fungal growth. The walls/floor junctions, corners and structural supports should be constructed as such, adequate cleaning can be done easily

Best Practices:

- Sloped/curved junction between floor and walls, to minimize accumulation of dust
- Protective guards can be fitted where all wall/structure damages can occur.



Figure 7: Wall and pillars protection

- **Ceilings and overhead fixtures** should be so designed, constructed and finished as to prevent any accumulation of dirt and minimize condensation, mould development and flaking and should be easy to clean;



Figure 8: No paint peels off

- **Windows** and other openings should be so constructed as to avoid accumulation of dirt and those which open should be fitted with insect screen. Screens should be easily removable for cleaning & sanitation and kept in good repair.
- **Doors** should have smooth, non-absorbent surfaces, should be closed at all times if not in use and easy to clean and sanitize.

Best Practices: Recommended to have all doors fitted with self-closing system



Figure 9: Doors and windows covered with wire mesh to prevent entry of dirt, dust, pests and birds

- **Stairs lift cages and auxiliary structures** such as platforms, ladders, chutes, should be so situated and constructed as not to cause contamination of meat.
- **Separate space for inedible & edible parts of birds:** Both edible and inedible parts of birds should be in separate and distinct rooms/ spaces.

3. Equipment & Containers

- **Equipment's and utensils** in contact with exposed meat and meat products should
 - have smooth impervious surface & non-absorbent
 - have resistant to corrosion,
 - made of material which is non-toxic,
 - Shall not transmit odour or taste,
 - free from pits and crevices,
 - capable of withstanding repeated exposure to normal cleaning and disinfection,
 - be easily cleaned and disinfected
- **Sanitary equipment's:** Placing and location of all sanitary equipment's should permit easy access and thorough cleaning.
- **Containers for inedible material and waste** should be leak proof or disposable and where appropriate, able to be closed securely.
- **Refrigerated Spaces** should be equipped with temperature measurement and / or recording devices that are calibrated at regular interval.
- **Equipment Identification** - Equipment and utensils used for inedible material or waste should be so identified and should not be used for edible products. Also, containers holding hazardous substances shall be closed when not in use, stored separately and lockable to prevent malicious or accidental contamination of food.
- **Electrical Fittings** - shall be of such material and of such construction as to enable them to be kept clean. The implements shall be of metal or other cleanable and durable material resistant to corrosion.
- **Knives, other tools and equipment's** shall be clean and sanitized prior to use. Suitable and sufficient facilities shall be provided within the establishment / slaughter house. The knives and scissors used should be of stainless steel.
- **Equipment, Utensils and Machinery** that come in direct contact with food shall be hygienically designed, constructed, located and, if necessary, installed to ensure that they can be adequately cleaned, sanitized and maintained to avoid contamination.

4. Facilities & Utilities

The facilities & Utilities are essential services that play a vital role to industry. Quality facilities and utilities provided like water, light, hygienic facilities etc. are the pre-requisite for an effective food safety.

4.1 Water Supply

- A constant and sufficient supply of clean potable water (cold and hot) should be made available in the slaughter and processing halls during working hours.
- Adequate supply and/or storage facilities shall be provided. Storage for distribution should be protected against contamination. They shall be adequately designed, made of material, that is non-toxic, corrosion resistant material, and periodic cleaned and maintained. The records of the same shall be maintained.
- Potable water quality shall be as specified in the latest edition of BIS standard on drinking water (IS10500). Potable water shall be analysed at least semi-annually to confirm that it meets the requirements of this standard.
- Non potable water can be used for cleaning of those equipment's which does not come in contact with food, or food steam production. It can be used for fire fighting, refrigeration equipment, washrooms etc.
- Non potable water pipes shall be clearly distinguished from those in use for potable water.

Best practices: Colour coding is recommended to clearly distinguish between potable and non-potable water.

4.2 Ice and Steam

- Ice should be made from potable water and should be manufactured, handled and stored so as to protect it from contamination.
- Steam used in contact directly with meat should be produced from potable water and contain no substances which may be hazardous to health or may contaminate the processed meat and meat product.

4.3 Drainage and Waste Disposal

4.3.1 Drainage system

- There shall be adequate and efficient drainage and plumbing systems.
- All drains and gutters shall be properly and permanently installed with traps and screens.
- The drainage system for blood shall either be underground for easy cleaning or a portable receptacle with Lid.



Figure10: Install covered drainage system inside the premises

4.3.2 Waste disposal system

- An efficient effluent and waste disposal system shall be present.
- There should be efficient drainage and disposal of edible and non-edible offal's.
- Waste storage area should also be cleaned and disinfected daily. And Should be constructed in such a manner as to avoid contamination of food, potable water supplies, equipment and building
- All effluent lines (including sewer systems) should be large enough to carry peak loads.

4.4 Cleaning Facilities

- Adequate facilities should be provided for cleanliness of food contact surfaces namely floor, wall, plastic crates, equipment, table tops etc.
- Suitable and sufficient facilities shall be made available at convenient places with in the slaughter house/ meat processing unit for the sterilization knives and other equipment used in the slaughter house/ meat processing unit.

4.5 Personnel Facilities and Toilets

- **Changing rooms/lockers**
 - Suitable and sufficient facilities for persons working in the slaughter and meat processing halls shall be provided for changing their clothes, keeping their personal belongings and Foot sanitation.

- **Provision of toilets**

- Sufficient number of latrines, urinals for each gender shall be provided.
- Toilets should be so designed as to ensure hygienic removal of waste matter.
- Toilets should be well lit and ventilated and should not open directly on to food handling areas.

Best Practices: Generally, 1:25 followed for facility: employee ratio



Figure 11: Gender specific toilets; clean toilet facility

- **Hand washing facilities**

- Hand wash facility shall be provided with potable water at adequate temperature, fitted with dispensers for liquid soap or other hand cleansing agents (sanitizer) and suitable hygienic means of drying hands.
- Facility shall be provided adjacent to toilets and in such a position that the employee must pass them when entering or returning to the processing area.
- Where paper towels are used, a sufficient number of dispensers and receptacles should be provided near to each washing facility.
- Dustbins to throw used paper towels should be foot-operated.
- Taps of non-hand operable type. (Can be elbow operated, foot operated or automatic).
- Notices shall be posted directing personnel how to wash their hands effectively and also after using the toilets.

Note: A display board mentioning Do's and Don't for workers should be posted in a prominent place inside the premises, in English and local language, for all to understand. This will help employees to maintain their alertness on good hygiene practices.

4.6 Storage facility

- The food storage facilities shall be designed & constructed to: –
 - Provide protection from dust, condensation, waste, pest access and harbourage and other sources of contamination.
 - Be dry, well ventilated and enable monitoring and control of temperature and humidity in storage areas where specified.
 - Be easy to maintain and clean. All materials and products shall be stored off the floor and with sufficient space away from the walls to allow inspection and pest control activities to be carried out.
- Adequate facilities for the storage shall be provided. Storage space should be physically separated or segregated for –
 - Raw material (like seasonings, spices, additives, ingredients etc)
 - Packaging material
 - Returned/rejected material
 - Recalled material
 - Allergens
 - Semi processed material
 - Final product
 - Hazardous chemical (used in engineering)
 - Cleaning & disinfection chemical
 - Engineering tools
 - Waste material (both bio degradable & non-biodegradable)
- Storage areas shall be maintained at temperatures, wherever required:
 - Freezer maintained at -18°C
 - Refrigerators maintained at 4°C
 - Room Temperature at 37°C
 - Hot holding unit maintained at or above 60°C

4.7 Air Quality and Ventilation

- Ventilation should be provided to prevent excessive heat, steam condensation, dust and to remove contaminated air.
- The direction of the air flow always from clean area to unclean or dirty area.
- Ventilation openings should be provided with an insect screen or other protective enclosure of non-corrosive material & Screens should be easily removable for cleaning.

4.8 Lighting

- Adequate natural or artificial lighting should be provided throughout the slaughter house/ meat processing unit.
- All lightings should be well distributed.
- Where appropriate, the lighting should not alter colours.

Processing Areas	Recommended Light Intensity(Lux)
All Inspection areas	540 Lux
Work rooms	220 Lux
Other areas	110 Lux

- Light bulbs and fixtures suspended over plant in any stage of production should be protected to prevent contamination in case of breakage.



Figure 12 : Protected Tubelight

4.9 Laboratory Facility

- Depending on the size of the operation, a well-equipped laboratory shall engage with qualified (Chemist / Analyst and Micro Biologist) and trained personnel.
- The in-house microbiological laboratory with sterilization room, media preparation room, incubation room, laminar flow and washing room has to be provided to do the microbiological examination of dressed birds, water, air, personal working in the plant.
- Every slaughterhouse shall engage veterinarians depending on size of the operation for ante-mortem and post-mortem examination.

4.10 Others

- **Work Shop:** Routine repairing and maintenance of the plant.
- **Generator Room:** Generator for providing power during the breakdown,

- **Electrical Plant:** The electrical panels should have rubber mats below to prevent from any electric shock to any employee working at the station.
- **Refrigeration Plant:** Suitable capacity of refrigeration system shall be provided to achieve adequate temperatures wherever required.

II. Control of Operations

1. Transportation & Receipt at Slaughter House

- Healthy birds free from diseases should be transported to the slaughter room in a properly ventilated vehicle with minimal risk of injury.
- Transport vehicle should not be overcrowded and enough space should be provided to the birds as per regulatory guidelines time to time. In case of birds, they are transported in the coops preferably made of plastic. Transportation of live birds shall be done in such way to avoid jerks, injuries and stress to the birds.
- The birds meant for slaughter should be certified by a qualified veterinarian for their fitness.
- Vehicle should be thoroughly disinfected with suitable disinfectant.

2. Storage of Raw and Packaging materials

- All packaging materials used to pack the processed meat at final stage should be located away from raw material receiving area.

3. Meat and Meat Products (Poultry) Processing including pre-processing

3.1 Resting of birds

- Poultry held in holding area should be provided with adequate ventilation such as fans and foggers where they can rest after stressful transportation.

3.2 Ante Mortem Inspection

- Poultry shall be adequately rested and subjected to ante-mortem examination by veterinarian before slaughter.
- In case of poultry birds that are brought in the coops, ante-mortem inspection may be carried before or after their removal from the vehicle. Lot size determination depends upon the criteria defined by the slaughter houses. Generally, a lot is made up of birds reared on a particular farm.

- In Ante-mortem examination, external examination of general condition of live poultry is carried out. The records of ante mortem examination shall be maintained.
- Ante mortem Judgments includes: 1. Fit / Approved for Slaughter 2. Unfit / Not approved for Slaughter
- Poultry found not fit for slaughter shall be declared as "condemned" on ante-mortem inspection and thereof their destruction shall be carried out under direct supervision of the authorized veterinarian.

3.3 Stunning

Stunning equipment shall be properly maintained to confirm that poultry are unconscious prior to slaughter. Stunning efficiency is to be ensured in such a way that the recovery time of bird is maintained within 120 seconds. It should also be ensured that no bird dies of stunning.

Stunning of Birds (Electric Reversible)

- All guiding bars should make contact with shackle prior to birds entering in to the stunner.
- Precaution shall be taken to avoid pre-stun shock to the birds while entering the stunner.
- Birds should enter the stunning bath in such way that the heads of all birds should be fully immersed in water.
- To improve efficiency of stunning salt solution can be added in water bath of stunner.
- To improve stunning efficiency water spray can be done at the juncture of feet & shackles before birds entering stunner.
- The shackles need to be in contact as they enter stunner and stay in contact at all times with guiding bar while traveling through the stunner.
- Water level in the stunner should be sufficient enough so that heads of all the birds properly immersed in to the stunner water bath.
- Frequency of Stunner should be set as per the size of birds to get effective stunning. Frequency will depend on the type of stunner, size of bird & the stunner manufacturer specification. The objective is to have proper stunning & no bird dies of stunning.
- Personnel responsible for assessing proper stunning should able to evaluate and recognize signs of an effective stunning and person should take immediate corrective action in case of ineffective or incomplete stunning of birds.
- Stunning efficiency should be monitored immediately after stunning or before slaughtering of birds. Stunning efficiency is to be ensured in such a way that the recovery time of bird is maintained within 120 seconds.
- To monitor recovery time, take birds off the line after stunner and before slaughter and place birds on their side in a dry area.



Figure 13: Stunning

3.4 Slaughtering and Bleeding

- Humane slaughtering methods to be used for slaughtering
- All knives used for slaughtering shall be sterilized to a minimum temperature of 82 degree Celsius
- After slaughtering, sufficient time i.e. minimum 150 seconds shall be allowed to bleed out the poultry effectively before entering the scalding.
- No live bird should enter the scalding. The blood should be collected in an under-drainage facility/tank.

Note: No live bird should enter the scalding.

3.5 Scalding and Defeathering

- Scalding of slaughtered birds shall be carried at appropriate temperature depending upon size of the bird to loosen feather follicles.
- Defeathering shall be done in a way that rupturing of the skin is avoided and removal of feather is ensured.
- All birds shall pass through potable water shower after defeathering.

3.6 Evisceration

- Evisceration process shall be carried in such a way that there is minimum damage to internal organs to avoid contamination
- After evisceration, internal viscera along with dressed carcass shall be presented for post mortem examination.

3.7 Post-Mortem

- Post-mortem examination refers to the systematic examination of dressed carcasses and visceral organs by the veterinarian.
- The slaughter house shall provide appropriate facility like light, hand wash stations and condemned bird/organs containers for post-mortem examination.

- The general method to conduct on-line post mortem involves Visual examination and smell in order to detect diseases, abnormalities and contamination. Internal organs must be exposed for visual examination and palpation.
- Post Mortem Judgments includes: 1. approved / Fit for human Consumption, 2. Unfit for human consumption or 3. Partial Condemnation.
- All carcasses / parts declared as "unfit" on post-mortem inspection shall be marked as "condemned". Condemned birds / parts shall be stored separately for disposal and thereof their destruction shall be carried out under direct supervision of the authorized veterinarian.
- All dressed bird shall pass through water shower after evisceration and shall be sanitized before or during the chilling of carcass using suitable sanitizer.
- Potable water should be available in sufficient quantity for washing of carcasses and edible offal's.

3.8 Carcass Chilling

- All dressed birds shall be chilled below 4 °C by appropriate method within 4 hours from slaughter with any appropriate means.

3.9 Post Slaughter Requirements

- The temperature in rooms for deskinning, portioning, bone-out, trimming and packing shall be maintained so that meat temperature can be controlled below 7 degree Celsius.
- All operations in connection with the preparation or packing of chicken / chicken products shall be carried out under hygienic conditions. Particular attention needs to be given to temperature control.
- It is important that cold chain shall not be interrupted except to a minimal extend necessary for practical operations. Chicken/Chicken products shall be handled, stored and transported in a manner that will protect it from contamination and deterioration.
- Chilled and Frozen meat shall be subjected to chilling and freezing in an appropriate equipment in such a way that product attains a temperature of at or below 4°C for chilled meat and at or below -18°C for frozen meat at the thermal centre after thermal stabilization. It shall be further stored at or below 4°C and -18°C respectively for chilled meat and frozen meat till dispatch.

