Table of Halal Toyyiban Major Control Plan Summary – Primary Processing

Major Control Point	Critical Limits	Justification	Monitoring	Corrective action	Verification	WI and Records
MCP 1 **Determination of *Hayat Mustaqhirah***	*Hayat Mustaqirah* is required under the *syariah* law and the bird must be confirmed alive before it can be slaughtered.	Garis Panduan Rumah Sembelih Binatang Halal – Jabatan Agama Islam Selangor (JAIS) *Hayat mustaqirah* required under the *syariah* law.	Visual inspection for every bird in every load by the slaughter man to confirm the bird still alive before incision of the neck region is made.	Immediate action: Birds which that do not meet *hayat mustaqirah* criteria will be taken down from the line by the slaughterman. Corrective Action: Retraining slaughterman about MCP 1 determination of *hayat mustaqirah.*	Halal Supervisor to verify the monitoring.	WI 96 Penentuan Hayat Mustaqirah PF73 Daily Halal Poultry Processing Record PF74 Determination *Hayat Mustaqhirah*
MCP 2 **Incision of the neck using sharp knife**	The incision is done at one stroke. Every slaughterman must have 3 knives.	Compliance to *syariah* requirements.	Slaughterman leader will monitor that the incision is conducted at one stroke and record it. Slaughterman leader checks the quantity and the condition of the knives at each slaughterman.	Immediate Action: Immediately change the knife. Corrective Action: Retraining to improve competency in sharpening and halal slaughter.	Halal Supervisor to verify that the incision is done at one stroke. Halal Supervisor checks the quantity and the condition of the knives on each slaughterman.	WI 99 Pemantauan Cara Sembelihan dan Penggunaan Pisau PF75 Sharp Knife Checklist
MCP 3 **Halal Checking before Scalding**	The esophagus, trachea, and blood vessels at the neck are fully severed/ cut (terputus).	Compliance to *syariah* requirements.	Halal Checker must ensure the trachea, esophagus, and blood vessels at the neck region of each bird are fully severed by visual inspection. The checker will monitor and	Immediate action: The birds which are not properly slaughtered shall be removed from shackles and discarded as non-proper slaughter. Corrective action: Training of Halal Checker and Halal Supervisor so that they are able to	Halal Supervisor verifies that monitoring is correctly done by taking samples and examines the severed blood vessels, esophagus and	WI 97 Halal Checking before Scalding PF56 Daily Production Record

Major Control Point	Critical Limits	Justification	Monitoring	Corrective action	Verification	WI and Records
			record the MCP 3.	identify severed blood vessels, esophagus and trachea.	trachea. **Norms: Not more than 2 non-compliance birds in 1 load**	PF76 Halal Checking before Scalding
MCP 4 **Post Mortem Inspection**	No abnormalities or pathologic lesions observed on the body or internal organs.	This inspection will identify and condemn whole or parts of internal organ which are declared unfit for human consumption. Required by Meat Inspection Rules, 1985.	Visual inspection every carcass and removal of unfit whole, parts and organ of each bird.	<u>Immediate Action:</u> Trim or condemn affected part and the organ will be removed then place into the condemn bin. <u>Corrective Action:</u> Training of Post-mortem Inspectors for competency in meat inspection.	QC Supervisor examines samples to ensure no unfit for consumption birds or organ passed as fit.	WI 42 Dropping Carcass Sterilization WI 54 Judgement Post Mortem WI 56 Key Welfare Indicator WI 100 Pengurusan Ayam dan Organ condemn WI 110 Method of Manual Evisceration PF16 Daily Post mortem inspection checklist

Major Control Point	Critical Limits	Justification	Monitoring	Corrective action	Verification	WI and Records
MCP 5 **In out washer**	Min. 35 ppm and max. 50 ppm of free chlorine is used for in out washing.	Internal study show at min. 35 ppm of chlorine can reduce *E.coli* count and eliminate *Salmonella*.	Check available free chlorine for every load using chemical test kit by QC.	Immediate action: **A. Machine Breakdown** 1. QC Supervisor and Production Supervisor identify and segregate affected product. 2. The affected birds are dipped in chlorine solution manually for 2 minutes and re-hang on shackle. 3. Maintenance personnel replace the chlorine machine with spare unit. **B. When critical is < 35 ppm or > 50 ppm** 1. QC Supervisor informs Maintenance personnel and Production Manager on the deviation. 2. Maintenance personnel will replace the chlorine machine with the spare. 3. QC Supervisor verifies chlorine dosage after machine has been replaced. **Inadequate rinsing of carcass** 1. Processing line is temporarily suspended on the directive of QA Officer after receiving deviation report from QC Supervisor. 2. Maintenance is responsible to repair or replace the nozzle to the satisfaction of QA Officer.	QC Supervisor review CCP monitoring sheet/record at the end of production. QA to review microbe testing records on final products once a week. Plant Manager review deviation record and effectiveness of corrective action taken after deviation occur at MCP 5.	WI 50 In Out Washer Monitoring PF08 CCP monitoring sheet – CCP 1 In out washer

