05.01 Title

HACCP PLAN

Processing of Par-fried Frozen Chicken Patty (CP)

Document # V/HACCP/M/05

Issued By	Reviewed By	Approved By
Documentation Officer	QA Manager	Head Operations

05.02 Content

05.03 Amendment History

Sr.#	Section #	Revision #	Revised date	Earlier Matter	Revised matter
01	05.03	06	10.05.2012	Sieving,& Meat receiving Steps as CCP	Earlier Steps as CCP discontinued on the basis of risk assessment
02		07	20/10/2012		New Team member included due to organization change Included HACCP Validation team, Changes in product Description, Layout changed, Waste included in flow chart (Risk assessment) Raw material specifications revision added
03		08	28/09/2013	Water as OPRP	OPRP Removed , New Team member included in Validation
04		09	26/04/2014		X-Ray identified and finalized as OPRP
05		10	20/03/2015		Verified by FSMS Team
06		11	19/10/2016		Updated after Internal Audit, Also updated Food Safety Team & Validation Team, Process flow diagram, CCP / OPRP Determination method, Updates after Internal Audit & FSMS & SQMS Audit

05.04 Distribution List

Copy #	Copy Holder
1	Bhupinder Singh (CEO –Vista Foods _India)
2	Arnold Hsu (AVP - QA OSI Asia Facility)
3	Manjunath Patil (GM- Operations)
4	Pravin Thakur (Sr. Manager –Production)
5	Shashank Joshi (Pan India Quality Assurance Head)

05.05 Scope of HACCP Plan and Identification of FST/HACCP Team

1.0 Scope

Processing of par-fried frozen Chicken Patty (CP)

2.0 Food Safety & HACCP Team

Name	Qualification	Experience	Dept	Role
Pravin Thakur	Sr. Manager – Production	19Years	B. Sc	FSTL
Shashank Joshi	PAN India QA Head (MR)	25Years	M. Sc Chemistry	MR
Sagar Khutale	Manager – QA	17 Years	B. Sc.	Member
Avinash Patil	Manager – QA	17 Years	B. Sc.	Member
Kamlesh Shirke	Sr.Manager (Engg.)	20 Year	ITI(NCTVT)	Member
Lalit Kolhe	Manager	6 Years	B. Tech	Member
Prachi Gangurde	Sr. Officer-Food Safety	5 Years	M.Sc Food Processing	FST Co-ordinator
Dashrath Bhilare	Asst. Manager	18 Years	B.A.	Member
Vikram Gurav	Officer – QA Customer Service	06 Years	M. Sc. (Micro.)	Member
Indrayani Aaglawe	Manager – HR/PR	19 Years	B. Sc ,BEMS	Member
Amit Bapat	Deputy Manager	14 Years	B. A	Member
Amol Patil	Sr. Officer Quality	9 Years	B. Sc.(Micro)	Member
Sankalpa Gade	Asst. Mgr R & D	5 Years	B. Tech, MBA	Member
S. Kundu	DGM R&D	25 Years	B. Tech	Member

3.0 HACCP Validation Team

Name	Qualification	Experience	Dept	Role
Shashank Joshi	M. Sc. (Chemistry)	25 Years	Quality Assurance	MR
Avinash Patil	B. Sc	17 Years	Quality Assurance	Member
Amol Patil	B. Sc.(Micro)	9 Years	Fresh Produce	Member
Pravin Thakur	B. Sc	19 Years	Production	Member
Vikram Gurav	M. Sc (Micro)	6 Years	Quality Assurance	Member
Prachi Gangurde	M.Sc. Food Processing	05 Years	Quality Assurance	FST Co-ordinator

4.0 List of Applicable Documents

- HACCP Plan
- Corrective and Preventive Action
- Review of HACCP Plans
  Pre-requisite programs
- Production & QA Documents
- Purchasing of Materials
- QIP

05.06 List of Raw Materials/Ingredients/Packing Materials

S#	Ingredients	Document No	Issue Date	Revision No	Revision Date
1	Boneless chilled chicken meat and skin	V/RM Specs-42	1/8/2003	7	13/06/2016
2	Potable water	V/RM Specs-63	20/10/2005	11	23/08/2012
3	Iodized salt	V/RM Specs-44	5/10/2005	13	10/11/2015
4	Phosphates / Sodium Tri poly phosphate	V/RM Specs-36a	5/10/2005	12	11/08/2016
5	Edible vegetable oil	V/RM Specs-12	4/6/2006	12	22/07/2016
6	CO2	V/RM Specs-49	30/10/2005	11	10/07/2013
7	IS Milk wash	V/RM Specs-40	30/10/2005	15	20/11/2014
8	IS Breader	V/RM Specs-39	30/10/2005	14	27/09/2014
9	IS Tempura	V/RM Specs-38	30/10/2005	14	20/11/2014
10	Polybags	V/RM Specs-52b	1/2/2005	15	10/01/2015
11	Cartons	V/RM Specs-52	17/06/2005	24	24/02/2014

05.07 Product Description and Intended Use

1. Product Description

Manufacturing of Par-fried frozen chicken Patty (CP)

2. Process Description

A combination of breast & leg boneless chicken meat ground with skin & formed into specific shape, Coated with three successive coats, par fried & IQF, water misting, packing, metal detection, cold storage and dispatch.

3. Packaging

The products are packed in pre-labeled transparent poly bag, sealed and packed into cartons. Further, cartons are sealed to maintain integrity of products.

4. Intended Use

The product is intended to be used in restaurants after proper standard cooking instructions by trained personnel following defined procedures; products are intended for general population excluding high risk population. High risk population includes infants, and immune compromised individuals which include people who are allergic to as Wheat products (The product should be fully cooked before consumption)

5. Shelf Life

The Shelf life of Chicken patty is 90 days from date of manufacturing when stored at temp -18°c or less.

6. Method of Distribution

The Frozen products are transported in frozen conditions by vehicle with provision of maintaining storage temp less than -18°c.

7. Special Distribution Controls

The temp of product should be controlled in specified range or limits to ensure product safety till it reached to restaurants.

8. Where the product is sold

The products are sold to McDonald's Supply Chain. There it will be transported in reefer van to restaurant and prepared as per the standard cooking procedure.

9. Labeling Instruction

The following information is mandatory for labels to be applied on primary and secondary packaging.

a) Batch No.