3.10 Specific requirements for Manufacturing of Processed Poultry Products

- In addition to the above-mentioned practices, following special requirements shall be followed by food business operators engaged in manufacturing and processing of processed poultry meat products.
- Special care of food safety control measures related to cooking, handling and packing shall be taken for cooked poultry meat products.

- Cooked poultry meat products are those products that are subjected to heat treatment, wherein minimum thermal core temperature of 75 degree Celsius is achieved.
- The cooking should be adequate to eliminate and reduce hazards to an acceptable level which might have introduced at raw food level.
- The cooked product should be handled in a manner which will prevent recontamination of the product.
- Products which are heated below 75 degree Celsius but above 60 degree Celsius there may be a microbiological safety risk, such type of products shall be treated as semi-cooked products. These products shall be re-heated above 75 degree Celsius before consumption. Special instruction shall also be given on the product label stating re-heating of the product above 75 degree Celsius before consumption.
- Products which are exposed to heating but below 60 degree Celsius shall be treated as raw processed meat products. Such type of products shall be cooked above 75 degree Celsius before consumption.

3.11 Outsourcing of meat

- Outsourced meat shall only be procured from a FSSAI licensed slaughter facility. It shall be ensured that ante-mortem and post-mortem inspection have been carried out in accordance with the requirements prescribed in ante-mortem and post-mortem examination.
- Such meat shall be transported from the slaughter facility to the poultry processing unit under hygienic and sanitary conditions. It shall be transported in a clean insulated refrigerated container with covers (lids) with precautions to ensure that no contamination /cross contamination or deterioration takes place and at appropriate temperature (chilled meat at or below 4 degree Celsius and frozen meat at or below -18 degree Celsius.)

4. Allergen Management

4.1 Allergen handling

Major Allergens are –

- Cereals containing gluten; i.e., wheat, rye, barley, oats, spelt or their hybridized strains and products of these;
- Crustacean and products of these;
- Eggs and egg products;
- Fish and fish products;
- Soybeans and products of these;
- Milk and milk products (lactose included);
- Peanut, tree nuts and nut products; and
- Sulphite in concentrations of 10 mg/kg or more.

4.2 Allergen Control and Management

- Display all the allergens at the relevant places in the processing and storage areas for awareness among all the employees. All raw materials that are allergens should be labelled with a tag that states "Allergen."
- Maintain all ingredient flow during the manufacturing from non-allergen using areas to allergen using areas. This will help prevent cross-contamination. Preferably products containing non-allergen ingredients should run before the product containing allergic ingredients.
- Store all allergic foods or ingredients at a designated area. For partially used allergic packets, the production staff should ensure the partially used packet should be stored separately and completely sealed and identified with label.
- Dedicated scoops, utensils shall be used for specific allergens. Thorough cleaning should be there between allergic containing product manufacture and non-allergic containing product manufacture. When production scheduling and cleaning operations are not performed between allergen containing production runs, allergen testing must be performed. For. E.g. ELIZA test kits are used to verify.

5. Packaging Materials and Meat Storage including Warehousing

- Packaging material shall be stored in appropriate areas for effective protection from dust, condensation, drains, waste and other sources of contamination during storage. Storage areas shall be dry, and well ventilated.
- If the meat is intended to be chilled /frozen, ensure that meat remains chilled /frozen during storage and adequate temperature is maintained and monitored.
- All materials and products shall be stored off the floor and with sufficient space between the material and walls to allow inspection, cleaning and pest control activities to be carried out.

6. Food Packaging

- The packaging design and materials shall provide protection for products to prevent contamination, damage and accommodate required labelling as laid down under the FSS Act & the Regulations there under. Only Food grade packaging materials as specified FSSR regulation shall be used.
- The food packaging materials shall be inspected before use to prevent using damaged, defective or contaminated packaging, which may lead to contamination of the product.
- The poultry slaughterhouses and processing units shall have effective procedures in place to confirm that contaminated, damaged or defective reusable containers are properly cleaned and sanitized, repaired or replaced, as appropriate, before re-use.
- The packaging materials or gases where used, shall be non-toxic and shall not pose threat to the safety and suitability of processed product under the specified conditions of storage and use.

- Wrapping and packaging operations shall be carried out to avoid contamination of the products.

7. Rework and control of non-conforming products

7.1 Rework management

- Stored rework materials shall be protected from exposure to microbiological, chemical or extraneous matter contamination.
- Rework shall be stored, handled and used in such a way that product safety, quality, traceability and regulatory compliance is maintained.
- Rework shall be clearly identified and/or labelled to allow traceability. Traceability records for rework shall be maintained.
- Rework is incorporated into a product as an 'in process step', the acceptable quantity, the process step, method of addition, type and conditions of rework, including any necessary pre-processing stages, shall be defined.
- Here rework activities involve removing a product from filled or wrapped packages, controls shall be put in place to ensure the removal and segregation of packaging materials and to avoid contamination of the product with extraneous matter.

7.2 Non-conformance

- A non-conformance could be identified through customer complaints, internal audits, external audits, and incoming material inspection or simply during normal testing and inspection activities.
- All non- conformance incidents should be recorded and assessed.
- There should be a defined storage area and handling procedure for non-confirming raw material, packing material and finished goods.

8. Transportation of Meat and Meat Products

- While loading in the refrigerated containers, the temperature in the container has to be brought to -12°C (Precooling) so that there is no thawing of the frozen meat cartons while they are loaded. However, in case of chilled products, precooling temperature shall be at or below 4°C
- The containers have to be clean and disinfected before loading.
- After loading it is sealed and taken to destination either by rail/road. The temperature should be maintained and monitored at or below -18°C for frozen and at or below 4°C for chilled/fresh products at all times.
- Conveyances and/or containers used for transporting shall be kept clean and maintained in good repair condition to protect meat from contamination and shall be designed and constructed to permit adequate cleaning and/or disinfection.

- Meat and meat products in conveyances and/or containers are to be so placed and protected as to minimize the risk of contamination.
- Unpacked Fresh / Chilled / Frozen meat shall not be transported with other food products to avoid cross contamination.
- Where conveyances and/or containers are used for transporting anything in addition to foodstuffs or for transporting different foods at the same time, there shall be, where necessary, effective separation of products to prevent cross-contamination.
- Where conveyances and/or containers are used for transportation anything other than foodstuffs or for transporting different foods, there shall be effective cleaning between loads to avoid risk of contamination.
- Fresh Poultry meat meant for immediate sale need not be stored in cool conditions. It can be transported in suitable a hygienic and sanitary condition in clean containers with covers to the retail shops/selling units with adequate precautions to ensure that no contamination or deterioration takes place.

Note: Transportation for Chilled at or below 4 degree celcius and for frozen at or below -18 degree Celsius

9. Food Traceability and Recall

- The Poultry slaughterhouses and processing units shall have a system for assigning codes or batch / lot numbers to live poultry, incoming materials, packaging materials and finished products, etc. This will help to identify products.
- The Poultry slaughterhouses and processing units shall have a documented and effective product recall plan in place in accordance with the Food Safety & Standards (Food Recall) Regulations, 2017.
- Such a plan shall allow the poultry slaughterhouses and processing units to effectively locate all affected products that may cause a potential threat to public health and enable the complete, rapid recall of the implicated lot of the product from the market.
- Where a product has been recalled because of an immediate health hazard, other products which are produced under similar conditions which may also present a hazard to public health shall be evaluated for safety and may need to be recalled.
- Recalled products shall be held under supervision until they are destroyed, used for purposes other than human consumption, determined to be safe for human consumption, or reprocessed/reworked in a manner to ensure their safety.

10. Quality Control

- The Poultry slaughterhouses and processing units shall have a quality control programme in place to include inspection and testing of incoming, in-process and finished products.

- Adequate infrastructure including an in-house laboratory facility and / or engaging with an external laboratory facility, with qualified, trained and competent testing personnel shall be available for carrying out testing. Calibration of laboratory equipment's shall be done annually.
- Microbiological examination needs to be carried out periodically for air, water, personal hygiene (hand swabs) and food contact surfaces (knives, packaging tables, equipment etc) to ensure food safety in finished products.
- Ensure testing of relevant chemical and/or microbiological contaminants in food products in accordance with these regulations as frequently as required on the basis of historical data and risk assessment to ensure production and delivery of safe food through own or NABL accredited /FSSAI notified labs at least once in six months. It is recommended to retain the control samples, till the end of shelf life.
- Records of testing shall be maintained

Best Practices: Retain the control samples, till the end of the shelf life.

III. Establishment- Maintenance and Sanitation

1. Cleaning and Sanitation

- Food premises and equipment shall be maintained in an appropriate state of repair and cleanliness in order to function as intended, facilitate all sanitation procedures and prevent contamination of food, such as from metal shards, flaking plaster, food debris and chemicals.
- Cleaning and disinfection chemicals shall be approved for use in food industry wherever chances of it may come in direct or indirect contact through equipment or plant surfaces, handled and used carefully and in accordance with manufacturers' instructions, for example, using the correct dilutions, and stored (designated area with lock and key provisions, having access to authorized person only) in clearly identified containers to avoid the risk of contaminating meat

A. Cleaning Procedures and Methods

- Cleaning shall remove meat residues and dirt and it can be carried out by the separate or the combined use of physical methods, such as heat, scrubbing, turbulent flow and vacuum cleaning or other methods that avoid the use of water, and chemical methods using detergents, alkalis or acids. For eg. Tables, Floor and walls should be scrubbed and washed with soap and potable water and should be sanitized with appropriate sanitizer thereafter. Knives, scissors, sharpeners etc. should be washed & sterilized /disinfected (temp not less than 82 degree Celsius).

- Cleaning and Sanitation Procedure includes one or more following steps appropriate to the equipment's requirements
 - **Dry Clean-** removing all pieces of meat, fat and other product residues.
 - **Soaking-** small pieces/parts of equipment can be soaked in a tank of water and detergent. Large Equipment, floor and walls can be foamed.
 - **Physical Cleaning-** after soaking, equipment is cleaned manually, using a brush or mechanically using high pressure or steam cleaning. Manual scouring to remove protein crusts and adhesive layers.
 - **Rinsing-** thorough hose down with warm water to remove detergent residues, contamination.
 - **Drying-** excess water should be removed from horizontal surfaces by wiping with paper towels or scraping with scrubbers.
 - **Sanitation-** sanitising agents may be applied as spray or mist, immediately after post cleaning rinse until next day's production.
 - **Pre-operation hose down-** this serves to remove sanitizer residues and to rinse off contamination
 - **Detergents-** Detergent formulation may belong to the following categories-
 - **Alkalis-** Caustic soda, caustic potash, carbonate, silicate, phosphate
 - **Acids-** phosphoric, nitric, citric, glycolic, sulphamic, hydrochloric
 - **Chelating Agents-** EDTA, NTA, gluconate, glucoheptonate, citrate
 - **Solvents-** isopropanol, propylene glycol, butyl diglycol, ethers.
 - **Surfactants-** anionic (Ammonium lauryl sulphate), Cationic (quartz-quaternary Ammonium compounds) non-ionic, amphoteric.
 - **Inhibitors-** organic, (sodium benzoate). Inorganic, (sodium nitrite, sodium chromate)
 - **Enzymes-** protease, lipase, amylase
 - **Oxidising Agents-** hypochlorite, Isocyanurates, Dichlor, Stabilized Chlorine Dioxide, Hydrogen per oxide.
 - **Stabilizers-** Cynuric acid
 - **Viscosity modifiers.**

B. Cleaning and Sanitizing Programme

- Cleaning and sanitizing programmes shall be established at facility to ensure that the poultry-processing equipment and environment are maintained in a hygienic condition to prevent contamination of meat, such as from metal shards, flaking plaster, meat debris and chemicals and records of the same shall be maintained. The programme should ensure that all parts of the establishment are appropriately clean, and shall include the cleaning of cleaning equipment.
- A validation mechanism should be in place for all cleaning programme.

- Master cleaning & sanitation schedule shall be maintained for overall facility which includes:
 - Areas (e.g. holding area, storage area, refrigerated spaces, freezing cabinets, changing facilities, toilets, inspection area etc) equipment (scalders, defeathering machine, eviscerator, chiller, metal detector, trolleys etc), utensils and implements (like knives, saws, mechanical instruments, trays, weighing machines, pallets, etc.) to be cleaned;
 - Cleaning method and frequency of cleaning;
 - Monitoring arrangements for checking effectiveness of cleaning
 - Person responsible for cleaning; and
 - Persons responsible for monitoring & verification of effectiveness of cleaning.

In case of any deviation, correction & corrective actions taken shall be recorded.



Figure 14 Floor should be in kept clean and tidy

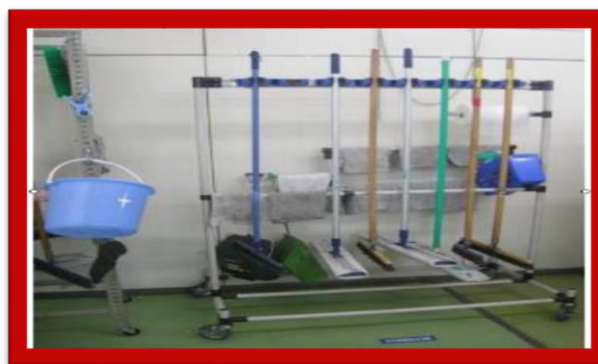


Figure 15 Cleaning Materials and Placement

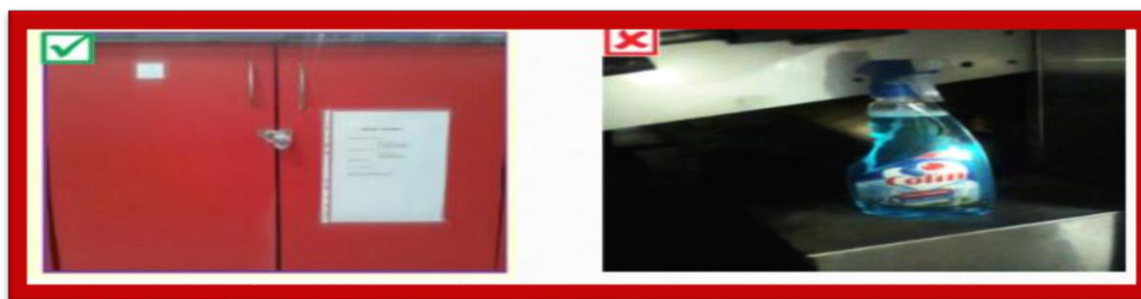


Figure 16: Dedicated chemical (cleaning/ pest control) storage room with provision of lock and key

Best practices: Cleaning and Sanitizing Programme shall include cleaning of cleaning equipment

2. Maintenance

- Preventive maintenance of equipment and machinery shall be carried out regularly as per the instructions of the manufacturer.
- A preventive maintenance programme must include all devices used to monitor and/or control food safety hazards and cover the maintenance procedure, frequency and identification of the person (and/ or external agency) responsible for maintenance activity.
- Internal & External calibration schedule for critical food safety equipment's should be maintained.
- Corrective maintenance shall be carried out in such a way that production on adjoining lines or equipment is not at risk of contamination and post maintenance verification to be get verified.
- Temporary fixes when used shall not put product safety at risk and should be removed / permanently fixed in a timely manner.
- Lubricants, heat transfer fluids or any other similar material used shall be food grade where there is a risk of direct contact with the product.
- It is recommended as best practice to maintain plant equipment's breakdown records.
- Loose items control policy (Nut & bolts, Nails broken pieces or smaller parts of machines) should be followed to prevent any contamination with product or packaging material.



