# How to complete a Post Slaughter Management (PSM) Cooling Validation Summary

The post slaughter management (cooling) validation summary for the premises is a combination of completing:

1. The PowerPoint template (as per screen shot below) to give a summary of all post slaughter cooling processes at the premises and a comprehensive list of the refrigerated rooms used; and
2. A template for each room or group of similar rooms relevant to the cooling criteria used for validation (PHI or PHI-time/temp and the type of product (carcass, carton). Blank templates are provided on the following pages.

Screen shot of PowerPoint template (note this is just a picture, the actual template is in a separate MS PowerPoint file):

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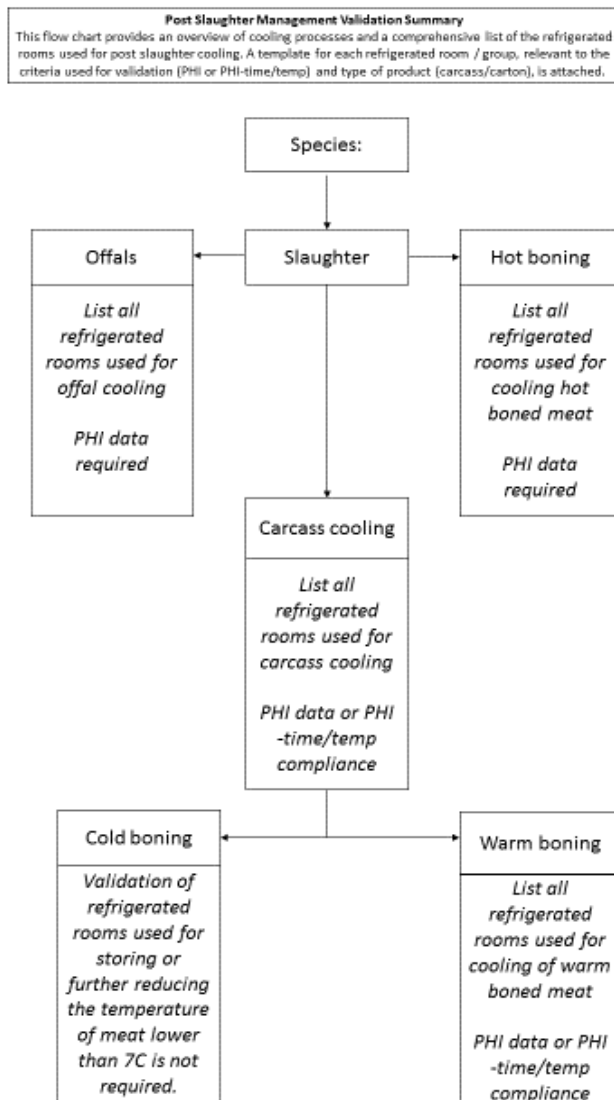
Carcass Refrigerated rooms (Chillers/Freezers) – PHI Validation Template (warm or cold boning)

Note: PHI validation of a warm boning & cold boning processes are defined as follows:

Warm boning = the cumulative PHI of; PHI elapsed time + PHI carcass cooling + PHI allowance when loggers not in place in boning room + PHI from carton cooling.

Cold boning = the cumulative PHI of; PHI elapsed time + PHI carcass cooling

1	Refrigerated rooms identifier/s (single refrigerated rooms or group of similar refrigerated rooms)	
2	Date of validation	
3	Species cooled in refrigerated rooms/s	
4	If group of similar refrigerated rooms is there a competent person's certificate attesting to similarity?	
5	Full validation i.e.: 20 data points for refrigerated room or 30 points for groups of similar refrigerated rooms that demonstrates compliance with PHI criteria and that aligns to current operational parameters (air temp, fans/air velocity, mass) for the room	
6	As an alternative to the row above, is there a certificate of performance issued by a competent person that clearly states that the PHI criteria will be met, together with a minimum of 5 data logger points per refrigerated room or group of identical rooms demonstrating compliance with PHI criteria and current operational parameters?	
7	Carcass mass of fully loaded refrigerated rooms (usually part of design specification for room)	
8	Carcass mass at the time of validation	
9	Determine percentage loading at the time of validation. (divide mass at validation by mass of fully loaded refrigerated rooms and multiply by 100) Note: Refrigerated rooms may be routinely loaded to 100% of design specification providing validation was at 90% or greater loading.	