Description	Example
Batch no.= Location/Zone (N= North Plant; S= South Plant; W= West Plant) (DD MM batch no.)	W020108
DOM (DD Month YYYY)	02 Jan 2012
Best Before (DD Month YYYY)	01 Apr 2012

b) Mfg. date

c) Product Name

d) Product Category

e) Storage condition
f) FSSAI License No.
g) Nutrition labelling
h) Net wt.
i) Ingredient Declaration
j) Direction for Use
k) Non Veg Logo
l) Manufacturer's Name & Contact Details
m) Best Before declaration

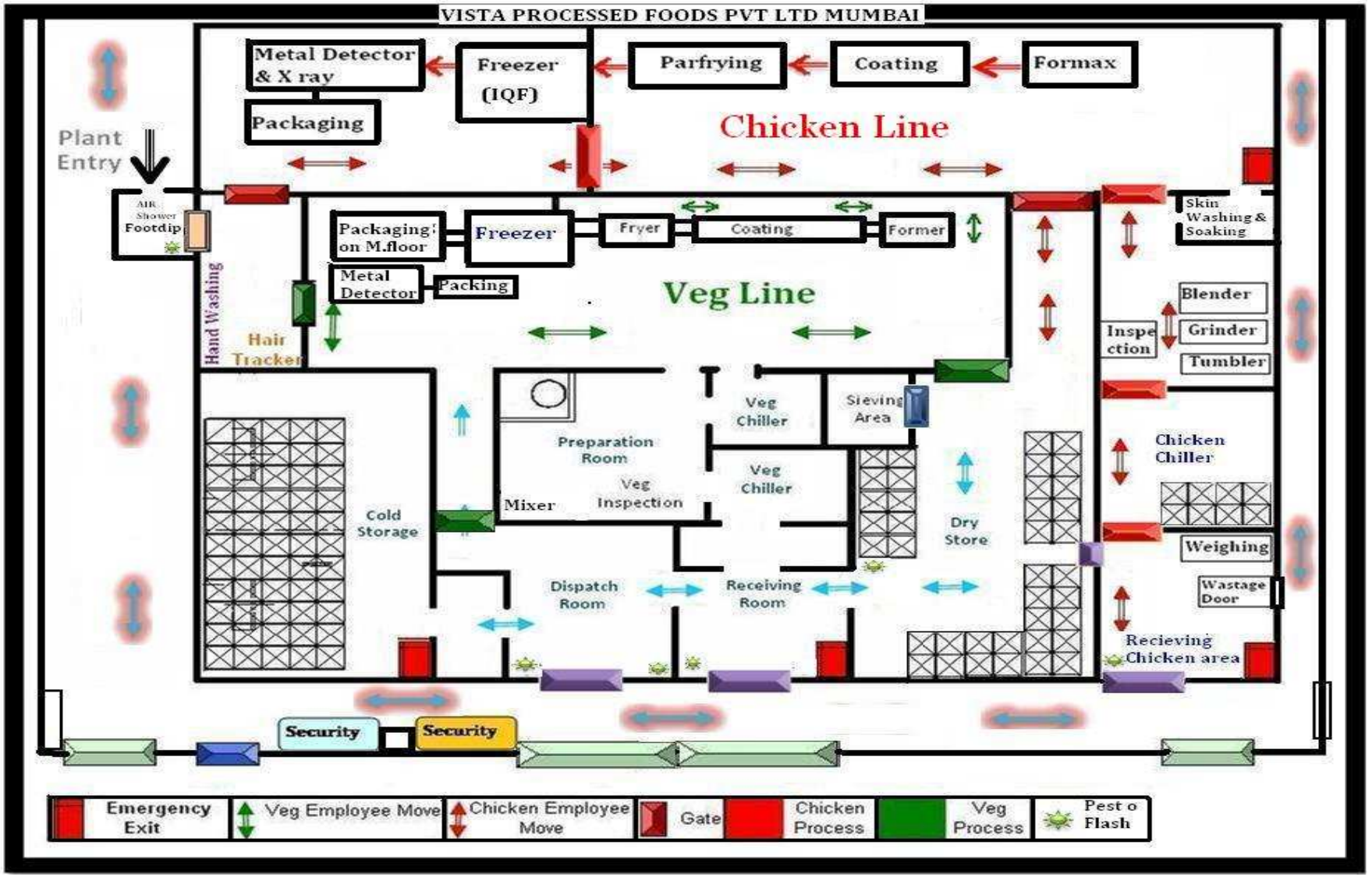
10. Product Declaration

The product is free from GMOs, pesticides, heavy metals, antibiotic residues.

10. Allergen Declaration

The product contains allergens as Wheat Gluten.

05.08 Plant Layout



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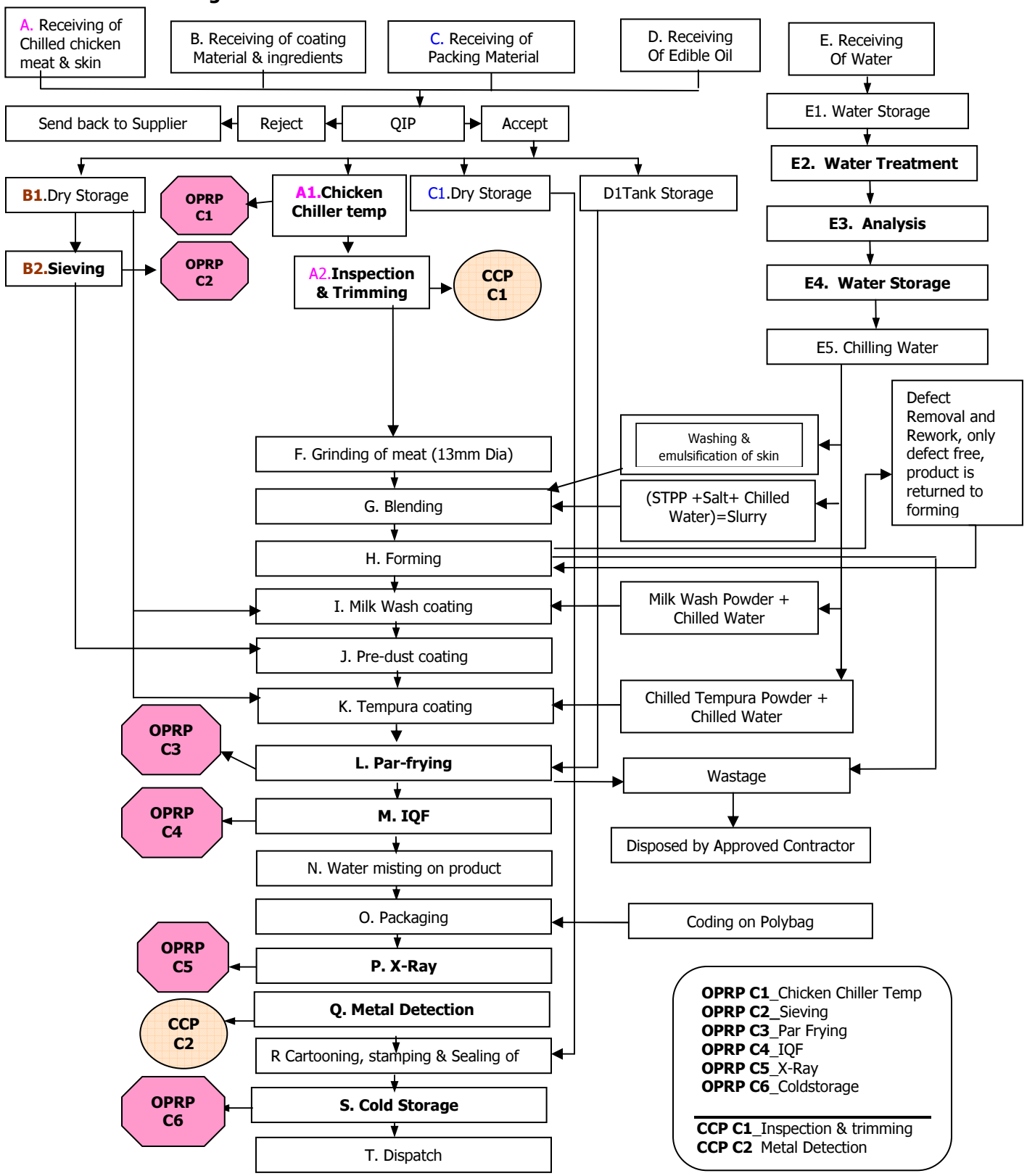
Documentation Officer	QA Manager	Head Operations