Fig 17- Maintenance tools stored separately in designated and clean manner

3. Pest Control

- Every suitable measure shall be taken to exclude flies, rats, mice, vermin etc. from the slaughter houses/meat Processing unit.
- Bait stations should be installed outside and Glue traps inside the processing and slaughtering halls.
- Only approved baits and pesticides should be used.
- A valid and legal contract with the third party/ pest control service providers should be available in the premises.
- The organization shall have a nominated pest control technician to manage pest control activities and/or deal with external pest management agency.
- Slaughter House/Meat processing unit and surrounding areas should be regularly examined for evidence of infestation.
- There should be an effective and continuous programme for the control of insects, rodents or other vermin. Records shall be maintained for the same.
- In case any pest gains entrance to the slaughter house/ meat processing unit or surrounding areas, control measures (involving treatment with physical or chemical or biological agents) should only be undertaken by or under direct supervision of a trained personnel.



Figure 18 Glue traps



Figure 19 Insecticutors should be switched on



Figure 20 Rodent Box Sample



Do not allow stagnation for pest breeding

Figure 21 Water Stagnation

Pesticides can be used but

- Should only be applied if other precautionary methods cannot be used effectively.
- Only pesticides approved for use in the slaughter house/meat processing unit by competent authority should be used.
- Maintain record of MSDS for each Pesticides used in a workplace shall be available at the site.
- They shall be handled and dispensed only by authorized and properly trained personal
- Pesticides to be stored away from processing area and should be located in closed cabinet outside the premises.
- Greatest care should be exercised to prevent any contamination of the meat equipment or utensils.
- Before pesticides are applied all meat should be removed from the room and all equipment and utensils should be thoroughly washed prior to being used again.

1D – Deny Entry- Preventing Entry	2D – Deny Shelter – Elimination of Harborage of Pests	3D – Deny Food- Eliminate food sources to pests	4D – Eradication of Pests
<ul style="list-style-type: none"> • Seal all holes, crevices at ceilings, walls and floors • Threshold clearances of doors < 6mm, fix metal kicking plates • Double door / air curtains / strip curtains / mesh screens, self-closing doors at appropriate locations Missing / damaged gratings of drains installed / replaced 	<ul style="list-style-type: none"> • Avoid False sealing in processing and storage area • Repair defects on walls, floors, ceilings, woodwork & other structures • Remove disused / obsolete articles from food premises 	<ul style="list-style-type: none"> • Store all foods and condiments in sealed / covered containers • Floor free from food remnants • Prohibit preparing food and utensils cleaning at other places • Store refuse in dedicated closed container and discard periodically to prevent accumulation. • Surface channels and gratings clean and clear of food remnants 	<ul style="list-style-type: none"> • Clean & disinfect pest infested places, clothing and equipment • Use Insectocuter – Place 4.5 to 6 m away from food handling area • Use low wall mounted insectocutors • Clean insectocutor every week • Cover all foods during Pest control treatment • Use glue pads inside and rodent boxes outside the processing areas • Pest or chemical contaminated food be discarded.

Pest control 4 D method

4. Waste Disposal Management

- Waste stores and dust bins must be kept appropriately clean, free of pests and in closed conditions and shall be disposed as per local rules and regulations including those for plastic and other non- environment friendly materials.
- Waste should be removed from the meat handling and other working areas at intervals and at least daily.
- Waste to be handled in such a manner so as to exclude contamination of food or potable water. Precaution should be taken to prevent access to waste by pests.
- Sufficient number of trolleys (rust proof) or crates should be provided in the processing hall for quick removal of bones and other wastes. Separate trolleys / crates should be provided for slaughter hall, deboning hall and packing area to avoid contamination and easy identification.
- Suitable and sufficient receptacles furnished with closely fitted covers shall be provided for collection and removal of all garbage, filth and refuse from the slaughter house at a convenient time to a place away from the factory for disposal.
- Immediately after disposal of waste, receptacles used for storage and any equipment which has come into contact with the waste should be cleaned and disinfected
- All slaughterhouse solid & liquid waste shall be treated as per applicable Pollution Control Board Norms.
- Waste disposal SOP should be defined & Hazardous waste disposal records to be maintained
- It is recommended as best practice to store bio degradable & non-degradable waste separately.

IV. Establishment- Personal Hygiene

1. Health Status

- No person suffering from infectious or contagious diseases (like infected wounds, skin infections, sores or with diarrhoea etc.) shall be allowed to work in the slaughter house/meat procession unit.
- Any person so affected, shall immediately report illness or symptoms of illness to the management
- Annual medical examination of all meat handlers and employees shall be done from a registered medical practitioner; to ensure that they are free from infectious and other communicable disease.

- A record of these examinations signed by a registered medical practitioner shall be maintained for inspection.
- All meat handlers shall be inoculated against the enteric group of disease and a certificate thereof shall be kept for inspection.
- In case of an epidemic, all meat handlers should be vaccinated irrespective of the yearly vaccination. Employee who come into direct or indirect contact with edible parts of birds or meat in a course of their work, where necessary, have a medical examination prior to employment.

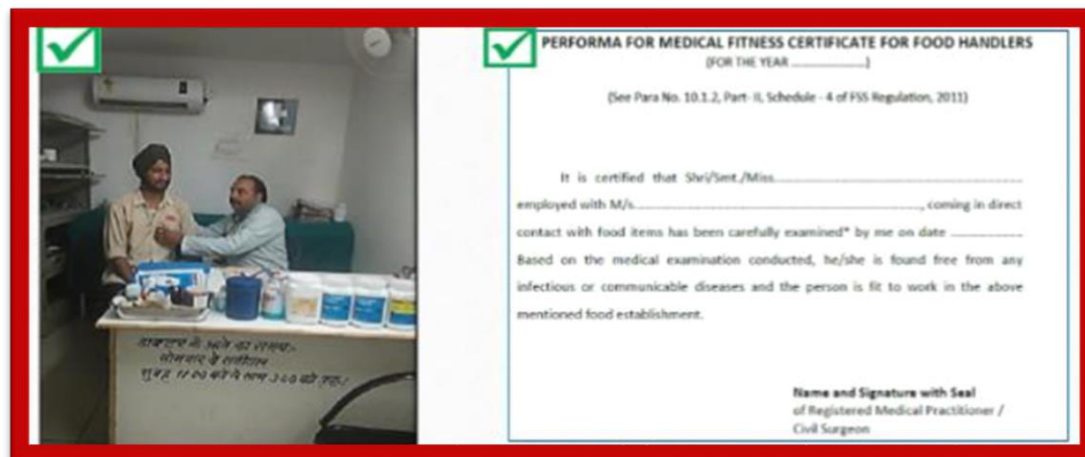


Figure 22: Arrangement of periodic medical check-ups and vaccinations in line with Schedule IV (FSSR 2011) for employees and food handlers

In case of any injury/cut:

- Any person who is cut or injured should discontinue working with meat immediately (preparation, handling, packing or transportation)
- Should be suitably bandaged.
- No exposed bandage should be worn. All bandages should be completely protected by a water proof covering, different in colour, and clearly visible and is of such a nature that it cannot become accidentally detached.
- Only bandage with above mentioned type is allowed to wear inside the slaughter house/Processing Unit.
- First aid facilities should be provided in the facility.

2. Personal Cleanliness

- Meat handlers shall maintain a high degree of personal cleanliness with adequate and suitable clean protective clothing, head covering, face mask, gloves, gum boots etc. All wares should be washed, unless designed to be disposed, and should be maintained in a clean condition consistent with the nature of the work in which the person is engaged.

- If wearing gloves during the slaughter and dressing of birds and the handling of meat, it has to be ensured that they are of an approved type for the particular activity, e.g. stainless-steel chain gloves, synthetic fibres, nitrile and they are used according to specifications, e.g. washing before use, changing or sanitizing gloves when contaminated
- All meat handlers working in the deboning hall must wash their hands with soap and sanitizer.
- All persons entering the slaughter house/meat processing unit shall wash their hands step by step as mentioned below:
 - Wet hands with potable water
 - Apply liquid soap and make a lather for at least 30 seconds
 - Apply to every part of hands including nails, between fingers, and on both the sides of the hands.
 - Wash with potable water
 - Disinfect / dry their hands



Fig 23: Steps of hand-washing

NOTE- Hand Washing Notices shall be posted at appropriate places

- Hand washing shall be done:
 - At the beginning of food handling activities;
 - Immediately after using the toilet;
 - After handling raw food or any contaminated material, tools, equipment or work surface,
 - On coughing/sneezing, smoking; to avoid contamination of other food items.
 - After handling chemicals



Figure 24: Touch free (hands free) taps at wash basins to avoid cross contamination



Fig 25 Foot Operated Hand Washing System



Fig 26: Automatic IPA hand sanitizer at entrance



Fig 27: Auto Shoe Cover and gum Boots



Fig 28: Automatic hand washing and foot cleaning system



Fig 29: Provision of hand dryer for drying hands at entrance



Fig 30: Usage of sanitizer (IPA) before going inside process



Fig 31: Storage of personal hygiene clothing

3. Personal behavior

- The slaughter house/processing unit shall implement an effective personal hygiene programme that identifies hygienic behaviour and habits to be followed by personnel to prevent contamination of food.
- Any behaviour or unhygienic practices which could result in contamination of meat shall be prohibited in meat processing, distribution, storage and handling areas. This includes smoking, chewing or eating, sneezing or coughing over unprotected meat, spitting etc.
- Personal effects such as jewellery, watches, pins or other items should not be worn or brought into food handling areas if they pose a threat to the safety and suitability of food.
- Should provide separate lockers/place provided for persons regularly work in slaughter houses/processing unit to keep their personal belongings, tiffin etc.
- Food contact tools and equipment shall not be kept in personal lockers.

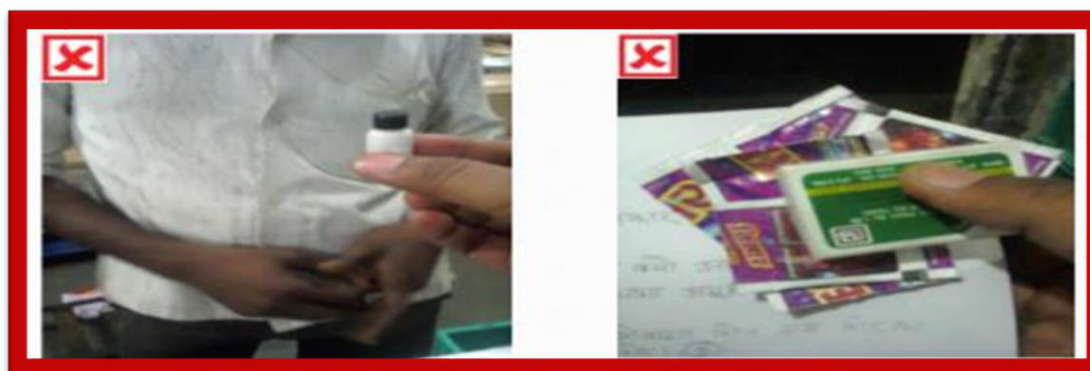


Fig 32: No usage of Gutkha/ tobacco inside the plant

4. Visitors

- Proper care has to be taken to ensure that food safety and hygiene are not getting compromised due to visitors in the floor area.
- The facility shall ensure that visitors who visit an area in slaughter house/ meat processing unit where meat is handled should wear protective clothing and head cover and adhere to all personal hygiene provisions as mentioned by the company to maintain food safety.
- All visitors should provide declaration in written of carrying no infectious disease

V. Establishment-Product Information and Consumer Awareness

1. Product Information and Labeling

- All packaged food products shall carry a label and requisite information shall be there as per provisions of Food Safety & Standards Act, 2006 (Packaging & Labelling) & Regulations made there under so as to ensure that adequate and accessible information is available to the next person in the food chain to enable them to handle, store, process, prepare and display the food products safely and correctly and that the lot or batch can be easily traced and recalled if necessary.

2. Consumer Awareness and Complaint Handling

- Information shall be presented to consumers in such a way to enable them to understand its importance and make informed choices. Information may be provided by labelling or other means, such as company websites, education programmes and advertisements, and may include storage, preparation and serving instructions applicable to the product.
- The slaughter house/processing unit shall have a system to handle product complaints with identified person or people responsible for receiving, evaluating, categorizing, investigating and addressing complaints. Complaints shall be accurately categorized according to safety concerns and other regulatory concerns, such as labelling and shall be investigated by appropriately-trained technical personnel.
- An effective complaint handling system should comprise the following:
 - Policy and complaints handling procedure
 - Clear identification of all possible complaint sources
 - Complaint capturing and categorizing based on the health and safety risk
 - Investigation and root cause analysis (RCA)
 - Corrective action
 - Complaint trending and analysis
 - Continual improvement

VI. Establishment- Training and Management

1. Training

- All personnel should be aware of their role and responsibility in protecting meat from contamination or deterioration. The slaughter house/processing unit shall ensure that all meat handlers have the necessary knowledge and skills to enable them to handle the meat hygienically.
- The slaughter house shall ensure that all meat handlers are instructed and trained in food hygiene and food safety aspects along with personal hygiene requirements commensurate with their work activities, the nature of food, its handling, processing, preparation, packaging, storage, service and distribution.
- All personnel who come in contact with the food need to be trained on food hygiene and safety.
- Trainings should be mandatory for personnel who are responsible for monitoring, corrections and corrective actions of the food safety management system, supervisors whose activities have an impact on food safety.
- Training need identification is done for all employees before training.
- Post- evaluation of training is identified which indicates the effectiveness of training done. And also periodic assessment of the effectiveness of training is carried out by routine supervision and checks to ensure that food hygiene and food safety procedures are being carried out effectively.
- Induction trainings (for new employees) & Refresher trainings (for existing employees) shall be conducted
- Yearly training calendar and schedule with all training topics should be prepared and communicated to all. It shall be routinely reviewed and updated wherever necessary. System should be in place that meat handlers remain aware of all procedures necessary to maintain the safety and suitability of food.
- Training records including number of handlers attended, topic, mode of training, assessment etc. shall be maintained for the same.