Major Control Point	Critical Limits	Justification	Monitoring	Corrective action	Verification	WI and Records
				3. QC Supervisor to immediately check chlorine level in sprayed water. If within specification monitor the pressure and immediately inform Production Executive. 4. Production Executive to inform maintenance to monitor the level of water. 5. QC Supervisor verifies chlorine dosage after machine has been replaced. 6. If both chlorine machines breakdown, Production Manager or Executive will suspend production. Affected chlorine machine will be immediately repaired. 7. The level of the free chlorine is verified by QC Supervisor.		
MCP 6 **Final Inspection and Carcass Washing**	No *najis* seen on the carcass.	This process will remove *najis* from the carcass and eliminate or reduce the risk contaminating of the carcass.	Visual inspection for each bird in every load. Quality QC monitors and records the finding.	Immediate action: The chicken which found with *najis* shall be taken out from the line, wash to remove *najis* and place it back on to the line. Corrective action: To give briefing or retraining to QC about carcass cleanliness inspection.	QC Supervisor to verify the monitoring on MCP 6 by examining the record.	WI 102 Inspection of carcass cleanliness PF77 Final Inspection and Carcass Washing

Major Control Point	Critical Limits	Justification	Monitoring	Corrective action	Verification	WI and Records
MCP 7 **Air chill**	Product temperature ≤4 ℃ after air chill.	From VHM Code: Chill product temperature range from -4 ℃ to 4 ℃.	QC monitors the product temperature upon exit from the air chiller by checking the core temperature of the deep breast muscle hourly.	Immediate action: a. QA Officer advises Production Manager or Supervisor to suspend production and the air chill line. b. Products that have exited air chiller to be kept in the basket covered with ice to reduce temperature. c. QC check product temperature in the basket after ½ hour to ensure temperature achieved ≤4 ℃ before work on the carcass resumed. d. If the carcass temperature is still >4 ℃, transfer affected carcass to chill room and keep until temperature reduce. Corrective Action: Maintenance Refrigerator is responsible to investigate and identify the problem on the air chiller. Select the following options for corrective action: • Check the leak and welding the affected area. • Change the solenoid coil. • Change the solenoid. • Defrost the coil and run the system. • Repair the compressor.	QC Supervisor verified record at the end of production. QC Supervisor to calibrate thermometer once a week. Maintenance personnel to perform sensor calibration once a week. QA Officer to review microbe testing records on final products once a week.	WI 17 Air chill monitoring WI 36 Corrective Action - Microbe Test Result of Specification WI 60 Meat temperature monitoring PF09 CCP monitoring sheet – CCP 2 Air chilling

Major Control Point	Critical Limits	Justification	Monitoring	Corrective action	Verification	WI and Records
MCP 8 **Metal detector**	Functional metal detector working and able to detect test piece - Ferrous: **2.5mm**, Non Ferrous: **3.0mm** and Stainless Steel: **4.0mm**	Product should not contain any hard or sharp foreign object that measures 7 mm to 25 mm in length.	QC ensure the metal detector is turned "ON", working accordingly and check hourly by running a test piece through functional metal detector:– • Ferrous: **2.5mm**, • Non Ferrous: **3.0mm** • Stainless Steel: **4.0mm** The metal detector needed to be able to detect the test piece.	<u>Immediate Action:</u> a. QC segregates the products from the last calibration, check and keep as 'on hold' product. b. QC Supervisor informs maintenance personnel to investigate and repair metal detector. c. The QC to do calibration after repairing completed. d. If necessary call supplier to repair metal detector. e. Run the 'on hold' product through metal detector.	QC Supervisor review record at the end of production. Plant Manager review deviation record and effectiveness of corrective action taken after deviation occur at CCP. Food Safety Team Leader will review the trend during MRM meeting every 6 months.	WI 61 Metal Detector Monitoring WI 62 Metal Detector Calibration WI 109 Disposition of Foreign Object PF10 CCP monitoring sheet – CCP 3 Metal detector PF39 Metal detector calibration record

Major Control Point	Critical Limits	Justification	Monitoring	Corrective action	Verification	WI and Records
MCP 9 **Chill/Cold Room**	Temperature for chill room is ≤4 ℃. Temperature for cold room is ≤-18 ℃.	From VHM code, requirement temperature for chill room and cold room are ≤4 ℃ and ≤-18 ℃, respectively. Scientific studies shows bacteria growth can be control at temperature ≤4 ℃ and can be prevent at temperature ≤-18 ℃.	QC monitors the room temperature hourly by reading the temperature sensor.	Immediate action: a. QC Supervisor informs QA Officer, Maintenance Refrigeration and Store Executive on the deviation. b. Maintenance Refrigeration to investigate the possible cause of breakdown and carry out repairs accordingly. c. Store Supervisor to close the door. QC check the product temperature every ½ an hour. d. If the product temperature >4 ℃, transfer product to transit room. Corrective Action: QA Officer creates awareness on the need of cold room door to be closed at all time.	QC Supervisor review record at the end of production. Maintenance performs sensor calibration once a week. QA to review microbe testing records on final products once a week. Plant Manager review deviation record and effectiveness of corrective action taken after deviation occur at CCP. Food Safety Team Leader will review the trend during MRM meeting every 6 months.	WI 23 Chilled Room Monitoring WI 105 Penyusunan produk di dalam chill room WI 108 Cold Room Monitoring SOP-PRP-11 Product Storage and Distribution PF11 CCP monitoring sheet – CCP 4 Chilled room and transit room