05.09 Flow Diagram



05.10 Risk Assessment Method:

Probability of Occurrence of Identified Hazard	**Level**	**Corresponding Number to be entered into the Hazard Identification and Risk Assessment Worksheet**
Very high chances of occurrence E.g.: Occurrence once in every 3-5 days	HIGH	10
Moderate chances of occurrence E.g.: Occurrence once in 6 to12 months	MEDIUM	5
Marginal chances of occurrence E.g.: May not occur or once in 2 years.	LOW	3
Severity of hazard in case of occurrence	**Level**	**Corresponding Number to be entered into the Hazard Identification and Risk Assessment Worksheet**
Will definitely result into unsafe product E.g.: Death or permanent damage	CRITICAL	10
May result into unsafe product E.g.: Hospitalization May result in an unsafe product	MAJOR	5
Will not result in unsafe product E.g.: Stomach pain	MINOR	3

Note: The classification of control measures is based on risk rating. IF multiplication of probability X severity (Risk) is 25 & above, then control measure is required to control the hazard & considered as **SIGNIFICANT (S)**. If the severity (Risk) is less than 25 then Pre-requisites are enough to control that specific hazard & considered as **NON-SIGNIFICANT (NS).** All the Significant (S) control measures are preferred for determining OPRPs and CCPs. *** Probability of occurrence of hazard is based on experience of Vista.**

Process Step/Ingredient	Potential Hazard	Control Measures	Probability	Severity	Risk Rating	S / NS
A. Receiving of Chilled chicken meat & Skin	P: Foreign Matter	a) Standard Sampling Protocol b) Further process of Inspection & Trimming c) Chicken meat and skin, procured from approved supplier. d) Further process of metal detection will reduce this hazard significantly	**3**	**5**	**15**	**NS**
	C: None	--	**-**	**-**	**-**	**-**
	B: Microbial growth may occur if product temperature is not maintained	a) - Check the temp of vehicle as well as chicken at the time receiving b) Verify the COA of lot & conduct the composite sampling of lots & confirm the microbial status. If lot is positive with microbes, reject & send back to supplier. c) Chicken meat and skin, procured from approved supplier.	**3**	**5**	**15**	**NS**
A1. Chicken Chilling	P: None		**-**	**-**	**-**	**-**
	C: None		**-**	**-**	**-**	**-**

Process Step/Ingredient	Potential Hazard	Control Measures	Probability	Severity	Risk Rating	S / NS
	B: Temp abuse; increase in micro count.	a) Chicken Chiller temperature is maintained throughout (0 to 4 Deg. Cel.) & its verification is carried out (Twice / Shift); b) Calibrated temperature sensors are placed for uniform temperature monitoring. Also Calibrated temperature display is maintained for Chiller.	**5**	**5**	**25**	**S**
A2. Inspection and Trimming	P: Presence of bones and cartilages	a) 100% inspection of chicken b) Designated trained team is appointed for Chicken Inspection & trimming c) Regular Training programs are arranged for Inspection & trimming team d) Inspection Personnel who is responsible for Chicken trimming and inspection- Is medically tested for Eye Test, reports are available with HR. e) Chicken is procured from approved supplier f) Further process of X ray	**10**	**5**	**50**	**S**
	C: None		-	-	-	-
	B: None		-	-	-	-

Process Step/Ingredient	Potential Hazard	Control Measures	Probability	Severity	Risk Rating	S / NS
B. Receiving of Coating material & ingredients	P: Foreign matter (thread, stone, wood, hair, metal etc)	a) Educate supplier, Check all the lots for possible contamination, purchase only from approved supplier. b) Further process of Sieving, metal detector, X Ray will reduce this hazard significantly	**3**	**3**	**9**	**NS**
	C: Pesticide & heavy metal	a) All materials are purchased from approved supplier b) Confirm from supplier by taking COA c) Supplier is informed to submit Test reports for Pesticides and heavy metals as per FSSA & FSSR	**-**	**-**	**-**	**-**
	B: Microbial growth may take place if not kept/ processed in hygienic condition	a) All materials are purchased from approved supplier b) Confirm from supplier by taking COA c) COA is checked & moisture contents verified	**3**	**3**	**9**	**NS**
B1. Dry Storage	P: None		**-**	**-**	**-**	**-**
	C: Allergen	**a) Allergen Management Plan/ Protocol is maintained b) Segregation, identification & monitoring of Allergen c) Designated area maintained for allergen products d) Personnel handling Allergen are trained. e) FG labels- Allergen Declaration**	**3**	**3**	**9**	**NS**
	B: None		**-**	**-**	**-**	**-**

Process Step/Ingredient	Potential Hazard	Control Measures	Probability	Severity	Risk Rating	S / NS
B2. Sieving	P: Foreign matters contamination may occur id sieve intactness is not proper or if sieve is not properly clean	a) Sieve intactness and cleanliness is regularly checked and recorded in V/QA/F/06 Sieve Integrity Analysis Report	**3**	**10**	**30**	**S**
	C: None		-	-	-	-
	B: None		-	-	-	-
C. Receiving of packing materials	P: None		-	-	-	-
	C: Migration of chemical residues/ Non food Material is used	a) Migration test is carried out by supplier to confirm no chemical compound migration b) Food Grade Packaging material is sued which confirms the IS standard	**3**	**3**	**9**	**NS**
	B: None		-	-	-	-
C1. Dry Storage	P: None		-	-	-	-
	C: None		-	-	-	-
	B: None		-	-	-	-