2. Management and Supervision

- The management shall lead establishment of Food Safety Management Systems in their premises.
- Documented procedure: The management shall provide and maintain documented standard operating procedure for FSMS system compliance and its supervision at site through records/checklists on routine basis to control any possible hazards throughout supply chain.
- Food safety trainings & skills: The management shall appoint trained and competent managers and supervisors.

- All technical staff and supervisors should have appropriate qualifications, adequate knowledge, induction, food safety trainings and skills on food hygiene principles and practices. This will enable them to:
 - Ensure food safety and quality of its products,
 - Judge food hazards,
 - Take appropriate preventive and corrective action, and
 - To ensure effective monitoring and supervision.

VII. Establishment- Audit, Documentation and Record Keeping

1. Self-Evaluation and Review

- The slaughterhouse/processing unit shall conduct a self-evaluation of the process to verify the effectiveness. Necessary corrective actions based on self-evaluation shall be taken.
- Slaughter house/processing unit should undertake a complete review of the system including self-evaluation results, customer feedback, complaints, new technologies and other updates at periodic intervals, but at least once in a year for continual improvement.

2. Audit, Documentation and Records

- A periodic audit of the entire system according to the SOP be done to find out any fault / gap in the GMP / GHP system.
- Appropriate records of processing / preparation, production, storage, distribution, service, product quality, laboratory test results, cleaning and sanitation, pest control and product recall shall be kept and retained for a period of one year or the shelf-life of the product, whichever is more.

C. Sanitary & Hygienic Requirements for small slaughter house and retail store

To ensure hygiene and safety of meat being sold, the following requirements should be followed:

1. **Location**

- 1.1 The facility shall be in the areas not subjected to regular and frequent flooding, and shall be free from undesirable odour, smoke, dust or other contaminants.
- 1.2 The facility shall have adequate drainage and provision for cleaning. The facility premise shall be constructed / located in a way that drain / storm water should not enter the premises, to avoid contamination of meat.
- 1.3 The minimum distance between the facility and any place of worship shall be more than 50 meters.
- 1.4 The condition of 100 meters distance shall apply in case the premise is situated directly opposite to the entry gate of religious place.

2. **Facility Design**

- 2.1 Facility must be designed to:
 - Provide adequate space for the fixtures, fittings and equipment used
 - Prevent access by any harbourage of pests
 - Keep out dust, dirt, fumes, smoke and other contaminants
 - Minimise the accumulation of dust, water, litter or waste materials.
- 2.2 In case the slaughter of poultry is being carried out at the facility, it should be designed to:
 - Have three sections, viz Holding Area, Slaughter Area and Portioning & Retail Area
 - Slaughter area and Portioning area shall be laid out and equipped so as to ensure that edible meat does not come into contact with floors, walls or other fixed structures, except those which are hygienically designed for contact with meat.

3. **Premises Requirements and Construction**

- 3.1 Facility shall be constructed to enable hygienic processing and sale of meat to ensure food safety.

- 3.2 A sign board indicating the type of meat sold shall be displayed prominently. In case more than one type of meat is being sold, care should be taken to avoid cross-contamination.
- 3.3 The surfaces of walls, partitions and floors of holding area, slaughter area, and portioning & retail area shall be made of impervious materials for easy cleaning and sanitation and to avoid accumulation / absorption of dust, blood / meat particles, microbial / fungal growth.
- 3.4 Doors, windows and floors shall be constructed for effective cleaning & sanitation to avoid accumulation / absorption of dust, blood / meat particles, microbial / fungal growth. Floors shall have adequate drainage.
- 3.5 The facility shall provide protection to avoid entry of flies, other pests and animals to avoid contamination
- 3.6 There shall be an adequate supply of potable water
- 3.7 Meat handlers shall be provided facilities for cleaning their hands.

4. Equipment and Accessories

- 4.1 The equipment, fittings and implements such as knives etc in the facility shall be of such material so as to enable easy cleaning, maintain hygiene and to avoid contamination. Those shall be durable, resistant to corrosion and capable of withstanding repeated exposure to normal cleaning and disinfection.
- 4.2 The equipment and fittings in poultry slaughterhouse shall be of such material so as to enable easy cleaning, maintain hygiene and to avoid contamination. Those shall be capable of withstanding repeated exposure to normal cleaning and disinfection.
- 4.3 The implements shall be of such material that is cleanable, durable and resistant to corrosion and shall be capable of withstanding repeated exposure to normal cleaning and disinfection.
- 4.4 The weighing scales used shall be easily cleanable and sanitizable.
- 4.5 The chopping block should be of food-grade synthetic material, which does not contaminate the meat. If the block is of wooden it should be of hardwood trunk, must be free of splits, cracks and holes and must be maintained in a hygienic condition and shall not contaminate the meat.
- 4.6 For retailing frozen meat, the facility shall have deep freezers capable of maintaining product temperature of -18°C or lesser.

5. Sanitary Practices

- 5.1 To prevent contamination of meat equipment and facility shall be cleaned and sanitized before and after use.
- 5.2 Cleaning and disinfection shall be done preferably with hot water or 50 ppm chlorinated water.
- 5.3 Slaughtering of birds inside the facility should be strictly prohibited unless it is butchery cum retail shop.

- 5.4 Meat meant for immediate sale over the counter need not be stored in cool conditions.
- 5.5 All dressed birds, if not meant for immediate sale over the counter, shall be chilled below 4 °C by appropriate method within 4 hours from slaughter and should be further maintained at or below 4 °C
- 5.6 The preparation of food of any type inside the meat sale outlet should be strictly prohibited.
- 6. Storage and Disposal of Waste**
- 6.1 Facility shall have waste and garbage collection bins with lids which should be effectively cleaned and sanitized.
- 6.2 The garbage bins shall be lined with garbage collection bags and should have lids to be kept closed so they do not provide a breeding ground for pests
- 7. Pest Control**
- 7.1 Facility shall ensure there are no pest infestation which may cause food safety threat.
- 7.2 Facility shall use approved pesticides with appropriate precautions to prevent contamination of meat. Before pesticides are applied all meat should be removed from the room and all equipment and utensils should be thoroughly washed prior to being used again.
- 8. Personnel Hygiene and Cleanliness**
- 8.1 Meat handlers of the facility shall undergo a medical examination by a registered medical practitioner annually to ensure that they are free from any infectious and other communicable diseases.
- 8.2 Every person engaged in a meat handling area shall keep their finger nails trimmed and should wash his hands frequently and thoroughly with a suitable hand cleaner with potable water. Hands should always be washed before commencement of work, immediately after using the toilets, after handling contaminated material and whenever else necessary.
- 8.3 The meat handlers working in facility shall be provided with clean clothing and head wears.
- 8.4 Eating & chewing of tobacco, gums, any other items, smoking and spitting should be prohibited in any part of facility.
- 9. Sourcing of meat from Slaughterhouse**
- 9.1 Poultry meat shall only be procured from a FSSAI approved slaughterhouse.
- 10. Transportation of meat from slaughter place to the retail facility**
- 10.1 Due to the potential for growth of pathogenic and spoilage micro-organisms under conditions of inadequate temperature control, meat should be transported at temperatures that achieve safety and suitability.
- 10.2 In case the meat has to be transported from the place of slaughter to the facility, it shall be transported at or below 4 °C temperature. It shall be

transported in a clean insulated container with covers (lids) with precautions to ensure that no contamination/cross contamination or deterioration takes place.

- 10.3 Frozen meat shall be transported from the cold storage to the Retail Outlet under hygienic conditions and at less than minus18°C.

D. HACCP Implementation Including Critical Control Points

I. Hazards Associated With Poultry Manufacturing & HACCP Implementation for Important Control Measures

Implementing Hazard Analysis and Critical Control Point (HACCP) is crucial for any food manufacturing process. A HACCP plan covers the total supply chain, from inbound logistics, through storage, processing, sanitation and maintenance to the final use by the consumer. Across the operations, it must be ensured that procedures are available for internal logistics, processing specifications, working instructions, hygiene procedures and preventive maintenance plans. These procedures must cover start-ups, shutdown and unexpected stoppages during processing.

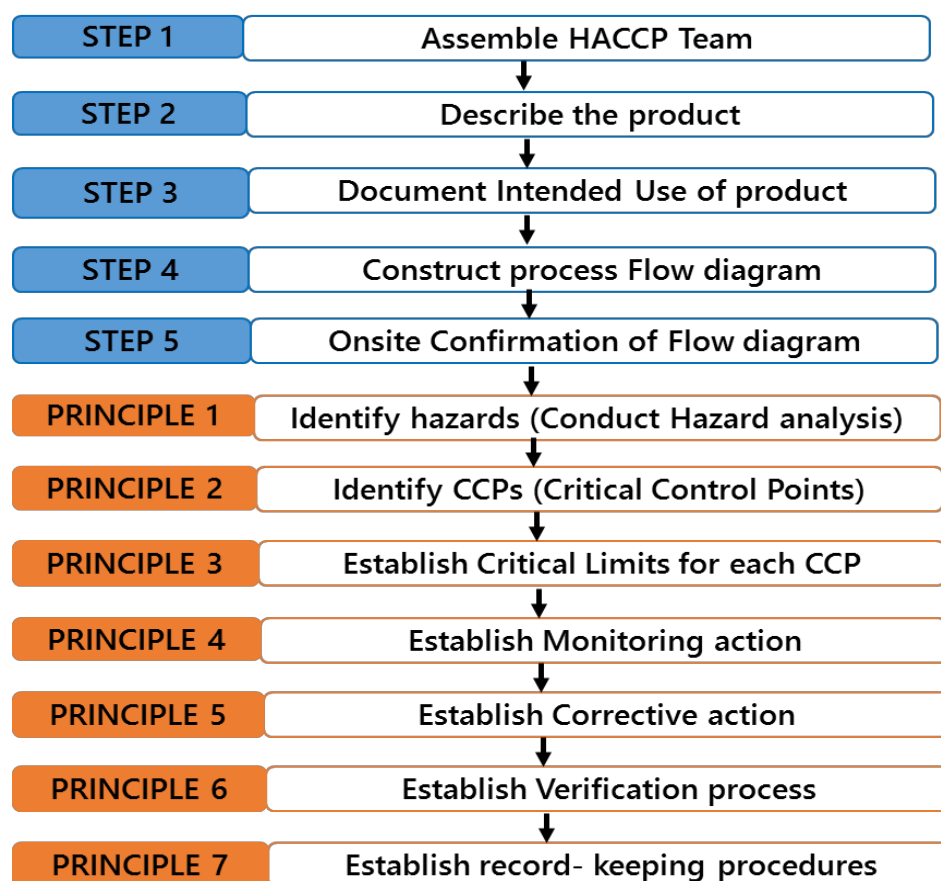
Brief Introduction of HACCP:

Hazard Analysis Critical Control Point (HACCP) is essential to carry out to identify the weakness of the production line and to suggest critical limits in compliance with legislation and therefore the preventive and corrective measures.

Though HACCP system was designed to aim zero defect products, yet it is not feasible to achieve 100% defect free products. However, it sets a goal to minimize the associated risks during production and subsequently reduce unacceptable unsafe products.

During implementation of HACCP, it is imperative to set controls at each point of the production line at which safety problems (physical, chemical and microbiological) are likely to occur.

A HACCP plan is required to be in place before initiating the HACCP system. A HACCP plan consists of 5 initial steps and 7 major HACCP principles.



The requirements for Sanitation Standard Operating Procedures (SSOPs) along with Good Manufacturing Practices (GMPs) should be considered as Pre-Requisite for HACCP.

Risk assessment is a critical step in a HACCP plan. Below is a template to determine what severity and probability a processing step is involved with and therefore what level of criticality is holds in the processing line.

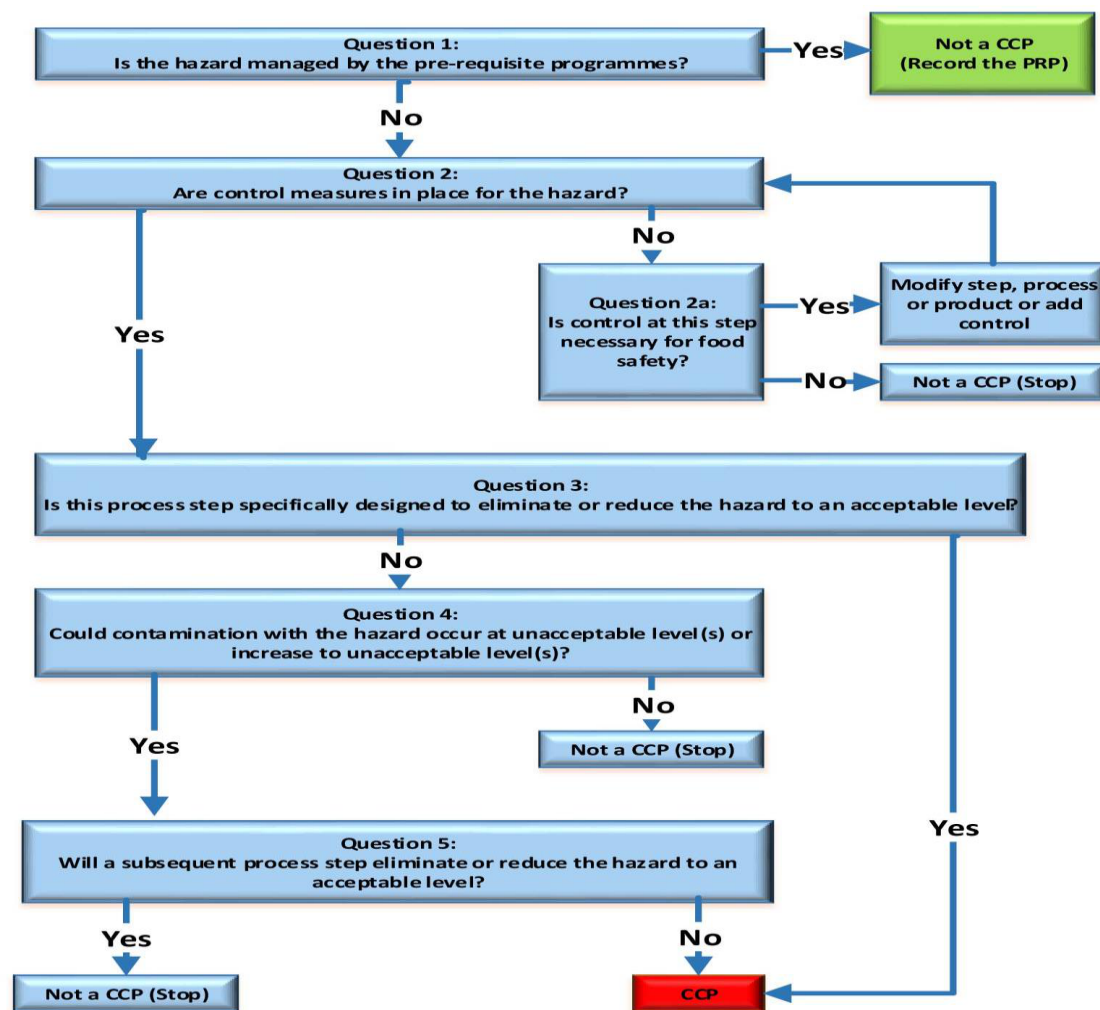
		Consequence/ Severity					
		<u>How severe could the outcome be if the risk event occurs?</u>					
		Severe	Major	Significant	Minor	Insignificant	
Probability/ Likelihood	What's the chance of the risk occurring?	Frequent	Extreme	Extreme	Very High	High	Medium
		Likely	Extreme	Very High	High	Medium	Medium
		Occasional	Very High	High	Medium	Medium	Low
		Seldom	High	Medium	Medium	Low	Very Low
		Unlikely	Medium	Medium	Low	Very Low	Very Low

Introduction to Decision Tree

Hazard Analysis and Critical Control Point (HACCP) decision trees are tools that can be used to help you decide whether a hazard control point is a critical control point (CCP) or not. A CCP is a step at which control can be applied. However, it is not always possible to eliminate or prevent a food safety hazard, so this allows you to reduce it to an acceptable level.