10	Detail Operational Parameters at the time of validation
	   - Air temperature set points
	   - Fans or air velocity
	   - 100% Loading or mass of refrigerated rooms
	
	Do these align to operational parameters that are documented in the Post Slaughter Management (cooling) programme and monitored on a daily basis?	

11	Record site of microbiological concern where data logger was placed for temperature recording.	
12	Record how PHI was calculated e.g.: using a spreadsheet tool or read off data loggers	

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13	Specify what value was used for the elapsed time PHI and provide details of how this value was calculated.	
14	Record cumulative PHI values for each data logger. Note the definition at the top of this template on what PHI values need to be added together to determine an overall PHI for the process.	
15	Confirm data meets acceptable PHI criteria i.e.: 80% value ≤10 no value exceeding 14	
16	Record date and PHI values from any **verification** data collected since the time of validation. Confirm verification was done by a suitably skilled person in accordance with the AgResearch PHI User's Manual CR1295.	

Carcass Refrigerated rooms (Chillers/Freezers) – Time-Temperature Recipe (warm or cold boning)

Notes

Time-temperature recipes have been confirmed as meeting PHI outcomes using FPM modeller.

Large carcasses includes cattle, horses, large deer (for example Wapiti), large pigs (chopper).

Deep meat temperature means the temperature of a carcass measured at the thermal centre of the largest muscular mass.

Deep shoulder temperature means the temperature of a carcass measured at the mid-point in front of the 1st rib to a depth that will reach the medial side of the scapula.

1	Refrigerated rooms identifier/s (single refrigerated rooms or group of similar refrigerated rooms)	
2	Date of validation	
3	Species cooled in refrigerated rooms/s	
4	If group of similar refrigerated rooms is there a competent persons certificate attesting to similarity?	
5	Full validation i.e.: 20 data points for refrigerated room or 30 points for groups of similar refrigerated rooms that demonstrates compliance with acceptable time-temperature criteria applicable to species being slaughtered and that aligns to current operational parameters (air temp, fans/air velocity, mass) for the room.	
6	As an alternative to the row above, a certificate of performance issued by a competent person that clearly states that time/temp criteria (as relevant to species) will be met, together with a minimum of 5 data logger points per refrigerated room or group of identical rooms demonstrating compliance with acceptable criteria and current operational parameters.	
7	Carcass mass of fully loaded refrigerated rooms	
8	Carcass mass at the time of validation	
9	Determine percentage loading at the time of validation. (divide mass at validation by mass of fully loaded refrigerated rooms and multiply by 100) Note, Refrigerated rooms may be routinely loaded to 100% providing validation was at 90% or greater loading.	
10	Detail Operational Parameters at the time of validation - Air temperature set points - Fans or air velocity	

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	- 100% Loading or mass of refrigerated rooms Do these align to operational parameters that are documented in the PSM programme and monitored on a daily basis?	
11	Record time/temperature values recorded at required times as per criteria relevant to species (see below), including the site the temperature was recorded from.	
12	For large carcasses, confirm that the validation data meets the acceptable time-temp criteria as detailed in the Table below | Temperature Reference points	Time in chiller (standard reference tim
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Deep shoulder temperature n=20, c=4, m=15°C, M=18°C	16 hours
Deep shoulder temperature n=20, c=4, m=10°C, M=11°C	24 hours
Deep meat temperature (e.g. leg) n=20, M≤7°C	48 hours		
13	For small carcasses, confirm <7C in 24 hours in the deep meat was achieved and the **room** operational parameters complied with the following criteria | Room temperature (°C)	Maximum holding period (hours)	Maximum holding p (hours)
		Refrigerated Room a >0.5m/s
	Refrigerated Room airflow ≤0.5m/s	
25	4 or	6 or
20	6 or	9 or
18	8 or	12 or
15	12	18 | 10C or less after the initial loading period (described in table above).	
14	Record date and PHI values from any **verification** data collected since the time of validation. Confirm verification was done by a suitably skilled person in accordance with the AgResearch PHI User's Manual CR1295.	

Carton refrigerated rooms (Chillers and Freezers) – PHI validation (warm or hot boning and offals)

Note, PHI validation of a warm boning & hot boning processes is the cumulative PHI from the following:

Warm boning = PHI elapsed time + PHI carcass cooling + PHI allowance when loggers not in place in boning room + PHI from carton cooling.