Process Step/Ingredient	Potential Hazard	Control Measures	Probability	Severity	Risk Rating	S / NS
D. Receiving of edible palm oil	**P: Foreign matter may get in if seal is not intact while receiving of Palm oil**	**a) Check the seal for integrity of tanker. Approved supplier for Palm Oil- suppliers are instructed to follow all the GMP & GHP & Food Safety Protocols. If the seal is not intact, send the tanker back to supplier. b) Check the tanker cleaning slip. Filtration while storing in the tank. The cleaning of tank is done twice in year. Supplier is a Member of RSPO. Regular Supplier audits are conducted**	**3**	**5**	**15**	**NS**
	C: Rancidity, pesticide & heavy metals, Contamination due to Excessive use of TBHQ, Solvent/Hexane, Bleaching agents, during processing	**Check FFA & moisture upon the receipt & if FFA is >0.1 reject the lot. Check the COA for these parameters. Approved Supplier, Supplier is asked to conduct Annual testing for Pesticide residue/ Heavy Metals. And Regular checks for TBHQ levels & Hexane/Solvent, Bleaching agents levels. Supplier is a Member of RSPO. Regular Supplier audits are conducted**	**3**	**5**	**15**	**NS**
	B: None		**-**	**-**	**-**	**-**
D1. Tank Storage	P: presence of foreign matter / oil residues	Tank Cleaning at defined frequency (Twice / Annum)	**3**	**3**	**9**	**NS**

Process Step/Ingredient	Potential Hazard	Control Measures	Probability	Severity	Risk Rating	S / NS
	C: Development of rancid flavour.	a) Inspection and Verification of Oil Oil Procurement, its storage and its further utilization in production is planned such that there is constant turnover of oil	**3**	**3**	**9**	**NS**
	B: None		**-**	**-**	**-**	**-**
E. Receiving Water E1. Storage of water E2. Treatment E3. Water Storage E4. Analysis E5. Chilling unit	P: Physical impurities/ foreign matter can get in	a) Regular maintenance of Filtration process/filters. b) Cleaning of tank twice in year	5	3	**15**	**NS**
	C: Excess amount of chlorine	Automatic dosing & ensuring the level of Cl twice in shift	5	3	**15**	**NS**
	B: Presence of microorganisms such as E coli, Coliform, etc.	a) Chlorination of water & b) Water tank is cleaned twice a year & swab test after cleaning the tank. c) Water is tested as per IS 10500 & IS 14543 twice a year d) Water treatment & filtration process is in place	5	3	**15**	**NS**
F. Grinding of Meat	P: Metal contamination from machine moving parts.	a) Regular preventive maintenance activity is carried out for all machineries and equipments- during this maintenance team verify integrity of machineries/equipments, its spare parts, nuts and bolts, etc. b) Metal Detector is placed in further is the process.	**3**	**3**	**9**	**NS**
	C: No hazard identified					

Process Step/Ingredient	Potential Hazard	Control Measures	Probability	Severity	Risk Rating	S / NS
	B: Presence of micro-organisms such as E. coli, TVC, S. aureus, Coliform- due to improper cleaning	a) Effective cleaning protocols b) Cleaning and Verification prior to start operation. c) Swab test for equipments & machineries are conduct as per standard frequency	3	5	**15**	**NS**
G1. Washing and emulsification of skin	P: Removal of foreign matters / physical impurities.	a) Washing with plain potable water.	3	3	**9**	**NS**
	C: Contamination due to non food grade Lactic Acid	a) Use of Food Grade Lactic Acid	-	-	**-**	**-**
	B: None		-	-	**-**	**-**
G2. Blending	P: -Metal contamination form machine moving parts. -Occurrence of rubber gasket (fixed at door and near cover)	a) Metal detection before storage b) Verification of integrity of form plate at the time of installation.	**3**	**3**	**9**	**NS**
	C: None		-	-	**-**	**-**
	B: Growth of micro-organisms such as E. coli, TVC, S. aureus, Coliform- due to improper cleaning	d) Effective cleaning protocols e) Cleaning and Verification prior to start operation. f) Swab test for equipments & machineries are conduct as per standard frequency	3	5	**15**	**NS**

Process Step/Ingredient	Potential Hazard	Control Measures	Probability	Severity	Risk Rating	S / NS
H. Forming	P: Occurrence of plastic pieces from form plate. -Cross contamination with broken conveyor links.	-Verification of integrity of form plate at the time of installation. -Continuous monitoring during production process.	3	5	**15**	**NS**
	C: None		-	-	**-**	**-**
	B: Growth of micro-organisms such as E. coli, TVC, S. aureus, Coliform- due to improper cleaning	a) Effective cleaning protocols b) Cleaning and Verification prior to start operation. c) Swab test for equipments & machineries are conduct as per standard frequency	3	5	**15**	**NS**
I. Milk Wash Coating	P: Occurrence of threads and plastic from bag at the time of bag opening.	Trained workers for bag opening task and thread tracking mechanism.	3	3	**9**	**NS**
	C: None					
	B: Growth of microorganisms.	-Maintaining slurry temp below 12^0C.	3	3	**9**	**NS**
J. Pre-Dust Coating	P: Damage of conveyor links.	-Preventive and breakdown maintenance program in place.	3	5	**15**	**NS**
	C: None		-	-	**-**	**-**
	B: None		-	-	**-**	**-**
K. Tempura Coating	P: Occurrence of threads and plastic from bag at the time of bag opening.	Trained workers for bag opening task and thread tracking mechanism.	3	3	**9**	**NS**
	C: None					
	B: Growth of microorganisms.	-Maintaining slurry temp below 10^0C.	3	3	**9**	**NS**