The purpose of a decision tree is to support the judgement of the team and help you to confirm whether the hazard needs more food safety controls. Decision trees are not mandatory elements of HACCP but they can be useful in helping you determine whether a particular step is a CCP.

It is vital that you determine the correct CCPs to ensure that food is managed effectively and safely. The number of CCPs in a process will depend on how complex the process is and how many hazards are present.



Possible hazards in Poultry Meat and Processed Poultry Products

- I. **PHYSICAL**
 - A. **POULTRY ORIGIN**
 1. Bones in boneless meat
 - B. **NON-POULTRY ORIGIN**
 1. Glass
 2. Metal
 3. Plastic
 4. Stones
- II. **CHEMICAL**
 1. Cleaning and sanitizing chemicals residues
 2. Pesticides residues
 3. Veterinary drug residues.
 4. Food additives above specified limits
 5. Biological toxins
 6. Chemical contaminants from packing and food contact materials
 7. Grease etc.
- III. **BIOLOGICAL**
 1. Bacteria
 2. Fungi
 3. Viruses
 4. Parasites

II. Possible Hazards in Poultry Meat and Processed Poultry Products

1. Hazard Analysis in Poultry Meat

Possible Hazard Type: P: Physical; C: Chemical; B: Biological

S. No.	List of Manufacturing/ Process Steps / (sequential)	Possible Hazard Type:	Possible Hazards	Source	Hazard Adverse Impact	Control Measures
1.	Procurement and Quality inspection of Raw Material (Live Birds)	P	NA	NA	-	-
		C	Antibiotic/Pesticide residues	Veterinary treatment; Environment pollution Feed	Adverse Health impacts	Procurement from approved farm.
		B	Pathogens	Diseased birds	Adverse Health impacts	Ante-mortem inspection
2.	Holding/Resting Area	P	NA	NA	-	-
		C	NA	NA	-	-
		B		1. Chances of getting infection from other diseases birds. 2. Physical stress during transport 3. Unhygienic conditions at holding place.	Adverse health impacts	Ante-mortem inspection
3.	Ante-mortem inspection	P	NA	NA	-	-
		C	NA	NA	-	-
		B	Fungal, Bacterial and viral growth - Chances of production of toxin or chances of direct infection to end user.	Diseased birds.	Adverse health impacts	Inspection of all birds by veterinarians.
4.	Stunning	P	NA	NA	-	-
		C	NA	NA	-	-
		B	NA	NA	-	-
5.	Slaughtering and Bleeding	P	Extraneous matter	Cutting knives, tools, hooks	Health problem	- Stringent GMP followed. - Inspection of knives, hooks and tools to be done at prescribed frequency.
		C	NA	NA	-	-
		B	Microbial Contamination	Knife and Personal	Health Problem	Regular SWAB testing to conform Hygiene state.
6.	Scalding and defeathering	P	Extraneous matter	Scalding barrels, scrapers, hooks etc	Carcass contamination	Stringent GMP followed.
		C				
		B	Microbial Contamination	Equipment and Personal	Health Impact	Regular Swab testing to confirm hygiene state.
7.	Receiving of Carcass (Evisceration)	P	NA	NA	-	-
		C	NA	NA	-	-
		B	Microbial contamination	Some internal pathogenic lesions may not be screened at anti mortem stage	Health problem	Inspection of all birds by veterinarians during post mortem inspection.

8.	Washing of Carcass	P	NA	NA	-	-
		C	Pesticide Residue	Water	Health impact	Water testing as per IS10500
		B	Microbial Load	Water	Health Impact	- Water testing as per IS10500 - Weekly microbiological testing internally - Water mixed with chlorine to reduce the microbial load.
9.	Storage in Chillers	P	Extraneous material	Chillers	Carcass Contamination	Adhering to GMP-GHP
		C	NA	NA	-	-
		B	Growth of microbes, ph	Carcass	Unsafe food	Controlled Temperature and records maintained
10.	Deboning/portioning	P	Extraneous material including feathers, metal etc	Trays, knives and other food contact accessories	Health problem	- Adhering to GHP and GMP - Adhering to pest control activities.
		C	NA	NA	-	-
		B	E. coli, TVC, Salmonella spp.	Carcass	Health problem	- Adhering to GHP and GMP; and Inspection. - SWAB testing of personal and equipment's.
11.	Weighing and Packing	P	Extraneous material	Food Contact accessories	Carcass contamination	- Adhering to GHP and GMP - Adhering to pest control activities.
		C	Chemicals	Primary Packing	Unsafe food	Use of food grade primary packing.
		B	NA	NA	-	-
12.	Blast freezers & Plate freezers	P	Metal contamination, other extraneous material	Freezer/chillers	Carcass contamination	Adhering to GMP-GHP.
		C	Cleaners, sanitizers	Walls, trays	Carcass contamination	Adhering to GHP & GMP
		B	Growth of microbes	From trays, storage area	Unsafe food	Controlled Temperature and records maintained
13.	Shrinkage and Final Packing	P	NA	NA	-	-
		C	NA	NA	-	-
		B	NA	NA	-	-
14.	Passing through Metal Detector	P	Metals	From processing	Health problem	Adhering to GHP & GMP
		C	NA	NA	-	-
		B	NA	NA	-	-
15.	Cold storage/Chiller Storage	P	NA	NA	-	-
		C	NA	NA	-	-
		B	Growth of microbes	From trays, storage area	Unsafe food	Controlled Temperature and records maintained
16.	Loading and Dispatch	P	NA	NA	-	-
		C	NA	NA	-	-
		B	Growth of microbes	Pest infestation. Temperature may rise lead to growth of micro organisms	Carcass Contamination	Controlled temperature and records maintained Adhering to GMP-GHP.

2. Process Flow Chart

Figure A: Process Flow of Slaughter & Dressing of Poultry

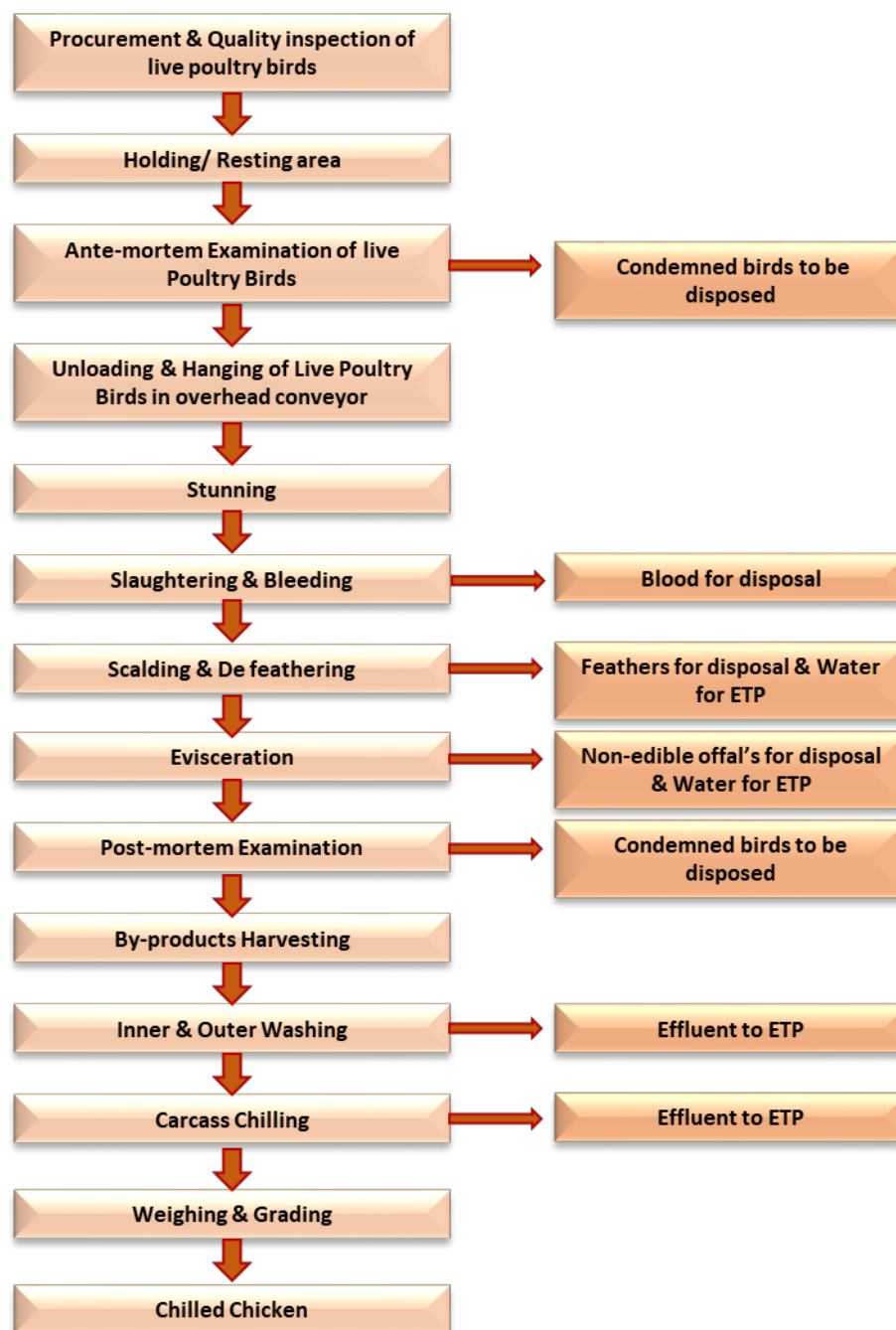
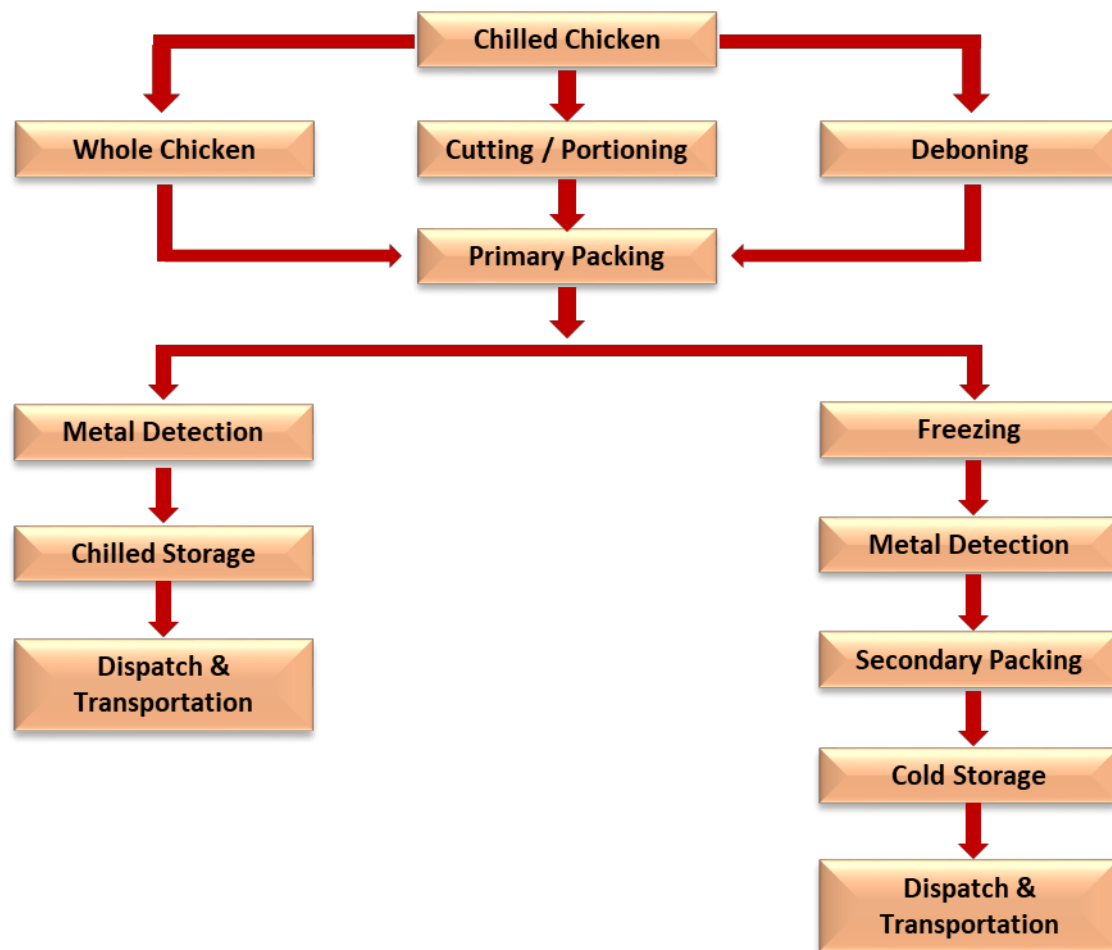


Figure B: Process Flow of Portioning, Deboning & Packing Of Poultry Meat



B. Risk Assessment & CCP Determination Example

Note: This is only a reference model for Risk Assessment & CCP determination example. These may vary from manufacturing plant to plant depending on risk assessment and process controls

Process Step	Hazard Type	Potential hazard	Likelihood	Severity	Risk	Preventive Measure	Q1	Q2	Q2A	Q3	Q4	Q5	CCP Y/N	Remarks
Procurement and Quality Inspection of raw material	Physical	NA	NA	NA	NA	NA	-	-	-	-	-	-	NA	-
	Chemical	Antibiotic/pesticide residue	L	H	LH	birds to be procured from approved Slaughter houses	Y	-	-	-	-	-	N	Assurance as birds procured from approved slaughter houses
	Biological	Diseases birds	L	H	LH	Inspection by veterinarians Suspected bird kept in separate area for final judgement	N	Y		N	Y	Y	N	Inspection carried out for all bird in subsequent step
Holding/Resting Area	Physical	NA	NA	NA	NA	NA	-	-	-	-	-	-	NA	-
	Chemical	NA	NA	NA	NA	NA	-	-	-	-	-	-	NA	-
	Biological	Diseases birds	L	H	LH	Inspection by veterinarians	Y	-	-	-	-	-	N	Standard Sanitation procedures as per GMP Ante mortem inspection at next step
Ante-Mortem Inspection	Physical	NA	NA	NA	NA	NA	-	-	-	-	-	-	NA	-
	Chemical	NA	NA	NA	NA	NA	-	-	-	-	-	-	NA	-
	Biological	Diseased bird. Chances of production of toxin or chances of direct infection to end user.	L	H	LH	1. Inspection by veterinarians. Report of the confirmatory test of suspected bird. 2. Rejection of diseases bird. 3. Suspected bird kept in separate area for final judgment. 4. Online training of personnel to identify and segregate such bird.	Y	-	-	-	-	-	N	Inspection of all birds. Rejection of diseased bird.