Table of Halal Toyyiban Major Control Plan Summary – Further Processing

Major Control Point	Critical Limits	Justification	Monitoring	Corrective action	Verification	WI & Records
MCP 1 Verification Of Ingredients and Raw Materials On Arrival At the Plant	No ingredient and raw material is allowed without valid Halal certificate.	• No ingredient and raw material is allowed without valid Halal certificate. • No Non Halal ingredient enter the premise	1. For raw materials must come with valid Halal Certificate by verify it on arrival for each consignment and QC will check and monitor of raw materials upon arrival at the plant and record it. 2. For ingredients, Store keeper to check on the P/O and D/O and ensure that ingredient tally with P/O and D/O meanwhile QC will monitor the ingredient closely including the vehicles condition upon arrival at the plant and record it. 3. For raw materials and ingredient Halal Certificate must be obtain during purchase. 4. QC Supervisor will verify the record of monitoring.	*Immediate Action:* 1. Hold the ingredient until the Halal Certificate is obtained and segregate the ingredient, sealed and labeled. 2. The Halal status of the ingredient is not verified will be rejected, reported to purchasing and returned to the supplier. *Corrective Action* 1. To give briefing or retraining to QC, and Store Keeper about verification of ingredients and raw materials upon arrival.	QC Supervisor to verify the record of monitoring of the ingredient and raw materials upon arrival at the plant	WI18 Checking Raw Meat Upon Receiving WI35 Imported frozen chicken MDM, SBB, Carcass receiving storage WI36 Ingredient receiving and storage PF42 Incoming Raw Material Checklist PF43 Incoming Raw Meat Checklist Purchase Order Halal Certificates Technical Document (COA, Product Specification)
MCP 2 Weighing and Coding of the functional ingredient	**Frankfurter** Sodium nitrite amount is 0.1% from total kg per batch. Sodium Phosphate	• Sodium nitrite, potassium nitrite, sodium nitrate or potassium nitrate, alone or in combination as permitted preservative, the final product does	1. For monitoring of the weighing and coding of the ingredient, QC will check the weight and code no of the ingredient and QC Supervisor will verify the ingredient. 2. Maintenance to do calibration	*Immediate Action* 1. On Hold the ingredient 2. Re-adjust the correct amount 3. Verify the correct amount 4. Verify and check the	QC Supervisor will verify the record of monitoring	WI-46 Penyediaan Bahan Pra Campuran WI-51 Prosedur Pemantauan Bahan Ramuan

Major Control Point	Critical Limits	Justification	Monitoring	Corrective action	Verification	WI & Records
	amount is 0.35% from total kg per batch. **<u>Nugget</u>** Sodium Phosphate amount is 0.3% from total kg per batch. **<u>Fried Chicken</u>** Sodium Phosphate amount is 0.48% from total kg per batch. (0.0048kg per 1kg)	not contain more than 200ppm of total nitrite calculated together as **sodium nitrite** and (7) (e) (i) any **phosphate** in such a proportion that the total phosphorous content calculated as phosphorus pentoxide does not exceed 0.3 per cent.	of weighing machine as per calibration schedule.	weighing machine *<u>Corrective Action:</u>* <u>Incorrect weight of ingredient</u> 1. QC On Hold incorrect weight of critical functional ingredient 2. QC inform person in charge immediately to adjust the correct amount 3. QC verify the weight after correction <u>Weighing machine not accurate</u> 1. QC inform Maintenance 2. Maintenance to do calibration of weighing scale		Kritikal WI-66 Prosedur Menimbang Bahan Mentah dan Bahan Ramuan Lain PF19 OPRP 2 Monitoring Record Frankfurter PF31 OPRP 2 Monitoring Record Nugget PF40 OPRP 2 Monitoring Record Fried Chicken Certificate of Analysis (COA)
MCP 3 Grinding of Skin, MDM and SBB and Emulsifying of frankfurter (Bowl cutter) **(Premium Product)**	Temperature of mixing and emulsifying in bowl cutter is not more than 16℃ The final temperature is not acceptable if temperature >20℃	• Temperature of the final emulsion ≤16°C • Homogenization and consistencies of the final emulsion with ISP (soy protein) emulsion	For monitoring of the grinding of skin, MDM and SBB, and emulsifying, QC will check temperature of the final emulsion. QC check on the consistency and texture of the final emulsion,	*<u>Immediate Action</u>* 1. Re-adjust the bowl cutter machine *<u>Corrective Action:</u>* 1. Preventive maintenance on emulsifier machine. 2. To give training on the operating of the machine and process	QC Supervisor will verify the record of monitoring	WI-52 Rework WI-63 Prosedur Mengadun di dalam bowl cutter PF22 Daily Quality Inspection Frankfurter