Process Step/Ingredient	Potential Hazard	Control Measures	Probability	Severity	Risk Rating	S / NS
L. Par frying	P: None		-	-	-	-
	C: Rancidity of Oil (Health issue)	Ensure FFA oil to be <1.6 %; QA check for FFA is done once in a day and if not found within limits it is informed to production team. Production team further increases the level of fresh oil, again the FFA Levels are checked and communicated to production team accordingly	**3**	**10**	**30**	**S**
	B: None		-	-	-	-
M. IQF Product temp	P: None		-	-	-	-
	C: None		-	-	-	-
	B: If IQF Gyro temperature is not maintained adequately, it may lead to microbial growth such as Coliform, S. aureus, E coli, TVC, etc. in Product.	a) Regular monitoring of Gyro temperature b) Regular Monitoring of Finished Good Temperature by Online QA c) Annual Calibration of temperature sensors and temperature display, from external agency.	**5**	**5**	**25**	**S**
N. Water misting	P: None		-	-	-	-
	C: None		-	-	-	-
	B: Bacterial growth may take place if water used is not potable or is contaminated	Use of chilled potable water RO & Filtration process in place	**5**	**3**	**15**	**NS**
O. IQF Product packing	P: None		-	-	-	-
	C: None		-	-	-	-

Process Step/Ingredient	Potential Hazard	Control Measures	Probability	Severity	Risk Rating	S / NS
	B: Microbial Cross contamination due to unhygienic handling of finished goods, unclean packaging tables, packing conveyors, unclean packing equipments, etc.	a) GHP & personal hygiene protocols are followed by all personnel's before entering the processing unit b) Personal hygiene checks are in place c) Food handlers are provided with hand gloves, to avoid direct contact with product d) Effective cleaning practices and protocols are been implemented and records for it are maintained e) Swab test for equipments, conveyor belts, machines, and hand swabs (with hand gloves) are checked	**3**	**5**	**15**	**NS**

Process Step/Ingredient	Potential Hazard	Control Measures	Probability	Severity	Risk Rating	S / NS
P. X- Ray	P: Foreign Material as metal , glass, bone, shell, plastic, hard and Pebbles	Once in a day validation by QC – with standard piece: ➢ SS balls-1.0 mm ➢ SS wires: 0.6*5 ➢ Glass Balls: 5 mm ➢ Ceramic Ball: 5 mm **Also includes sensitivity settings** Standard Test Pieces are calibrated from external laboratory-Annually. Also Quarterly visits are done by X-Ray- AMC Service provider Personnel responsible for monitoring, verification, correction and corrective action are trained regularly	**5**	**5**	**25**	**S**
	C: None		**-**	**-**	**-**	**-**
	B: None		**-**	**-**	**-**	**-**
Q. Metal Detection	P: Metal contamination	a) Monitoring of metal detector by standard test pieces by PC & QA, at a set frequency and records for it are maintained. b) Metal detector and its test piece are annually calibrated for its functioning and sensitivity c) Personnel's operating metal detector are trained on regular basis	**10**	**10**	**100**	**S**

Process Step/Ingredient	Potential Hazard	Control Measures	Probability	Severity	Risk Rating	S / NS
	C: None		-	-	-	-
	B: None		-	-	-	-
R. Cartooning, Stamping & Sealing	P: None		-	-	-	-
	C: Spillage of ink on product	Food grade ink is used	**3**	**3**	**9**	**15**
	B: None		-	-	-	-
S. Cold Storage	P: None		-	-	-	-
	C: None		-	-	-	-
	B: Temp abuse may increase microbial load	a) Maintaining Cold temperature below -18 Deg. Cel. By regular monitoring. b) Monitoring Product Temperature. c) Calibration of Temperature sensor annually. d) Data Loggers are placed in Cold room, for continuous monitoring of temperature.	**3**	**10**	**30**	**S**
T. Dispatch	P: None		-	-	-	-
	C: None		-	-	-	-
	B: None		-	-	-	-

Process Step/Ingredient	Potential Hazard	Control Measures	Probability	Severity	Risk Rating	S / NS
Line cleaning & sanitation for product change over	P: Removal of physical debris	Cleaning	5	3	**15**	**NS**
	C: Allergen residues	Cleaning and Sanitation (Reference: Allergen Control Program)	5	3	**15**	**NS**
	B: Presence of microbes	Sanitation, swabs are taken to assure surfaces are free of pathogens	5	3	**15**	**NS**
Personnel (People/ Employee)	P: Hair, Jewelry, studs, glass, plastic	Implementation of personal hygiene & personnel behavior policy. Regular monitoring of personnel hygiene	5	3	**15**	**NS**
	C: No hazard identified at this stage	-				
	B: Cross contamination due to unclean uniforms, habits	Implementation of personal hygiene & personnel behavior policy. Dedicated-- Uniforms, shoes-Gum boots, hair net, mask for food handlers Regular hand-washing & sanitization systems Swab test is done regularly	5	3	**15**	**NS**

Pest control	P: No hazard identified at this stage		-	-	**-**	**-**
	C: Pest Control, Chemical Residue	Approved Pest control Service Provider MSDS of pest control chemicals. Effective cleaning of premises post pest control activity.	5	3	**15**	**NS**
	B: Microbial/ Infestation activity due to inadequate pest control activity	Approved service provider Effective Pest control management programmes SOP for pest control Daily Internal Inspection for rodent & flies	5	3	**15**	**NS**
Equipment	P: Contamination due to loose metal parts from the equipment	Effective Preventive maintenance. Adequate inspection & maintenance of the equipments. Pass through metal detectors are placed further in the process.	5	3	**15**	**NS**
	C: Contamination with lubricants from the equipment	Food grade lubricants used. Control of maintenance activity.	5	3	**15**	**NS**
	B: Chances of microbial contamination due to inadequate cleaning	Regular cleaning of equipments Selection of the equipment having the cleaning & sanitation friendly design.	5	3	**15**	**NS**

Environment	Contamination due to dust & dirt from the wall, roof & air	Adequate cleaning of the wall & roof. Air shower, Air curtain, double door, Strip curtains, etc., are provided at required points to avoid cross contamination.	5	3	**15**	**NS**
	No hazard identified at this stage	-	-	-	**-**	**-**
	Chances of cross contamination due to microbes(yeast & mold, coliform) from dirty environment, pest, infestation	Provision of Air shower, Air curtain, double door, Strip curtains, etc., to prevent cross contamination Doors are placed	5	3	**15**	**NS**
Product Contact surface-SS	P: Chances of SS contamination	SS 304/316 is used.	5	3	**15**	**NS**
	C: No hazard identified	-	-	-	**-**	**-**
	B: No hazard identified	-	-	-	**-**	**-**
Product Contact Surface-Teflon	P: Chances of Teflon contamination	Food Grade Teflon Material is used	5	3	**15**	**NS**
	C: No hazard identified					
	B: Chances of microbial contamination due to inadequate cleaning	Regular cleaning of equipments Selection of the equipment having the cleaning & sanitation friendly design.	5	3	**15**	**NS**

05.11 Assessment & Categorization of Significant Hazards and determination of CCPs & OPRPs (As per ISO 22000 Clause No. 7.4.4)