Stunning	Physical	NA	NA	NA	NA	NA	-	-	-	-	-	-	NA	-
	Chemical	NA	NA	NA	NA	NA	-	-	-	-	-	-	NA	-
	Biological	NA	NA	NA	NA	NA	-	-	-	-	-	-	NA	-
Slaughtering and bleeding	Physical	Extraneous Matter	L	M	LM	GMP to be followed.	Y	-	-	-	-	-	N	Standard sanitation procedures at set intervals followed.
	Chemical	NA	NA	NA	NA	NA	-	-	-	-	-	-	NA	-
	Biological	Microbial Contamination	L	H	LH	SWAB testing of equipment's as well as personal to conform hygiene state	Y	-	-	-	-	-	N	SWAB testing to conform hygiene at frequent intervals.
Scalding and defeathering	Physical	Extraneous Matter	M	M	MM	GMP-GHP activities followed	Y	-	-	-	-	-	N	Adhering to GMP-GHP activities
	Chemical	NA	NA	NA	NA	NA	-	-	-	-	-	-	NA	-
	Biological	Microbial Contamination	M	M	MM	SWAB testing of equipment's as well as personal	Y	-	-	-	-	-	N	SWAB testing to conform hygiene at frequent intervals.
Evisceration	Physical	Extraneous matter	L	M	LM	GMP to be followed	-	-	-	-	-	-	NA	Standard sanitation procedures at set intervals followed.
	Chemical	NA	NA	NA	NA	NA	-	-	-	-	-	-	NA	-
	Biological	Microbial Contamination	M	M	MM	Inspection of carcass.	N	Y	-	N	Y	Y	N	Inspection of all carcasses by veterinarian during post mortem inspection
Post Mortem Inspection	Physical	NA	NA	NA	NA	NA	-	-	-	-	-	-	NA	-
	Chemical	NA	NA	NA	NA	NA	-	-	-	-	-	-	NA	-
	Biological	Diseases bird. Chances of production of toxin or chances of direct infection to end user.	L	H	LH	1. Inspection by veterinarians. Report of the confirmatory test of suspected Carcass. 2. Rejection of diseased Carcass.	Y	-	-	-	-	-	N	Inspection of all bird. At this step carcasses carrying the disease can be eliminated.

						3. Suspected carcass kept in separate area for final judgment. 4. Online training of personnel to identify and segregate such carcasses.								
Washing	Physical	NA	NA	NA	NA	NA	-	-	-	-	-	-	NA	NA
	Chemical	Pesticide residue	L	M	LM	Water testing	Y	-	-	-	-	-	N	Water testing done as per IS10500.
	Biological	Microbial Load in water	L	M	LM	Water testing externally as well as internally. Water mixed with chlorine to reduce the microbial growth.	Y	-	-	-	-	-	N	Water testing done as per IS10500
Carcass Chilling	Physical	Extraneous Matter	L	M	LM	Follow GMP-GHP	Y	-	-	-	-	-	N	Follow GMP-GHP Practices at frequent intervals.
	Chemical	NA	NA	NA	NA	NA	-	-	-	-	-	-	NA	NA
	Biological	Microbial load	M	H	MH	Temperature of the chillers to be maintained to achieve the temperature of the carcass less than or equal to 4°C within 4 hours from slaughter. GMP-GHP to be maintained	N	Y	-	Y	-	-	CCP-1	At this step, fast growth of microorganism can be prevented.
Weighing	Physical	NA	NA	NA	NA	NA	-	-	-	-	-	-	NA	NA
	Chemical	NA	NA	NA	NA	NA	-	-	-	-	-	-	NA	NA
	Biological	NA	NA	NA	NA	NA	-	-	-	-	-	-	NA	NA
Deboning/Portioning	Physical	Extraneous material- like feathers, metal pieces etc.	M	M	MM	Adhering GMP and GHP (Issuance of knife under controlled monitoring). Effective Pest Control Activities	Y	-	-	-	-	-	N	Metal detector placed at subsequent step
	Chemical	NA	NA	NA	NA	NA	-	-	-	-	-	-	NA	NA

	Biological	Contaminated Carcass (microbial load)	M	M	MM	Regular sterilization of equipment's. Trimming and rejection of portions of carcass contaminated by rumen contents.	Y	-	-	-	-	-	N	Implementation of the standard as well as sterilization of knives done at regular intervals.
Weighing and Packing (Fresh /Chilled Meat)	Physical	Extraneous material- metal etc.	L	M	LM	Adhering to GMP- GHP	Y	-	-	-	-	-	N	Metal Detector placed at subsequent step
	Chemical	Chemicals	L	L	LL	Food Grade primary packing to be used	Y	-	-	-	-	-	N	Monitoring and records to be maintained for all packing material.
	Biological	NA	NA	NA	NA	NA	-	-	-	-	-	-	NA	NA
Freezing (in case of Frozen Meat)	Physical	Extraneous material- metal etc.	L	M	LM	Adhering to GMP- GHP	N	Y	-	N	Y	Y	N	Metal Detector placed at subsequent step
	Chemical	NA	NA	NA	NA	NA	-	-	-	-	-	-	NA	NA
	Biological	Microbial Load	M	H	MH	Temperature to be maintained- Freezers- core temperature of product to be less or equal to -18 degree Celsius	N	Y	-	N	Y	N	CCP2	At this step growth of microorganism can be prevented
Carton Packing and labelling and shrink wrapping	Physical	NA	NA	NA	NA	NA	-	-	-	-	-	-	NA	NA
	Chemical	NA	NA	NA	NA	NA	-	-	-	-	-	-	NA	NA
	Biological	NA	NA	NA	NA	NA	-	-	-	-	-	-	NA	NA
Metal Detector For Frozen as well as chilled meat product	Physical	Metal Contamination	M	H	MH	Metal detector monitoring and records to be maintained.	N	Y	-	N	Y	N	CCP 3a (Frozen) CCP3b (Chilled)	After this step, physical hazard cannot be eliminated
	Chemical	NA	NA	NA	NA	NA	-	-	-	-	-	-	NA	NA
	Biological	NA	NA	NA	NA	NA	-	-	-	-	-	-	NA	NA
Cold Storage (in case of Frozen Meat) Chiller Storage in case of Chilled Meat)	Physical	NA	NA	NA	NA	NA	-	-	-	-	-	-	NA	NA
	Chemical	NA	NA	NA	NA	NA	-	-	-	-	-	-	NA	NA
	Biological	Microbial Load	M	H	MH	Temperature to be maintained- Freezers- core temperature of product to be less or	N	Y	-	Y	-	-	N	Finished Product Storage done makes hazard unlikely to occur.

						equal to -18 degree Celsius Chillers- core temperature of product to be less or equal to 4 degree Celsius)								
Loading and Dispatch	Physical	NA	NA	NA	NA	NA	-	-	-	-	-	-	NA	SOP for finished product storage makes hazard unlikely to occur
	Chemical	NA	NA	NA	NA	NA	-	-	-	-	-	-	NA	NA
	Biological	Microbial Load	L	H	LH	Container monitoring as per GMP-GHP	Y	-	-	-	-	-	N	SOP for finished product storage makes hazard unlikely to occur

C - HACCP Plan: (Example)

Note: This is only a reference model of HACCP Plan. CCPs may vary from manufacturing plant to plant depending on hazard analysis, risk assessment and process control of respective plant.

Sr. No.	CCP			Critical limit	Monitoring	Corrective Action		Verification	HACCP Records
	1. C					Immediate	Long Term		
1	CCP No. 1	Process Step- Chilling of Dressed Birds	Hazard Addressed- Biological (Pathogenic Microbes)	Critical Limit (CL)- - Bird temperature should be ≤4°C within 4 hours from slaughter. - Chlorine level should be between 50 to 70 ppm of water (Documentation of Validation of Critical Limit to be made available)	What: Chlorine level of water & Bird Temperature How: Chlorine level – By titration/test stripes Bird Temperature- Probe type thermometer When: Hourly Where: Chiller Responsibility: Production Supervisor/Manager	Bird Temperature: Chill the birds in chiller to required temperature by adding ice or lowering chiller temperature. Chlorine level: adjust chlorine dose	Proper maintenance of chiller temperature.	What: bird temperature & chlorine concentration. How: bird temperature at chiller with probe type thermometer and chlorine concentration with chlorine stripes. When: Two times per shift Responsibility: QC/QA Supervisor/Manager	1.Hazard Analysis records with justification for CCPs. 2. CL Validation Records 3.Chlorine level monitoring Records 4. Bird Temperature Monitoring Records at Chiller. 5. Daily Verification records. 6. Audit Records, 7. Calibration records of Probes. 8. Correction 9. Corrective Action Records
2	CCP No. 2	Process Step- Freezing	Hazard Addressed- Biological (Pathogenic Microbes)	Critical Limit- Product core temperature at or below - 18° C by using Blast freezer/IQF/ Plate freezer/ Trolley freezer (Documentation of Validation of Critical Limit to be made available)	What: Frozen product Temperature How: Check the frozen product core temperature with probe type thermometer before unloading the product from every batch of all freezers except for IQF where temperature will be checked for every hour. When: every batch of all freezers except for IQF where	Continue the freezing till product gets temperature below –18°C at several points before packaging - In case of IQF refreeze the product	- Proper maintenance of Freezer temperature. - Periodic Maintenance of Freezer	What: Frozen product Temperature How: with probe type thermometer before unloading the product of all freezers. When: At least 2 product/loads per shift Responsibility: QC/QA Supervisor/Manager.	1.Hazard Analysis records with justification for CCPs. 2. Critical Limit Validation records 3. Core Temperature Monitoring Records at Freezer.

					temperature will be checked for every Where: Freezer Responsibility: Production Supervisor/Manager				4. Daily Verification records. 5. Audit Records, 6. Calibration records of Probes for Product Temp and Freezers. 7. Correction Records 8. Corrective Action Records
3	CCP No. 3a and 3b	Process Step- Metal Detection	Hazard Addressed- Physical (Metal Particles)	<p>Critical Limits- Metal detector should be able to detect test stripes of</p> <p>1) In Frozen Products 1.5 mm Ferrous, 2.5 mm SS & 2.0 mm Nonferrous</p> <p>2) In Chilled products 3 mm Ferrous, 4.5 mm SS & 3.5 mm Nonferrous</p> <p>(Documentation of Validation of Critical Limit to be made available)</p>	<p>What: Metal Detector sensitivity How: by passing all three test stripes from the metal detector When: before start of each shift and every hour Where: Metal Detector Point Responsibility: Production Supervisor/Manager</p>	Supervisor to hold previous production back to last “passed” calibration check. Re pass the product after proper calibration.	Periodic Maintenance of metal detector	<p>What: Metal detector operation How: by passing test stripes When: At least two times per shift Responsibility: QC/QA Supervisor/Manager</p>	<p>1. Hazard Analysis Records</p> <p>2. CCP 3a and 3b- Metal detector validation /calibration record.</p> <p>3. Monitoring Records</p> <p>4. Daily Verification Records.</p> <p>5. Internal Audit Records</p> <p>6. Correction Records</p> <p>7. Corrective Action Records</p>

References & Suggested Readings

References

- 1) Manual on Meat cold store operation and management (<http://www.fao.org/docrep/004/T0098E/T0098E02.htm>)
- 2) Frozen Foods Handling and Storage (<http://www.cold.org.gr/library/downloads/Docs/FrozenFoodsHandling.pdf>)
- 3) General requirements on hygiene and sanitation; Schedule 4; Part II; Food Safety and Standards (Licensing and Registration of Food Business), Regulations 2011
- 4) Codex code of practice: General Principles of Food Hygiene (CAC/RCP 1-1969)
- 5) CAC RCP 58-2005_Code of Hygiene Practice for MEAT Other processed frozen export industry documents

Suggested Readings

- 1) Food Safety and Standards (Food Product Standards and Food Additives) Regulation, 2011
- 2) Food Safety and standards (Packaging and Labelling) Regulation, 2011.

Annexures

Annexure 1: Templates

FSMS Related Document & Record Templates

Some of the formats have been specified by FSSAI. Below records templates can be used as reference for other requirement

1. Mandatory

1.1 Medical Fitness Certificate for Food handlers (Template)

MEDICAL FITNESS CERTIFICATE FOR FOOD HANDLERS

(FOR THE YEAR)

(See Para No. 10.1.2, Part- II, Schedule - 4 of FSS Regulation, 2011)

It is certified that Shri/Smt./Miss..... employed with M/s....., coming in direct contact with food items has been carefully examined* by me on date Based on the medical examination conducted, he/she is found free from any infectious or communicable diseases and the person is fit to work in the above-mentioned food establishment.

Name and Signature with Seal
of Registered Medical Practitioner /
Civil Surgeon

***Medical Examination to be conducted:**

1. Physical Examination
2. Eye Test
3. Skin Examination
4. Compliance with schedule of Vaccine to be inoculated against enteric group of diseases
5. Any test required to confirm any communicable or infectious disease which the person suspected to be suffering from on clinical examination.

1.2 **FORM E**

Form of Guarantee

(Refer Regulation 2.1.14(2))

Invoice No. _____

Place: _____

From: _____

Date: _____

To: _____

Date of sale Nature and quality of article/brand name, if any Batch No or Code No. Quantity Price

1	2	3	4	5
---	---	---	---	---

I/We hereby certify that food/foods mentioned in this invoice is/are warranted to be of the nature and quality which it/ these purports/purported to be.