Major Control Point	Critical Limits	Justification	Monitoring	Corrective action	Verification	WI & Records
MCP 4 Emulsifying Frankfurter **(Non Premium Product)**	Temperature of emulsifying is ≤ 16℃. The final temperature is not acceptable if temperature >20℃	• Temperature of the final emulsion ≤16°C • Homogenization and consistencies of the final emulsion with ISP (soy protein) emulsion.	For the monitoring of the emulsifying, QC will check temperature of the final emulsion. QC check on the consistency and texture of the final emulsion.	*Immediate Action* 1. Re-adjust the emulsifier machine *Corrective Action* 1. Preventive maintenance on emulsifier machine. 2. To give training on the operating of the machine and process	QC Supervisor will verify the record of monitoring	WI-67 Prosedur Pengemulsian PF22 Daily Quality Inspection Frankfurter
MCP 5 Grinding, Mixing and Freezing of Nugget (Nitrogen liquid)	Temperature of the nugget dough is ≤-4℃	• Homogenization and consistencies of the final dough. • Liquid nitrogen was added to maintain the shape and texture during forming process	For the monitoring of the grinding, mixing and freezing of nugget, QC will check the temperature of the emulsion dough after freezing. Safety handling of liquid nitrogen by gives the training to the worker in charge of the mixer machine. Monitoring: • QC check temperature of the nugget dough after complete freezing process. • Operator follow the procedure of safety handling of liquid nitrogen during process of mixing & freezing nugget.	*Immediate Action* 1. Re-adjustment the mixer machine 2. Adjust the setting of the usage of liquid nitrogen *Corrective Action* 1. Preventive maintenance on the mixer machine. 2. To give training on the operating of the machine and process	QC Supervisor will verify the record of monitoring Safety Officer will give training for the worker in charge	WI-72 Proses Mengadun Nugget PF33 Daily Quality Inspection Nugget PF34 Daily Quality Inspection Tempura
MCP 6 Cooking	Internal core temperature ≥73℃, 10 minutes	• Temperature ≥73℃ can kill food microorganism • Validation study of the cooking of frankfurter • Cooking give effect to the taste and texture of the product	For monitoring of the cooking process, QC will check internal core temperature of product after cooking by using thermometer display at smoke house and thermometer probe. QC will record into the checklist The monitoring are performed every hourly.	*Immediate Action:* 1. Re-cook if temperature product not achieve 73℃ 2. QC or Production inform maintenance if smoke house problem 3. Inform Production Manager and Plant Manager if problem still not solve.	QC Supervisor verified record at the end of production. Maintenance perform sensor calibration once a month QA to review microbe testing	WI-49 Re-cook process for Frankfurter WI-28 Cooking Monitoring Procedure Frankfurter PF14 CCP 1 Monitoring

Major Control Point	Critical Limits	Justification	Monitoring	Corrective action	Verification	WI & Records
				Preventive/ Corrective Action 1. To give briefing and retraining to QC, and Production about CCP verification of cooking.	records on final products once a week	Record Frankfurter Calibration record Certificate of Analysis (COA)
MCP 7 Spiral Freezing	Room temperature ≤ -30ºC Product temperature ≤ -18ºC Action limit room temp: ≤ -25ºC Time: 50 min, 60 min or 70 min (depends on the condition and size of the products)	The quick freezing process should not be regarded as complete until and unless the product temperature has reached -18℃ or colder at the thermal centre, after the stabilization of the temperature.	For the monitoring of the spiral freezer, QC will check the spiral freezer room temperature every hourly by observe the spiral freezer sensor reading. QC also check product temperature exit the spiral freezer by using thermometer every hour.	*Immediate Action:* 1. Stop the production line immediately until room & product temperature achieve. *Corrective Action* 1. If temperature more than action limit, stop the production line immediately 2. Production to Inform maintenance personnel to investigate and proceed with repair if spiral freezer breakdown 3. Production Supervisor to Inform Production Manager and Plant Manager immediately 4. If breakdown more than 2 hours, product will On Hold and rework	QC Supervisor verified record at the end of production. Maintenance perform sensor calibration once a month QA to review microbe testing records on final products once a week	WI-68 Spiral Freezing Monitoring PF15 CCP 2 Monitoring Record Frankfurter PF26 CCP 1 Monitoring Record Nugget & Fried Chicken Calibration Record Certificate of Analysis (COA)
MCP 8 Metal Detecting	Functional metal detector working and able to detect test piece – Ferrous, Non Ferrous and Stainless	Product should not contain a hard or sharp foreign object that measures 7 mm to 25 mm, in length.	The monitoring of the metal detecting function are by calibration of metal test piece consist of ferrous, non ferrous and stainless steel on every hourly basis. Frankfurter • QC ensure the metal detector	*Immediate Action:* 1. Stop the packing process line. 2. Segregate the affected product. 3. On Hold the affected product. 4. Disposed the affected product and	QC Supervisor review CCP record at the end of production. Maintenance to do preventive	WI-42 Metal detector calibration WI-30 Disposition of foreign object WI-40 Metal Contaminant