Assessment Criteria for Control Measures	Parameters (Scores)
a) Control measure effect on identified food safety hazards relative to the strictness applied	1. Not eliminate completely 2. Reduce or control to meet acceptable level 3. Reduce to within acceptable level or eliminate the hazard completely
b) Control measure feasibility for monitoring (e.g. ability to be monitored in a timely manner to enable immediate corrections)	1. No feasibility 2. Has limitation 3. Feasible
c) Control measure place within the system relative to other control measures	1. First 2. Middle 3. Final measure
d) the likelihood of failure in the functioning of a control measure or significant processing variability	1. Low 2. Medium 3. High
e) the severity of the consequence (s) in the case of failure in its functioning	1. Negligible effect 2. Complaint 3. Health implications
f) whether the control measure is specifically established and applied to eliminate or significantly reduce the level of hazards(s)	1. No 2. Somewhat 3. Definitely
g) synergistic effects (i.e. interaction that occurs between two or more measures resulting in their combined effect being higher than the sum of their individual effects)	1.No 2.Somewhat 3.Yes

Based on the above guidance on the scoring parameters for assessment criteria, control measures are categorized into OPRP's and CCP plan. By assigning the lowest possible level of affectivity rating and the highest level of affectivity that could be attained by addition of scores. It is clear that the ratings will be between 7-21. Further, this means that: **Values of < 13 rating of effectiveness will be controlled by the PRP's**

Values of 13-16 rating of effectiveness will be controlled by the OPRP's

Values of > 16 rating of effectiveness will be controlled by the CCP's

Step No.	Process step with significant hazard	Control Measure	Question -a	Question-b	Question-c	Question-d	Question-e	Question-f	Question-g	Total – OPRP / CCP /13-16 rating – OPRP > 16 rating – CCP
	Chicken Chiller Temp- B: Growth of microbes	**Maintain 0-4 Deg temp & verification of temp twice in shift**	2	3	1	2	2	2	2	14- OPRP – C1
	Inspection & trimming- P: Presence of bones	**100% Inspection**	*2*	*3*	*2*	*3*	*2*	*3*	*3*	*18-* CCP –C1
	Sieving of ingredients- P: Foreign matters contamination	**Integrity check of sieve once in a day**	*2*	*3*	*2*	*2*	*2*	*3*	*1*	*15* OPRP – C2
	Par –Frying- C: Quality & Health hazard	**Check FFA oil once in a day, it should be <1.6 %**	*2*	*2*	*3*	*2*	*3*	*2*	*1*	*15-OPRP C-3*
	IQF product temp- B: Temp abuse may increase microbial load	**B Maintain specified temp so that product should reach min.-18 ^{0}C temp**	3	3	2	1	3	2	2	*15-OPRP C-4*
	X-Ray P: Foreign	**Verification of X-Ray by**	3	3	2	1	2	3	2	16-OPRP C-5

	Objects	**standard test Strips/Balls/Wires/ Pieces by PC & QA**								
	Metal Detection P: Metal contamination	**Verification of metal detector by standard test pieces by PC & QA**	3	3	3	3	3	3	1	**19-CCP C-2**
	Cold Storage temp B: Temp abuse may increase microbial load	Maintain specified temp of cold storage so that product should reach min.-18 0C temp	2	3	3	2	2	2	2	16-OPRP C-6

05.12 Establishing Critical Limits (CLs) for Identified Critical Control Points (CCPs)

CCP -C1: Inspection & trimming

Process	Action Limit	Critical Limit	Reference
Inspection & trimming for bone	**0**	0 (Zero Bone) After-Trimming & Inspection	**Process Standardization**

CCP C2: Metal Detection

Test Piece	Action Limit	Critical Limit	Reference
Fe	**1.5mm**	**1.5mm**	**Manufacturer's & Customer's Guidelines**
NFe	**1.5mm**	**1.5mm**	
SS	**2.0mm**	**2.0mm**	

05.13 Critical Control Points (CCPs) Monitoring Plan:

Process Step	Significant Hazard	Critical Limits	Control Measure	Monitoring	Correction/Corrective Action (S)	Record	Verification/ Validation
CCP –C1 Inspection & Trimming	P: Bone	0 (Zero Bone) After-Trimming & Inspection	**100% Inspection**	**a) What**: Inspection of bones **b) How:** Visual Inspection **c) Frequency:** Continuous upon receipt **d) Who:** Production officer **e) Where:** Inspection & trimming area	**a) Correction:** If the quantum of bones observed during trimming in Meat consignment is more frequent then Supervisor holds the lot and informs to Production Officer & QA officer, they both divide the meat in small portion and recheck the batch, during rechecking observed bones will be trimmed & thoroughly inspected & checked by Production & QA officer if these bones are less than 5, then used for further production. **During Inspection:** ❖ **No. of bones <5 bones→ Double inspect and use it making sure zero (0) bones;** **No. of bones >5 bones→ Reject.** **b) Corrective Action:** If bones observed are more than 5, then QA & Production officer informs	Inspection and trimming Sheet (V/PR/F/14)	a) Inspection Personnel who is responsible for Chicken trimming and inspection- Is medically tested for Eye Test, reports are available with HR. b) Inspection Personnel who is responsible for Chicken trimming and inspection- Is also trained and validated – by giving them certain quantity of Chicken with hidden bone and they are asked to inspect and effectively identify/ trim those bones.

					QA (RM) Manager, he rejects the lot and product is returned to supplier. QA (RM) Manager further takes this case with Procurement Team & Supplier and Supplier is further been communicated for increasing no. of bones in the consignment		**What:** Bone verification of inspected meat **How:** Sampling **When:** Lot wise c) **Who:** Online QA
CCP – C2 Metal Detection	P: Metal contamination	**1.5mm Fe; 1.5mm NFe; 2.0mm SS**	**Metal Detector**	**a) What:** Sensitivity of Test piece & Metal detector process and material collected in rejection container **b) How:** By passing all 3 test pieces through metal detector & ensure detection & rejection of metal positive material in container **c) Frequency:** Once in 30 min **d) Who:** Online PC **e) Where:** Before final packing	**1) If metal particle found, Correction: Re-**pass the material through metal detector**.** There will be light and sound signal for the presence of metal. Confirm the presence of metal then:- a) Inform line QA and shift In charge. b) Hold the contaminated product & Inform maintenance c) Recall finished product from the last acceptable metal detector checkup to the time of failure Segregate & re screen. Meantime do not pass bags through it. d) Collect in crates. Product free from metal contamination is re-passed	Online Sheet (V/PR/F/05-02)	Metal Test Pieces are calibrated from external laboratory- Annually. Also Quarterly visits are done by Metal Detector- AMC Service provider. Personnel's responsible for monitoring, verification, correction and corrective action are trained regularly **What:**

					for proof check, and if found free from metal contamination, it will be used further for packing **Corrective Action:** Metal Affected Product is further inspected by Production Manager/ Shift In-charge and is disposed (by approved scrap taker). Also line checkup will be done by QA & Production for any chance of Metal contamination**.** **2) If the metal detector fails to detect the metal test and the product is not "Kicked –Out"** **Correction:** a. Shut/Hold the line off immediately, Inform QA. b. QA will Inform maintenance to re-calibrate metal detector and restore to Working order. c. After the adjustment, Production & QA Officer- Immediately checks metal detector for d. Detection and rejection of the appropriate metal sample. Recall finished product from the last checked –working of		Sensitivity **How:** Standard test piece **When:** Every hour **Who:** Online QA