Signature of the manufacturer/Distributor/Dealer

Name and address of

Manufacturer/Packer

(in case of packed article)

License No. (wherever applicable)

2. Recommendatory Performas

2.1 Antemortem /Postmortem Examination

Ante Mortem Examination Report

Proposed Fit for Slaughter Certificate under Rule 4(3) of Slaughter House Rule 2001
(One Certificate for maximum 12 Animals/ hour)

Name of the owner/ Incharge of the Animal : _____

Address of the owner/ Incharge of the Animal : _____

Ante-Mortem Details :

Details	Species	Breed	Sex	Body Color	Pregnancy	Approx Age	Gait	Posture	Body Temp.	Pulse Rate	Appetite	Eyes	Nostrils	Muzzle	Opinion
Animal No.															
1.															
2.															
3.															
4.															
5.															
6.															
7.															
8.															
9.															
10.															
11.															
12.															

It is certified that :

1. Animal No..... is/ are healthy & fit for slaughter & Animal No..... is/ are diseased/ pregnant/ under aged / had recent parturition in last three months thus not fit for slaughter.

Name/ Qualification/ VCI Registration No./ Designation/ Address/ Seal of Veterinary Doctor

POSTMORTEM INSPECTION REPORT

Post Slaughter Details

Details	Species	Breed	Sex	Body Color	Approx Age	Visible Mucous membranes	Thoracic Cavity	Abdominal cavity	Pelvic cavity	Specimen collection if any	Special observation if any	Opinion
Animal No.												
1.												
2.												
3.												
4.												
5.												
6.												
7.												
8.												
9.												
10.												
11.												
12.												

It is certified that:

1. While postmortem of the Animal No..... was/ were found free from any lesions/ signs of zoonotic disease & the flesh is fit for human consumption & Animal No..... was/ were found having lesions of infection of zoonotic disease of public health importance thus whole carcass was/ were discarded/ parts of the carcass was/ were discarded & only the portion fit for human consumption was allowed to be taken out of the slaughter house.
2. Destruction of condemned carcasses, organs or parts thereof had been carried out under direct supervision of undersigned (as per Part-IV of Regulation 2011 framed under Food Safety & Standards Act, 2006).
3. None of the above animals were slaughtered without proper stunning.
4. Stunning system is well in place & effectively functional.
5. None of the above animals were slaughtered in the sight of other animal/ animals.

2.2 Incoming Vehicle Inspection Record (Template)

Sr. No.	Parameters to be Checked	Vehicle 1	Vehicle 2	Vehicle 3
1.	Department	1.1 Dry store (✓/x)		
		1.2 Packing store (✓/x)		
2.	Vehicle	2.1 Supplier Name		
		2.2 Vehicle No.		
		2.3 Vehicle Destination		
		2.4 DC/Invoice No.		
		2.5 Vehicle Phy. condition (Rust, Piercing nails,		
		2.6 Vehicle Cleanliness (✓ / x)		
		2.7 Objectionable odour		
		2.8 Vehicle type (Close/Open)		
		2.9 Arrival Time		
3.	Material Received	3.1 Material Received		
		3.2 Damaged material (✓ / x)		
		3.4 Leak/ Open/ Torn C/P/B		
		3.5 Pest Infestation (✓ / x)		
		3.6 Dirty/Crushed C/P/B		
		3.7 No. of C/P/B		
4.	Other Observation	4.1 Any hazardous material in vehicle. (✓ / x)		
		4.2 Inspection of empty vehicle (✓ / x)		
5.	Security & Safety	5.1 Seal of Vehicle (✓ / x)		
6.	Corrective Action	Corrective action for Non- Conformance		
7.	Signature	7.1 Inspected by		
		7.2 Security		
8.	Verification	By Q.C.		
9.	Remark	Accepted/ Not Accepted for unloading (✓ / x)		

2.3 Glass & Brittle Plastic Monitoring record (Template)

S.No.	Item number	Item placed at	Condition (OK/Not OK)	Correction done	Remarks

2.4 Knife/ Other Utensil Monitoring record (Template)

S.No.	Item number	Item placed at	Condition (OK/Not OK)	Correction done	Remarks

2.5 Product Release Record (Template)

Name of Product:	
Date of Manufacturing:	
Time of Manufacturing:	
Batch/Lot No.:	
Best Before/ Expiry Date:	
Quality Acceptance	
Analytical	
Microbiological	
Sensory	
Others, if any	
Quality Lab signature	

2.6 Operation Log Sheet (Template for Temperature Control)

S.No.	Date	Time	Temp. Gauge Number	Specification / Range allowed	Actual Result	Remarks	Sign

2.7 Rework Record

<u>Batch No</u>	<u>Date</u>	<u>Qty</u>	<u>Material</u>	<u>Source</u>	<u>Time</u>	<u>Finished Product</u>

2.8 Non-conforming Material/Product (Template)

HOLD: <input type="checkbox"/>		REJECT: <input type="checkbox"/>	
Material Type:			
Finished Product	<input type="checkbox"/>	Raw Material	<input type="checkbox"/>
In-Process Product	<input type="checkbox"/>	Packaging Material	<input type="checkbox"/>
Material Name:			
Date of Manufacturing/Receipt:			
Quantity of Manufacturing/Receipt:			
Lot/Batch No.			
Quantity used:			
Lot/Batch No.			
Quantity Hold:			
Lot/Batch No.			
Quantity Rejected:			
Lot/Batch No.			
Reason for Hold:			
Reason for Rejection:			
Corrective Action:			
Preventive Action:			
Remarks:			
Signature:			
QC Executive	Quality Manager	Mfg. Manager	

2.9 Outgoing Vehicle Inspection Record (Template)

Sr. No.	Dispatch Parameters	Vehicle 1	Vehicle 2
1.	Dispatch Conditions		
	1.1 Fresh (✓/x)		
	1.2 Frozen (✓/x)		
2.	Vehicle		
	2.1 Vehicle No.		
	2.2 Vehicle Destination		
	2.3 DC/STM No.		
	2.4 Vehicle Physical Condition (Rust, Piercing nails, Pests inf. etc.)		
	2.5 Vehicle Cleanliness (✓ / x)		
	2.6 RU Functioning (✓ / x)		
	2.7 Pre-cooling Temp. (< -12°C)		
	2.8 Strip Curtains (✓ / x)		
	2.9 Departure Time.		
	2.10 Departure Temp.		
	2.11 Temp. Data logger (✓ / x)		
3.	Product		
	3.1 Product Temp.		
	3.2 Damage Product		
	3.3 Leak/Open/ Torn C/B/P (✓/x)		
	3.4 Dirty/Crushed C/B/P (✓ / x)		
	3.5 No. of C/B/P		
4.	Security		
	4.1 Sealing of Vehicle (✓ / x)		
	4.2 Seal No.		
5.	Corrective Action		
	Corrective action for Non-Conformance		
6.	Signature		
	6.1 Inspected by		
	6.2 Security		
	6.3 Driver		
7.	Verification		
	By Q.C.		
8.	Remark		
	Accepted/Not Accepted for dispatch (✓ / x)		

2.10 Product Identification & Traceability (Template)

Traceability Detail Format				
Product Description				
Plant Name:		Manufacturing Date:		
Product Name:		Manufacturing Time:		
Pack Size:		Batch/Lot no.:		
Traceability Details				
Investigation Date:		Investigation Time End:		
Investigation Time Start:		Total Time Taken:		
A. CIP Details				
Equipment Name	Date	Time	Person responsible	Remarks
B. Ingredient Details				
Material Description		Remarks		
Name	Batch/Lot No.			
C. Water Treatment Details				
Chemical/Material Description		Remarks		
Name	Batch/Lot No.			
D. Primary Packaging				
Material Description		Remarks		
Name	Batch/Lot No.			
E. Manufacturing Details				
Date	Shift	Cases Manufactured	CCP Compliance	Remarks
F. Analytical Details				
Date	Shift	Analytical compliance%	Product blocked, if any	Remarks
G. Dispatch Details				
Invoice No.	Date of Dispatch	Quantity Dispatched= Total produced- (Rejected+ Control samples+ Warehouse retained)	Dispatch Destination	Remarks

2.11 Product Recall record (Template)

S.No.	Date of Complaint	Nature of Complaint	Results of Investigation	Product / Batches & quantity recalled	Mode of Disposal

2.12 Product Recall- Mock Drill report (Template)

Date of Drill:					
Starting Time of Drill:					
Closing Time of Drill:					
Overall Time taken:					
Product name:					
Area Covered:					
Mode of communication used (Telephone/ Fax / e-mail):					
Persons/Parties contacted:					
S.No.	Service Point	Location	Name of person contacted	Telephone/ Fax / e-mail	Quantity of product lying in stock
Result of Physical Verification:					
Remarks:					

2.13 Equipment Breakdown Maintenance report (Template)

Date:		Period of Report:					
S.No.	Name / Code No. of the Machine / Equipment	Location	Nature of Breakdown	Details of repairs carried out	Breakdown Period	Work Done by	Remarks

2.14 List of Monitoring & Measuring Devices and Records of Calibration (Template)

S.No.	Name of Equipment	ID.No.	Location	Range	Least Count	Frequency of Calibration	In house calibration Done On	In house calibration Due On	Remarks	Sign

2.15 Preventive Maintenance Schedule (Template)

LIST OF MACHINERY AND EQUIPMENT FOR MAINTENANCE										
S.No.	Name of Machine/ Equipment	Code/ Identification No.	Specification /Supplier	Location of place of the Machine/ Equipment	Frequency of check					Remarks
					Daily	Weekly	Monthly	Half Yearly	Yearly	

2.16 Preventive Maintenance Record (Template)

Machine/Equipment Name.:								
Machine/Equipment No.:								
Location:								

S.No.	Maintenance Check Point	Frequency of check					Signature	Remarks
		Daily	Weekly	Monthly	Half Yearly	Yearly		

2.17 Fire extinguishers inspection record (Template)

Inspection date	Extinguisher No.	Type/Specification	Due date of re-filling	Actual date of re-filling	General condition	Signature

2.18 Pest Management Plan (Template)

Type of Pest	Mode of Control	Station (locations) monitored	Number designated	Frequency of Monitoring	Remarks

2.19 Pest Monitoring record (Template)

Date	Type of Pest	Mode of Control	Station (locations) monitored	Number designated	Frequency of Monitoring	Clean (ok/Not ok)	Remarks	Sign

2.20 Waste Disposal Record (Template)

S.No.	Amount of waste						Daily disposal (Yes/No)
	Chemical/Hazardous waste	Food material waste	Package material waste	Other waste (Dry)	Other waste (Wet)	% of total waste	

2.21 Monitoring of personnel hygiene (Template)

Date:															
S.No.	Employee Code	Employee name	Area of work	Hand wash, sanitize (and Gloves where necessary)	Clean & trimmed Nails	No open Wounds	No Jewellery	Covered Hair	Clean outer garments / protective clothing	Clean Shoes/ shoe covers	Infectious Disease / Skin infection / Allergy, if any	No Tobacco/ Smoking / Chewing	Overall Hygiene Status upon examination (Yes/No)	Action needed on non-compliance	Re-examination status (Yes/No)
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															

Jewellery wrist watches, cufflinks, ear rings, glass bangles, stick bindis

2.22 Visitor Record (Template)

Date of visit:	
Time of entry:	
Time of exit:	
Name of visitor:	
From (location):	
Whom to meet:	
Purpose of visit:	
Type of visitor:	<i>Please Tick:</i> <i>Type I (Critical areas: Internal processing areas)</i> <i>Type II (Outside processing areas)</i> <i>Type III (Office areas)</i>
Any Allergy/ Infectious disease declaration:	
Belongings description:	
Signature of visitor:	
Signature of Security in-charge:	
Signature of person visited:	

NB: Pls adhere to all the food safety and quality ; and company policies and rules during your visit

2.23 Product Information (Template)

S.No.	Description	Specifications
1	Product Category/Name	
2	Composition (Raw materials, Ingredients, etc.)	
3	General & Specific product specification	
4	Legislative requirements, Customer requirements	
5	Storage	
6	Labeling	
7	Transportation	
8	Product Shelf-life	
9	Packaging material	
10	Hazardous for any group of customers	
11	Food Category	
12	INTENDED USE	

2.24 Customer/ Consumer Complaint Log (Template)

Complaint Number: _____	
Date: _____	Time recorded: _____ <input type="checkbox"/> am <input type="checkbox"/> pm
Quality related: <input type="checkbox"/>	Food safety related: <input type="checkbox"/>
Customer Details	
Customer Name: _____	
Phone: _____	
Address: _____	City: _____
State/Province: _____	Zip code: _____
Email: _____	
Product Consumed	
Product name: _____	
Batch Code/Lot no.: _____	
Package size: _____	
Location purchased: _____	
Date of purchase: _____	Date consumed: _____
How was the product stored? _____	
Nature of Complaint	
Foreign object <input type="checkbox"/>	Off/ Unsatisfactory Flavor <input type="checkbox"/>
Packaging <input type="checkbox"/>	Illness <input type="checkbox"/>
	Allergic <input type="checkbox"/>
	Others <input type="checkbox"/>
How many people consumed? _____	Ages? _____
Symptoms/Additional Problem Information: _____	
Has the Customer Seen a Doctor? _____ Spoken to a public health? _____	
Gone to Hospital? _____ Contacted Regulatory Agency? _____	
Comments & follow up action Feedback from client- Status or date finalized	

2.25 Determination of Customer Satisfaction (Template)

We would like to know how well we are succeeding in meeting your needs. Following is the questionnaire about what you wanted from us. Answers will be treated with complete confidentiality. Please answer these questions using the scale (Please TICK that you choose).

('1' being the worst score; '5' being the best score)

S.No.	QUESTIONS	SCORE				
1	How well do we communicate with you?	1	2	3	4	5
2	Do we give you the information you need?	1	2	3	4	5
3	Do we answer your queries promptly?	1	2	3	4	5
4	Do we respond positively to your problems & suggestions?	1	2	3	4	5
5	Do you feel we have a concern for quality & food safety?	1	2	3	4	5
6	Do we deliver quality & safe products consistently and on time?	1	2	3	4	5
7	Do we anticipate your needs?	1	2	3	4	5
8	Have we increased your understanding of quality & food safety?	1	2	3	4	5
9	Do we work with you as a team?	1	2	3	4	5

Any other comments?

Name and Address

2.26 Training Calendar (Template)

S.No.	Topic of training	Month/Year: _____											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													

2.27 Training Need Identification (Template)

Name of employee:		Date of Joining:	
Qualification:		Department:	
Designation:			
Key Responsibilities:			
Training(s) Required			
1	Managerial		
2	Technical		
3	On the Job		
4	General/Others		
Suggested Training institutions (applicable for external trainings):			
Any other suggestions:			
Signature of Dept. Head:			
<p><i>Below topics of training to be determined, but not limited to:</i></p> <ol style="list-style-type: none"> 1 Food safety policy 2 Food safety objective and targets 3 Actual or potential significant environmental impacts and unacceptable risks of the work activities 4 Food Safety and hygiene related issues 5 Compliance to legal requirements 6 Roles and responsibilities of employees to ensure effective implementation of food safety 7 Operational Control procedures 8 Emergency Preparedness and response requirements 9 Potential effects of deviation from documented procedures 			

2.28 Training Record (Template)

Date of Training: Conducted By: Subject of Training: Brief summary of the subject: Duration of Training:				
S.No.	Name of person trained	Functional area	Remarks	Signature
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

2.29 Training Effectiveness record (Template)

Date of Training: Subject of Training: Brief summary of the subject:							
S.No.	Name of person trained	Functional area	Pre-evaluation result	Post-evaluation result	Effectiveness status (Yes/No)	Comment on effectiveness	Signature of trainee
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
Effectiveness can be based on: Improvement in quality of work, Improvement in work output, Behavioural change, Overall usefulness of training, etc.							