Major Control Point	Critical Limits	Justification	Monitoring	Corrective action	Verification	WI & Records
	Steel <u>Frankfurter</u> 2.0mm ferrous 3.0mm non ferrous 4.5mm stainless steel <u>Nugget & FC</u> 1.5mm ferrous 2.0mm non ferrous 2.5mm stainless steel		"ON" and working accordingly and check hourly by running a test-piece through functional metal detector; Ferrous: 2.0 mm, Non-ferrous: 3.0 mm, and Stainless steel: 4.5 mm • The metal detector need to be able to detect the test-piece. Nugget & Fried Chicken • QC ensure the metal detector "ON" and working accordingly and check hourly by running a test-piece through functional metal detector; Ferrous: 1.5 mm, Non-ferrous: 2.0 mm, and Stainless steel: 2.5 mm • The metal detector need to be able to detect the test-piece.	packaging. <u>*Corrective Action*</u> 1. QA Executive advises the Production Manager to suspend the metal detector line and On Hold the product. 2. The Production Manager informs maintenance personnel to investigate and repair metal detector 3. QC to do calibration after repairing complete by Maintenance personnel 4. If necessary call supplier to repair metal detector 5. Check the affected product as per no. **(3)** procedure	maintenance on metal detector.	Investigation PF16 CCP 3 Monitoring Record Frankfurter PF27 CCP 2 Monitoring Record Nugget PF37 CCP 2 Monitoring Fried Chicken Metal detector calibration record

Table of Halal Toyyiban Major Control Plan Summary for Pasteurized Liquid Egg

Major Control Point	Critical Limits	Justification	Monitoring	Corrective action	Verification	WI and Records
MCP 1 Ingredient receiving	No ingredient is allowed without valid Halal certificate.	No ingredient is allowed without valid Halal certificate. No Non Halal ingredient enter the premise	QA personnel will check valid Halal Certificate obtained upon purchase Store keeper to check on D/O, COA and invoices and ensure that ingredient tally with D/O meanwhile QC will inspect the ingredient closely including the vehicles condition upon arrival at the plant and record it.	QA personnel communicate with Purchasing department to obtain valid Halal certificate from supplier Plant Manager/ Halal Executive/ QA Executive to give briefing or retraining on the importance of obtaining sufficient documents to QC and Store Keeper, and details of verification process of ingredients upon arrival.	QA to verify the record of monitoring that is properly done If there is corrective action to be taken, Plant Manager will verify: 1. The availability of valid Halal certificate at the plant. 2. Training record is updated and competency of staff is evaluated.	WI-38 Receiving area instruction WI-82 Receiving of Ingredient and Packaging Material PF01 Incoming Inspection Record Halal Certificates Technical Document (COA and Product Specification)
MCP 2 Egg Cleaning (washing & sanitizing)	Washer containing chlorine 50 - 100ppm Pressure water chlorine max 3.5 bar, min 1.5 bar.	Meeting VHM code requirement, washing & sanitizing egg using chlorine 50 - 100ppm Removes dirty (e.g. najis, dust, feather, foreign matter), clean & sanitized the egg shell and reduce microbial contamination from the shell of the egg	The chlorine test strip is used to check the chlorine concentration before production starts and at 4 times per day interval by QC and workers. QC and workers check the meter pressure of the washer 4 times per day. Workers setting conveyer speed not more than 80%. Daily preventive maintenance for brush &	QC check whether the chlorine concentration. If the chlorine is out of specification, QA/Plant Manager decide to stop the conveyor and maintenance will check and repair auto dosing pump condition. When the critical limit of chlorine concentration is out: i) In case the Chlorine concentration is < 50ppm • Workers reset the auto dosing pump to increase the dosage	QA verify the Egg Cleaning, Washing and Sanitizing Monitoring record daily If there is corrective action to be taken, Plant Manager will verify: 1. The auto dosing pump is functioning well and chlorine concentration is within specification	WI-33 XY12 - Chlorine testing WI-63 (OPRP1 Egg washing & Sanitizing) WI-72 Preventive Maintenance Optiloader PF09 Egg Cleaning, Washing and Sanitizing Monitoring Record

Major Control Point	Critical Limits	Justification	Monitoring	Corrective action	Verification	WI and Records
			sprayer by maintenance	ii) In case the Chlorine concentration > 100ppm • QC check the pH of harvested liquid egg. Reject if the pH of liquid egg higher than specification • Continue process if the pH liquid of egg product is within specification iii) Workers adjust the setting of the pressure washing machine refer to the critical limit 50 - 100ppm iv) Workers setting the speed of conveyor not more than 80%.	after reset the auto dosing pump in egg washer. 2. Pressure washing machine is set correctly.	PF26 Chemical Concentration Checklist
MCP 3 Filtration	Filter mesh cylinder with mesh size Manual filter: 1.2mm Auto filter: 0.8 mm Pressure gauge reading should not exceed 2 bar	Remove all foreign matter size >1.2mm Eliminate all foreign matter form the harvest	Visual inspection on filter condition (cleanliness, no broken mesh) by the trained worker before start production. Workers CIP the filter before start the production Monitor pressure gauge reading hourly (Max: 2 bar) by worker.	If pressure gauge reading >2.0 bar, workers stop the production and immediately clean the filter and reinstall back the filter. If pressure gauge reading <1.0bar (normal reading) for >10 minutes, workers need to stop the process and check the pressure gauge condition or filter mesh. Maintenance checks the pressure gauge condition. Decide either :	QA verify daily the pressure gauge reading and filter condition in CCP1 monitoring record. QC verify the finished product condition daily and PF24 Microbiological Testing Record. Conduct yearly external calibration on	WI-59 (CCP1 Filtration) WI-73 Preventive Maintenance - Optibreaker PF02 CCP 1 - Filtration Monitoring Record Calibration certificate. PF24 Microbiological