					Rejection system checkup to the time of failure Segregate & re screen e. Meantime do not pass bags through it. Re-screened material if found affected with metal, this Product is further re-passed for proof check, and if found free from metal contamination, it will be used further for packing. **Corrective Action:** a. Metal Affected Product is inspected by Production Manager/ Shift In-charge and is disposed (by approved scrap taker). Maintenance department reports this incidence to Metal Detector- AMC Service provider. It is also briefed to them during their quarterly visit.		

05.14 Operational Pre-requisite (OPRPs) Monitoring Plan

Process Step	Significant Hazard	Critical Limits	Control Measure	Monitoring	Correction/Corrective Action (S)	Record	Verification/ Validation
OPRP -C1 Chiller Temperature (Chicken)	B: Microbial growth upon temp abuse	Maintain 0 to 4 °c Temperature	**a)** Monitoring Chiller Temperature Twice a Shift; **b)** Monitoring product temperature- Online	**Monitoring**: **What**: Chiller Temp **How:** Digital thermometer **Frequency:** Twice in shift **Who:** Online QA **Where:** Chicken Chiller	**a) Correction:** If the chiller Temperature exceeds Critical Limit, Supervisor immediately informs Production Officer and Maintenance Officer. Hold the lot in chiller itself and do not remove it for further production till the chiller temperature is achieved. Maintenance Personnel – repair/ restart Air conditioner to chill the area. Production officer/ QA Officer, shall Check Meat for any off observation like temperature abuse, off odour, change in texture/colour. If meat found ok (Temperature under 4 deg cel, no off odour/colour, etc.) Use it. If product doesn't meet the criteria then inform QA & Production Manager and they will further take the decision of rejecting the product. **a) Corrective Action:** Production & QA Manager will inform this incidence to Maintenance team and ask them to be more vigilant and careful about chiller temperature as it directly affects the product quality & food safety aspect. Maintenance Team- informs its internal team to regularly monitor working of Air conditioners, ammonia levels, etc.	V/QA/F /02 Daily Temperature check record	Data Loggers are placed in Cold room, for continuous monitoring of temperature. Annual calibration of Data Logger & Temperature sensors from external NABL Accredited i. **What:** Chiller Temp ii. **How:** Digital Thermometer iii. **When:** Twice in shift iv. **Who:** Online QA **Record:** Online sheet

					Moreover Data Logger is helpful to monitor chiller temperature trend.		
OPRP –C2 Sieving of dry material	P: Foreign Matters contamination	Sieving with specific size & intactness Tempura/ Milkwash/ Breader: 1.41 mm Visual Integrity of Sieve, Cleanliness & Sieve Size	**a**a)Vibro Sifters are regularly checked for its intactness & cleanliness once in a shift. **b)** Sieve Size is verified during purchase of new Sieve	**What:** Integrity of Sieve; Cleanliness of Sieve; Sieve Size **How:** Visually **Frequency:** Once in day **Who:** Online QA **Where:** Sieving area	**Correction:** **1) Extraneous matter (burnt pieces, breadcrumbs, lumps, etc)** a) Remove all extraneous matter is there. b) Collect in complaints bag and fill up the internal c) Complaints form and hand over to QA. d) Other than that, gather all, fill in the complaint sample bag, and fill mixing sheet give to QA inform line PC. **2) Foreign matter such as plastic, rubber, metal, stone, threads, hairs, glass, pieces, etc.** a) If one or two in numbers collect and fill the complaint form, inform line QC and QA. b) If in more numbers reject the bag. Inform shift in charge and QA. c) Collect the foreign matter and fill up the complaints and hand over the complaint to QA. d) If a glass piece found, isolate the area, fill up the incident report. Put the batch on HOLD. Do not use the bag.	V/QA/F/06 Sieve Integrity Analysis Report	Check the size of the sieve and integrity of sieve along with cleanliness of the sieve. Personnel are trained for Checking– sieve integrity- visual & cleanliness. Also training is provided for which sieve size to be used for which Raw material. **How:** Visually **When:** Once in a day **Who:** Online QA **Record:** Sieving Integrity Record

					Clean the area, ensure from QA, before processing. 3)**Sieve Damage/Sieve Size:** a) Operator hold the batch & informs to Production officer b) Production officer further informs to Maintenance personnel to check damaged sieve and fix it with intact sieve. Once the intact sieve/proper sieve size is fixed, Production officer with help of QC officer divides the batch into small 2-3 portion & re-pass individual portion through intact sieve, these portions are latter introduced in the process. **Corrective Action:** 1) & 2) If extraneous matter n foreign matter is increasing, Production Officer & QA officer will immediately inform QA Manager- RM. QA Manager-RM will further inform to Purchase team & Supplier regarding increasing extraneous & Foreign matter. Supplier will be further informed to send us thoroughly checked materials/ingredients. 3) Production & Quality Team intimates maintenance team. Maintenance team sends sieve to Supplier and to get repaired and also communicates them to provide COA-stating sieve size. And these sieve sizes shall be in		