Hot boning = PHI elapsed time + PHI carton cooling

1	Refrigerated rooms identifier/s (single refrigerated rooms or group of similar refrigerated rooms)	
2	Date of validation	
3	Type of product cooled in refrigerated rooms e.g.: Offal, hot boned meat, warm boned meat	
4	If group of similar refrigerated rooms is there a competent persons certificate attesting to similarity?	
5	Full validation i.e.: 20 data points for refrigerated room or 30 points for groups of similar refrigerated rooms that demonstrates compliance PHI criteria and that aligns to current operational parameters (air temp, fans/air velocity, mass) for the room	
6	As an alternative to the row above, a certificate of performance issued by a competent person that clearly states that the PHI criteria will be met, together with a minimum of 5 data logger points per refrigerated room or group of identical rooms demonstrating compliance with PHI criteria and current operational parameters.	
7	Carton mass of fully loaded refrigerated rooms	
8	Carton mass at the time of validation	
9	Determine percentage loading at the time of validation. (divide mass at validation by mass of fully loaded refrigerated rooms and multiply by 100) Note, Refrigerated rooms may be routinely loaded to 100% providing validation was at 90% or greater loading.	
10	Detail Operational Parameters at the time of validation - Air temperature set points - Fans or air velocity - 100% Loading or mass of refrigerated rooms Do these align to operational parameters that are documented in the PSM programme and monitored on a daily basis?	
11	Record site of microbiological concern where data logger was placed for temperature recording.	
12	Record how PHI was calculated e.g.: using a spreadsheet tool or read off data loggers	

13	Specify what value was used for the elapsed time calculation and provide details of how this value was determined.	
14	Record PHI values recorded (including elapsed time) for each data logger. *[note for warm boning need to add the PHI from carcass chilling and PHI for elapsed time prior to carcass logger placement]* Note, information at start of template around what PHI values need to be added together to determine an overall PHI for the process.	
15	Confirm data meet acceptable PHI criteria i.e.: 80% value ≤ 10 no value exceeding 14	
16	Record date and PHI values from any **verification** data collected since the time of validation. Confirm verification was done by a suitably skilled person in accordance with the AgResearch PHI User's Manual CR1295.	

Carton Refrigerated rooms (Chillers/Freezers) – Time-temperature recipe for warm boning

Note: Time-temperature recipes have been confirmed as meeting PHI outcomes

1	Refrigerated rooms identifier/s (single refrigerated rooms or group of similar refrigerated rooms)	
2	Date of validation	
3	Type of product cooled in refrigerated rooms e.g.: Offal, hot boned meat, warm boned meat	
4	If group of similar refrigerated rooms is there a competent persons certificate attesting to similarity?	
5	Full validation i.e.: 20 data points for refrigerated room or 30 points for groups of similar refrigerated rooms that demonstrates compliance with acceptable time-temperature criteria applicable to species being slaughtered and that aligns to current operational parameters (air temp, fans/air velocity, mass) for the room	
6	As an alternative to the row above, a certificate of performance issued by a competent person that clearly states that time/temp criteria (as relevant to species) will be met, together with a minimum of 5 data logger points per refrigerated room or group of identical rooms demonstrating compliance with acceptable criteria and current operational parameters.	
7	Carton mass of fully loaded refrigerated rooms	
8	Carton mass at the time of validation	
9	Determine percentage loading at the time of validation. (divide mass at validation by mass of fully loaded refrigerated rooms and multiply by 100) Note, Refrigerated rooms may be routinely loaded to 100% providing validation was at 90% or greater loading.	
10	Detail Operational Parameters at the time of validation - Air temperature set points - Fans or air velocity - 100% Loading or mass of refrigerated rooms Do these align to operational parameters that are documented in the PSM programme and monitored on a daily basis?	
11	Record site of temperature recording in carton.	
12	Record time after slaughter that product was boned and approximate temperature of product at the time of boning.	

13	For large carcasses, confirm that the validation data meets the acceptable time-temp criteria as detailed in the Table below After warm boning, the product surfaces of microbiological concern should be reduced to 7°C according to the following schedules: i) when boning occurs within 12 hours of grading, within 13 hours of products leaving the boning room; ii) When boning occurs after 12 hours of grading, within 10 hours of products leaving the boning room;	
14	For small carcasses confirm the product surfaces of microbiological concern are reduced to 7°C within 24 hours.	
15	Record date and PHI values from any **verification** data collected since the time of validation. Confirm verification was done by a suitably skilled person in accordance with the AgResearch PHI User's Manual CR1295.	