Major Control Point	Critical Limits	Justification	Monitoring	Corrective action	Verification	WI and Records
				• To change the gauge meter or; • To change the filter If necessary or; • Calibrate and do realignment for the breaking machine conveyer When the critical limit of pressure reading is out; i) Discharge and segregate the affected product ii) Rework the product	pressure gauge meter to ensure the pressure gauge is in good condition. If there is corrective action to be taken, Plant Manager will verify: 1. The filter is in good condition to be used. 2. Maintenance job for the pressure gauge is done and the equipment is in good condition to be used. 3. Finished goods of rework batch are within specification (no bits of egg shell and foreign matter).	Testing Record PF20 On Hold PF37 Rework
MCP 4 Holding (raw tank)	Temperature of unpasteurized liquid egg in raw tank; • Must be ≤7 ℃ (not exceed 8 hours); • <4ºC (exceed 8 hours)	Minimize bacterial growth (food safety)	Worker monitor unpasteurized liquid egg temperature hourly by using RTD Sensor at raw tank The temperature and holding time of unpasteurized liquid egg in raw tank must be: • ≤7 ℃ (not exceed 8	Maintenance service and repair chilling system if it is required. When the critical limit is out: • Worker discharge out the product. • Worker will keep product in the chill room, segregate from other products and label.	QA daily verify the OPRP2 monitoring record. Conduct yearly thermometer calibration. Conduct yearly external verification	WI-64 (OPRP2 Holding- Raw Tank) PF06 OPRP2 – Raw Tank Temperature Record Calibration certificate.

Major Control Point	Critical Limits	Justification	Monitoring	Corrective action	Verification	WI and Records
			hours) • ≤4ºC (exceed 8 hours)	• QA/QC will take sample and check for pH & smell. • If: i) pH is within specification & no odd smell = REWORK (Finished goods of rework batch only release if within the microbiological testing specification, Salmonella absent) ii) pH is out of specification & have odd smell = WITHDRAW Retrain workers on OPRP monitoring procedure.	on microbiological testing of finished product. If there is corrective action to be taken, Plant Manager will verify: 1. Servicing and repairing job of chilling system is done and chilling system is in good condition to be used. 2. The microbiological testing of product is within specification before release the affected products. 3. Training record is updated and competency of staff is evaluated.	PF24 Microbiological Testing Record External lab testing record PF20 On Hold PF37 Rework
MCP 5 Pasteurization	**<u>Pasteurization Temperature of Liquid Egg:</u>** i. Whole Egg, Egg Yolk, Salted Whole Egg, Sugared Whole Egg & Salted Egg Yolk	Able to eliminate *Salmonella , E.coli*, Coliform, *S.aureus,* Yeast & Mold	Worker monitors holding temperature on display panel hourly. <u>Temperature & time</u> i. Whole Egg, Egg Yolk, Salted Whole Egg, Sugared Whole Egg & Salted Egg Yolk<u>;</u>	Maintenance service and repair the boiler if there is required. Maintenance service and repair the pasteurizer accordingly if there is required. Maintenance service and repair	QA daily verify the CCP 2 & 3 monitoring record. QC conducts daily microbiological testing on finished product. Conduct yearly	WI-60 (CCP2 Pasteurization) WI-20- CIP - Pasteurizer (Pasteurization Room)

Major Control Point	Critical Limits	Justification	Monitoring	Corrective action	Verification	WI and Records
	<u>Pasteurizer 1 & 2:</u> 65 ±1℃ at 3.5 minutes ii. Egg White <u>Pasteurizer 1 & 2:</u> 57±1℃ at 9 minutes **<u>Flow Rate of Pasteurized Liquid Egg:</u>** i. Whole Egg, Egg White, Salted Whole Egg, Sugared Whole Egg : <u>Pasteurizer 1:</u> 2000 ± 30 L/hr <u>Pasteurizer 2:</u> 3000 ± 50 L/hr ii. Egg Yolk, Salted Egg Yolk: <u>Pasteurizer 1:</u> 1000 ± 30 L/hr <u>Pasteurizer 2:</u> 1500 ± 50 L/hr		Pasteurizer 1 & 2: 65 ±1℃ at 3.5 minutes ii. Egg White; Pasteurizer 1 & 2: 57±1℃ at 9 minutes Workers monitor flow rate reading on display panel hourly. <u>Flow meter speed</u> i. Whole Egg, Egg White, Salted Whole Egg, Sugared Whole Egg; Pasteurizer 1: 2000 ± 30 L/hr Pasteurizer 2: 3000 ± 50 L/hr ii. Egg Yolk, Salted Egg Yolk; Pasteurizer 1: 1000 ± 30 L/hr Pasteurizer 2: 1500 ± 50 L/hr	flow meter accordingly if required. Maintenance monitor temperature and test for position valve function. When CL is out: a) <u>> pasteurization (holding temperature), > flow rate</u> • Worker discharge out the product • Worker will keep product in the chill room, segregate from other products and label. • QA/QC will take sample for physical & microbiological testing. • If: i) Microbiological & physical result out, Salmonella within specification = REWORK ii) Microbiological & physical result is within specification = USE AS IT IS iii) Salmonella out = WITHDRAW b) <u>>pasteurization (holding temperature), <flow rate</u> • Worker discharge out the product. • Worker will keep product in the	external calibration on flow meter and thermometer. Conduct yearly external verification on microbiological testing of finished product. If there is corrective action to be taken, Plant Manager will verify: 1. Servicing, repairing or maintenance job of boiler, pasteurizer and flow meter is done and the equipment is in good condition to be used. 2. The microbiological testing of product is within specification before release the affected products. 3. Training record is updated and competency of staff is evaluated.	PF03 CCP2 & 3 Pasteurization & Cooling Temperature Record Calibration certificate. PF24 Microbiological Testing Record External lab testing record PF20 On Hold PF37 Rework