2.30 Internal Audit Plan (Template)

S.No.	Process Area	Month/Year: _____											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	Store areas- Raw material, ingredients, chemicals, finished product												
2	Process Area												
3	Housekeeping, Cleaning & Personal Hygiene												
4	Preventive Maintenance												
5	Internal Laboratory												
6	Management functions												
7	Packaging & Dispatch area												
8	Documentation												
9	Human Resource & Training												
10	Others												

2.31 Internal Audit Schedule (Template)

Date of Audit:

Standard of Audit:

S.No.	Process Area	Auditee (s) & Functional Department	Auditor(s) & Functional Department	Date	Time
1	Store areas- Raw material, ingredients, chemicals, finished product				
2	Production/Manufacturing Area				
3	Housekeeping, Cleaning & Personal Hygiene				
4	Preventive Maintenance				
5	Internal Laboratory				
6	Management functions				
7	Packaging & Dispatch area				
8	Documentation				
9	Human Resource & Training				
10	Others				

2.32 Internal Audit Observation & Non- conformance report (Template)

Name of Manufacturing plant: Date of Internal Audit: Process Area Audited: Auditor(s): Auditee(s): Areas Covered:								
S.No.	Observation area	Compliance checkpoint	Status (Yes/No)	Non-Compliance details (if any in this area)	Corrective action planned	Responsibility	Traget date of completion	Actual completed on

2.33 Correction & Corrective Action report

Processing Area: Date: Inspected/Audited By: Processing area incharge:	
Non-conformance Observed	
Root cause analysis	
Correction Proposed	Corrective Action Proposed
Target Date:	Target Date:
Correction Review	Corrective Action Review
Date: Dept. Incharge	Date: Dept. Incharge

Annexure 2: Inspection Checklist

a. Poultry Slaughter House

Sr.No.	Audit Questions	Scoring	
1	Food establishment has an updated FSSAI license & NOC from local authority. FSSAI license is displayed at a prominent location.	2	
I	Design & facilities		
2	Premise is located in area that is free from objectionable odour, smoke, dust & other contaminants.	2	
3	There is an adequate and hygienic resting area (holding area) with facility for examination of birds.	2	
4	The layout of the slaughter house is such that there is a forward movement from the introduction of the live birds to emergence of meat and offals without any possibility for overlap/intersection and provide adequate working space, permit maintenance and cleaning.	2	
7	Walls are non-absorbent, non-toxic, preferably light coloured, smooth & without crevices. Ceilings are free from accumulated dirt, mould development & flaking paint or plaster.	2	
8	Floors are impervious, non-toxic, non-slippery and sloped appropriately.	2	
9	Windows, doors & other openings are free from accumulated dirt and are fly proof	2	
11	The equipment & containers are durable, made of non-toxic, impervious and corrosion resistant material which facilitates cleaning & do not provide harborages to pests.	2	
12	Premises have adequate natural or artificial lighting i.e.540 lux (inspection points), 220 lux (work room) & 110 lux (other areas).	2	
13	Adequate ventilation is provided within the premises.	2	
14	The premise is well equipped with chilling room, freezing room, freezer store or freezer as per the operations and fitted with temperature measuring or recording devices.	2	
15	Adequate storage facility for food, packaging materials, chemicals, personnel items etc. are available.	2	
16	Personnel hygiene facilities are available including adequate number of toilets, hand washing facilities and change rooms. Hand washing facilities with warm or hot and cold water, adequate means to hygienically dry hands are provided adjacent to toilets and at entry to processing area.	2	
17	Facilities for cleaning & disinfection of implements are made of non-corrosive material & fitted with suitable means of supplying hot water.	2	
18	Premise has facility for storage of waste & inedible material such that contamination with food is avoided and is also free from any pest activity.	2	
19	Clean potable water meeting standards of IS 10500 are used in all production areas. Potable water (meeting standards of IS:10500) is used as a product ingredient or in contact with food (Ice or Steam) or food contact surface & tested for quality annually.	4	
20	An equipped laboratory is available with qualified chemist/analyst & Microbiology/Veterinary Microbiologist/Veterinary Public Health. Food material is tested either through internal laboratory or through an FSSAI approved lab.	2	
II	Control of operation		
21	Birds suspected of infectious diseases are segregated and kept in separation.	2	
22	Birds are rested before slaughter to reduce stress. Stunning is done before slaughtering. (Humane procedures are followed for slaughtering)	4	
23	Equipment used for stunning is maintained in good working condition.	2	
24	The dressing of the carcasses is not done on floor. Suitable Shackles are provided to hang the carcasses.	2	
25	Knives and sharpeners are of stainless steel and sterilized/ sanitized before use.	2	
26	All Birds are subjected to ante-mortem examination and post mortem inspection by the authorized veterinarian.	4	
27	When dressed meat has to store without further immediate processing, such storage is maintained at 0°C to 4°C.	2	
28	Carcasses, parts and the organs thereof found to be healthy and fit for human consumption are considered as "Passed". Carcass or parts thereof which is unfit for human consumption is considered as "Condemned".	2	

29	The temperature in room for boning out & trimming are controlled & held suitably low, unless cleaning of equipment & utensils are carried out at least every four hours.	4	
30	Room used for deboning, preparing, packing or other handling of meat is equipped with adequate facilities for cleaning & disinfecting implements such as knives, steel, cleavers, saws etc & these facilities are not used for any other purpose.	4	
31	Semi or final products are stored according to their temperature requirement, in a hygienic environment.	2	
32	Requisite temperature is being achieved, maintained, monitored and recorded while manufacturing/processing.	4	
33	Food manufactured/processed is packed using food grade material in a hygienic manner.	2	
34	Containers used for storing inedible substances, cleaning chemicals & other hazardous substance are clearly identified; stored separately from food.	2	
35	Transporting vehicle for food use are kept clean and maintained in good repair and are capable of meeting requisite temperature (where applicable).	2	
36	Recalled products are held under supervision & destroyed or reprocessed/reworked in a manner to ensure their safety.	2	
III	Sanitation, Maintenance & Waste Disposal		
37	All equipments, implements, tables, utensils including knives, saws, mechanical instruments and containers are cleaned and disinfected at frequent intervals and immediately when they come in contact with infected material or otherwise become contaminated. They are also cleaned and disinfected at the end of each working day.	4	
38	Preventive maintenance of Stunning & other equipment and machinery are carried out regularly as per the instructions of the manufacturer.	2	
39	Blood, manure, garbage, filth or other refuse, inedible viscera and offals are removed from the slaughter house within 8 hours after completion of slaughtering in a manner not to cause contamination. The container or receptacle used for these wastes is thoroughly cleaned and disinfected immediately after use.	2	
40	Measuring & monitoring devices are calibrated annually.	2	
41	Pest control program is available & pest control activities are carried out by trained and experienced personnel.	4	
42	No signs of pest activity or infestation in premises (eggs, larvae, faeces etc.)	2	
43	There is an efficient drainage system and all drains and gutters are properly and permanently installed fitted with traps and screens to capture contaminants. The drainage system for blood is either in a close pipelines or a portable receptacle with lid.	2	
44	Waste is removed from meat handling area at regular intervals (at least daily) & the receptacles are cleaned & disinfected.	2	
45	Sufficient space is there for separation and storage of condemned carcasses. Destruction of condemned carcasses, organs or parts thereof shall be carried out under the direct supervision of the Veterinarian.	2	
46	Slaughter house refuse and waste material is suitably processed to prepare animal by product or dumped in pits that are suitably covered.	2	
47	For Slaughter house, ETP is required. Disposal of sewage and effluents is done in conformity with standards laid down by Pollution Control Board.	2	
IV	Personal Hygiene		
48	Annual medical examination & inoculation of food handlers against the enteric group of diseases as per recommended schedule of the vaccine is done.	2	
49	No person suffering from a disease or illness or with open wounds or burns is involved in handling of food or materials which come in contact with food.	2	
50	Food handlers maintain personal cleanliness (clean clothes, trimmed nails etc.) and personal behaviour (hand washing, no loose jewellery, no smoking, no spitting etc).	4	
51	Food handlers equipped with suitable aprons, gloves, headgear, etc; wherever necessary.	2	
V	Training & Complaint Handling		
52	Internal / External audit of the system is done periodically.	2	
53	Food business has an effective consumer complaints redressal mechanism.	2	
54	Food handlers have the necessary knowledge and skills & trained to handle food safely.	2	
55	Appropriate documentation & records are available and retained for a period of one year or the shelf-life of the product, whichever is more.	4	

Total points/130		
Grading –		
A +	115 -130 Compliance – Exemplar	
A	90 - 114 Compliance/Satisfactory	
B	65 - 89 Needs Improvement	
No grade	<65	Non Compliance

b. Processed Poultry Products

Sr.No.	Audit Questions	Scoring	
1	Food establishment has an updated FSSAI license & NOC from local authority. FSSAI license is displayed at a prominent location.	2	
I	Design & facilities		
2	Premise is located in area that is free from objectionable odour, smoke, dust & other contaminants.	2	
3	The design of food premises provides adequate working space; permit maintenance & cleaning.	2	
4	The internal structure & fittings are made of non-toxic and impermeable material which prevents the entry of dirt, dust & pest.	2	
5	Walls are non-absorbent, non-toxic, preferably light coloured, smooth & without crevices. Ceilings are free from accumulated dirt, mould development & flaking paint or plaster.	2	
6	Floors are impervious, non-toxic, non-slippery and sloped appropriately.	2	
7	Windows & other openings are free from accumulated dirt; those which open are fitted with insect-proof screen.	2	
8	Doors are smooth, non-absorbent surface, close fitted & self-closing (where appropriate) to avoid entry of pests.	2	
9	The equipment & containers are durable, made of non-toxic, impervious and corrosion resistant material which facilitates cleaning & do not provide harbourage to pests.	2	
10	Premises have sufficient lighting i.e.540 lux (inspection points), 220 lux (work room) & 110 lux (other areas).	2	
11	Adequate ventilation is provided within the premises.	2	
12	The premise is well equipped with chilling room, freezing room, freezer store or freezer as per the operations and fitted with temperature measuring or recording devices.	2	
13	Adequate storage facility for food, packaging materials, chemicals, personnel items etc available.	2	
14	Personnel hygiene facilities are available including adequate number of toilets, hand washing facilities and change rooms. Hand washing facilities with warm or hot and cold water, adequate means to hygienically dry hands are provided adjacent to toilets and at entry to processing area.	2	
15	Facilities for cleaning & disinfection of implements are made of non-corrosive material & fitted with suitable means of supplying hot water in sufficient quantity.	2	
16	Premise has facility for storage of waste & inedible material such that contamination with food is avoided and is also free from any pest activity.	2	
17	Clean potable water meeting standards of IS 10500 are used in all production areas. Potable water (meeting standards of IS:10500) is used as a product ingredient or in contact with food (Ice or Steam) or food contact surface & tested for quality annually.	4	
18	An equipped laboratory is available with qualified chemist/analyst & Microbiology/Veterinary Microbiologist/Veterinary Public Health. Food material is tested either through internal laboratory or through an FSSAI approved lab.	2	
II	Control of operation		
19	When meat has to store without further immediate processing, such storage is maintained at 0°C to 4°C.	2	
20	Rooms used for preparing, packing or other handling of meat is equipped with adequate facilities for cleaning & disinfecting implements and these facilities are not used for any other purpose.	4	
21	Incoming material procured as per internally laid down specification & from an approved vendors. Raw material is inspected at the time of receiving for food safety hazards.	2	
22	Incoming material, semi or final products are stored according to their temperature in a hygienic environment. FIFO & FEFO is practised.	2	
23	Requisite time and temperature is being achieved, maintained, monitored and recorded while manufacturing/processing.	2	
24	Food manufactured/processed is packed using food grade material in a hygienic manner.	2	
25	Containers used for storing inedible substances, cleaning chemicals & other hazardous substance are clearly identified; stored separately from food.	2	
26	Transporting vehicle for food use are kept clean and maintained in good repair and are capable of meeting requisite temperature (where applicable).	2	

27	Recalled products are held under supervision & destroyed or reprocessed/reworked in a manner to ensure their safety.	2	
III	Sanitation, Maintenance & Waste Disposal		
28	All equipments, implements, tables, containers and mechanical instruments are cleaned and disinfected at frequent intervals and immediately when they come in contact with infected material or otherwise become contaminated. They are also cleaned and disinfected at the end of each working day.	4	
29	Preventive maintenance of equipment and machinery are carried out regularly as per the instructions of the manufacturer.	2	
30	All waste is removed from the processing area after completion of operations in a manner not to cause contamination. The container or receptacle used for these wastes is thoroughly cleaned and disinfected immediately after use.	2	
31	Measuring & monitoring devices are calibrated annually.	2	
32	Pest control program is available & pest control activities are carried out by trained and experienced personnel.	4	
33	No signs of pest activity or infestation in premises (eggs, larvae, faeces etc.)	2	
34	There is an efficient drainage system and all drains and gutters are properly and permanently installed fitted with traps and screens to capture contaminants.	2	
35	Waste is removed from processing area at regular intervals (at least daily) & the receptacles are cleaned & disinfected.	2	
36	For Processed Poultry products unit, ETP is required. Disposal of sewage and effluents is done in conformity with standards laid down by Pollution Control Board.	2	
IV	Personal Hygiene		
37	Annual medical examination & inoculation of food handlers against the enteric group of diseases as per recommended schedule of the vaccine is done.	2	
38	No person suffering from a disease or illness or with open wounds or burns is involved in handling of food or materials which come in contact with food.	2	
39	Food handlers maintain personal cleanliness (clean clothes, trimmed nails etc.) and personal behaviour (hand washing, no loose jewellery, no smoking, no spitting etc).	4	
40	Food handlers equipped with suitable aprons, gloves, headgear, shoes etc; wherever necessary.	2	
V	Training & Complaint Handling		
41	Internal / External audit of the system is done periodically.	2	
42	Food business has an effective consumer complaints redressal mechanism.	2	
43	Food handlers have the necessary knowledge and skills & trained to handle food safely.	2	
44	Appropriate documentation & records are available and retained for a period of one year or the shelf-life of the product, whichever is more.	4	

Total points/100		
Grading –		
A +	90 -100 Compliance – Exemplar	
A	80 - 99 Compliance/Satisfactory	
B	50-79 Needs Improvement	
No grade	<50 Non Compliance	