					alignment with defined sizes as per Vista Processed Foods Pvt. Ltd., Standards		
OPRP – C3 Par-Frying	C: FFA Health Effect	Maintain FFA <1.6 %	Checking FFA value for every shift, Checking	**What:** FFA **How:** Chemical Test **Frequency:** Once in a Shift **Where:** Par frying stage **Who:** Online QA	**Correction:** If FFA is high, QC teams immediately informs production officer, production Officer holds the batch and does a oil Top-up, Production & QC team also check the Sensory attributes- like taste, etc. of previous batch. QC team rechecks the oil, if FFA found within limit, production Team is informed accordingly. **Corrective Action:** QC & Production team will also recall few product samples processed after last FFA check, to check any off flavor, rancidity, black particles. FFA monitoring records are checked	V/QA/F/03 Daily Oil FFA Analysis report	a) Product visually is inspected after fryer- colour, appearance, etc. b) Production and QC team is trained on effects of increasing FFA value. c) FFA Monitoring Record is checked **What:** FFA **How:** Chemical test **When:** Once in a shift **Who:** Online QA
OPRP –C4 IQF Product Temp	B: Microbial Growth	. A) Maintaining product temperature below -18 Deg. Cel. By regular monitoring of product temperature. And Maintaining	**Final Product temperature (After IQF & Before packing)**	**What**: Final Product Temp **How:** Calibrated Thermometer **Frequency:** Every 15minutes **Who:** Online PC **Where:** After IQF	**Correction:** a) Inform Line QC and shift In charge. b) Line QC/ Shift In-charge will inform Maintenance personnel - Reduce the speed of gyro and ask QC to keep the speed of former as adjustable. Maintenance personnel will check the working of IQF (to maintain the supply of Ammonia). c) Re-pass the patties separately to maintain the Traceability. d) Production Officer will Stop the line, Hold the product and segregate high temperature	Online Sheet (V/PR/F/M/05-02)	a) Calibration of Gyro Temperature sensors from external agency b)Calibration of Digital temperature from external agency. c)Speed is set as per Vista Processed Food Pvt. Ltd. experience & expertise and data base, also during NPD commercialization trial- depending upon product category, etc. a) **What:** Product

					re-pass these products through IQF. e) Also re-pass the patties through IQF from the last IQF product temperature check, in proper sequence to maintain traceability. **Corrective Action** 1) Production & Quality team informs this incident to Maintenance team and ask them to take special care for IQF temperature and QF speed and its proper functioning. Maintenance team also contacts external agency to resolve the issue.		temperature **b) How:** Calibrated Thermometer **c) When:** Hourly **d) Who:** Online QA
OPRP- 5 X – ray	P: Foreign Objects	Monitoring: **1.5 mm Fe ; 1.5 mm NFe ; 2.0 mm SS** **a) Standard test strips/Ball/Pieces- Validation Once in Day** ➢ SS balls-1.0 mm ➢ SS wires-0.6*5 ➢ Glass Balls-5 mm ➢ Ceramic Ball 5mm b) Also includes sensitivity settings	X-ray Machine	**What:** Rejection System **of X - Ray Machine** **How:** **Monitoring** Standard test Strips (**1.5 mm Fe ; 1.5 mm NFe ; 2.0 mm SS**) **Frequency:** Once in 30 min **Who:** Online PC **Where:** Before metal detection	**Correction:** 1. **For Foreign Object:** There will be sound signal/alarm for the presence of foreign substances Confirm the presence of foreign substances on the screen :- Inform line QA and shift In charge. Stop/Hold the line and Inform maintenance- maintenance will check X-ray machine, Meanwhile Recall finished product from the last acceptable X-Ray checkup to the time of failure Segregate & re screen it through corrected X – ray Machine. Meantime do not pass bags through it. Collect finished goods bags in crates. Affected production is re-passed	Online Sheet (V/PR/F/05-02) X Ray Verification sheet	Once in a day validation by QC – with standard piece: ➢ SS balls-1.0 mm ➢ SS wires: 0.6*5 ➢ Glass Balls: 5 mm ➢ Ceramic Ball: 5 mm **Also includes sensitivity settings** Standard Test Pieces are calibrated from external laboratory-Annually. Also Quarterly visits are done by X-Ray- AMC Service provider Personnel responsible for monitoring, verification, correction and corrective

					through X-Ray Machine for proof check if product found affected then with help of Production & QA Manager it is further issued to scrap taker. **Corrective Action:** Affected Product is inspected by Production Manager/ Shift In-charge and is disposed (by approved scrap taker). Maintenance department reports this incidence to X-Ray - AMC Service provider. It is also briefed to them during their quarterly visit **1) If the X-ray fails to detect the Foreign object and the product is not "Kicked –Out" Correction:** a) Shut/Hold the line off immediately, Inform QA. b) QA will Inform maintenance to re-calibrate **X-ray** and restore to Working order. c) After the adjustment, Production & QA Officer- Immediately checks **X-ray** for d) Detection and rejection of the appropriate metal sample. Recall finished product from the last checked –working of Rejection system checkup to the time of failure Segregate & re screen e) Meantime do not pass bags through it. f) Re-screened material if found		action are trained regularly **What:** Rejection System **How:** Standard test Strips **When:** Hourly **Who:** Online QA

					affected with metal, this Product is further re-passed for proof check, and if found free from foreign matter contamination, it will be used further for packing. **Corrective Action:** a) Affected Product is inspected by Production Manager/ Shift In-charge and is disposed (by approved scrap taker). Maintenance department reports this incidence to X-Ray - AMC Service provider. It is also briefed to them during their quarterly visit		
C6 Cold storage Temp	B: Microbial Growth	**Critical Limit** -18 ^{0} C ; **Action Limit** -18.5 ^{0} C	a) Maintaining Cold temperature below -18 Deg. Cel. by regular monitoring. b) Monitoring Product Temperature c) Calibration of Temperature sensor annually d) Insulated Cold room available e) Continuous Monitoring with Data Logger	**What:** Cold Room Temp **How:** LCD Display **Frequency:** Twice in shift **Where:** Cold Storage **Who:** Online QA	**Correction:** a) Dispatch officer will inform Maintenance officer & Production officer. Production officer will then hold the incoming batch for Cold store. b) Maintenance officer will c) Close in & out entry to achieve desired temp & verify supply of ammonia, moreover he will also check temperature sensors. d) Hold the product in cold room itself, to avoid temperature deviation- as cold room is insulated. e) Maintenance team intimates Dispatch & production Team that Cold room Air conditioner has started working properly. f) Production Officer & QA	Daily temp sheet (V/QA/ F-02)	a) Annual Calibration of Temperature sensors. b) Maintenance, Dispatch, Production team is trained to handle cold room temperature breakdown**.** **What:** Temp of cold storage **How:** Visual display **When:** Twice in shift **Who:** Online QA

					officer will recall product samples after last Cold room temperature monitoring & Verification, they will check product temperature, Quality attributes, texture, etc. if product temperature, observed under -18 deg cel. It is further kept in cold room and will not open the door till desired temperature is attained. **Corrective Action:** Dispatch In-charge & production In-charge, immediately takes this further to Maintenance In-charge and work out on plan on how to avoid such emergency situation/ breakdown. Further maintenance team does the root cause of the situation accordingly corrective action is taken. Efficiency of Air conditioner, Data Logger, Temperature sensors are evaluated.		

*****Note-X ray works on principle display**
*****Detection can vary the basis of dimension, thickness, angel of product entry, rotation etc.**
*****Rubber ball may or may not detected depending up the density**