Major Control Point	Critical Limits	Justification	Monitoring	Corrective action	Verification	WI and Records
				chill room, segregate from other products and label. • QA/QC will take sample for physical & microbiological testing. • If: i) Microbiological & physical testing result is out, Salmonella within specification = REWORK (Finished goods of rework batch only release if within the microbiological testing specification, Salmonella absent) ii) Microbiological & physical testing result is within specification = USE AS IT IS If the product contain cooked, white sediment = REWORK iii) Salmonella out = WITHDRAW c) <u><pasteurization (holding temperature), > flow rate</u> • Worker discharge out the product. • Worker will keep product in the chill room, segregate from other product and label. • QA/QC will take sample for physical & microbiological		

Major Control Point	Critical Limits	Justification	Monitoring	Corrective action	Verification	WI and Records
				testing. • If: i) Microbiological & physical testing result is out Salmonella within specification = REWORK (Finished goods for rework batch only release if within the microbiological testing specification, Salmonella absent) ii) Microbiological & physical testing result is within specification = USE AS IT IS iii) Salmonella out = WITHDRAW d) <u><pasteurization(holding temperature), < flow rate</u> • Worker discharge out the product. • Worker will keep product in the chill room, segregate from other products and label. • QA/QC will take sample for physical & microbiological testing. • If: i) Microbiological & physical testing result is out , Salmonella within specification = REWORK (Finished goods of rework		

Major Control Point	Critical Limits	Justification	Monitoring	Corrective action	Verification	WI and Records
				batch only release if within the microbiological testing specification, Salmonella absent ii) Microbiological & physical testing result is within specification = USE AS IT IS iii) Salmonella out = WITHDRAW Retrain workers on CCP monitoring procedure.		
MCP 6 Cooling	Outlet temperature ≤4℃	Minimize bacterial growth (food safety)	Worker monitor cooling temperature of pasteurized liquid eggs at ≤4 ℃ on display panel hourly.	Maintenance service, repair and do maintenance of chilling system if there is required When the critical limit is out: • Worker discharge out the product. • Worker will keep product in the chill room, segregate from other products and label. • QA/QC will take sample for physical & microbiological testing. • If: i) Microbiological & physical testing result is out = REWORK (Finished goods of rework batch only release if within	QA daily verify the CCP 2 & 3monitoring record. QC conducts daily microbiological testing on finished product. Conduct yearly thermometer calibration. Conduct yearly external verification on microbiological testing of finished product. If there is corrective	WI-61 CCP3 Cooling PF03 CCP2 & 3 Pasteurization & Cooling Temperature Record Calibration Certificate. PF24 Microbiological Testing Record External lab testing record PF20 On Hold PF37 Rework

Major Control Point	Critical Limits	Justification	Monitoring	Corrective action	Verification	WI and Records
				the microbiological testing specification) ii) Microbiological physical testing result is within specification = USE AS IT IS Retrain workers on CCP monitoring procedure.	action to be taken, Plant Manager will verify: 1. Servicing, repairing or maintenance job of chilling system is done. Chilling system is in good condition to be used. 2. The microbiological testing of product is within specification before release the affected products. 3. Training record is updated and competency of staff is evaluated.	
MCP 7 Storage (Filling tank)	Product temperature in filling tank must be ≤4 ℃.	Minimize bacterial growth (food safety)	Worker monitor product temperature in filling tank on display panel and ensure the temperature ≤4 ℃ hourly .	Maintenance service and repair chilling system if there is required. When the critical limit is out: • Worker immediately pack the affected products. • Worker will keep the products in the chill room, QA/QC put ON-HOLD label and segregate from other products • QA/QC will take sample for physical & microbiological	QA daily verify the OPRP 3 monitoring record. QC conducts daily microbiological testing on finished product. Conduct yearly thermometer verification. Conduct yearly external verification on microbiological	WI-65 OPRP3 Storage- Filling tank PF05 OPRP 3 Filling Tank Temperature Record Calibration Certificate PF24 Microbiological Testing Record

Major Control Point	Critical Limits	Justification	Monitoring	Corrective action	Verification	WI and Records
				testing • If: i. TPC (<2000 cfu/g), absent E.coli, coliform & Salmonella = USE AS IT IS ii. TPC (3000-5000 cfu/g), absent E.coli, coliform & Salmonella = REWORK (Finished goods of rework batch only release if within the microbiological testing specification) iii. Microbiological result is out of specification = WITHDRAW Retrain workers on OPRP monitoring procedure.	testing of finished product If there is corrective action to be taken, Plant Manager will verify: 1. Servicing, repairing or maintenance job of chilling system is done. Chilling system is in good condition to be used. 2. The microbiological testing of product is within specification before release the affected products. 3. Training record is updated and competency of staff is evaluated.	External lab testing record PF20 On Hold PF37 Rework
MCP 8 Chill Storage	Temperature for chill room is ≤4 ℃.	From USDA requirement temperature for chill room and cold room are ≤4 ℃. Minimize bacterial growth (food safety)	Worker monitor room temperature hourly and ensure the temperature ≤4 ℃ Preventive maintenance of refrigeration system daily maintenance Finished products are labeled or tagged for every	Maintenance service, repair and do maintenance for chilling system if there is required. When the critical limit is out: • Segregate the affected products from others • QC/QA will take temperature of the product • If:	QA daily verify the CCP 4 monitoring record. QC conducts daily microbiological testing on finished product. Conduct yearly thermometer	WI-62 (Chill room) WI-42 Chill Monitoring Procedure WI-45 Physical Testing WI-46

Major Control Point	Critical Limits	Justification	Monitoring	Corrective action	Verification	WI and Records
		Comply FIFO system	batch and product type.	i) The temperature of product ≤4ºC = USE AS IT IS ii) The temperature of product >4ºC, QC will take sample for physical & microbiological testing. • If: i) TPC (<2000 cfu/g), absent E.coli, coliform & Salmonella = USE AS IT IS ii) TPC (3000-5000 cfu/g), absent E.coli, coliform & Salmonella = REWORK (Finished goods of rework batch only release if within the microbiological testing specification) iii) Microbiological result is out of specification = WITHDRAW Retrain workers on CCP monitoring procedure.	calibration. Conduct yearly external verification on microbiological testing of finished product. If there is corrective action to be taken, Plant Manager will verify: 1. Servicing, repairing or maintenance job of chilling system is done. Chilling system is in good condition to be used. 2. The microbiological testing of product is within specification before release the affected products. 3. Training record is updated and competency of staff is evaluated.	Microbiological Testing PF04 CCP 4 Chill Room Temperature Record Calibration Certificate PF20 On Hold PF37 Rework PF24 Microbiological Testing Record External lab testing record
MCP 9 Loading	i. Truck temperature & loading area temperature ≤20℃ ii. Loading process less than 1 hour	To maintain freshness and minimize bacterial growth (*Toyyiban*	Monitoring truck temperature at display panel & loading area; and ensure the temperature below 20℃ by QC.	Maintenance service and repair blower system (truck and loading area) if there is required. QC always monitor and remind	QA daily verify the OPRP 4 monitoring record Conduct yearly cold	WI-66 (OPRP4 Loading) PF07 Loading Inspection Checklist

Major Control Point	Critical Limits	Justification	Monitoring	Corrective action	Verification	WI and Records
	iii. Product temperature ≤4℃	concept)	Monitoring the start and end time of the truck loading process and ensure the duration loading process less than 1 hour by QC. Monitor the product temperature and ensure the temperature ≤4 ℃ by QC.	workers to minimize the door opening. When the critical limit of Cold Truck is out: • Worker unload back the product into Chill Room • QC immediately check and inspect the lorry condition, and pre-chill the cold truck. • QA/QC check on the product temperature & cold truck • If the segregated product temperature is <4℃ = Use as it is • If the segregated product temperature is >4℃, QA/QC immediately takes sample for microbiological testing • If the cold truck temperature is ≤20℃ after pre-chill, the cold truck is permitted to be used for delivery When the critical limit of product is out: • Worker segregate the product in the chill room and QA/QC put ON-HOLD label • QA/QC conduct microbe	truck & thermometer calibration QC conduct microbiological & physical testing If there is corrective action to be taken, Plant Manager will verify: 1. Servicing, repairing or maintenance job of blower in loading area is done by the maintenance. Blower system is in good condition to be used. 2. Inspection of lorry is done and the lorry chilling system is in good condition for delivery. 3. The microbiological testing of product is within specification before release the affected products. 4. Training record is updated and competency of	PF24 Microbiological Testing Record PF 20 On Hold PF37 Rework Calibration certification

Major Control Point	Critical Limits	Justification	Monitoring	Corrective action	Verification	WI and Records
				testing on on-hold product, • If: i. TPC (<2000 cfu/g), absent E.coli, coliform & Salmonella = USE AS IT IS ii. TPC (3000-5000 cfu/g), absent E.coli, coliform & Salmonella = REWORK (Finish goods for rework batch only release if within the. microbiological testing specification) iii. Microbiological result is out of specification = WITHDRAW Retrain workers on OPRP monitoring procedure.	staff is evaluated.	